

# PRODUCT CATALOG







# PRODUCT CATALOG





We produce for the world  
We provide light to the world...











# About us

MAKEL COMPANIES GROUP is a group with Turkish net equity that has begun its activities in the sector of electrical supplies in year 1977 and has shown the achievement of affixing its signature to many initials ever. Being one of the leading firms of the market in its sector, Makel, as the export leader of the electrical materials sector of Turkey for long years, has been exporting the products it produces using the state-of-art technology to the all over the World. Maintaining its consistent growth both on Turkish market and also abroad markets in direction of the strategic plans it has defined, Makel aims at entering among first 10 companies on endorsement - based Asian, European and African markets at electricity measurement, control and distribution systems until 2020 and as for the domestic market, to become leading company.

Within product range of Makel that manufactures them in world standards and its automation-based latest technology machinery from its production facilities built on a 45 thousand square meters-surface area, there are switch and socket outlet groups, smart home systems, automatic circuit breakers, fuse boxes, leakage current protection switch, compact leakage current protection switches, electrical accessories, electronic meters, reactive power control relays, panel meters and led lighting products. Having one of the most-advanced laboratories of the country regarding the quality laboratory, Makel has been carrying out the quality tests of its products within its own structure. Being one of the externally approved laboratories of TSE/TSI excluding its own, Makel is at the same time, one of the German VDE-approved laboratories.

Being a name for preference in majority of the countries where it has been making export since early 1990s thanks to its quality, price and post-sale service and successful sale and marketing policies on the abroad markets, Makel is one of the company admitted to "Turquality Trademark Subvention Program" constituted by Republic of Turkey Ministry of Economy in order to support the trademarks advancing in the path of being a world mark. With the subvention of Turquality Program, Makel today aims at enlarging its export countries portfolio even more with different countries in different continents in addition to our existing for 40 countries.

The primary target of Makel which has achieved to have gone beyond even the growth figures it had aimed at both on Turkish market and also on abroad markets during year of 2011 is to materialize a consistent and healthy growth with a product range it might offer in the best quality and prices to its business partners and the end users.

Keeping on its consistent growth with a sum of 100-person employment figure, Makel Companies Group attracts attention with the studies made regardign augmenting the training and happiness level of its employees. Maintain its uninterrupted R&D activities with its 35-person engineer and technician staff in ensuring the product quality that would meet the expectations of the consumer, Makel is expediting some more every each year elapsing in its endeavors of research and product development which would take its quality higher levels on domestic and abroad markets.

As a prerequisite of the investment to the trademark and to the competition that has been graduall getting freshened even more, Makel keeps on making investments at the same speed.



## Our Quality Policy

- Focuses on a permanent growth,
- Is adapted to developing information and technology,
- Develops relations by taking the cooperation as basis and prioritizes the expectations of all stakeholders,
- Meets the company's conditions and customer's conditions, national/international legislations and standards,
- Carries out its activities effectively and productively,
- Is a company which develops both services and products and effectiveness of the Quality Management System by taking continuous improvement and innovation as basis.

## Our Vision

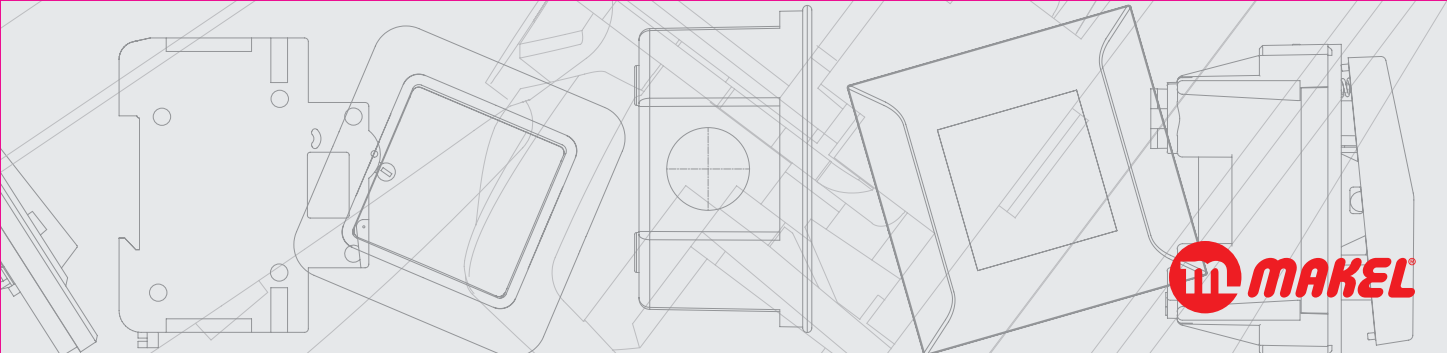
To be the leading company of Turkey in measuring electricity, control and distribution systems and equipments and lighting products and to be one of the pioneer companies in the industry by becoming a well-known and recognized brand in Asia, Europe and Africa.

## Our Mission

To be a company that improves and renews itself consistently and continuously, that ensures the satisfaction of its stakeholders by prioritizing business ethics and principles with a cost-oriented company structure and that provides products which make life easier without threatening human and environment health.

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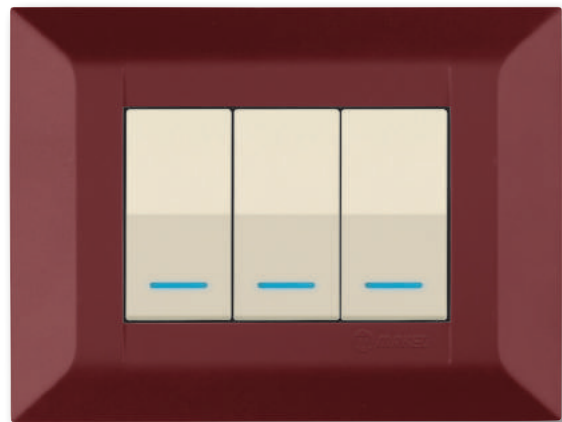




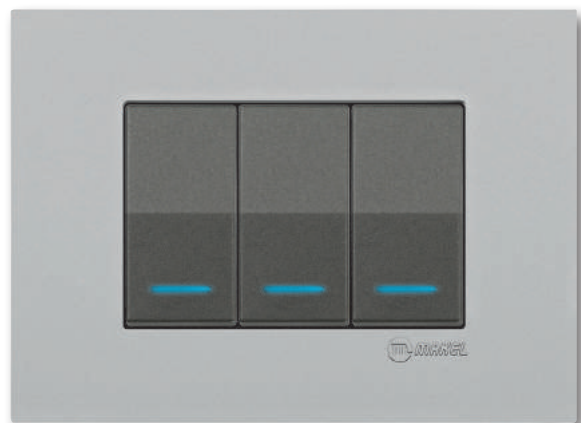




# Modular Wiring Solutions



Millanta Modular

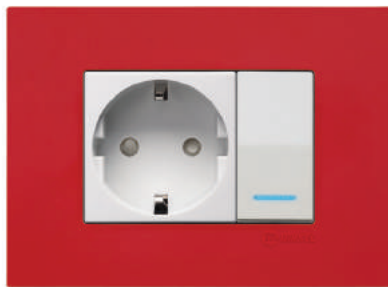


Kare Modular

## Modular Series



Millanta Modular



Kare Modular



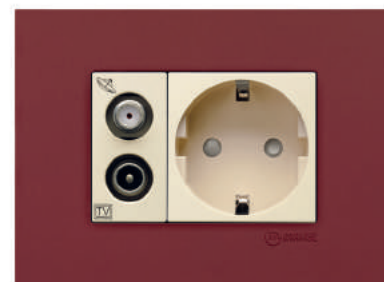
## About Modular Series

Makel Modular Series provide practical solutions for narrow areas allowing multiple functions (switch, light, data outlet, numeric, etc.) to be available under a single framework from two to seven modules. Frames in various colors, Makel Modular Series is the new favourite of design oriented modern buildings.

Makel Modular Series, which offers infrastructural solutions for all under-floor and Italian modular systems, allows the use of more than 90 function options from keys to dimmers.



Millanta Modular



Kare Modular

## Module Colors

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001 White



010 Beige



050 Fume



111 Black



057 Dore



065 Metallic Silver

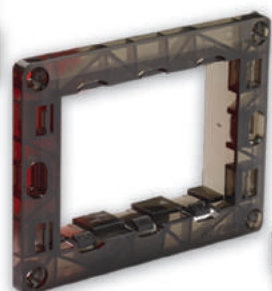
## Presentation Assembly Mode

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Fashion vision and  
design quality for  
excellent environments



①



②



③



④

- ① **Case** : A special design enclosure allowing wire entrance from all angles
- ② **Support** : Produced from polycarbonate material, compatible with all flush mounted and Italian modular system enclosures and drywall enclosures.
- ③ **Module** : Availability to fit 2 modules in 60 mm diameter flush mounted circular enclosures or square enclosures
- ④ **Frame** : Replaceable frames without changing the carcass or module.

# Modular Wiring Solutions



**One Way Switch 32A 1M**  
53050462  
32 A, 220 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**One Way Switch 1M**  
53050001  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**One Way Switch Illuminated 1M**  
53050021  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch 1M**  
53050004  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch Illuminated 1M**  
53050024  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch 1M**  
53050005  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch Illuminated 1M**  
53050025  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch 1M**  
53050096  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch Illuminated 1M**  
53050097  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch 1M**  
53050020  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch Illuminated 1M**  
53050040  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch 1M**  
53050050  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated 1M**  
53050070  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Shutter Push-Button 1M**  
53050041  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Spring Blind Switch 1M**  
53 050 318  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Warning Switch (Fan Patterned) 1M**  
53050440  
EN 60669-1  
Piece in Box / Package - 6 / 60



**Heating Key 1M**  
53050439  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Ventilator Key 1M**  
53050438  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Space (Gap) cover 1M**  
53050555  
Piece in Box / Package - 12 / 120



**Cable Outlet Cover 1M**  
53050556  
Piece in Box / Package - 6 / 60



**One Way Switch 2M**  
53050251  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**One Way Switch Illuminated 2M**  
53050237  
16 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch 2M**  
53050256  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 6 / 60



**Light Switch Illuminated 2M**  
53050257  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 6 / 60



**Two-Way Switch 2M**  
 53050258  
 16 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 6 / 60



**Two-Way Switch Illuminated 2M**  
 53050259  
 16 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 6 / 60



**Door Switch 2M**  
 53050260  
 16 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 6 / 60



**Door Switch Illuminated 2M**  
 53050261  
 16 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 6 / 60



**Intermediate Switch 2M**  
 53050262  
 16 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 6 / 60



**Intermediate Switch Illuminated 2M**  
 53050263  
 16 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 6 / 60



**Shutter Push-Button 2M**  
 53050264  
 16 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 6 / 60



**Space (Gap) cover 2M**  
 53050557  
 Piece in Box / Package - 12 / 120



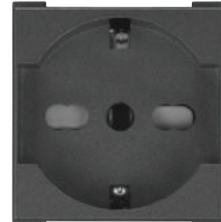
**Bell Switch 2M**  
 53050265  
 16 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 6 / 60



**Bell Switch Illuminated 2M**  
 53050266  
 16 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Euro American Child Protection  
 Grounded Socket 2M**  
 16 A, 250 V~  
 53050499  
 Piece in Box / Package - 6 / 60



**Universal Socket 2M**  
 53050429  
 16 A, 250 V~  
 Piece in Box / Package - 6 / 60





**Socket Outlet with Child Protection 2M**  
 53050052  
 16 A, 250 V~  
 IEC 60884-1  
 Piece in Box / Package - 6 / 60



**Schuko Socket Outlet with Child Protection 2M**  
 53050058  
 16 A, 250 V~  
 IEC 60884-1  
 Piece in Box / Package - 6 / 60



**Schuko Socket Outlet with Child Protection and Lid 2M**  
 53050238  
 16 A, 250 V~  
 IEC 60884-1  
 Piece in Box / Package - 6 / 60



**Socket Outlet with Earthing Pin and Child Protection 2M**  
 53050053  
 16 A, 250 V~  
 IEC 60884-1  
 Piece in Box / Package - 6 / 60



**Israel Type Schuko Socket Outlet with Child Protected 2M**  
 53001048  
 16 A, 250 V~  
 SI 32  
 Piece in Box / Package - 6 / 60



**Socket Outlet Child Protected 1M**  
 53050129  
 10 A, 250 V~  
 Piece in Box / Package - 12 / 120



**Italian Type Child Protected Socket 1M**  
 53050283  
 16 A, 250 V~  
 Piece in Box / Package - 12 / 120



**Euro American Child Protection Grounded Socket 1M**  
 53050451  
 10 A, 250 V~  
 Piece in Box / Package - 6 / 60



**Mexican Type Child Protected Socket 1M**  
 53050A65  
 15 A, 250 V~  
 Piece in Box / Package - 6 / 60



**Israel Type Telephone Socket 1M**  
 53001047  
 BS6312  
 Piece in Box / Package - 6 / 60



**Telephone Socket (cat.3) 1M**  
 53050014  
 TSE K 71  
 Piece in Box / Package - 12 / 120



**Data Socket Outlet (cat.6) 1M**  
 53050239  
 TSE K 71  
 Piece in Box / Package - 6 / 60



**TV Antenna Socket Resistless 1M**  
53050142  
TSE K 72  
Piece in Box / Package - 12 / 120



**Antenna Socket End Female 1M**  
53050027  
TSE K 72  
Piece in Box / Package - 12 / 120



**Antenna Socket Through Female 1M**  
53050007  
TSE K 72  
Piece in Box / Package - 12 / 120



**F Connector 1M**  
53050280  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket Through 1dB 1M**  
53050083  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket End 1dB 1M**  
53050098  
TSE K 72  
Piece in Box / Package - 12 / 120



**SAT Antenna Socket End 1M**  
53050134  
TSE K 72  
Piece in Box / Package - 12 / 120



**SAT Antenna Socket Through 1M**  
53050133  
TSE K 72  
Piece in Box / Package - 12 / 120



**Dimmer 300W 1M**  
53050011  
EN 60669-2-2  
Piece in Box / Package - 6 / 60



**Two Way Dimmer 300V 1M**  
53050234  
EN 60669-2-2  
Piece in Box / Package - 6 / 36



**Loudspeaker - Connection, 1 gang**  
53050080  
Piece in Box / Package - 6 / 60



**Hotel warning indoors unit 1M**  
53050252  
16 AX, 250 V~  
Piece in Box / Package - 6 / 60





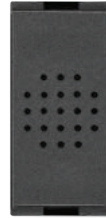
**HDMI Socket with Jack 1M**  
53050494  
Piece in Box / Package - 6 / 60



**USB Socket with Jack 1M**  
53050461  
Piece in Box / Package - 6 / 60



**USB Charger Socket 1M**  
53050465  
Input: 250 V AC, Output: 5 V DC, 2 A  
Piece in Box / Package - 6 / 60



**Bell 1M**  
53050056  
Piece in Box / Package - 6 / 36



**Emergency Switch with String 1M**  
53050128  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Motion Detector 1M**  
53050498  
220 V AC / 50 Hz / 1 A Max.  
TS IEC 60669-2-1  
Piece in Box / Package - 6 / 36



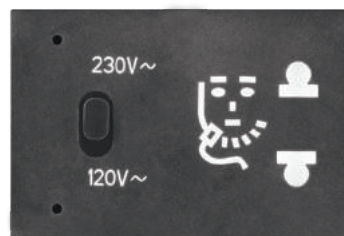
**Emergency-Light 2M**  
53050055  
Input: 250 V AC  
Piece in Box / Package - 6 / 60



**Audio Switch 2M**  
53050086  
Piece in Box / Package - 6 / 60



**Electro-Magnetic Energy Saver 3M\***  
53050301  
12 V ~  
**Radio Frequency Energy Saver 3M**  
53050302  
12 V ~  
Piece in Box / Package - 6 / 60



**Shaver Socket Outlet 3M**  
53050491  
Input: 250 V AC, Output: 120 V AC  
230 V AC, 16 AX  
Piece in Box / Package - 6 / 60

\* The card used is only given for representative purposes.



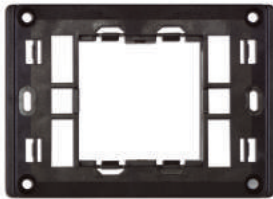
**2M Support**  
53000240  
Piece in Box / Package - 12 / 120

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**2M Support - with Claw**  
53000250  
Piece in Box / Package- 12 / 120

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**2M Support (3M in size)**  
53000450  
Piece in Box / Package - 12 / 120

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**3M Support**  
53000241  
Piece in Box / Package - 12 / 120

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**4M Support**  
53000242  
Piece in Box / Package 12 / 120

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**7M Support**  
53000243  
Piece in Box / Package 12 / 72

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3M Case - Cavity Wall (Blue)  
53000247  
Piece in Package - 48

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4M Case - Cavity Wall (Blue)  
53000248  
Piece in Package - 48

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7M Case - Cavity Wall (Blue)  
53000249  
Piece in Package - 36

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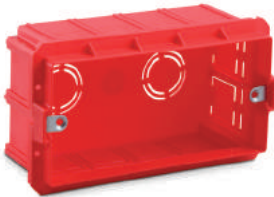
2M Case - Flush Mounted (Red)  
53000443  
Piece in Package - 48

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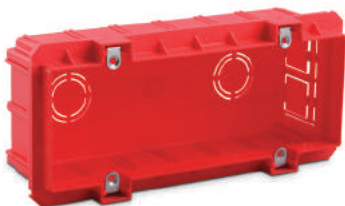
3M Case - Flush Mounted (Red)  
53000244  
Piece in Package - 48

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4M Case - Flush Mounted (Red)  
53000245  
Piece in Package - 48

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7M Case - Flush Mounted (Red)  
53000246  
Piece in Package - 36

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## Frames

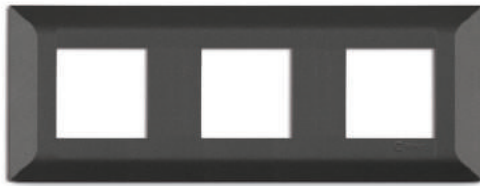
### Frames suitable for round interlaced flush mount cases



2M Frame



2X2M Frame



3X2M Frame



4X2M Frame

### Frames suitable for modular Italian type flush mount cases



1M Frame (3M in size)



2M Frame (3M in size)



3M Frame



4M Frame

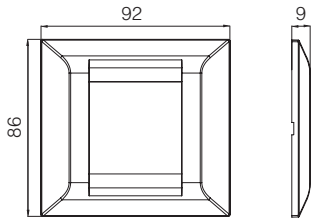


7M Frame

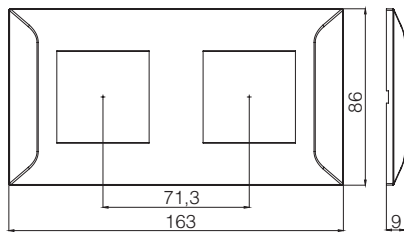
Compatible with German standards, and with framework and frame system compatible with your electrical system, Modular Series Solutions can be applied to your installation without any need for change. Compatible with Italian type enclosures, can also be used as 1M - 2M - 3M - 4M - 7M.

# Technical Drawings

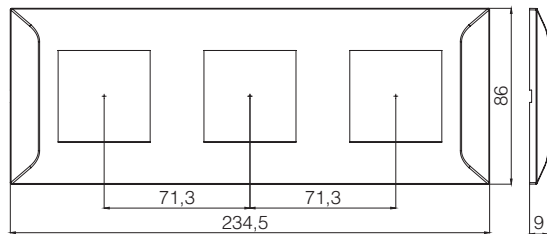
## Frames suitable for round interlaced flush mount cases



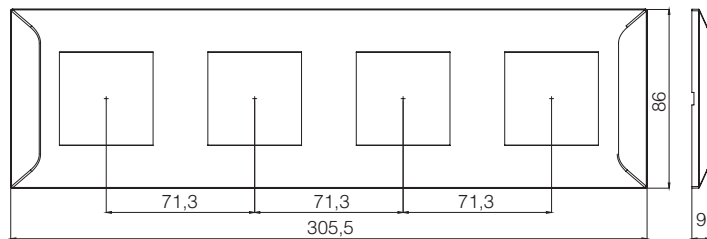
2M Frame



2X2M Frame

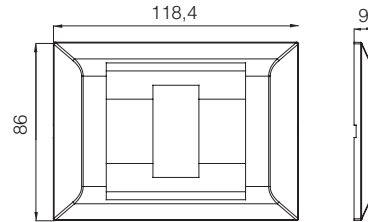


3X2M Frame

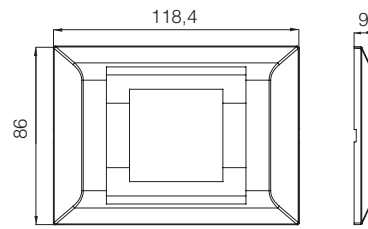


4X2M Frame

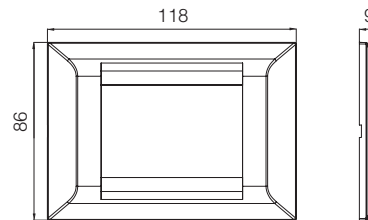
## Frames suitable for modular Italian type flush mount cases



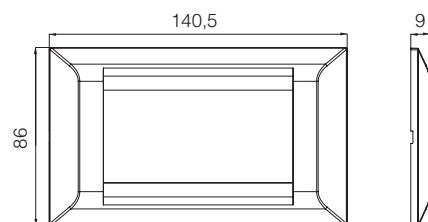
1M Frame (3M in size)



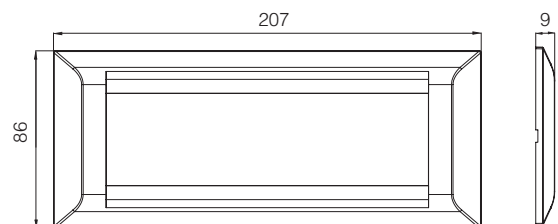
2M Frame (3M in size)



3M Frame



4M Frame



7M Frame

## Frame Colors



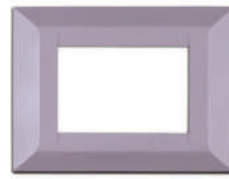
001 White



109 Titanium



110 Glossy Claret Red



078 Lilac



071 Glossy Red



010 Beige



054 Black



046 Gold



052 Khaki



091 Green



106 Blue



051 Silver



053 Light Claret Red



064 Grey



050 Fume



108 Red



107 Dark Claret Red



111 Glossy Black

## Combinations



Titanium / Fume



Silver / Fume



Beige / Beige



White / White



Blue / Metallic Silver



Fume / Metallic Silver



Red / White



Light Claret Red / Dore



Gold / Black



Black / Dore



Green / White

## A unique touch



Bringing technology and elegance together, Millanta modular separates your environment from other similars.

## Frames

### Frames suitable for round interlaced flush mount cases



2M Frame



2X2M Frame



3X2M Frame

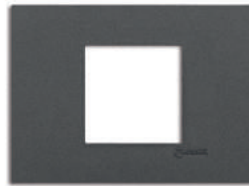


4X2M Frame

### Frames suitable for modular Italian type flush mount cases



1M Frame (3M in size)



2M Frame (3M in size)



3M Frame



4M Frame



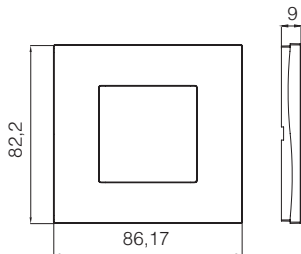
7M Frame

Compatible with German standards, and with framework and frame system compatible with your electrical system, Modular Series Solutions can be applied to your installation without any need for change. Compatible with Italian type enclosures, can also be used as 1M - 2M - 3M - 4M - 7M.

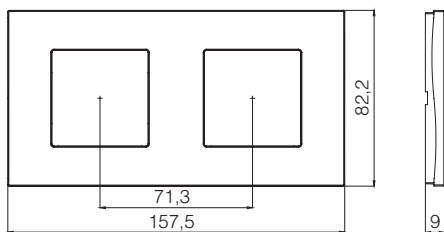


# Technical Drawings

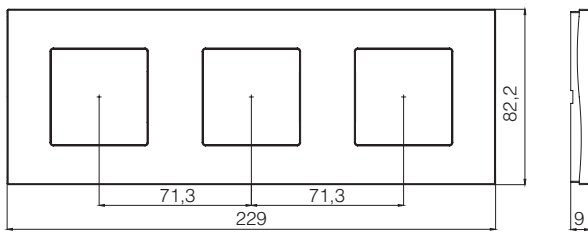
## Frames suitable for round interlaced flush mount cases



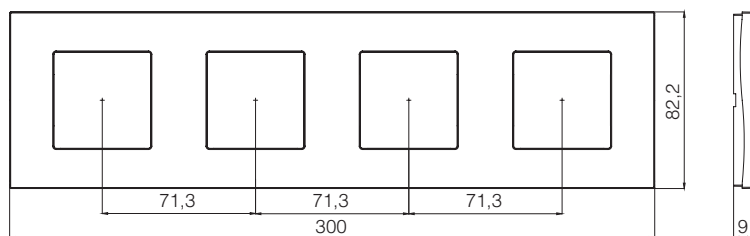
2M Frame



2X2M Frame

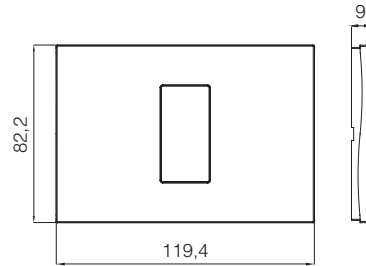


3X2M Frame

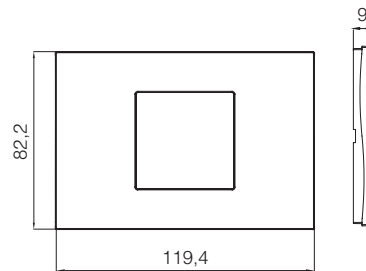


4X2M Frame

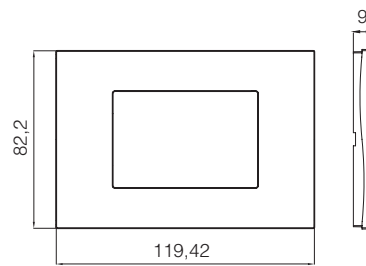
## Frames suitable for modular Italian type flush mount cases



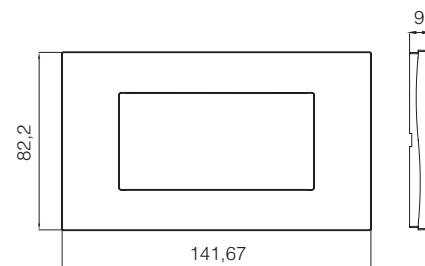
1M Frame (3M in size)



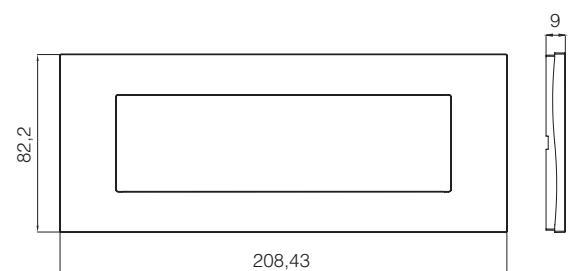
2M Frame (3M in size)



3M Frame



4M Frame



7M Frame

Frame Colors



001 White



071 Glossy Red



010 Beige



109 Titanium



110 Glossy Claret Red



046 Gold



052 Khaki



078 Lilac



054 Black



106 Blue



051 Silver



053 Light Claret Red



091 Green



064 Grey



050 Fume



108 Red



107 Dark Claret Red



111 Glossy Black

# Combinations

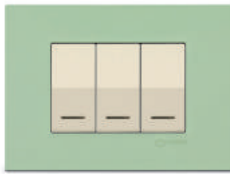


Silver / Fume



Red / White

Square Modular series brings technology and elegance together with its piano key type button units.



Green / Beige



White / White



Khaki / Metallic Silver



Light Claret Red / Beige



Fume / Metallic Silver



Beige / Beige



Grey / Dore



Blue / White



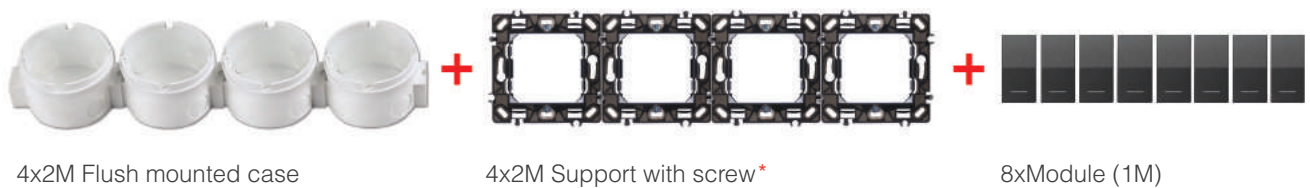
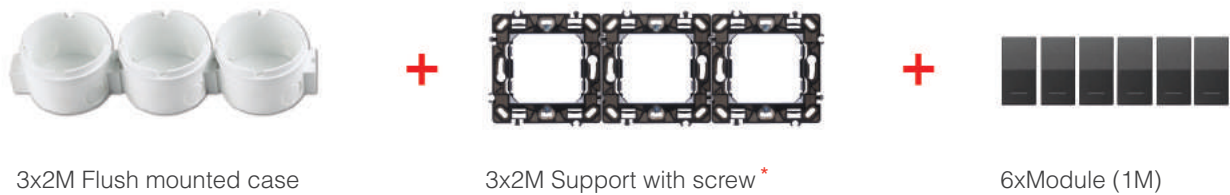
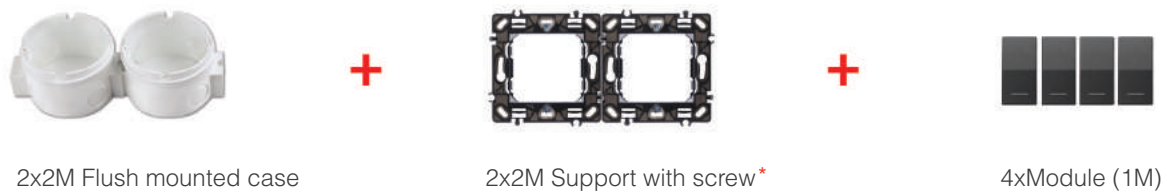
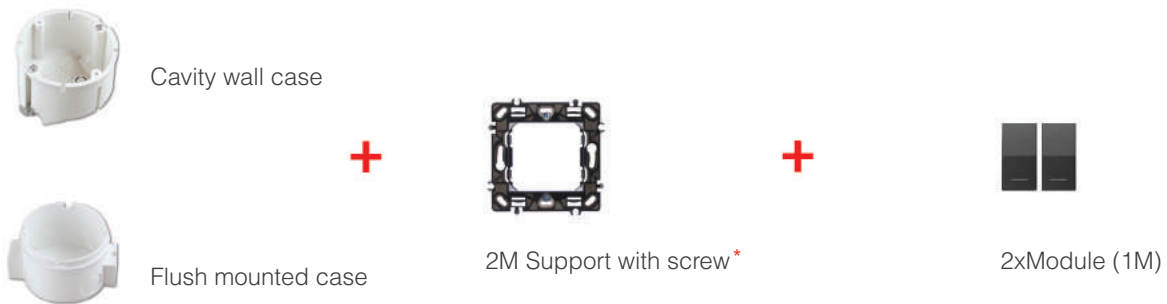
Black / Dore



Titanium / Fume

## Installation

Assembly method appropriate to flush mounted plug-in circular cases



\* Support with claws also available for 2M

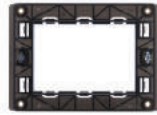


## Installation

Assembly method appropriate to flush mounted Modular Italian-type



3M Flush mounted case



3M Support



3xModule (1M)



3M Cavity wall case



4M Flush mounted case



4M Support



4xModule (1M)



4M Cavity wall case



7M Flush mounted case



7M Support



7xModule (1M)

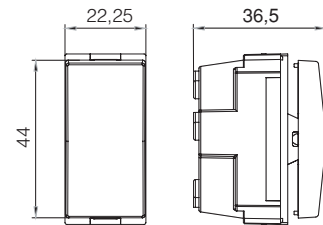
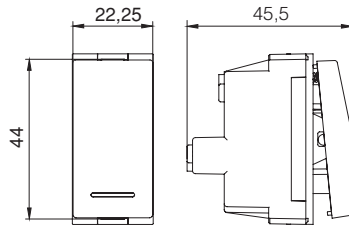
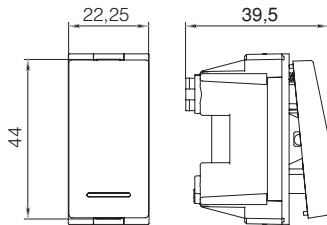


7M Cavity wall case



## Technical Drawings 1M

### Switches 1M

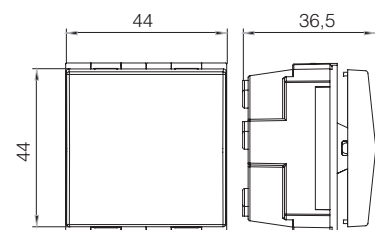
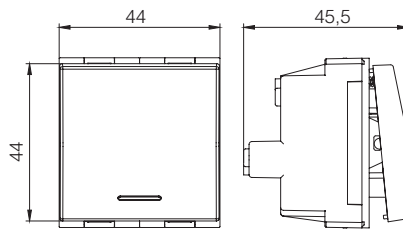
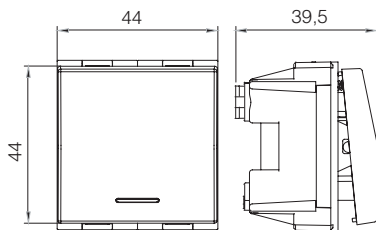


- One Way Switch
- One Way Switch Illuminated
- Light Switch / Light Switch Illuminated
- Two-Way Switch
- Two-Way Switch Illuminated
- Door Switch
- Door Switch Illuminated
- Bell Switch / Bell Switch Illuminated
- Emergency Switch With String

- Intermediate Switch
- Intermediate Switch Illuminated

Shutter Push-Button

### Switches 2M

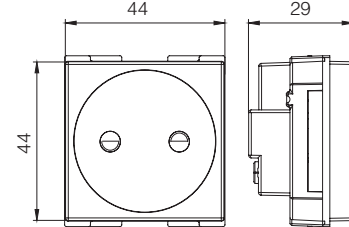
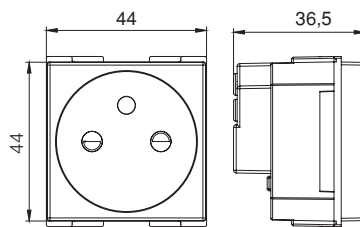
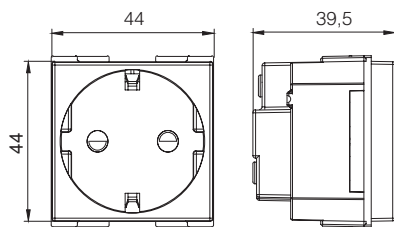


- One Way Switch
- One Way Switch Illuminated
- Light Switch / Light Switch Illuminated
- Two-Way Switch
- Two-Way Switch Illuminated
- Door Switch
- Door Switch Illuminated
- Bell Switch / Bell Switch Illuminated
- Emergency Switch With String

- Intermediate Switch
- Intermediate Switch Illuminated

Shutter Push-Button

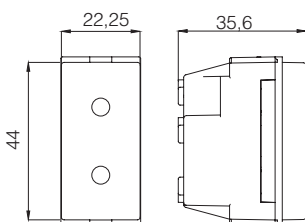
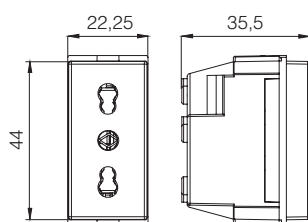
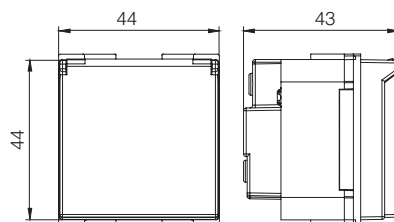
### Socket Outlets 2M



Socket Outlet with Earthing and Child Protection

Socket Outlet with Earthing Pin and Child Protection

Socket Outlet with Child Protection



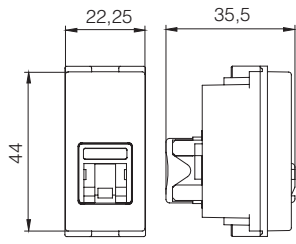
Schuko Socket Outlet with Child Protection and Lid

Italian Type Child Protected Socket 1M

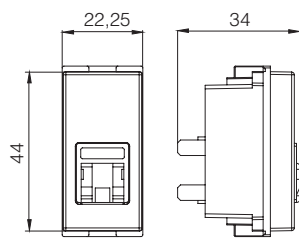
Socket Outlet Child Protected 1M



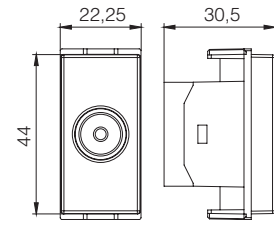
## Data Transfer - TV Antenna 1M



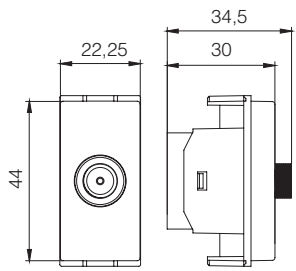
Data Socket Outlet (cat.6)



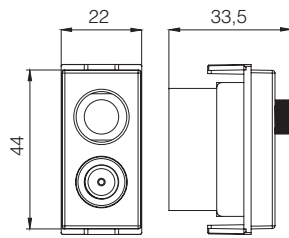
Telephone Socket (cat.3)



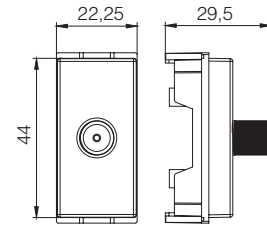
- TV Antenna Socket - Resistless
- Antenna Socket End Female
- Antenna Socket Through Female



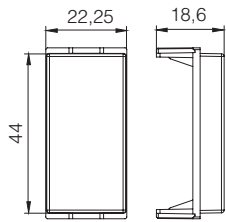
- SAT Antenna Socket End
- SAT Antenna Socket Through



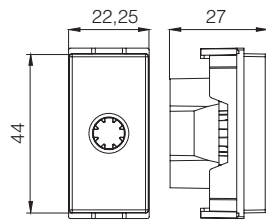
- TV-SAT Antenna Socket End
- TV-SAT Antenna Socket Through



F Connector

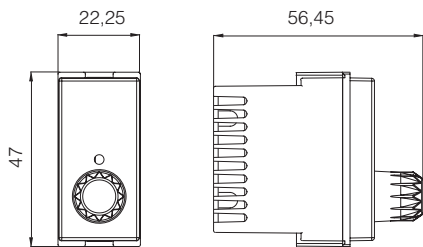


Space cover

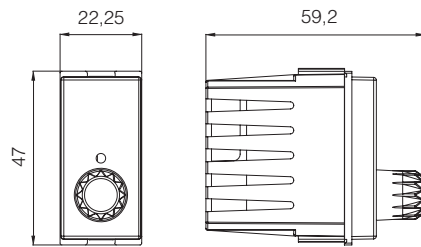


Cable Outlet Cover

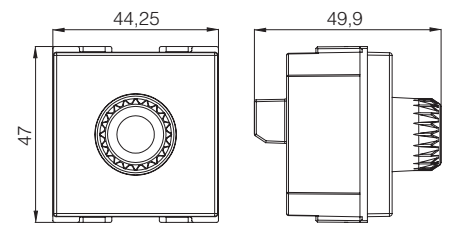
## Electronic 1M



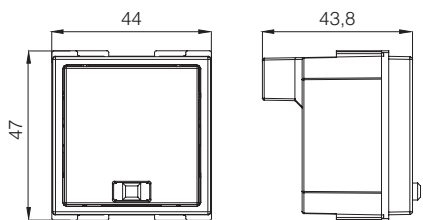
Dimmer 300W



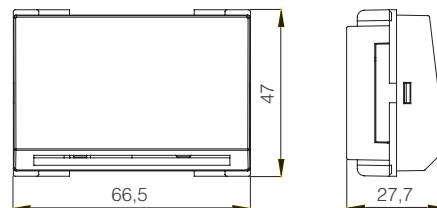
Two Way Dimmer 300V



Audio Switch 10 W 2M



Emergency-Light

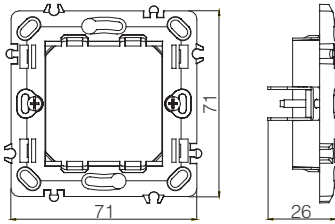


Electro-Magnetic Energy Saver

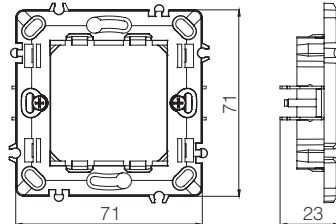
## Technical Drawings

### Supports

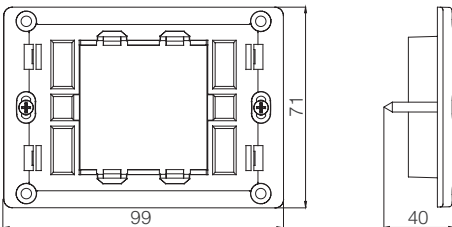
2M Support



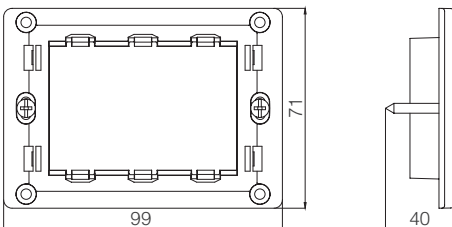
2M Support with claw



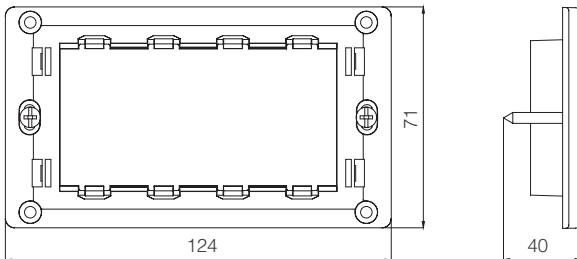
2M Support (3M in size)



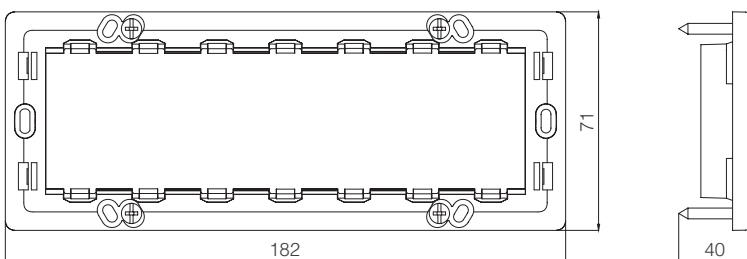
3M Support



4M Support

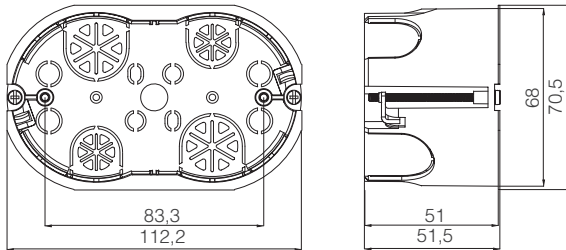


7M Support

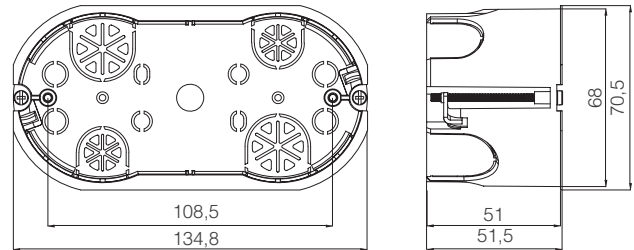


## Cavity Wall Cases

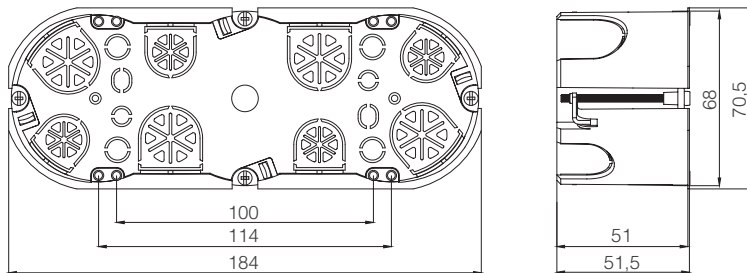
3M Cavity wall case



4M Cavity wall case

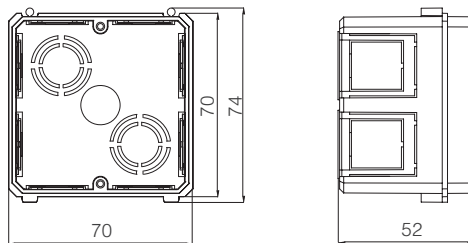


7M Cavity wall case

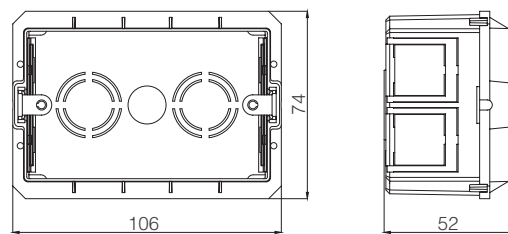


## Flush Mounted Cases

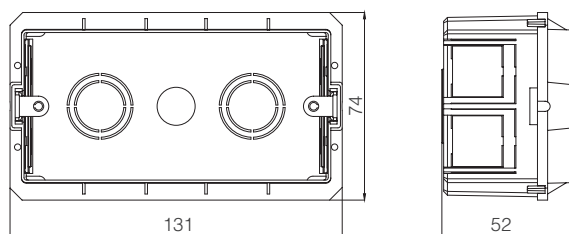
2M Flush mounted cases



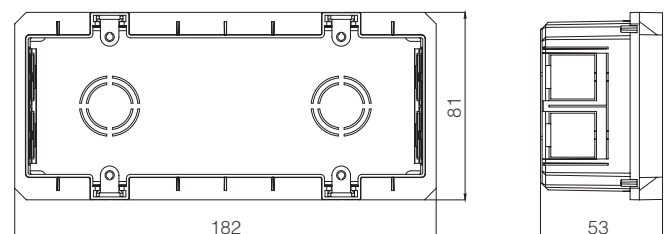
3M Flush mounted cases



4M Flush mounted cases



7M Flush mounted cases



# Modular Wiring Solutions

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
One Way Switch 1M	53 xxx 001	12	120	3,30	266 x 233 x 216
One Way Switch 32A 1M	53 xxx 462	6	36	1,94	115 x 235 x 227
One Way Switch Illuminated 1M (Led)	53 xxx 267	12	120	3,55	266 x 233 x 216
One Way Switch Illuminated 1M (Neon)	53 xxx 021	12	120	3,55	266 x 233 x 216
Illuminated Switch with Neutral line 1M (Led)	53 xxx 478	12	120	3,60	266 x 233 x 216
One Way Switch 2M	53 xxx 251	12	120	4,45	267 x 260 x 349
One Way Switch Illuminated 2M (Led)	53 xxx 268	12	120	4,60	267 x 260 x 349
One Way Switch Illuminated 2M (Neon)	53 xxx 237	12	120	4,60	267 x 260 x 349
Illuminated Switch with Neutral line 2M (Led)	53 xxx 479	12	120	4,82	267 x 260 x 349
Light Switch 1M	53 xxx 004	12	120	3,30	266 x 233 x 216
Light Switch Illuminated 1M (Led)	53 xxx 271	12	120	3,40	266 x 233 x 216
Light Switch Illuminated 1M (Neon)	53 xxx 024	12	120	3,40	266 x 233 x 216
Light Illuminated Switch with Neutral line 1M (Led)	53 xxx 480	12	120	3,50	266 x 233 x 216
Light Switch 2M	53 xxx 256	6	60	2,53	267 x 257 x 187
Light Switch Illuminated 2M (Led)	53 xxx 272	6	60	2,53	267 x 257 x 187
Light Switch Illuminated 2M (Neon)	53 xxx 257	6	60	2,53	267 x 257 x 187
Light Illuminated Switch with Neutral line 2M (Led)	53 xxx 481	6	60	2,60	267 x 257 x 187
Two-Way Switch 1M	53 xxx 005	12	120	3,55	266 x 233 x 216
Two-Way Switch Illuminated 1M (Led)	53 xxx 269	12	120	3,75	266 x 233 x 216
Two-Way Switch Illuminated 1M (Neon)	53 xxx 025	12	120	3,75	266 x 233 x 216
Two Way Illuminated Switch with Neutral line 1M (Led)	53 xxx 482	12	120	3,88	266 x 233 x 216
Two-Way Switch 2M	53 xxx 258	6	60	3,05	267 x 257 x 187
Two-Way Switch Illuminated 2M (Led)	53 xxx 270	6	60	2,69	267 x 257 x 187
Two-Way Switch Illuminated 2M (Neon)	53 xxx 259	6	60	2,69	267 x 257 x 187
Two Way Illuminated Switch with Neutral line 2M (Led)	53 xxx 483	6	60	2,68	267 x 257 x 187
Door Switch 1M	53 xxx 096	12	120	3,30	266 x 233 x 216
Door Switch Illuminated 1M (Led)	53 xxx 273	12	120	3,50	266 x 233 x 216
Door Switch Illuminated 1M (Neon)	53 xxx 097	12	120	3,50	266 x 233 x 216
Door Switch 2M	53 xxx 260	6	60	2,53	267 x 257 x 187
Door Switch Illuminated 2M (Led)	53 xxx 274	6	60	2,53	267 x 257 x 187
Door Switch Illuminated 2M (Neon)	53 xxx 261	6	60	2,53	267 x 257 x 187
Intermediate Switch 1M	53 xxx 020	12	120	3,55	267 x 257 x 187
Intermediate Switch Illuminated 1M (Led)	53 xxx 275	12	120	3,75	266 x 233 x 216
Intermediate Switch Illuminated 1M (Neon)	53 xxx 040	12	120	3,75	267 x 257 x 187
Intermediate Switch 2M	53 xxx 262	6	60	3,05	267 x 257 x 187
Intermediate Switch Illuminated 2M (Led)	53 xxx 276	6	60	2,69	267 x 257 x 187
Intermediate Switch Illuminated 2M (Neon)	53 xxx 263	6	60	2,69	267 x 257 x 187
Spring Blind Switch 1M	53 xxx 318	12	120	3,65	266 x 233 x 216
Shutter Push-Button 1M	53 xxx 041	12	120	3,55	266 x 233 x 216
Shutter Push-Button 2M	53 xxx 264	6	60	3,05	267 x 257 x 187
Bell Switch 1M	53 xxx 050	12	120	3,40	266 x 233 x 216
Bell Switch Illuminated 1M (Led)	53 xxx 277	12	120	3,65	266 x 233 x 216
Bell Switch Illuminated 1M (Neon)	53 xxx 070	12	120	3,65	266 x 233 x 216
Bell Switch 2M	53 xxx 265	6	60	2,38	267 x 257 x 187
Bell Switch Illuminated 2M (Led)	53 xxx 278	6	60	2,62	267 x 257 x 187
Bell Switch Illuminated 2M (Neon)	53 xxx 266	6	60	2,62	267 x 260 x 349
Bell 1M	53 xxx 056	6	36	1,30	205 x 230 x 140
Warning Switch (Fan Patterned) 1M	53 xxx 440	6	60	1,98	230 x 233 x 134
Emergency Switch With String 1M	53 xxx 071	6	60	1,96	230 x 233 x 134
Control Switch 2-Pole 1M	53 xxx 469	6	60	3,11	267 x 257 x 187
Control Switch 2-Pole 2M	53 xxx 128	6	60	2,45	266 x 233 x 216
Space (Gap) Cover 1M	53 xxx 555	12	120	1,30	202 x 479 x 126
Space (Gap) Cover 2M	53 xxx 557	12	120	1,80	202 x 479 x 126
Cable Outlet Cover 1M	53 xxx 556	6	60	1,19	230 x 233 x 134
Heating Key 1M	53 xxx 439	12	120	1,98	230 x 238 x 139
Ventilator Key 1M	53 xxx 438	12	120	1,98	230 x 238 x 139

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Socket Outlet Group</b>					
Socket Outlet Child Protected 1M	53 xxx 129	6	60	2,10	230 x 233 x 134
Italian Type Socket Child Protected 1M	53 xxx 283	6	60	2,10	230 x 233 x 134
Universal Socket 2M	53 xxx 429	6	60	2,50	267 x 257 x 187
Socket Outlet with Child Protection 2M	53 xxx 052	6	60	2,50	267 x 257 x 187
Schuko Socket Outlet with Child Protection 2M	53 xxx 058	6	60	3,05	267 x 257 x 187
Schuko Socket Outlet with Child Protection and Lid 2M	53 xxx 238	6	60	3,30	267 x 257 x 187
Socket Outlet with Earthing Pin and Child Protection 2M	53 xxx 053	6	60	3,42	267 x 257 x 187
Israel Type Schuko Socket Outlet with Child Protected 2M	53 xxx 048	6	60	2,72	267 x 257 x 187
Shaver Socket Outlet	53 xxx 491	6	60	26,35	210 x 390 x 211
Euro American Socket Outlet	53 xxx 451	6	50	1,99	230 x 238 x 139
Childproof Euro American Grounded Socket 2M	53 xxx 499	6	60	1,31	267 x 257 x 187
Mexican Type Child Protected Socket 1M	53 xxx A65	6	60	2.20	230 x 233 x 134
<b>Data Transmission and Numeric Group</b>					
Telephone Socket (Cat3) 1M	53 xxx 014	12	120	2,40	266 x 233 x 216
Israel Type Telephone Socket 1M	53 xxx 047	6	60	1,31	205 x 235 x 145
Data Socket Outlet (Cat6) 1M	53 xxx 239	6	60	1,55	230 x 233 x 134
<b>Tv Socket Outlet Group</b>					
TV Antenna Socket - Resistless 1M	53 xxx 142	12	120	4,20	266 x 233 x 216
TV Antenna Socket Female 1M	53 xxx 027	12	120	4,20	266 x 233 x 216
TV Antenna Socket Male 1M	53 xxx 007	12	120	4,20	266 x 233 x 216
TV Sat Socket End 1dB 1M	53 xxx 098	12	120	5,00	266 x 233 x 216
TV Sat Socket Transient 1dB 1M	53 xxx 083	12	120	5,00	266 x 233 x 216
Sat Transient Socket Outlet 1M	53 xxx 133	12	120	4,35	266 x 233 x 216
Sat Final Socket Outlet 1M	53 xxx 134	12	120	4,35	266 x 233 x 216
F Connector 1M	53 xxx 280	6	60	1,43	230 x 233 x 134
<b>Electronic Group</b>					
Dimmer 300V 1M	53 xxx 011	6	60	3,94	205 x 230 x 140
Two Way Dimmer 300V 1M	53 xxx 234	6	36	1,98	205 x 235 x 145
Emergency-Light 2M	53 xxx 055	6	60	3,92	267 x 257 x 187
■ Electro-Magnetic Energy Saver 3M	53 xxx 301	6	36	2,04	115 x 235 x 227
■ Radio Frequency Energy saver 3M	53 xxx 302	6	36	2,16	115 x 235 x 227
Audio Switch 10 W 2M	53 xxx 086	6	60	3,92	267 x 257 x 187
Loudspeaker - connection, 1 gang 1M	53 xxx 080	6	60	1,11	230 x 233 x 134
Hotel warning indoors unit 2M	53 xxx 252	6	60	3,05	267 x 257 x 187
Cooling Switch 32A	53 xxx 462	6	36	1,96	115 x 235 x 227
USB Charger Socket 1M	53 xxx 465	6	60	1,96	115 x 235 x 227
USB with Jack 1M	53 xxx 495	6	60	2,71	266 x 238 x 221
HDMI Socket With Jack 1M	53 xxx 494	6	60	2,73	266 x 238 x 221
Motion Detector 1M	53 xxx 498	6	60	1,99	115 x 240 x 232

■ See page 231 for relay options for marked products.

# Modular Wiring Solutions

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Frames</b>					
<b>Millanta Modular Frames</b>					
1M Frame (3M in size)*	50 xxx 776	12	120	3,35	202 x 484 x 154
2M Frame (3M in size)*	50 xxx 777	12	120	3,21	202 x 484 x 154
2M Frame	50 xxx 766	12	120	2,50	202 x 479 x 126
3M Frame	50 xxx 767	12	120	2,95	202 x 479 x 149
4M Frame	50 xxx 768	12	120	3,25	202 x 478 x 172
7M Frame	50 xxx 769	12	72	2,55	202 x 290 x 241
2x2M Frame	50 xxx 702	6	60	1,85	310 x 195 x 210
3x2M Frame	50 xxx 703	6	60	3,07	310 x 195 x 280
4x2M Frame	50 xxx 704	6	60	3,68	310 x 195 x 355
<b>Kare Modular Frames</b>					
1M Frame *	51 xxx 776	12	120	3,89	240 x 475 x 163
2M Frame *	51 xxx 777	12	120	3,78	240 x 475 x 163
2M Frame	51 xxx 766	12	120	2,60	202 x 479 x 126
3M Frame	51 xxx 767	12	120	2,96	240 x 470 x 158
4M Frame	51 xxx 768	12	120	3,29	240 x 470 x 183
7M Frame	51 xxx 769	12	72	2,84	240 x 285 x 248
2x2M Frame	51 xxx 702	6	60	2,48	310 x 195 x 210
3x2M Frame	51 xxx 703	6	60	3,08	310 x 195 x 280
4x2M Frame	51 xxx 704	6	60	3,68	310 x 195 x 355
<b>Cases</b>					
Flush Mounted Case (White)	10011	-	300	10,75	400 x 600 x 345
Flush mounted deep - (White)	10012	-	200	8,76	400 x 600 x 345
2M Case - Flush Mounted (Red)	53 000 443	-	72	2,12	210 x 444 x 211
3M Case - Flush Mounted (Red)	53 000 244	-	48	1,85	210 x 444 x 211
4M Case - Flush Mounted (Red)	53 000 245	-	48	2,25	262 x 444 x 208
7M Case - Flush Mounted (Red)	53 000 246	-	36	2,60	368 x 491 x 163
Flush Mounted Cavity Wall Case With Claw	10013	-	200	8,11	417 x 455 x 290
3M Case - Cavity Wall (Blue)	53 000 247	-	48	2,20	220 x 280 x 370
4M Case - Cavity Wall (Blue)	53 000 248	-	48	2,48	465 x 425 x 220
7M Case - Cavity Wall (Blue)	53 000 249	-	36	2,18	220 x 220 x 165
<b>Supports</b>					
2M Support	53 000 240	12	120	3,10	160 x 405 x 230
3M Support	53 000 241	12	120	3,70	210 x 390 x 211
4M Support	53 000 242	12	120	4,30	261 x 390 x 211
7M Support	53 000 243	12	72	3,90	377 x 238 x 211
2M Support - With Claw	53 000 250	12	120	3,60	160 x 405 x 230
2M Support **	53 000 450	12	120	4,78	210 x 395 x 216

\*3M in Frame size (1M frame is used with 3M carcass.)

\*\*3M in Case dimension

For Frame colors within the product codes showing 'xxx', enter following colrr codes from the table.

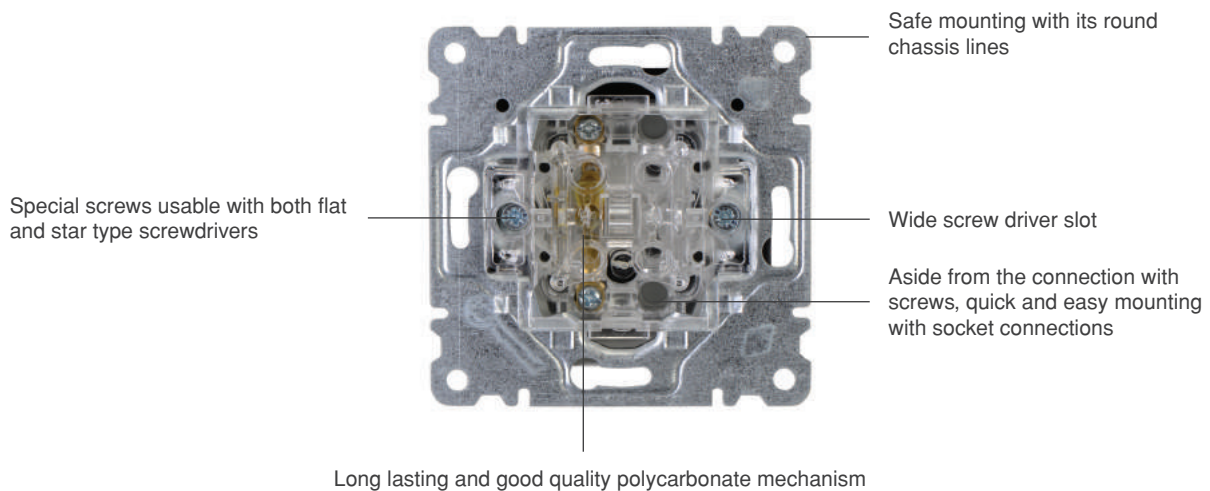
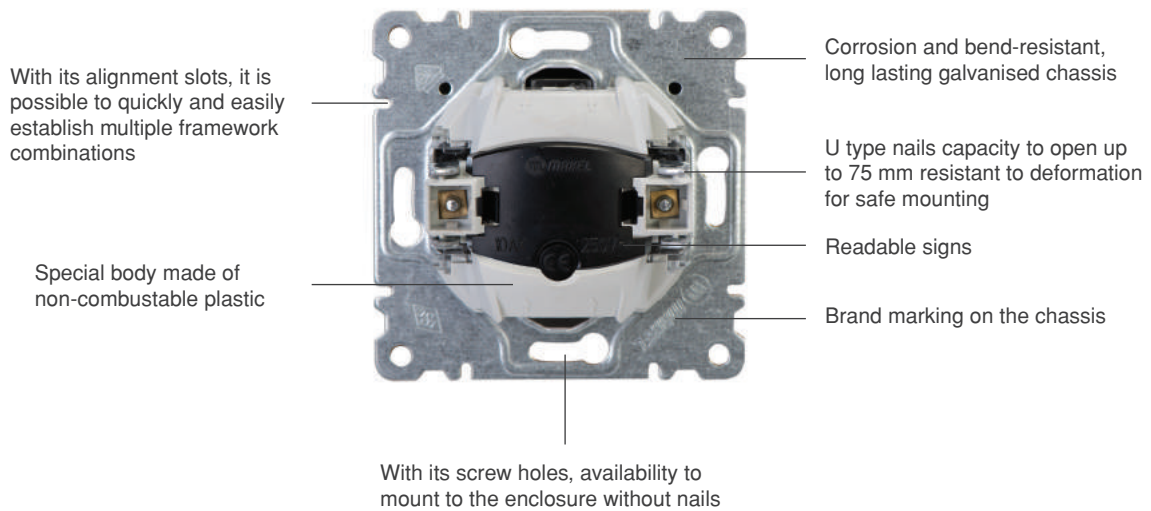
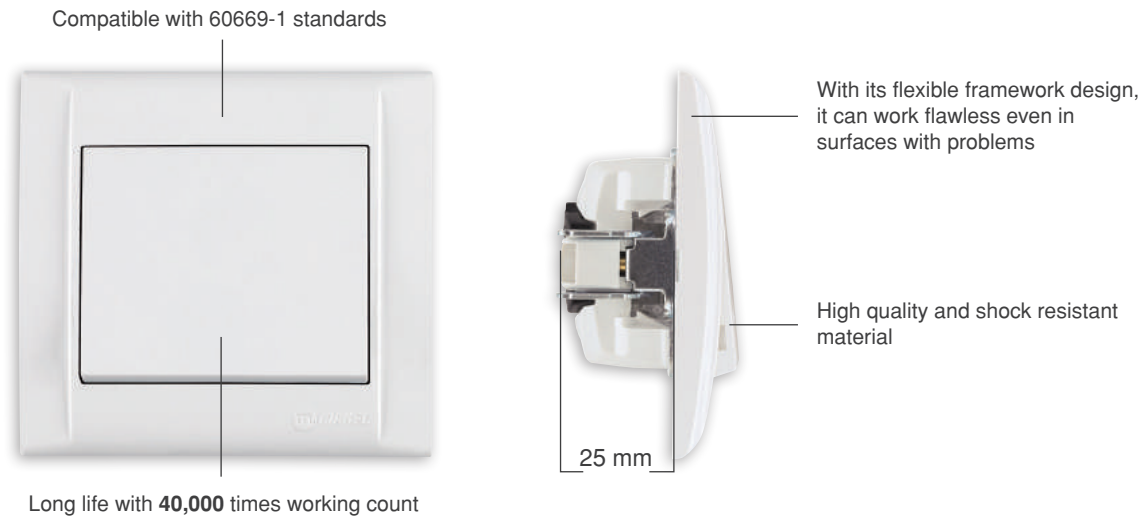
	Code No		Code No		Code No
Frames Colors	xxx	Frames Colors	xxx	Frames Colors	xxx
White	001	Black	054	Green	091
Beige	010	Khaki	052	Blue	106
Glossy Black	111	Titanium	109	Red	108
Glossy Red	071	Fume	050	Light Claret Red	053
Grey	064	Silver	051	Dark Claret Red	107
Claret Red	110	Gold	046	Lilac	078

For module colors, within the product codes showing 'xxx', enter the color codes from the table below.

Rocker and Cover Colors	Code No
	xxx
White	001
Beige	010
Black	111
Fume	050
Dore	057
Silver	065

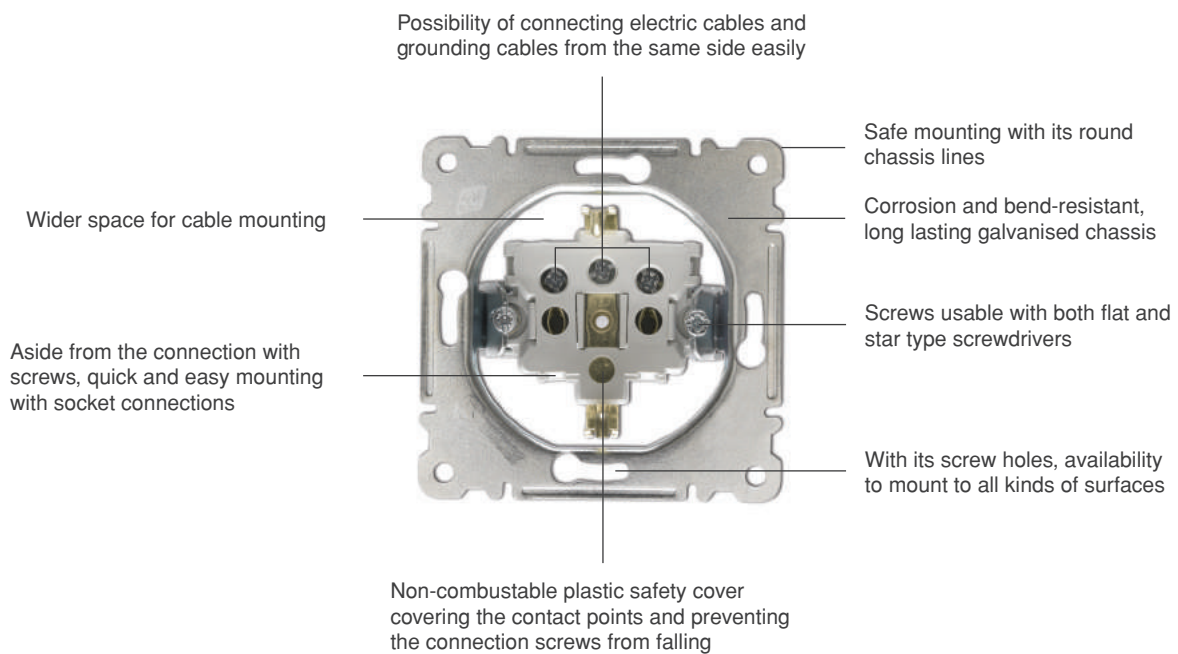
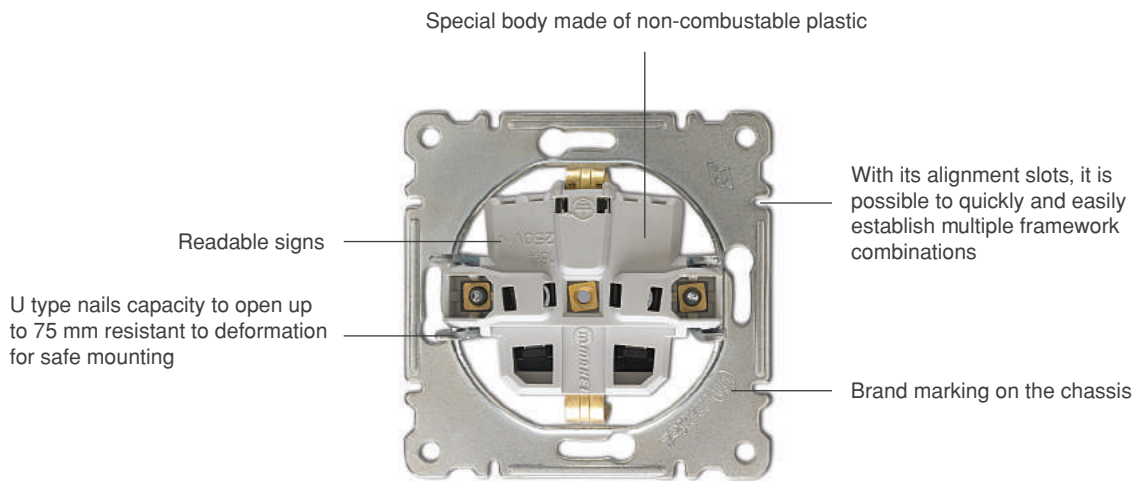
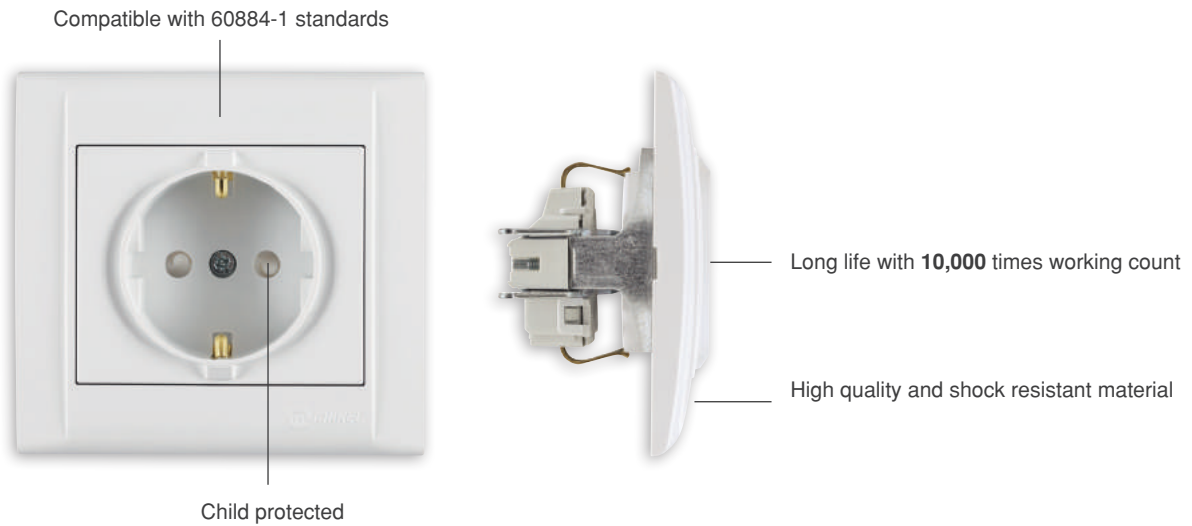


## Switch General Specifications





# Socket Outlet General Specifications



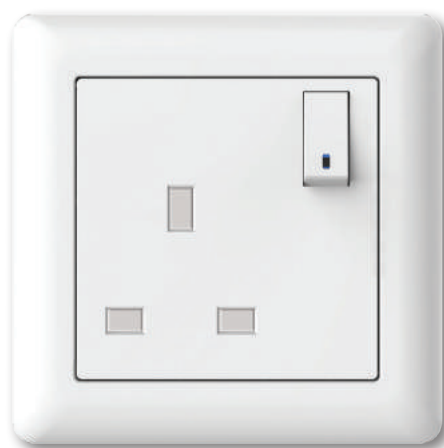






# British Standard

## Switch & Socket Outlet Series



# British Standard Switch & Socket Outlet Series

## Colourful Products



There are special moments where one gets to light from the dark, at the point where intelligence meets talent. At the end of these moments, high quality and aesthetical products come to life. The British Standard Switch and Socket Outlet series products are among these, and they are ready to light your living spaces with their special designs reflecting you.

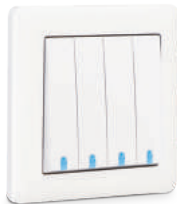
## Functions



1G Switch



1G Switch Illuminated



4G Switch Illuminated



Dimmer 300W



Socket-Outlet Switched



Multi Socket Outlet



Tv-Sat Antenna Socket

## The synthesis of architectural forms, a modern touch

The British Standard Switch and Socket Outlet series developed in parallel with functionality, high product quality and environmental sensitivity will bring an innovative dimension to your spaces.



### Multi Frames

---



Single Frame



Double Frame

## Colourful Products



01 White



02 Beige



24 White Pearl



23 Dore



05 Silver



03 Fume



06 Glossy Black



07 Khaki



27 Natural Walnut



28 Natural Cherry



29 Natural Pine



26 Natural Oak



## Colour Frames



Frame: Aurora - BD060121  
Module: Dore - BR010123



Frame: Blackquartz - BD060120  
Module: Silver - BR010105



Frame: Dusk - BD060122  
Module: Black - BR010125



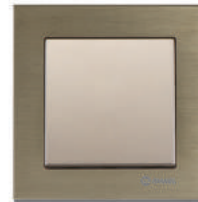
Frame: Sandstone - BD060119  
Module: Dore - BR010123



Frame: Silver - BB060108  
Module: Silver - BR010105



Frame: Black - BB060109  
Module: Black - BR010125



Frame: Satin - BB060104  
Module: Dore - BR010123



Frame: Beech - BC060113  
Module: Silver - BR010105



Frame: Walnut - BC060114  
Module: Dore - BR010123



Frame: Dark Cherry - BC060111  
Module: Silver - BR010105



Frame: Venge - BC060110  
Module: Dore - BR010123



Frame: Antique Oak - BC060112  
Module: Dore - BR010123



Frame: White Pearl - BA060115  
Module: Silver - BR010105



Frame: Blackmagic - BA060116  
Module: Silver - BR010105



Frame: Greenleaf - BA060117  
Module: Dore - BR010123



Frame: Riverblue - BA060118  
Module: Dore - BR010123

# British Standard Switch & Socket Outlet Series



**1G 1 Way Switch**  
BR010101  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**2G 1 Way Switch**  
BR010201  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**3G 1 Way Switch**  
BR010301  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**4G 1 Way Switch**  
BR010401  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**1G 1 Way Switch Illuminated**  
BR010501  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**2G 1 Way Switch Illuminated**  
BR010601  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**3G 1 Way Switch Illuminated**  
BR010701  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**4G 1 Way Switch Illuminated**  
BR010801  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**1G 2 Way Change-Over Switch**  
BR010901  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**2G 2 Way Change-Over Switch**  
BR011001  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**3G 2 Way Change-Over Switch**  
BR011101  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**4G 2 Way Change-Over Switch**  
BR011201  
20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120





**1G 2 Way Change-Over  
Switch Illuminated**

**BR011301**

20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**2G 2 Way Change-Over  
Switch Illuminated**

**BR011401**

20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**3G 2 Way Change-Over  
Switch Illuminated**

**BR011501**

20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**4G 2 Way Change-Over  
Switch Illuminated**

**BR011601**

20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch**

**BR011701**

20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch Illuminated**

**BR011801**

20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**1G 1 Way Switch Illuminated 2P**

**BR015701**

20 A - 16 AX, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**AC Switch 32A**

**BR014701**

32 A, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**Heater Switch 32A**

**BR014801**

32 A, 250 V~  
BS EN 60669-1  
Piece in Box / Package - 12 / 120



**Dimmer 300W**

**BR033401**

300W, 250 V~  
60669-2-2  
Piece in Box / Package - 12 / 120



**Change-Over 2 Way Dimmer 300W**

**BR033501**

300W, 250 V~  
60669-2-2  
Piece in Box / Package - 12 / 120



**Fan Dimmer 300W**

**BR035801**

300W, 250 V~  
60669-2-2  
Piece in Box / Package - 12 / 120

# British Standard Switch & Socket Outlet Series



**Socket Outlet**  
**BR022601**  
13 A, 250 V~  
BS 1363-2  
Piece in Box / Package - 12 / 120



**Socket-Outlet Switched 1P**  
**BR020201**  
13 A, 250 V~  
BS 1363-2  
Piece in Box / Package - 12 / 120



**Socket-Outlet Switched 2P**  
**BR021901**  
13 A, 250 V~  
BS 1363-2  
Piece in Box / Package - 12 / 120



**Socket-Outlet Switched 2P Illuminated**  
**BR022001**  
13 A, 250 V~  
BS 1363-2  
Piece in Box / Package - 12 / 120



**Multi Socket Outlet**  
**BR025201**  
13 A, 250 V~  
BS 1363-2  
Piece in Box / Package - 12 / 120



**Shutter Push-Button**  
**BR014901**  
16A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Data Socket (Cat3)**  
**BR043601**  
Piece in Box / Package - 12 / 120



**Data Socket (Cat5)**  
**BR044101**  
Piece in Box / Package - 12 / 120



**Double Data Socket (Cat5)**  
**BR044201**  
Piece in Box / Package - 12 / 120



**Data Socket (Cat6)**  
**BR044301**  
Piece in Box / Package - 12 / 120



**Double Data Socket (Cat6)**  
**BR044401**  
Piece in Box / Package - 12 / 120



**Sat Antenna Socket Through**  
**BR053901**  
Piece in Box / Package - 12 / 120



Sat Antenna Socket End  
BR054501  
Piece in Box / Package - 12 / 120



Antenna Socket  
BR055001  
Piece in Box / Package - 12 / 120



Antenna Socket Through 8 dB  
BR053801  
Piece in Box / Package - 12 / 120



Tv-Sat Antenna Socket End  
BR054601  
Piece in Box / Package - 12 / 120



Tv-Sat Antenna Socket Through 1dB  
BR054001  
Piece in Box / Package - 12 / 120



Double Socket Outlet  
Switched 2P  
BR023201  
13 A, 250 V~  
BS 1363-2  
Piece in Box / Package - 6 / 60



Double Socket Outlet  
Switched 2P Illuminated  
BR023301  
13 A, 250 V~  
BS 1363-2  
Piece in Box / Package - 6 / 60



Double Socket Outlet  
BR023001  
13 A, 250 V~  
BS 1363-2  
Piece in Box / Package - 6 / 60



Double Socket Outlet  
Switched 1P  
BR023101  
13 A, 250 V~  
BS 1363-2  
Piece in Box / Package - 6 / 60



Single Frame  
BR060101  
Piece in Box / Package - 12 / 120



Double Frame  
BR060201  
Piece in Box /  
Package - 25 / 250

# British Standard Switch & Socket Outlet Series

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
1G 1 Way Switch	BR0101xx	12	120	6,54	365 x 472 x 215
1G 1 Way Switch with Metal Chassis	BR0801xx	12	120	9,20	365 x 472 x 215
2G 1 Way Switch	BR0102xx	12	120	8,20	365 x 472 x 215
2G 1 Way Switch with Metal Chassis	BR0802xx	12	120	10,70	365 x 472 x 215
3G 1 Way Switch	BR0103xx	12	120	9,49	365 x 472 x 215
3G 1 Way Switch with Metal Chassis	BR0803xx	12	120	12,46	365 x 472 x 215
4G 1 Way Switch	BR0104xx	12	120	10,50	365 x 472 x 215
6 Gang 1 Way Switch	BR0153xx	6	60	9,04	365 x 472 x 215
6 Gang 1 Way Switch Illuminated	BR0154xx	6	60	10,20	365 x 472 x 215
1G 1 Way Switch Illuminated	BR0105xx	12	120	6,79	365 x 472 x 215
1G 1 Way Switch Illuminated with Metal Chassis	BR0805xx	12	120	9,34	365 x 472 x 215
2G 1 Way Switch Illuminated	BR0106xx	12	120	8,54	365 x 472 x 215
2G 1 Way Switch Illuminated with Metal Chassis	BR0806xx	12	120	10,94	365 x 472 x 215
3G 1 Way Switch Illuminated	BR0107xx	12	120	10,09	365 x 472 x 215
3G 1 Way Switch Illuminated with Metal Chassis	BR0807xx	12	120	12,61	365 x 472 x 215
4G 1 Way Switch Illuminated	BR0108xx	12	120	11,47	365 x 472 x 215
Intermediate Switch	BR0117xx	12	120	8,36	365 x 472 x 215
Intermediate Switch Illuminated	BR0118xx	12	120	8,53	365 x 472 x 215
Switch Illuminated 2P	BR0157xx	12	120	8,38	365 x 472 x 215
1G 2 Way Change-Over Switch	BR0109xx	12	120	6,94	365 x 472 x 215
1G 2 Way Change-Over Switch with Metal Chassis	BR0809xx	12	120	9,37	365 x 472 x 215
2G 2 Way Change-Over Switch	BR0110xx	12	120	8,41	365 x 472 x 215
2G 2 Way Change-Over Switch with Metal Chassis	BR0810xx	12	120	10,84	365 x 472 x 215
3G 2 Way Change-Over Switch	BR0111xx	12	120	9,95	365 x 472 x 215
3G 2 Way Change-Over Switch with Metal Chassis	BR0811xx	12	120	12,63	365 x 472 x 215
4G 2 Way Change-Over Switch	BR0112xx	12	120	11,53	365 x 472 x 215
1G 2 Way Change-Over Switch Illuminated	BR0113xx	12	120	7,09	365 x 472 x 215
1G 2 Way Change-Over Switch Illuminated with Metal Chassis	BR0813xx	12	120	9,60	365 x 472 x 215
2G 2 Way Change-Over Switch Illuminated	BR0114xx	12	120	8,78	365 x 472 x 215
2G 2 Way Change-Over Switch Illuminated with Metal Chassis	BR0814xx	12	120	11,18	365 x 472 x 215
3G 2 Way Change-Over Switch Illuminated	BR0115xx	12	120	10,46	365 x 472 x 215
3G 2 Way Change-Over Switch Illuminated with Metal Chassis	BR0815xx	12	120	13,14	365 x 472 x 215
4G 2 Way Change-Over Switch Illuminated	BR0116xx	12	120	12,14	365 x 472 x 215
Ac Switch 32A	BR0147xx	12	120	12,32	285 x 480 x 280
Heater Switch 32A	BR0148xx	12	120	12,32	285 x 480 x 280
Shutter Push Button	BR0149xx	12	120	9,80	365 x 472 x 215
<b>Socket Outlet Group</b>					
Socket Outlet Switched 1P	BR0202xx	12	120	12,78	365 x 472 x 215
Socket Outlet Switched 2P	BR0219xx	12	120	13,05	365 x 472 x 215
Socket Outlet Switched 2P Illuminated	BR0220xx	12	120	13,03	365 x 472 x 215
Socket-Outlet	BR0226xx	12	120	11,88	365 x 472 x 215
Double Socket-Outlet	BR0230xx	6	60	10,42	410 x 485 x 310
Double Socket Outlet Switched 1P	BR0231xx	6	60	11,30	410 x 485 x 310
Double Socket Outlet Switched 2P	BR0232xx	6	60	11,68	365 x 472 x 215
Double Socket Outlet Switched 2P Illuminated	BR0233xx	6	60	11,57	410 x 485 x 310
Double Socket-Outlet Child Protected 2G	BR0251xx	12	120	11,22	365 x 472 x 215
Multi Socket Outlet	BR0252xx	12	120	14,31	285 x 475 x 275
<b>Tv Socket Outlet Group</b>					
Antenna Socket End	BR0550xx	12	120	10,02	365 x 472 x 215
Antenna Socket Through 8 dB	BR0538xx	12	120	10,06	365 x 472 x 215
Sat Antenna Socket End	BR0545xx	12	120	10,19	365 x 472 x 215
Sat Antenna Socket Through	BR0539xx	12	120	10,19	365 x 472 x 215
Tv Sat Antenna Socket End	BR0546xx	12	120	10,79	365 x 472 x 215
Tv Sat Antenna Socket Through 1 dB	BR0540xx	12	120	10,80	365 x 472 x 215

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### Data Transmission Group

Data Socket (Cat 3)	BR0436xx	12	120	8,73	365 x 472 x 215
Data Socket (Cat 5)	BR0441xx	12	120	8,40	365 x 472 x 215
Data Socket (Cat 6)	BR0443xx	12	120	8,34	365 x 472 x 215
Double Data Socket (Cat 5)	BR0442xx	12	120	9,49	365 x 472 x 215
Double Data Socket (Cat 6)	BR0444xx	12	120	9,52	365 x 472 x 215

### Electronic Group

Dimmer (300W)	BR0334xx	12	120	-	285 x 475 x 275
Change-Over Dimmer (300W)	BR0335xx	12	120	-	285 x 475 x 275
Fan Dimmer	BR0358xx	12	120	9,49	365 x 472 x 215

### Frame Group

Single Frame	BR0601xx	120	120	2,25	250 x 500 x 155
Double Frame	BR0602xx	250	250	5,55	385 x 500 x 275
Lumia Glass Single Frame*	BA0601xx	6	36	3,25	245 x 370 x 205
Lumia Glass Double Frame*	BA0602xx				
Lumia Metal Single Frame*	BB0601xx	6	36	2,60	202 x 270 x 108
Lumia Metal Double Frame*	BB0602xx	1	12	1,20	170 x 175 x 103
Lumia Wood Single Frame*	BC0601xx	6	36	1,40	202 x 270 x 108
Lumia Wood Double Frame*	BC0602xx	1	12	0,65	170 x 175 x 103
Lumia Corian Single Frame*	BD0601xx	6	36	2,00	202 x 270 x 108
Lumia Corian Double Frame*	BD0602xx	1	12	0,95	170 x 175 x 103

Colors	Code No	Colors	Code No	Colors	Code No
White	01	Khaki	07	Natural Oak	26
Beige	02	Dore	23	Natural Walnut	27
Fume	03	White Pearl	24	Natural Cherry	28
Silver	05	Black	25	Natural Pine	29
Glossy Black	06				

(\* ) Within the product codes showing 'xx', enter the color from the table below for Lumia frames.

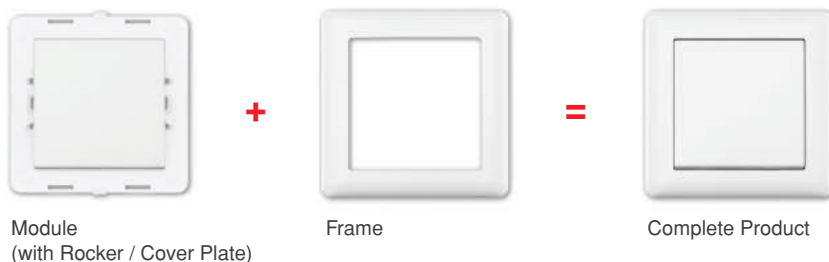
Metal Frame	Code No
	xx
Silver	08
Black	09
Satin	04

Glass Frame	Code No
	xx
Whitepearl	15
Blackmagic	16
Greenleaf	17
Riverblue	18

Wood Frame	Code No
	xx
Venge	10
Dark Cherry	11
Antique Oak	12
Beech	13
Walnut	14

Corian Frame	Code No
	xx
Sandstone	19
Blackquartz	20
Aurora	21
Dusk	22

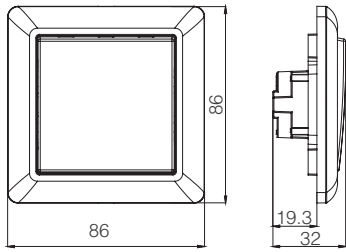
### Sales Option





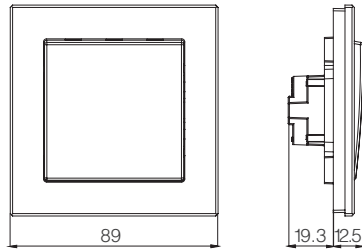
## Technical Drawings

Switch



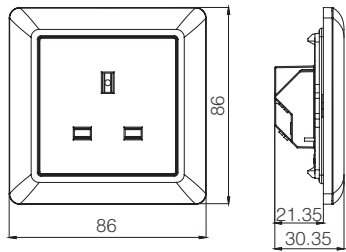
Plastic Frame

Switch

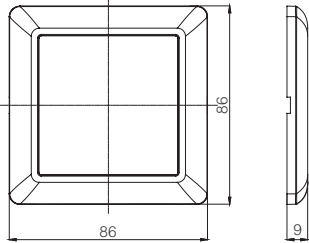


Frame for Corian, Metal, Glass, Wood.

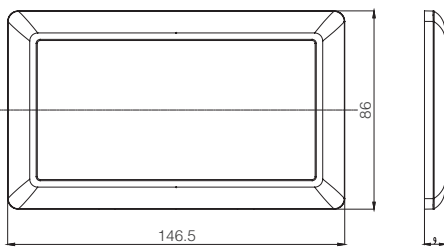
Schuko Socket Outlet



Frame



Double Frame











# Lunis

Switch & Socket Outlet Series



# Lunis Switch & Socket Outlet Series

## Colourful Products



Lunis is suitable for all places with oval lines and simple design.

## Functions



One Way Switch



Two-Circuit Switch



3 Circuit Switch



USB Charging Socket



Socket Outlet with Earthing Pin and Child Protection



Audio Switch 10 W



Dimmer



Data Socket Outlet



## New title of minimal design

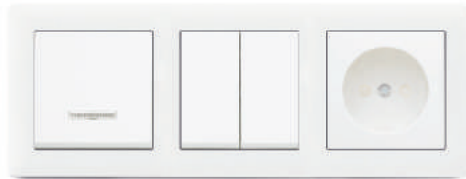
Lunis series will take place in your walls with its minimal design, and it will make your life even easier by preparing combinations with multiple frames.



## Multi Frames



Double Horizontal Frame



Triple Horizontal Frame



Double Vertical Frame



Quartet Horizontal Frame



Fiftet Horizontal Frame



Triple Vertical Frame

## Colourful Products

---



001 White



010 Beige



065 Metallic Silver



057 Dore



052 Green



050 Fume



100 Pearl

# Pastel Colour Frames



078 Lilac



093 Rose



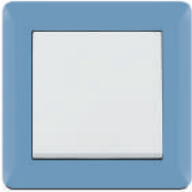
095 Light Lilac



091 Green



085 Magenta



092 Blue



074 Yellow

Reflect your style in your places with Lunis colorful products and frames.



094 Orange

# Lunis Switch & Socket Outlet Series



## One Way Switch \*

65001001  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## One Way Switch Illuminated \*

65001021  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Two-Circuit Switch \*

65001003  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Two-Circuit Switch Illuminated \*

65001023  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Light Switch \*

65001004  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Light Switch Illuminated \*

65001024  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Two-Way Switch \*

65001005  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Two-Way Switch Illuminated \*

65001025  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Door Switch \*

65001096  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Door Switch Illuminated \*

65001097  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Intermediate Switch \*

65001020  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Intermediate Switch Illuminated \*

65001040  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Bell Switch \***  
65001050  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated 12V \***  
65001085  
10 A, 12 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch With Label \***  
65001010  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
65001070  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated  
With Label 12V \***  
65001030  
10 A, 12 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Control Switch 2-Pole \***  
65001071  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Double Two-Way Switch**  
65001026  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Shutter Push-Button \***  
65001041  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**3 Circuit Switch**  
65001091  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**3 Gang 3 Pole Switch**  
65001092  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**1 Gang 3 Circuit Switch**  
65001094  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**1 Gang 3 Pole Switch**  
65001095  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



# Lunis Switch & Socket Outlet Series



**Socket Outlet**  
65001022  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet \***  
65001028  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Lid \***  
65001029  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Child Protection and Lid \***  
65001254  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin \***  
65001019  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Child Protection**  
65001052  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin and Child Protection \***  
65001053  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Child Protection \***  
65001058  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet with Earthing Pin**  
65001018  
16 A, 250 V  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet**  
65001017  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Schuko Socket Outlet**  
65001082  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Antenna Socket Through**  
**6 dB Female**  
 65001007  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**4 dB Female**  
 65001027  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket Through**  
**Male 6 dB**  
 65001043  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**Male 4 dB**  
 65001044  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket Through**  
**7 dB**  
 65001060  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket End**  
**1.5 dB**  
 65001065  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket Through**  
**4 dB**  
 65001083  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket End**  
**1 dB**  
 65001098  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket**  
**Through 4 dB**  
 65001067  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket**  
**End**  
**1.5 dB**  
 65001066  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Telephone Socket**  
 65001014  
 TSE K 71  
 Piece in Box / Package - 12 / 120



**Double Telephone Socket**  
 65001034  
 TSE K 71  
 Piece in Box / Package - 12 / 120

# Lunis Switch & Socket Outlet Series



**Double Data Socket Outlet (1xCat5)**  
65001035  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Data Socket Outlet (2xCat5)**  
65001036  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet  
(Cat5+Telephone Socket)**  
65001037  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (empty)**  
65001038  
TSE K 71  
Piece in Box / Package - 12 / 120



**Loudspeaker - connection, 1 gang**  
65001449  
TSE K 71  
Piece in Box / Package - 12 / 120



**Dimmer**  
65001011  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer Coil Filtered**  
65001031  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer**  
65001093  
60-1000 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**1-10V Led Dimmer**  
65001459  
IEC 60669-2-1  
50Hz, 230 V~  
Piece in Box / Package - 10 / 100



**Remote Controlled Dimmer(IR)  
Coil Filtered**  
65001045  
60-300 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Audio Switch 10 W**  
65001086  
10 W  
Piece in Box / Package - 6 / 60



**Emergency Light**  
65001055  
250 V~  
Piece in Box / Package - 6 / 60



**Energy Saver (without Relay) \***  
65001183  
10A, 220 V~  
Piece in Box / Package - 12 / 120



**Delayed Energy Saver (Without Relay) \***  
65001046  
10A, 220 V~  
Piece in Box / Package - 10 / 100



**Radio Frequency Energy Saver \***  
65001302  
12 V ~  
Kutu / Koli Adedi - 12 / 120



**Electro-Magnetic Energy Saver \***  
65001301  
12 V ~  
Piece in Box / Package - 12 / 120



**Warning Bell**  
65001056  
250 V~  
Piece in Box / Package - 6 / 60



**Cooling Switch**  
65001084  
16 A, 250 V~  
Piece in Box / Package - 12 / 120



**Surge-Protective Socket Outlet  
with Child Protection**  
65001139K  
16 A, 250 V~  
Piece in Box / Package - 5 / 30



**HDMI Socket (with jack)**  
65001494  
Piece in Box / Package - 12 / 120



**Double USB Charge Socket**  
65001A80  
Piece in Box / Package - 12 / 120



**USB Charging Socket**  
65001465  
Input: 250V AC, Output: 5V DC, 2A  
Piece in Box / Package - 12 / 120



**USB Socket (with jack)**  
65001495  
Piece in Box / Package - 12 / 120

\* Energy saver product visuals are given as representations, the card must be ordered separately.



# Lunis Switch & Socket Outlet Series



Frame  
65001701



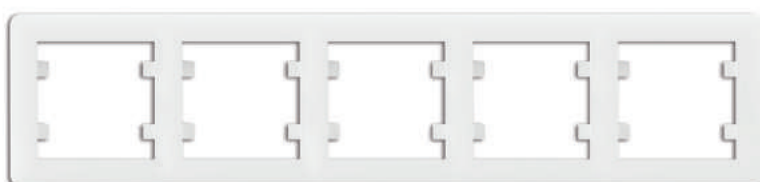
Double Horizontal Frame  
65001702



Triple Horizontal Frame  
65001703



Quartet Horizontal Frame  
65001704



Fiftet Horizontal Frame  
65001705



Sextet Horizontal Frame  
65001706



Double Vertical Frame  
65001707



Triple Vertical Frame  
65001708



Quartet Vertical Frame  
65001709

## Sales Options

---

### 1st Sales Option - Complete Product



Complete Product

### 2nd Sales Option - Module (with Rocker / Cover Plate) and Frame



Module  
(With Rocker / Cover Plate)

+



Frame

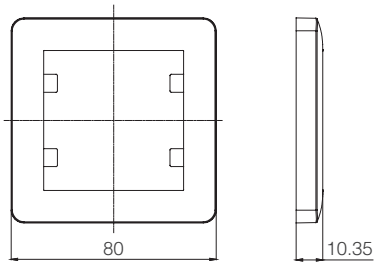
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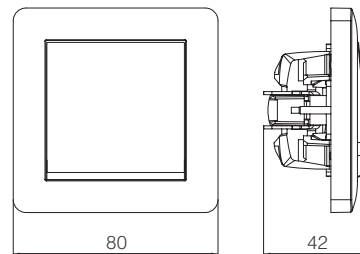
Complete Product

## Technical Drawings

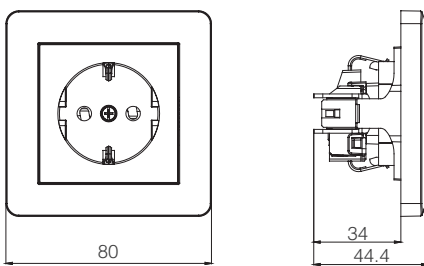
Frame



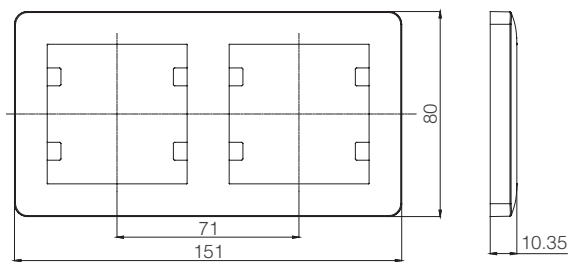
One Way Switch



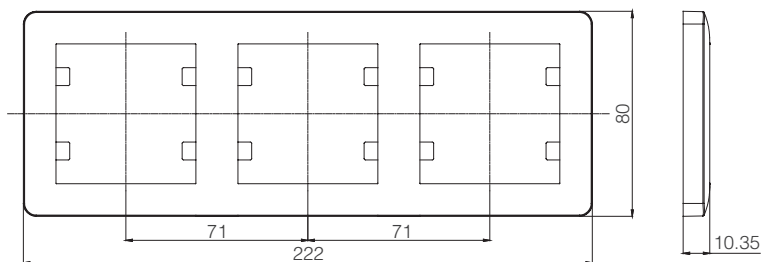
Schuko Socket Outlet



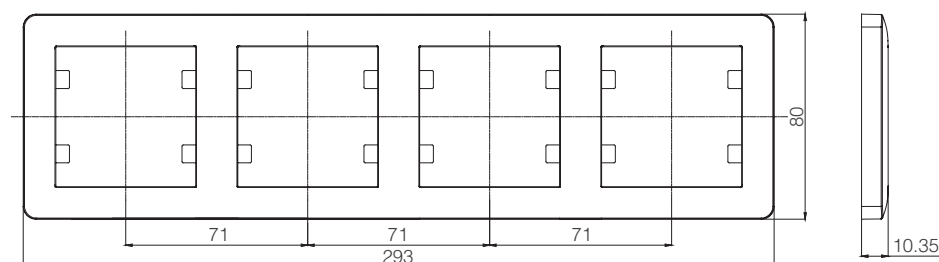
Double Horizontal Frame



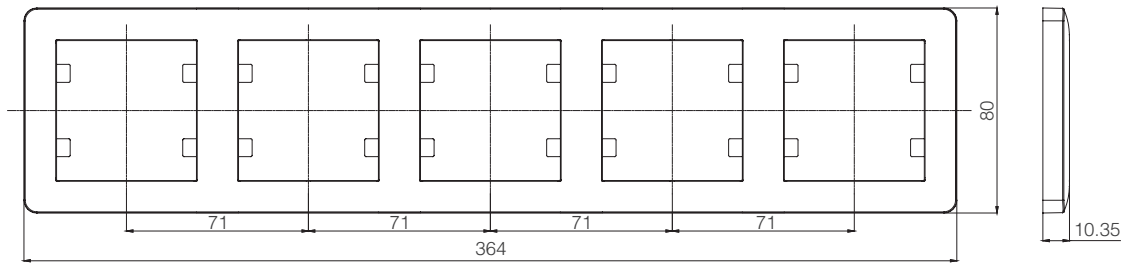
Triple Horizontal Frame



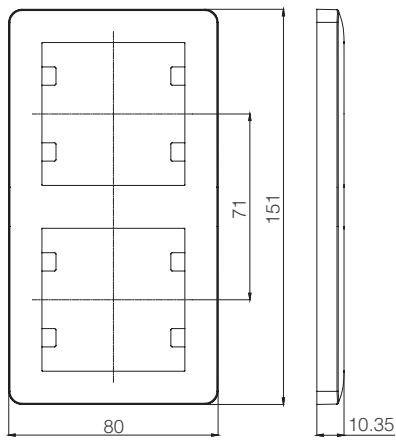
Quartet Horizontal Frame



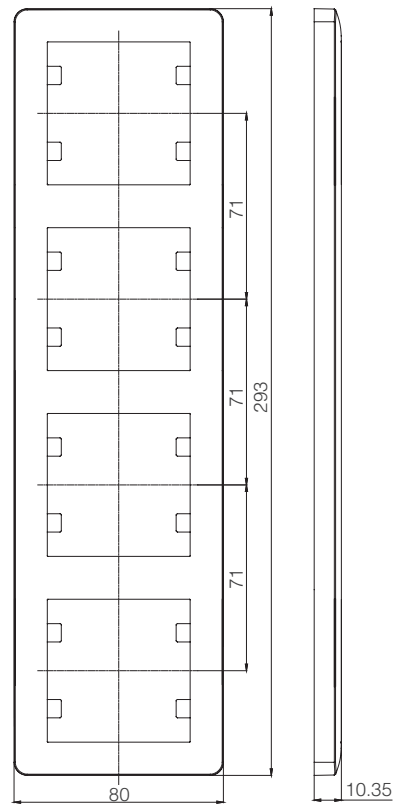
Fiftet Horizontal Frame



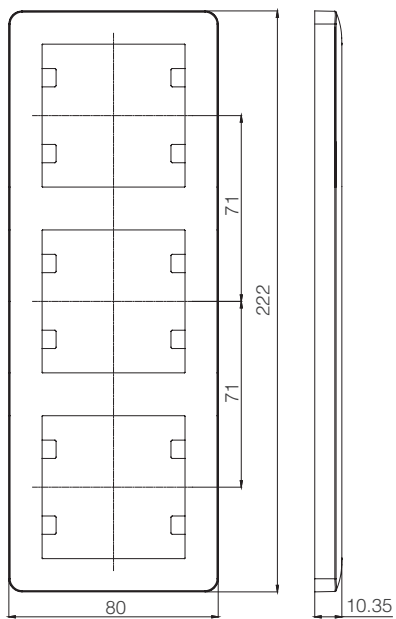
Double Vertical Frame



Quartet Vertical Frame



Triple Vertical Frame



# Lunis Switch & Socket Outlet Series

## 1st Sales Option - Complete Product

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch	65 xxx 001	12	120	10,42	285 x 480 x 280
• One Way Switch Illuminated	65 xxx 021	12	120	10,67	285 x 480 x 280
• Two-Circuit Switch	65 xxx 003	12	120	10,85	285 x 480 x 280
• Two-Circuit Switch Illuminated	65 xxx 023	12	120	11,13	285 x 480 x 280
• Light Switch	65 xxx 004	12	120	10,37	285 x 480 x 280
• Light Switch Illuminated	65 xxx 024	12	120	10,65	285 x 480 x 280
• Double Light	65 xxx 441	12	120	11,89	285 x 480 x 280
• Two-Way Switch	65 xxx 005	12	120	10,62	285 x 480 x 280
• Two-Way Switch Illuminated	65 xxx 025	12	120	10,92	285 x 480 x 280
• Door Switch	65 xxx 096	12	120	10,37	285 x 480 x 280
• Door Switch Illuminated	65 xxx 097	12	120	10,62	285 x 480 x 280
• Intermediate Switch	65 xxx 020	12	120	10,50	285 x 480 x 280
• Intermediate Switch Illuminated	65 xxx 040	12	120	10,99	285 x 480 x 280
• Bell Switch	65 xxx 050	12	120	10,37	285 x 480 x 280
• Bell Switch Illuminated 12V	65 xxx 085	12	120	10,36	285 x 480 x 280
• Bell Switch Illuminated	65 xxx 070	12	120	10,63	285 x 480 x 280
• Bell Switch With Label	65 xxx 010	12	120	10,30	285 x 480 x 280
• Bell Switch Illuminated With Label 12V	65 xxx 030	12	120	10,30	285 x 480 x 280
• 3 Circuit Switch	65 xxx 091	12	120	11,23	285 x 480 x 280
• 3 Gang 3 Pole Switch	65 xxx 092	12	120	11,57	285 x 480 x 280
• 1 Gang 3 Circuit Switch	65 xxx 094	12	120	11,01	285 x 480 x 280
• 1 Gang 3 Pole Switch	65 xxx 095	12	120	11,35	285 x 480 x 280
• Cooling Switch	65 xxx 084	12	120	12,05	285 x 480 x 280
• Double Two-Way Switch	65 xxx 026	12	120	11,99	285 x 480 x 280
• Shutter Push-Button	65 xxx 041	12	120	11,04	285 x 480 x 280
• One Gang Shutter Push-Button	65 xxx 279	12	120	10,85	285 x 480 x 280
• Control Switch 2-Pole	65 xxx 071	12	120	10,60	285 x 480 x 280
• Hotel Room Signalling Switch	65 xxx 252	12	120	11,28	285 x 480 x 280
• Hotel Room Bell Switch	65 xxx 253	12	120	10,70	285 x 480 x 280
• Emergency Switch with Cord	65 xxx 128	12	120	10,40	285 x 480 x 280
<b>Socket Outlet Group</b>					
• Socket Outlet	65 xxx 022	12	120	9,27	285 x 480 x 280
• Schuko Socket Outlet	65 xxx 028	12	120	10,71	285 x 480 x 280
• Schuko Socket Outlet Screwless	65 xxx 172	12	120	10,81	285 x 480 x 280
• Schuko Socket Outlet with Lid	65 xxx 029	12	120	11,75	335 x 480 x 305
• Schuko Socket Outlet Screwless with Lid	65 xxx 099	12	120	11,93	335 x 480 x 305
• Schuko Socket Outlet with Child Protection and Lid	65 xxx 254	12	120	11,93	335 x 480 x 305
• Schuko Socket Outlet Screwless with Child Protection and Lid	65 xxx 255	12	120	12,04	335 x 480 x 305
• Socket Outlet with Earthing Pin	65 xxx 019	12	120	10,79	285 x 480 x 280
• Socket Outlet Screwless with Earthing Pin	65 xxx 173	12	120	10,81	285 x 480 x 280
• Socket Outlet with Earthing Pin and Lid	65 xxx 016	12	120	12,13	335 x 480 x 305
• Socket Outlet with Child Protection	65 xxx 052	12	120	9,46	285 x 480 x 280
• Socket Outlet with Earthing Pin and Child Protection	65 xxx 053	12	120	10,94	285 x 480 x 280
• Socket Outlet Screwless with Earthing Pin and Child Protection	65 xxx 198	12	120	11,04	285 x 480 x 280
• Socket Outlet with Child Protection Schuko Socket Outlet with	65 xxx 300	12	120	11,94	335 x 480 x 305
• Schuko Socket Outlet with Child Protection	65 xxx 058	12	120	10,80	285 x 480 x 280
• Schuko Socket Outlet Screwless with Child Protection	65 xxx 174	12	120	10,91	285 x 480 x 280
• Double Socket Outlet with Earthing Pin	65 xxx 018	12	120	10,61	335 x 475 x 300
• Double Socket Outlet	65 xxx 017	12	120	10,61	320 x 485 x 300
• Double Schuko Socket Outlet	65 xxx 082	12	120	10,61	410 x 485 x 310

## 1st Sales Option - Complete Product



Complete Product



Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Tv Socket Outlet Group</b>					
Antenna Socket Through 6 dB Female	65 xxx 007	12	120	9,48	285 x 480 x 280
Antenna Socket End 4 dB Female	65 xxx 027	12	120	9,47	285 x 480 x 280
Antenna Socket End 0.5 dB Metal Case	65 xxx 087	12	120	9,60	285 x 480 x 280
Antenna Socket Through 11 dB Metal Case *	65 xxx 088	12	120	9,62	285 x 480 x 280
TV Antenna Socket Non-Resistance	65 xxx 142	12	120	9,59	285 x 480 x 280
Antenna Socket Through Male	65 xxx 043	12	120	10,10	285 x 480 x 280
Antenna Socket End Male	65 xxx 044	12	120	10,12	285 x 480 x 280
TV-RF Antenna Socket Through 7 dB**	65 xxx 060	12	120	14,69	285 x 480 x 280
TV-RF Antenna Socket End 1.5 dB	65 xxx 065	12	120	14,22	285 x 480 x 280
TV-SAT Antenna Socket End 1 dB	65 xxx 098	12	120	14,27	285 x 480 x 280
TV-SAT Antenna Socket Through 4 dB	65 xxx 083	12	120	14,50	285 x 480 x 280
TV-RF-SAT Antenna Socket End 1.5 dB	65 xxx 066	12	120	13,85	285 x 480 x 280
TV-RF-SAT Antenna Socket Through 4 dB	65 xxx 067	12	120	13,92	285 x 480 x 280
SAT Antenna Socket Through	65 xxx 133	12	120	10,96	285 x 480 x 280
SAT Antenna Socket End	65 xxx 134	12	120	10,98	285 x 480 x 280

<b>Data Transmission Group</b>					
Telephone Socket	65 xxx 014	12	120	9,22	285 x 480 x 280
Double Telephone Socket	65 xxx 034	12	120	9,19	285 x 480 x 280
Double Telephone Socket (1xCat3) with Data Connector	65 xxx 042	12	120	9,19	285 x 480 x 280
Double Data Socket Outlet (1xCat5)	65 xxx 035	12	120	9,54	285 x 480 x 280
Double Data Socket Outlet (2xCat5)	65 xxx 036	12	120	10,26	285 x 480 x 280
Data Socket Outlet (Cat5+ Telephone Socket)	65 xxx 037	12	120	8,88	285 x 480 x 280
Data Socket Outlet (Empty)	65 xxx 038	12	120	8,77	285 x 480 x 280
Double Data Socket Outlet (1xCat6)	65 xxx 135	12	120	9,48	285 x 480 x 280
Double Data Socket Outlet (2xCat6)	65 xxx 136	12	120	10,14	285 x 480 x 280
Data Socket Outlet (Cat3+Cat6)	65 xxx 137	12	120	9,89	285 x 480 x 280
Double Data Socket-Outlet (1xCat 3)	65 xxx 075	6	60	9,12	285 x 480 x 280
Data Socket Outlet (2xCat3)	65 xxx 076	6	60	9,48	285 x 480 x 280
Loudspeaker - connection, 1 gang	65 xxx 449	12	120	7,45	285 x 480 x 280
HDMI Socket (with jack)	65 xxx 494	12	120	9,15	285 x 480 x 280
USB Socket (with jack)	65 xxx 495	12	120	8,98	285 x 480 x 280

<b>Electronic Group</b>					
Dimmer 60-600W	65 xxx 011	10	100	12,71	385 x 500 x 275
Dimmer Coil Filtered 60-600W	65 xxx 031	10	100	17,08	385 x 500 x 275
Dimmer 60-1000W	65 xxx 093	10	100	11,24	385 x 500 x 275
1-10V Led Dimmer	65 xxx 459	10	100	14,16	385 x 500 x 275
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	65 xxx 045	10	100	14,16	385 x 500 x 275
Audio Switch 10 W	65 xxx 086	6	60	8,25	385 x 505 x 195
Emergency-Light	65 xxx 055	6	60	9,10	370 x 505 x 170
Warning Bell	65 xxx 065	6	60	11,04	285 x 480 x 280
■ Delayed Energy Saver (Without Relay)	65 xxx 046	10	100	12,40	385 x 500 x 275
■ Energy Saver (Without Relay)	65 xxx 183	12	120	10,97	285 x 480 x 280
■ Electro-Magnetic Energy Saver	65 xxx 301	12	120	6,64	385 x 477 x 220
■ Radio Frequency Energy saver	65 xxx 302	12	120	7,22	385 x 477 x 220
Surge-Protective Socket Outlet with Child Protection	65 xxx 139K	5	30	3,90	265 x 425 x 175
USB Charging Socket	65 xxx 465	12	120	12,94	285 x 480 x 280
Double USB Charge Socket	65 xxx A80	12	120	11,58	285 x 480 x 280

(•) Marked products are available with screwless terminal option. (\*) 14 dB and 18 dB versions are available. (\*\*) 10 - 12 - 15 - 20 dB versions are available.  
 (■) See page 231 for relay options for marked products.

**SAMPLE**

	Product Name	Code No
White	Screw Switch	65 001 0 01
	Screwless Terminal Switch	65 001 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

Within the product codes showing 'xxx', enter the color from the table below.

Colors	Code No	Colors	Code No	Colors	Code No
	xxx		xxx		xxx
White	001	Fume	050	Natural Oak	101
Beige	010	Brown	096	Natural Walnut	102
Metallic Silver	065	Light Brown	097	Natural Cherry	103
Dore	057	Brown / Light Brown	009	Natural Pine	105
Green	052	Pearl	100		

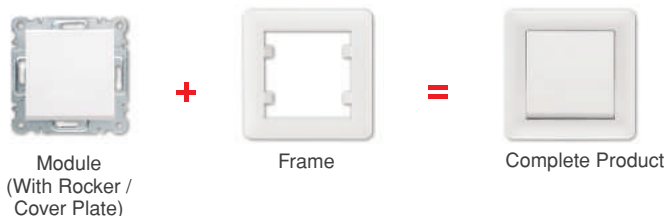
# Lunis Switch & Socket Outlet Series

## 2nd Sales Option - Module (With Rocker / Cover Plate) and Frame

### a) Module (With Rocker / Cover Plate)

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch, Module with Rocker	57 xxx 001	12	120	8,58	365 x 472 x 215
• One Way Switch Illuminated, Module with Rocker	57 xxx 021	12	120	8,87	365 x 472 x 215
• Two-Circuit Switch, Module with Rocker	57 xxx 003	12	120	9,19	365 x 472 x 215
• Two-Circuit Switch Illuminated, Module with Rocker	57 xxx 023	12	120	9,36	365 x 472 x 215
• Light Switch, Module with Rocker	57 xxx 004	12	120	8,63	365 x 472 x 215
• Light Switch Illuminated, Module with Rocker	57 xxx 024	12	120	8,92	365 x 472 x 215
• Double Light Module and Rocker	57 xxx 441	12	120	9,62	365 x 472 x 215
• Two-Way Switch, Module with Rocker	57 xxx 005	12	120	8,94	365 x 472 x 215
• Two-Way Switch Illuminated, Module with Rocker	57 xxx 025	12	120	9,22	365 x 472 x 215
• Door Switch, Module with Rocker	57 xxx 096	12	120	8,63	365 x 472 x 215
• Door Switch Illuminated, Module with Rocker	57 xxx 097	12	120	8,92	365 x 472 x 215
• Intermediate Switch, Module with Rocker	57 xxx 020	12	120	9,30	365 x 472 x 215
• Intermediate Switch Illuminated, Module with Rocker	57 xxx 040	12	120	9,54	355 x 435 x 210
• 3 Circuit Switch, Module with Rocker	57 xxx 091	12	120	8,61	365 x 472 x 215
• 3 Gang 3 Pole Switch, Module with Rocker	57 xxx 092	12	120	8,61	365 x 472 x 215
• 1 Gang 3 Circuit Switch, Module with Rocker	57 xxx 094	12	120	8,61	365 x 472 x 215
• 1 Gang 3 Pole Switch, Module with Rocker	57 xxx 095	12	120	8,61	365 x 472 x 215
• Cooling Switch, Module with Rocker	57 xxx 084	12	120	9,61	365 x 472 x 215
• Double Two-Way Switch, Module with Rocker	57 xxx 026	12	120	10,94	285 x 475 x 275
• Shutter Push-Button, Module with Rocker	57 xxx 041	12	120	9,42	365 x 472 x 215
• One Gang Shutter Push-Button, Module with Rocker	57 xxx 279	12	120	8,94	365 x 472 x 215
• Bell Switch, Module with Rocker	57 xxx 050	12	120	8,86	365 x 472 x 215
• Bell Switch With Label, Module with Rocker	57 xxx 010	12	120	8,78	365 x 472 x 215
• Bell Switch Illuminated 12V, Module with Rocker	57 xxx 085	12	120	9,08	365 x 472 x 215
• Bell Switch Illuminated, Module with Rocker	57 xxx 070	12	120	9,08	365 x 472 x 215
• Bell Switch Illuminated With Label 12V, Module with Rocker	57 xxx 030	12	120	9,08	365 x 472 x 215
• Control Switch 2-Pole, Module with Rocker	57 xxx 071	12	120	8,68	365 x 472 x 215
• Hotel Room Signalling Switch, Module with Rocker	57 xxx 252	12	120	8,85	365 x 472 x 215
• Hotel Room Bell Switch, Module with Rocker	57 xxx 253	12	120	9,01	365 x 472 x 215
• Emergency Switch with Cord, Module with Rocker	57 xxx 128	12	120	8,63	365 x 472 x 215
<b>Socket Outlet Group</b>					
• Socket Outlet, Module with Cover Plate	57 xxx 022	12	120	7,54	365 x 472 x 215
• Schuko Socket Outlet, Module with Cover Plate	57 xxx 028	12	120	10,35	365 x 470 x 215
• Schuko Socket Outlet Screwless, Module with Cover Plate	57 xxx 172	12	120	9,35	365 x 472 x 215
• Schuko Socket Outlet with Lid, Module with Cover Plate	57 xxx 029	12	120	12,05	280 x 480 x 280
• Schuko Socket Outlet Screwless with Lid, Module with Cover Plate	57 xxx 099	12	120	8,90	285 x 475 x 275
• Socket Outlet with Earthing Pin, Module with Cover Plate	57 xxx 019	12	120	8,78	365 x 472 x 215
• Socket Outlet Screwless with Earthing Pin, Module with Cover Plate	57 xxx 173	12	120	8,79	365 x 472 x 215
• Socket Outlet with Earthing Pin and Lid, Module with Cover Plate	57 xxx 016	12	120	9,94	285 x 475 x 275
• Socket Outlet with Child Protection, Module with Cover Plate	57 xxx 052	12	120	8,86	365 x 472 x 215
• Socket Outlet with Earthing Pin and Child Protection, Module with Cover Plate	57 xxx 053	12	120	8,78	365 x 472 x 215
• Socket Outlet Screwless with Earthing Pin and Child Protection, Module with Cover Plate	57 xxx 198	12	120	8,78	365 x 472 x 215
• Socket Outlet with Child Protection, Module with Cover Plate	57 xxx 300	12	120	10,18	285 x 475 x 275
• Schuko Socket Outlet with Child Protection, Module with Cover Plate	57 xxx 058	12	120	8,78	365 x 470 x 215
• Schuko Socket Outlet Screwless with Child Protection, Module with Cover Plate	57 xxx 174	12	120	8,72	365 x 472 x 215
• Schuko Socket Outlet with Child Protection and Lid, Module with Cover Plate	57 xxx 254	12	120	9,67	365 x 472 x 215
• Schuko Socket Outlet Screwless with Child Protection and Lid, Module with Cover Plate	57 xxx 255	12	120	8,90	285 x 475 x 275
• Double Socket Outlet, Module with Cover Plate	57 xxx 017	12	120	9,74	285 x 475 x 275
• Double Socket Outlet with Earthing Pin, Module with Cover Plate	57 xxx 018	12	120	11,60	335 x 475 x 300
• Double Schuko Socket Outlet, Module with Cover Plate	57 xxx 082	12	120	11,35	335 x 475 x 300

## 2nd Sales Option - Module (With Rocker / Cover Plate) and Frame



(\*) Marked products are available with screwless terminal option.

### SAMPLE

	Product Name	Code No
White	Screw Switch	57 001 0 01
	Screwless Terminal Switch	57 001 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Tv Socket Outlet Group</b>					
Antenna Socket End 4 dB Female, Module with Cover Plate	57 xxx 027	12	120	8,01	365 x 472 x 215
Antenna Socket Through 6 dB Female, Module with Cover Plate	57 xxx 007	12	120	8,01	365 x 472 x 215
Antenna Socket End 0.5 dB Metal Case, Module with Cover Plate	57 xxx 087	12	120	8,70	365 x 472 x 215
Antenna Socket Through 11 dB Metal Case, Module with Cover Plate *	57 xxx 088	12	120	8,70	365 x 472 x 215
TV Antenna Socket Non-Resistance, Module with Cover Plate	57 xxx 142	12	120	7,95	365 x 472 x 215
SAT Antenna Socket Through, Module with Cover Plate	57 xxx 133	12	120	9,37	365 x 470 x 215
SAT Antenna Socket End, Module with Cover Plate	57 xxx 134	12	120	9,47	365 x 472 x 215
TV-RF Antenna Socket End 1.5 dB, Module with Cover Plate	57 xxx 065	12	120	12,44	365 x 472 x 215
TV-RF Antenna Socket Through 7 dB, Module with Cover Plate **	57 xxx 060	12	120	12,44	365 x 472 x 215
TV-RF-SAT Antenna Socket End 1.5 dB, Module with Cover Plate	57 xxx 066	12	120	12,38	365 x 472 x 215
TV-RF-SAT Antenna Socket Through 4 dB, Module with Cover Plate	57 xxx 067	12	120	12,50	365 x 472 x 215
TV-SAT Antenna Socket End 1 dB, Module with Cover Plate	57 xxx 098	12	120	12,74	365 x 472 x 215
TV-SAT Antenna Socket Through 4 dB, Module with Cover Plate	57 xxx 083	12	120	12,74	365 x 472 x 215

<b>Data Transmission Group</b>					
Telephone Socket, Module with Cover Plate	57 xxx 014	12	120	7,70	365 x 472 x 215
Double Telephone Socket, Module with Cover Plate	57 xxx 034	12	120	7,72	365 x 472 x 215
Double Telephone Socket (1xCat3) Data Connector, Module with Cover Plate	57 xxx 042	12	120	7,72	365 x 472 x 215
Double Data Socket Outlet (1xCat5), Module with Cover Plate	57 xxx 035	12	120	7,62	285 x 475 x 275
Double Data Socket Outlet (2xCat5), Module with Cover Plate	57 xxx 036	12	120	8,20	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket), Module with Cover Plate	57 xxx 037	12	120	8,77	285 x 475 x 275
Data Socket Outlet (empty), Module with Cover Plate	57 xxx 038	12	120	7,62	285 x 475 x 275
Double Data Socket-Outlet (1xCat6) Module with Cover Plate	57 xxx 135	12	120	8,00	365 x 472 x 215
Double Data Socket-Outlet (2xCat6) Module with Cover Plate	57 xxx 136	12	120	8,67	365 x 472 x 215
Double Data Socket-Outlet (Cat3xCat6) Module with Cover Plate	57 xxx 137	12	120	8,42	365 x 472 x 215
Double Data Socket-Outlet (1xCat3) Module with Cover Plate	57 xxx 075	12	120	7,78	365 x 472 x 215
Loudspeaker - connection, 1 gang, Module with Cover Plate	57 xxx 449	12	120	7,49	365 x 472 x 215
HDMI Socket (with jack), Module with Cover Plate	57 xxx 494	12	120	7,67	365 x 472 x 215
USB Socket (with jack), Module with Cover Plate	57 xxx 495	12	120	7,51	365 x 472 x 215

<b>Electronic Group</b>					
Dimmer 60-600W, Module with Cover Plate	57 xxx 011	12	120	10,60	335 x 475 x 300
Dimmer Coil Filtered 60-600W, Module with Cover Plate	57 xxx 031	12	120	16,05	335 x 475 x 300
Dimmer 60-1000W, Module with Cover Plate	57 xxx 093	12	120	10,57	335 x 475 x 300
Remote Controlled Dimmer(IR) Coil Filtered 60-300W, Module with Cover Plate	57 xxx 045	12	120	15,37	335 x 475 x 300
1-10V Led Dimmer, Module with Cover Plate	57 xxx 459	10	100	10,46	335 x 480 x 305
Audio Switch 10 W, Module with Cover Plate	57 xxx 086	6	60	4,59	315 x 420 x 195
Emergency-Light, Module with Cover Plate	57 xxx 055	6	60	3,20	315 x 420 x 195
Warning Bell, Module with Cover Plate	57 xxx 056	6	60	2,57	315 x 420 x 195
■ Delayed Energy Saver (Without Relay), Module with Cover Plate	57 xxx 046	12	120	8,95	365 x 472 x 215
■ Energy Saver (Without Relay), Module with Cover Plate	57 xxx 183	12	120	9,81	355 x 435 x 210
■ Electro-Magnetic Energy Saver, Module with Cover Plate	57 xxx 301	12	120	7,29	365 x 472 x 215
■ Radio Frequency Energy saver, Module with Cover Plate	57 xxx 302	12	120	7,43	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection, Module with Cover Plate	57 xxx 139K	5	30	3,70	190 x 290 x 272
USB Charging Socket, Module with Cover Plate	57 xxx 465	12	120	10,72	365 x 472 x 215
Double USB Charge Socket, Module with Cover Plate	57 xxx A80	12	120	10,23	365 x 472 x 215

(\*) 14 dB and 18 dB versions are available. (\*\*) 10 - 12 - 15 - 20 dB versions are available. (■) See page 231 for relay options for marked products.

## b) Frames

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Frame	65 xxx 701	12	120	2,34	185 x 370 x 210
Double Horizontal Frame	65 xxx 702	25	250	7,95	385 x 455 x 295
Triple Horizontal Frame	65 xxx 703	20	200	9,03	417 x 460 x 295
Quartet Horizontal Frame	65 xxx 704	25	250	13,91	400 x 605 x 350
Fiftet Horizontal Frame	65 xxx 705	5	60	5,25	210 x 370 x 345
Sixtet Horizontal Frame	65 xxx 706	5	60	6,06	350 x 440 x 210
Double Vertical Frame	65 xxx 707	25	250	4,69	385 x 495 x 270
Triple Vertical Frame	65 xxx 708	20	200	9,31	415 x 505 x 280
Quartet Vertical Frame	65 xxx 709	25	250	13,91	400 x 605 x 350
Double Socket Outlet Frame	65 xxx 710	12	120	3,93	315 x 420 x 195

Please specify your choice of pastel colors by applying below color codes into the 'xxx' marked space.

Colors	Code No	Colors	Code No
	xxx		xxx
Yellow	074	Blue	092
Lilac	078	Rose	093
Magenta	085	Orange	094
Green	091	Light Lilac	095

Within frame codes showing 'xxx', enter the color codes from the table below.

Colors	Code No	Colors	Code No	Colors	Code No
	xxx		xxx		xxx
White	001	Fume	050	Natural Oak	101
Beige	010	Brown	096	Natural Walnut	102
Metallic Silver	065	Light Brown	097	Natural Cherry	103
Dore	057	Brown / Light Brown	009	Natural Pine	105
Green	052	Pearl	100		

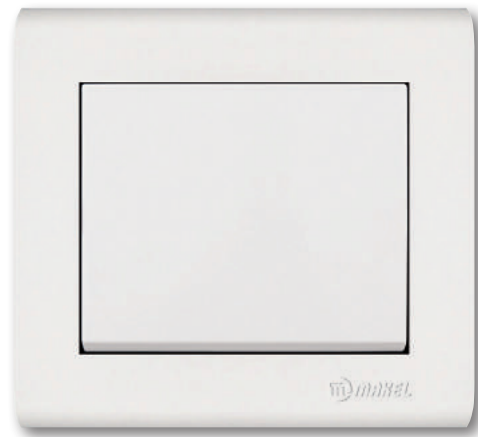






# Manolya

Switch & Socket Outlet Series





## Colourful Products

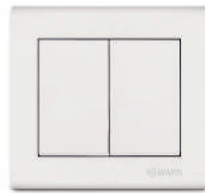


Every part of your living space is significant and your choices add value to your surroundings. MANOLYA switch and socket series provides you with simple and stylish designs along with color choices and high quality to help you create a living space fit just for you.

## Functions



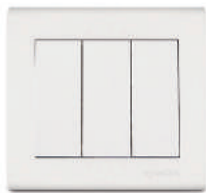
One Way Switch



Two-Circuit Switch



One Way Switch Illuminated



3 Circuit Switch



USB Charging Socket



Socket Outlet with Earthing Pin and Child Protection



Audio Switch 10 W



Dimmer



Data Socket Outlet



Loudspeaker - connection, 1 gang

## Simple & aesthetic solutions complement your space...

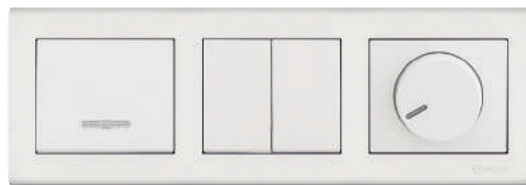
Manolya Series switches - sockets are designed with simplicity and multi-function features, available in horizontal and vertical frames in vibrant colors to add aesthetic value to spaces.



### Multi Frames



Double Horizontal Frame



Triple Horizontal Frame



Double Vertical Frame



Quartet Horizontal Frame



Fiftet Horizontal Frame



Sixtet Horizontal Frame



Triple Vertical Frame

Colourful Products



001 White



010 Beige



065 Metallic Silver



057 Dore



052 Green



050 Fume



100 Pearl



105 Natural Pine



102 Natural Walnut



101 Natural Oak



103 Natural Cherry



096 Brown



097 Light Brown



009 Brown  
Light Brown



060 Gold



111 Black



104 Pistachio Green



022 Champagne

## Pastel Colour Frames

---



085 Magenta



092 Blue



078 Lilac



091 Green



074 Yellow



095 Light Lilac



094 Orange



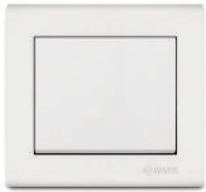
093 Rose



MANOLYA switch and socket series add value to your life with new and brilliant colors.



# Manolya Switch & Socket Outlet Series



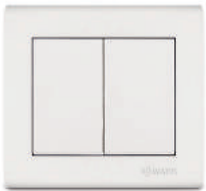
## One Way Switch \*

41001001  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## One Way Switch Illuminated \*

41001021  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Two-Circuit Switch \*

41001003  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Two-Circuit Switch Illuminated \*

41001023  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Light Switch \*

41001004  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Light Switch Illuminated \*

41001024  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Two-Way Switch

41001005  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Two-Way Switch Illuminated \*

41001025  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Door Switch \*

41001096  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Door Switch Illuminated \*

41001097  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Intermediate Switch \*

41001020  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



## Intermediate Switch Illuminated \*

41001040  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Bell Switch \***  
 41001050  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated 12V \***  
 41001085  
 10 A, 12 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch With Label \***  
 41001010  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
 41001070  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \*  
 With Label 12V**  
 41001030  
 10 A, 12 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



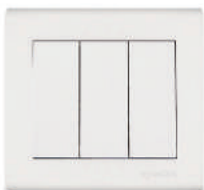
**Control Switch 2-Pole \***  
 41001071  
 16 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Double Two-Way Switch**  
 41001026  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Shutter Push-Button \***  
 41001041  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**3 Circuit Switch**  
 41001091  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**3 Gang 3 Pole Switch**  
 41001092  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**1 Gang 3 Circuit Switch**  
 41001094  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**1 Gang 3 Pole Switch**  
 41001095  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120

# Manolya Switch & Socket Outlet Series



## Socket Outlet

41001022

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



## Schuko Socket Outlet \*

41001028

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



## Schuko Socket Outlet with Lid \*

41001029

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



## Schuko Socket Outlet with Child Protection and Lid \*

41001254

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



## Socket Outlet with Earthing Pin \*

41001019

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



## Socket Outlet with Child Protection

41001052

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



## Socket Outlet with Earthing Pin and Child Protection \*

41001053

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



## Schuko Socket Outlet with Child Protection \*

41001058

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



## Double Socket Outlet with Earthing Pin

41001018

16 A, 250 V  
IEC 60884-1  
Piece in Box / Package - 12 / 120



## Double Socket Outlet

41001017

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



## Double Schuko Socket Outlet

41001057

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Antenna Socket Through**  
**6 dB Female**  
 41001007  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**4 dB Female**  
 41001027  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket Through**  
**Male 6 dB**  
 41001043  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**Male 4 dB**  
 41001044  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket Through**  
**7 dB**  
 41001060  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket End**  
**1.5 dB**  
 41001065  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket Through**  
**4 dB**  
 41001083  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket End**  
**1 dB**  
 41001098  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket**  
**Through 4 dB**  
 41001067  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket End**  
**1.5 dB**  
 41001066  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Telephone Socket**  
 41001014  
 TSE K 71  
 Piece in Box / Package - 12 / 120



**Double Telephone Socket**  
 41001034  
 TSE K 71  
 Piece in Box / Package - 12 / 120



## Manolya Switch & Socket Outlet Series



**Double Data Socket Outlet (1xCat5)**  
41001035  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Data Socket Outlet (2xCat5)**  
41001036  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet  
(Cat5+Telephone Socket)**  
41001037  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (empty)**  
41001038  
TSE K 71  
Piece in Box / Package - 12 / 120



**Loudspeaker - connection, 1 gang**  
41001080  
TSE K 71  
Piece in Box / Package - 12 / 120



**Dimmer**  
41001011  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer Coil Filtered**  
41001031  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer**  
41001093  
60-1000 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**1-10V Led Dimmer**  
41001459  
IEC 60669-2-1  
50Hz, 230 V~  
Piece in Box / Package - 10 / 100



**Remote Controlled Dimmer(IR)  
Coil Filtered**  
41001045  
60-300 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Audio Switch 10 W**  
41001086  
10 W  
Piece in Box / Package - 6 / 60



**Emergency-Light**  
41001055  
250 V~  
Piece in Box / Package - 6 / 60



**Warning Bell**  
41001056  
250 V~  
Piece in Box / Package - 6 / 60



**Delayed Energy Saver (Without Relay)\***  
41001046  
10A, 220 V~  
Piece in Box / Package - 10 / 100



**Electro-Magnetic Energy Saver\***  
41001301  
12 V ~  
Piece in Box / Package - 12 / 120



**Energy Saver (Without Relay)\***  
41001183  
10A, 220 V~  
Piece in Box / Package - 12 / 120



**Radio Frequency Energy Saver\***  
41001302  
12 V ~  
Piece in Box / Package - 12 / 120



**Cooling Switch**  
41001084  
16 A, 250 V~  
Piece in Box / Package - 12 / 120



**Surge-Protective Socket Outlet with Child Protection**  
41001139K  
16 A, 250 V~  
Piece in Box / Package - 5 / 30



**HDMI Socket (with jack)**  
41001494  
Piece in Box / Package - 12 / 120



**USB Socket (with jack)**  
41001495  
Piece in Box / Package - 12 / 120



**USB Charging Socket**  
41001465  
Input: 250V AC, Output: 5V DC, 2A  
Piece in Box / Package - 12 / 120



**Double USB Charge Socket**  
41001A80  
Piece in Box / Package - 12 / 120

\* Energy saver product visuals are given as representations, the card must be ordered separately.



Please contact your sales representative for other products you can use with the 1M Module (Music Broadcasting Plug, HI-FI, etc.). Valid for all keys and socket series.

# Manolya Switch & Socket Outlet Series



Frame  
41001701



Double Horizontal Frame  
41001702



Triple Horizontal Frame  
41001703



Quartet Horizontal Frame  
41001704



Fiftet Horizontal Frame  
41001705



Sixtet Horizontal Frame  
41001706



Double Vertical Frame  
41001707

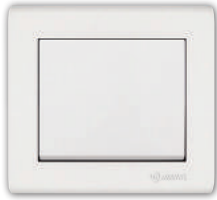


Triple Vertical Frame  
41001708

## Sales Options

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### 1st Sales Option - Complete Product



Complete Product

### 2nd Sales Option - Module (with Rocker / Cover Plate) and Frame



Module  
(With Rocker / Cover Plate)

+



Frame

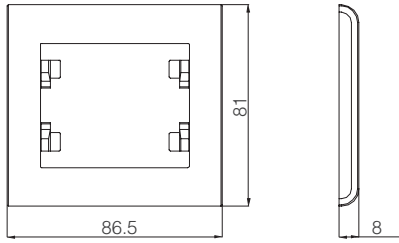
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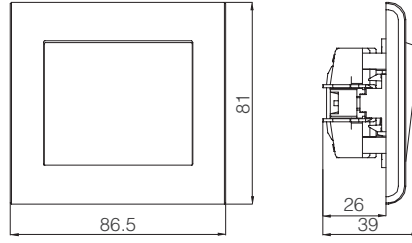
Complete Product

## Technical Drawings

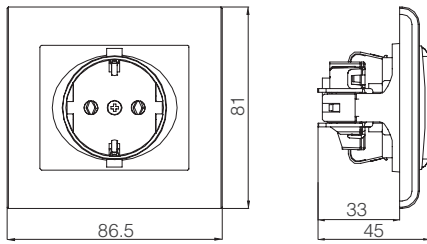
Frame



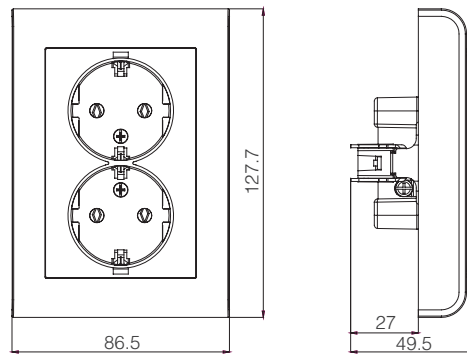
One Way Switch



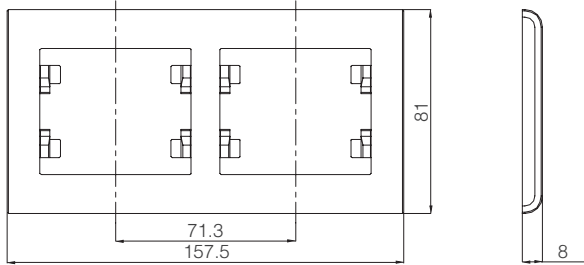
Schuko Socket Outlet



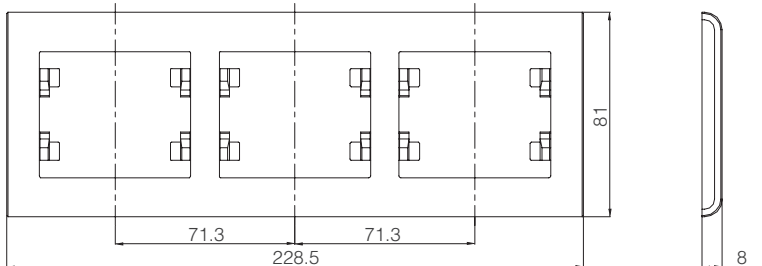
Double Schuko Socket Outlet



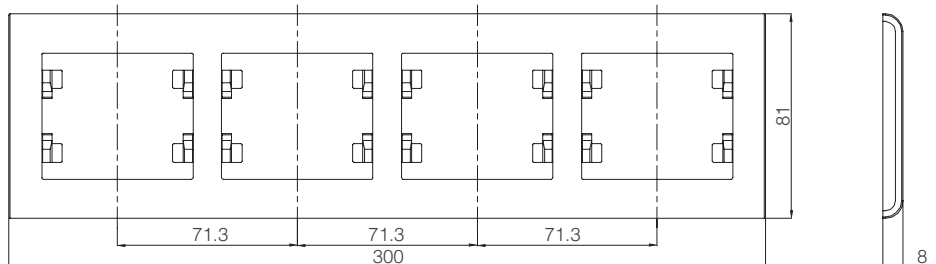
Double Horizontal Frame



Triple Horizontal Frame

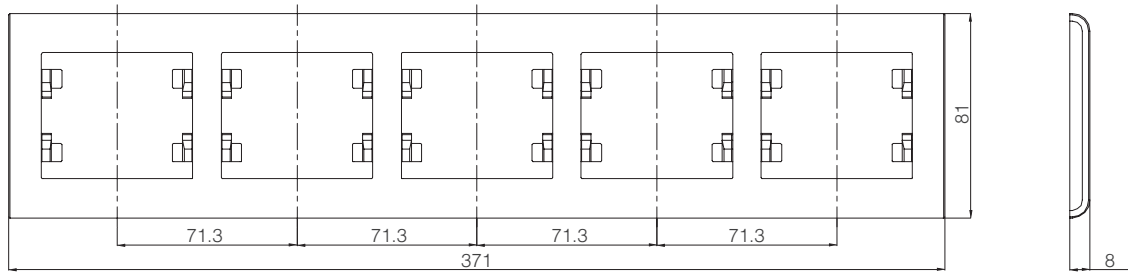


Quartet Horizontal Frame

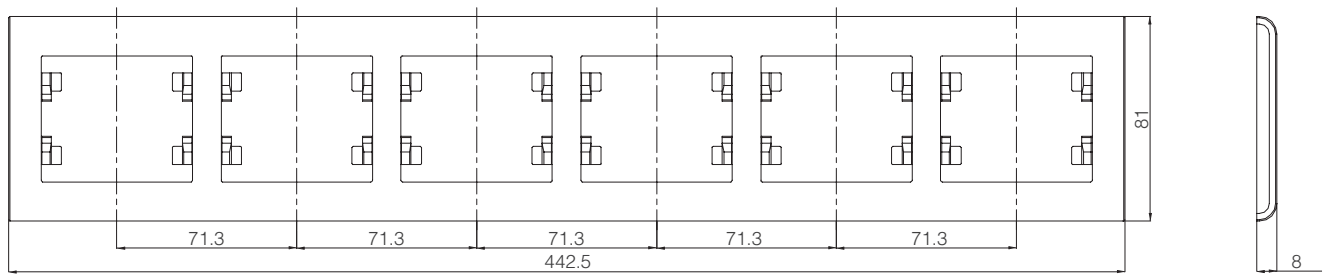




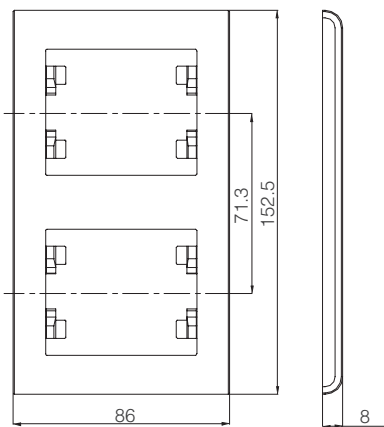
Fiftet Horizontal Frame



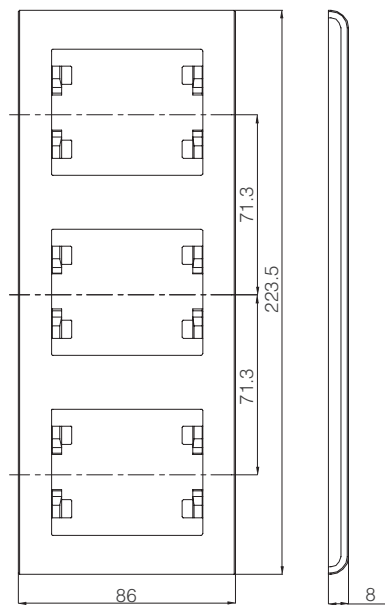
Sixtet Horizontal Frame



Double Vertical Frame



Triple Vertical Frame



# Manolya Switch & Socket Outlet Series

## 1st Sales Option - Complete Product

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch	41 xxx 001	12	120	10,40	285 x 505 x 280
• One Way Switch Illuminated	41 xxx 021	12	120	10,59	285 x 505 x 280
• Two-Circuit Switch	41 xxx 003	12	120	10,80	285 x 505 x 280
• Two-Circuit Switch Illuminated	41 xxx 023	12	120	11,05	285 x 505 x 280
• Light Switch	41 xxx 004	12	120	10,35	285 x 505 x 280
• Light Switch Illuminated	41 xxx 024	12	120	10,57	285 x 505 x 280
• Double Light	41 xxx 441	12	120	12,27	285 x 505 x 280
• Two-Way Switch	41 xxx 005	12	120	10,61	285 x 505 x 280
• Two-Way Switch Illuminated	41 xxx 025	12	120	10,85	285 x 505 x 280
• Door Switch	41 xxx 096	12	120	10,35	285 x 505 x 280
• Door Switch Illuminated	41 xxx 097	12	120	10,87	285 x 505 x 280
• Intermediate Switch	41 xxx 020	12	120	10,49	285 x 505 x 280
• Intermediate Switch Illuminated	41 xxx 040	12	120	10,92	285 x 505 x 280
• Bell Switch	41 xxx 050	12	120	10,35	285 x 505 x 280
• Bell Switch Illuminated 12V	41 xxx 085	12	120	10,28	285 x 505 x 280
• Bell Switch Illuminated	41 xxx 070	12	120	10,56	285 x 505 x 280
• Bell Switch With Label	41 xxx 010	12	120	10,31	285 x 505 x 280
• Bell Switch Illuminated With Label 12V	41 xxx 030	12	120	10,31	285 x 505 x 280
• 3 Circuit Switch	41 xxx 091	12	120	11,05	285 x 505 x 280
• 3 Gang 3 Pole Switch	41 xxx 092	12	120	11,39	285 x 505 x 280
• 1 Gang 3 Circuit Switch	41 xxx 094	12	120	11,55	285 x 505 x 280
• 1 Gang 3 Pole Switch	41 xxx 095	12	120	11,23	285 x 505 x 280
• Cooling Switch	41 xxx 084	12	120	11,17	285 x 505 x 280
• Double Two-Way Switch	41 xxx 026	12	120	11,94	285 x 505 x 280
• Shutter Push-Button	41 xxx 041	12	120	10,99	285 x 505 x 280
• One Gang Shutter Push-Button	41 xxx 279	12	120	10,65	285 x 505 x 280
• Control Switch 2-Pole	41 xxx 071	12	120	10,52	285 x 505 x 280
• Hotel Room Signalling Switch	41 xxx 252	12	120	10,57	285 x 505 x 280
• Hotel Room Bell Switch	41 xxx 253	12	120	10,54	285 x 505 x 280
• Emergency Switch with Cord	41 xxx 128	12	120	10,05	285 x 505 x 280
<b>Socket Outlet Group</b>					
• Socket Outlet	41 xxx 022	12	120	9,17	285 x 505 x 280
• Schuko Socket Outlet	41 xxx 028	12	120	10,49	285 x 505 x 280
• Schuko Socket Outlet Screwless	41 xxx 172	12	120	10,59	285 x 505 x 280
• Schuko Socket Outlet with Lid	41 xxx 029	12	120	13,35	335 x 475 x 300
• Schuko Socket Outlet Screwless with Lid	41 xxx 099	12	120	10,20	285 x 475 x 275
• Schuko Socket Outlet with Child Protection and Lid	41 xxx 254	12	120	11,15	335x 475 x 275
• Schuko Socket Outlet Screwless with Child Protection and Lid	41 xxx 255	12	120	9,82	285 x 475 x 275
• Socket Outlet with Earthing Pin	41 xxx 019	12	120	10,79	285 x 505 x 280
• Socket Outlet Screwless with Earthing Pin	41 xxx 173	12	120	10,86	285 x 475 x 275
• Socket Outlet with Earthing Pin and Lid	41 xxx 016	12	120	11,24	335 x 475 x 300
• Socket Outlet with Child Protection	41 xxx 052	12	120	9,41	285 x 505 x 280
• Socket Outlet with Earthing Pin and Child Protection	41 xxx 053	12	120	11,03	285 x 505 x 280
• Socket Outlet Screwless with Earthing Pin and Child Protection	41 xxx 198	12	120	10,65	285 x 475 x 275
• Socket Outlet with Child Protection Schuko Socket Outlet with	41 xxx 300	12	120	12,10	285 x 475 x 275
• Schuko Socket Outlet with Child Protection	41 xxx 058	12	120	10,76	285 x 505 x 280
• Schuko Socket Outlet Screwless with Child Protection	41 xxx 174	12	120	10,59	285 x 505 x 280
• Double Socket Outlet with Earthing Pin	41 xxx 018	12	120	15,93	410 x 485 x 310
• Double Socket Outlet	41 xxx 017	12	120	11,98	335 x 475 x 300
• Double Schuko Socket Outlet	41 xxx 057	12	120	15,03	380 x 505 x 390

## 1st Sales Option - Complete Product



Complete Product

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Tv Socket Outlet Group</b>					
Antenna Socket Through 6 dB Female	41 xxx 007	12	120	9,47	285 x 475 x 275
Antenna Socket End 4 dB Female	41 xxx 027	12	120	9,45	285 x 475 x 275
Antenna Socket End 0.5 dB Metal Case	41 xxx 087	12	120	9,88	285 x 475 x 275
Antenna Socket Through 11 dB Metal Case *	41 xxx 088	12	120	10,85	285 x 475 x 275
TV Antenna Socket Non-Resistance	41 xxx 142	12	120	9,57	285 x 475 x 275
Antenna Socket Through Male	41 xxx 043	12	120	9,88	285 x 475 x 275
Antenna Socket End Male	41 xxx 044	12	120	9,88	285 x 475 x 275
TV-RF Antenna Socket Through 7 dB **	41 xxx 060	12	120	14,63	285 x 475 x 275
TV-RF Antenna Socket End 1.5 dB	41 xxx 065	12	120	13,86	285 x 475 x 275
TV-SAT Antenna Socket End 1 dB	41 xxx 098	12	120	14,21	285 x 475 x 275
TV-SAT Antenna Socket Through 4 dB	41 xxx 083	12	120	14,43	285 x 475 x 275
TV-RF-SAT Antenna Socket End 1.5 dB	41 xxx 066	12	120	14,26	285 x 475 x 275
TV-RF-SAT Antenna Socket Through 4 dB	41 xxx 067	12	120	14,15	285 x 475 x 275
SAT Antenna Socket Through	41 xxx 133	12	120	11,08	285 x 475 x 275
SAT Antenna Socket End	41 xxx 134	12	120	11,14	285 x 475 x 275

<b>Data Transmission Group</b>					
Telephone Socket	41 xxx 014	12	120	9,13	285 x 475 x 275
Double Telephone Socket	41 xxx 034	12	120	9,41	285 x 475 x 275
Double Telephone Socket (1xCat3) with Data Connector	41 xxx 042	12	120	8,92	285 x 475 x 275
Double Data Socket Outlet (1xCat5)	41 xxx 035	12	120	9,54	285 x 475 x 275
Double Data Socket Outlet (2xCat5)	41 xxx 036	12	120	10,31	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket)	41 xxx 037	12	120	8,93	285 x 475 x 275
Data Socket Outlet (Empty)	41 xxx 038	12	120	8,77	285 x 475 x 275
Double Data Socket Outlet (1xCat6)	41 xxx 135	12	120	9,48	285 x 475 x 275
Double Data Socket Outlet (2xCat6)	41 xxx 136	12	120	10,19	285 x 475 x 275
Data Socket Outlet (Cat3+Cat6)	41 xxx 137	12	120	9,93	285 x 475 x 275
Data Socket Outlet (2xCat3)	41 xxx 076	12	120	8,92	285 x 475 x 275
Loudspeaker - connection, 1 gang	41 xxx 080	12	120	9,53	285 x 475 x 275
HDMI Socket (with jack)	41 xxx 494	12	120	9,09	285 x 480 x 280
USB Socket (with jack)	41 xxx 495	12	120	9,09	285 x 480 x 280

<b>Electronic Group</b>					
Dimmer 60-600W	41 xxx 011	10	100	12,65	370 x 485 x 260
Dimmer Coil Filtered 60-600W	41 xxx 031	10	100	18,10	410 x 545 x 315
Dimmer 60-1000W	41 xxx 093	10	100	10,92	370 x 485 x 260
1-10V Led Dimmer	41 xxx 459	10	100	14,60	380 x 495 x 310
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	41 xxx 045	10	100	16,35	410 x 545 x 315
Audio Switch 10 W	41 xxx 086	6	60	6,36	385 x 500 x 190
Emergency-Light	41 xxx 055	6	60	8,49	370 x 500 x 165
Warning Bell	41 xxx 056	6	60	6,01	370 x 500 x 165
■ Delayed Energy Saver (Without Relay)	41 xxx 046	10	100	11,75	410 x 545 x 315
■ Energy Saver (Without Relay)	41 xxx 183	12	120	10,57	285 x 475 x 275
■ Electro-Magnetic Energy Saver	41 xxx 301	12	120	8,07	365 x 472 x 215
■ Radio Frequency Energy saver	41 xxx 302	12	120	8,22	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	41 xxx 139K	5	30	4,03	190 x 290 x 272
USB Charging Socket	41 xxx 465	12	120	11,85	285 x 480 x 280
Double USB Charge Socket	41 xxx A80	12	120	11,73	285 x 480 x 280

(\*) Marked products are available with screwless terminal option. (\*) 14 dB and 18 dB versions are available. (\*\*) 10 - 12 - 15 - 20 dB versions are available.

■ See page 231 for relay options for marked products.

#### SAMPLE

	Product Name	Code No
White	Screw Switch	41 001 0 01
	Screwless Terminal Switch	41 001 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

Within the product codes showing 'xxx', enter the color from the table below.

Colors	Code No	Colors	Code No	Colors	Code No
White	001	Fume	050	Champagne	022
Beige	010	Brown	096	Pearl	100
Metallic Silver	065	Light Brown	097	Natural Oak	101
Dore	057	Brown / Light Brown	009	Natural Walnut	102
Green	052	Black	111	Natural Cherry	103
Gold	060	Pistachio Green	104	Natural Pine	105

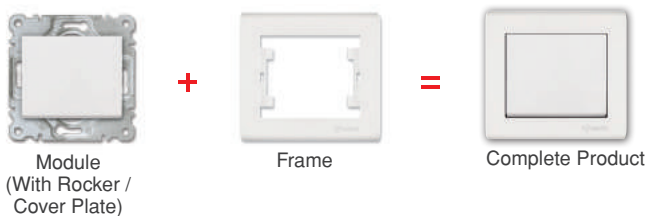
# Manolya Switch & Socket Outlet Series

## 2nd Sales Option - Module (With Rocker / Cover Plate) and Frame

### a) Module (With Rocker / Cover Plate)

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch, Module with Rocker	43 xxx 001	12	120	8,35	365 x 472 x 215
• One Way Switch Illuminated, Module with Rocker	43 xxx 021	12	120	8,57	365 x 472 x 215
• Two-Circuit Switch, Module with Rocker	43 xxx 003	12	120	8,85	365 x 472 x 215
• Two-Circuit Switch Illuminated, Module with Rocker	43 xxx 023	12	120	9,06	365 x 472 x 215
• Light Switch, Module with Rocker	43 xxx 004	12	120	8,33	365 x 472 x 215
• Light Switch Illuminated, Module with Rocker	43 xxx 024	12	120	10,37	365 x 472 x 215
• Double Light Module and Rocker	43 xxx 441	12	120	8,62	365 x 472 x 215
• Two-Way Switch, Module with Rocker	43 xxx 005	12	120	8,64	365 x 472 x 215
• Two-Way Switch Illuminated, Module with Rocker	43 xxx 025	12	120	8,92	365 x 472 x 215
• Door Switch, Module with Rocker	43 xxx 096	12	120	8,33	355 x 435 x 210
• Door Switch Illuminated, Module with Rocker	43 xxx 097	12	120	8,62	355 x 435 x 210
• Intermediate Switch, Module with Rocker	43 xxx 020	12	120	9,00	365 x 472 x 215
• Intermediate Switch Illuminated, Module with Rocker	43 xxx 040	12	120	9,24	365 x 472 x 215
• 3 Circuit Switch, Module with Rocker	43 xxx 091	12	120	8,31	365 x 472 x 215
• 3 Gang 3 Pole Switch, Module with Rocker	43 xxx 092	12	120	8,31	365 x 472 x 215
• 1 Gang 3 Circuit Switch, Module with Rocker	43 xxx 094	12	120	8,31	365 x 472 x 215
• 1 Gang 3 Pole Switch, Module with Rocker	43 xxx 095	12	120	8,31	365 x 472 x 215
• Cooling Switch, Module with Rocker	43 xxx 084	12	120	9,31	365 x 472 x 215
• Double Two-Way Switch, Module with Rocker	43 xxx 026	12	120	10,01	365 x 472 x 215
• Shutter Push-Button, Module with Rocker	43 xxx 041	12	120	9,12	355 x 435 x 210
• One Gang Shutter Push-Button, Module with Rocker	43 xxx 279	12	120	8,64	355 x 435 x 210
• Bell Switch, Module with Rocker	43 xxx 050	12	120	8,56	355 x 435 x 210
• Bell Switch With Label, Module with Rocker	43 xxx 010	12	120	8,48	355 x 435 x 210
• Bell Switch Illuminated 12V, Module with Rocker	43 xxx 085	12	120	8,78	355 x 435 x 210
• Bell Switch Illuminated, Module with Rocker	43 xxx 070	12	120	8,78	355 x 435 x 210
• Bell Switch Illuminated With Label 12V, Module with Rocker	43 xxx 030	12	120	8,78	355 x 435 x 210
• Control Switch 2-Pole, Module with Rocker	43 xxx 071	12	120	8,38	355 x 435 x 210
• Hotel Room Signalling Switch, Module with Rocker	43 xxx 252	12	120	8,85	355 x 435 x 210
• Hotel Room Bell Switch, Module with Rocker	43 xxx 253	12	120	9,01	365 x 472 x 215
• Emergency Switch with Cord, Module with Rocker	43 xxx 128	12	120	8,33	365 x 472 x 215
<b>Socket Outlet Group</b>					
• Socket Outlet, Module with Cover Plate	43 xxx 022	12	120	7,24	365 x 472 x 215
• Schuko Socket Outlet, Module with Cover Plate	43 xxx 028	12	120	10,01	365 x 472 x 215
• Schuko Socket Outlet Screwless, Module with Cover Plate	43 xxx 172	12	120	8,75	365 x 472 x 215
• Schuko Socket Outlet with Lid, Module with Cover Plate	43 xxx 029	12	120	11,75	285 x 475 x 275
• Schuko Socket Outlet Screwless with Lid, Module with Cover Plate	43 xxx 099	12	120	8,60	285 x 475 x 275
• Socket Outlet with Earthing Pin, Module with Cover Plate	43 xxx 019	12	120	8,48	365 x 472 x 215
• Socket Outlet Screwless with Earthing Pin, Module with Cover Plate	43 xxx 173	12	120	8,49	355 x 472 x 215
• Socket Outlet with Earthing Pin and Lid, Module with Cover Plate	43 xxx 016	12	120	9,64	285 x 475 x 275
• Socket Outlet with Child Protection, Module with Cover Plate	43 xxx 052	12	120	8,56	365 x 472 x 215
• Socket Outlet with Earthing Pin and Child Protection, Module with Cover Plate	43 xxx 053	12	120	8,48	365 x 472 x 215
• Socket Outlet Screwless with Earthing Pin and Child Protection, Module with Cover Plate	43 xxx 198	12	120	8,48	365 x 472 x 215
• Socket Outlet with Child Protection, Module with Cover Plate	43 xxx 300	12	120	9,88	365 x 472 x 215
• Schuko Socket Outlet with Child Protection, Module with Cover Plate	43 xxx 058	12	120	8,48	365 x 472 x 215
• Schuko Socket Outlet Screwless with Child Protection, Module with Cover Plate	43 xxx 174	12	120	8,42	365 x 472 x 215
• Schuko Socket Outlet with Child Protection and Lid, Module with Cover Plate	43 xxx 254	12	120	9,90	365 x 472 x 215
• Schuko Socket Outlet Screwless with Child Protection and Lid, Module with Cover Plate	43 xxx 255	12	120	8,60	285 x 475 x 275
• Double Socket Outlet, Module with Cover Plate	43 xxx 017	12	120	9,44	285 x 475 x 275
• Double Socket Outlet with Earthing Pin, Module with Cover Plate	43 xxx 018	12	120	11,30	335 x 475 x 300
• Double Schuko Socket Outlet, Module with Cover Plate	43 xxx 057	12	120	11,01	335 x 475 x 300

## 2nd Sales Option - Module (With Rocker / Cover Plate) and Frame



(\*) Marked products are available with screwless terminal option.

### SAMPLE

	Product Name	Code No
White	Screw Switch	43 001 0 01
	Screwless Terminal Switch	43 001 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Tv Socket Outlet Group</b>					
Antenna Socket End 4 dB Female, Module with Cover Plate	43 xxx 027	12	120	7,71	365 x 472 x 215
Antenna Socket Through 6 dB Female, Module with Cover Plate	43 xxx 007	12	120	7,71	365 x 472 x 215
Antenna Socket End 0.5 dB Metal Case, Module with Cover Plate	43 xxx 087	12	120	8,40	365 x 472 x 215
Antenna Socket Through 11 dB Metal Case, Module with Cover Plate*	43 xxx 088	12	120	8,40	365 x 472 x 215
TV Antenna Socket Non-Resistance, Module with Cover Plate	43 xxx 142	12	120	8,18	365 x 472 x 215
SAT Antenna Socket Through, Module with Cover Plate	43 xxx 133	12	120	9,07	365 x 472 x 215
SAT Antenna Socket End, Module with Cover Plate	43 xxx 134	12	120	9,17	365 x 472 x 215
TV-RF Antenna Socket End 1.5 dB, Module with Cover Plate	43 xxx 065	12	120	12,14	365 x 472 x 215
TV-RF Antenna Socket Through 7 dB, Module with Cover Plate**	43 xxx 060	12	120	12,14	365 x 472 x 215
TV-RF-SAT Antenna Socket End 1.5 dB, Module with Cover Plate	43 xxx 066	12	120	12,08	365 x 472 x 215
TV-RF-SAT Antenna Socket Through 4 dB, Module with Cover Plate	43 xxx 067	12	120	12,20	365 x 472 x 215
TV-SAT Antenna Socket End 1 dB, Module with Cover Plate	43 xxx 098	12	120	12,44	365 x 472 x 215
TV-SAT Antenna Socket Through 4 dB, Module with Cover Plate	43 xxx 083	12	120	12,44	365 x 472 x 215

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Data Transmission Group</b>					
Telephone Socket, Module with Cover Plate	43 xxx 014	12	120	7,40	365 x 472 x 215
Double Telephone Socket, Module with Cover Plate	43 xxx 034	12	120	7,42	365 x 472 x 215
Double Telephone Socket (1xCat3) Data Connector, Module with Cover Plate	43 xxx 042	12	120	7,65	285 x 475 x 275
Double Data Socket Outlet (1xCat5), Module with Cover Plate	43 xxx 035	12	120	6,75	285 x 475 x 275
Double Data Socket Outlet (2xCat5), Module with Cover Plate	43 xxx 036	12	120	7,86	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket), Module with Cover Plate	43 xxx 037	12	120	7,90	285 x 475 x 275
Data Socket Outlet (empty), Module with Cover Plate	43 xxx 038	12	120	6,75	285 x 475 x 275
Double Data Socket-Outlet (1xCat6) Module with Cover Plate	43 xxx 135	12	120	7,85	365 x 477 x 220
Double Data Socket-Outlet (2xCat6) Module with Cover Plate	43 xxx 136	12	120	8,22	365 x 477 x 220
Double Data Socket-Outlet (Cat3xCat6) Module with Cover Plate	43 xxx 137	12	120	8,31	365 x 477 x 220
Double Data Socket-Outlet (1xCat3) Module with Cover Plate	43 xxx 075	12	120	7,71	285 x 475 x 275
Loudspeaker - connection, 1 gang, Module with Cover Plate	43 xxx 080	12	120	7,19	365 x 472 x 215
HDMI Socket (with jack), Module with Cover Plate	43 xxx 494	12	120	7,59	365 x 472 x 215
USB Socket (with jack), Module with Cover Plate	43 xxx 495	12	120	7,59	365 x 472 x 215

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Electronic Group</b>					
Dimmer 60-600W, Module with Cover Plate	43 xxx 011	12	120	10,30	335 x 475 x 300
Dimmer Coil Filtered 60-600W, Module with Cover Plate	43 xxx 031	12	120	15,75	335 x 475 x 300
Dimmer 60-1000W, Module with Cover Plate	43 xxx 093	12	120	10,27	335 x 475 x 300
Remote Controlled Dimmer(IR) Coil Filtered 60-300W, Module with Cover Plate	43 xxx 459	10	100	9,91	335 x 480 x 305
1-10V Led Dimmer, Module with Cover Plate	43 xxx 045	12	120	15,07	335 x 475 x 300
Audio Switch 10 W, Module with Cover Plate	43 xxx 086	6	60	4,92	315 x 420 x 195
Emergency-Light, Module with Cover Plate	43 xxx 055	6	60	5,82	315 x 420 x 195
Warning Bell, Module with Cover Plate	43 xxx 056	6	60	4,55	315 x 420 x 195
■ Delayed Energy Saver (Without Relay), Module with Cover Plate	43 xxx 046	12	120	8,60	365 x 472 x 215
■ Energy Saver (Without Relay), Module with Cover Plate	43 xxx 183	12	120	8,07	365 x 472 x 215
■ Electro-Magnetic Energy Saver, Module with Cover Plate	43 xxx 301	12	120	6,63	365 x 472 x 215
■ Radio Frequency Energy saver, Module with Cover Plate	43 xxx 302	12	120	6,77	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection, Module with Cover Plate	43 xxx 139K	5	30	3,40	190 x 290 x 272
USB Charging Socket, Module with Cover Plate	43 xxx 465	12	120	10,35	365 x 472 x 215
Double USB Charge Socket, Module with Cover Plate	43 xxx A80	12	120	10,22	365 x 472 x 215

(\*) 14 dB and 18 dB versions are available. (\*\*) 10 - 12 - 15 - 20 dB versions are available. (■) See page 231 for relay options for marked products.

## b) Frames

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Frame	41 xxx 701	12	120	2,57	185 x 365 x 205
Double Horizontal Frame	41 xxx 702	25	250	7,21	385 x 450 x 290
Triple Horizontal Frame	41 xxx 703	20	200	9,26	417 x 455 x 290
Quartet Horizontal Frame	41 xxx 704	25	250	13,46	400 x 600 x 345
Fiftet Horizontal Frame	41 xxx 705	5	60	4,37	210 x 370 x 345
Sixtet Horizontal Frame	41 xxx 706	5	60	4,66	350 x 440 x 210
Double Vertical Frame	41 xxx 707	25	250	7,21	385 x 450 x 290
Triple Vertical Frame	41 xxx 708	20	200	9,26	417 x 455 x 290
Quartet Vertical Frame	41 xxx 710	12	120	2,90	180 x 450 x 270
Double Socket Outlet Frame	41 xxx 759	12	120	3,45	285 x 475 x 275

Please specify your choice of pastel colors by applying below color codes into the 'xxx' marked space.

Within frame codes showing 'xxx', enter the color codes from the table below.

Colors	Code No	Colors	Code No
Yellow	074	Blue	092
Lilac	078	Rose	093
Magenta	085	Orange	094
Green	091	Light Lilac	095

Colors	Code No	Colors	Code No	Colors	Code No
White	001	Fume	050	Champagne	022
Beige	010	Brown	096	Pearl	100
Metallic Silver	065	Light Brown	097	Natural Oak	101
Dore	057	Brown / Light Brown	009	Natural Walnut	102
Green	052	Black	111	Natural Cherry	103
Gold	060	Pistachio Green	104	Natural Pine	105





# Karea

Switch & Socket Outlet Series





# Karea Switch & Socket Outlet Series

## Colourful Products



It is possible to design an interior with Karea series. Reflect your style within your environment.

## Functions



One Way Switch



Two-Circuit Switch



3 Circuit Switch



HDMI Socket (with jack)



Socket Outlet with Earthing Pin and Child Protection



Audio Switch 10 W



Dimmer



Data Socket Outlet

## The comfort you want in decorations

Korea carrying the perfection of classic with its horizontal frames and practical and useful structure, it became more unique and authentic with vertical framework which is becoming a new trend.



### Multi Frames



Double Horizontal Frame



Triple Horizontal Frame



Quartet Horizontal Frame



Fiftet Horizontal Frame



Sixtet Horizontal Frame



Double Vertical Frame



Triple Vertical Frame



Quartet Vertical Frame

## Colourful Products



001 White



010 Beige



065 Metallic Silver



057 Dore



052 Green



050 Fume



100 Pearl



096 Brown



105 Natural Pine



103 Natural Cherry



101 Natural Oak



102 Natural Walnut



## Pastel Colour Frames

---



078 Lilac



093 Rose



074 Yellow



092 Blue



095 Light Lilac

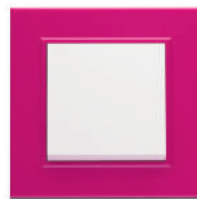


091 Green



094 Orange

You can merge rich color options with the design of your environment in order to create combinations suiting your life style.



085 Magenta

# Karea Switch & Socket Outlet Series



**One Way Switch \***

56001001  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**One Way Switch Illuminated \***

56001021  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch \***

56001003  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch Illuminated \***

56001023  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch \***

56001004  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch Illuminated \***

56001024  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch \***

56001005  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch Illuminated \***

56001025  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch \***

56001096  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch Illuminated \***

56001097  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch \***

56001020  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch Illuminated \***

56001040  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Bell Switch \***  
56001050  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated 12V \***  
56001085  
10 A, 12 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch With Label \***  
56001010  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
56001070  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \*  
With Label 12V**  
56001030  
10 A, 12 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Control Switch 2-Pole \***  
56001071  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Double Two-Way Switch**  
56001026  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Shutter Push-Button \***  
56001041  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**3 Circuit Switch**  
56001091  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**3 Gang 3 Pole Switch**  
56001092  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**1 Gang 3 Circuit Switch**  
56001094  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**1 Gang 3 Pole Switch**  
56001095  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120

# Karea Switch & Socket Outlet Series



**Socket Outlet**

56001022

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet \***

56001028

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Lid \***

56001029

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Child Protection and Lid \***

56001254

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin \***

56001019

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Child Protection**

56001052

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin and Child Protection \***

56001053

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Child Protection \***

56001058

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet with Earthing Pin**

56001018

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet**

56001017

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Schuko Socket Outlet**

56001082

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Antenna Socket Through**  
**6 dB Female**  
 56001007  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**4 dB Female**  
 56001027  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket Through**  
**Male 6 dB**  
 56001043  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**Male 4 dB**  
 56001044  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket Through 7 dB**  
 56001060  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket End 1.5 dB**  
 56001065  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket Through**  
**4 dB**  
 56001083  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket End**  
**1 dB**  
 56001098  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket**  
**Through 4 dB**  
 56001067  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket End**  
**1.5 dB**  
 56001066  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Telephone Socket**  
 56001014  
 TSE K 71  
 Piece in Box / Package - 12 / 120



**Double Telephone Socket**  
 56001034  
 TSE K 71  
 Piece in Box / Package - 12 / 120



# Karea Switch & Socket Outlet Series



**Double Data Socket Outlet (1xCat5)**  
56001035  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Data Socket Outlet (2xCat5)**  
56001036  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (Cat5+Telephone Socket)**  
56001037  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (empty)**  
56001038  
TSE K 71  
Piece in Box / Package - 12 / 120



**Loudspeaker - connection, 1 gang**  
56001449  
TSE K 71  
Piece in Box / Package - 12 / 120



**Dimmer**  
56001011  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer Coil Filtered**  
56001031  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer**  
56001093  
60-1000 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**1-10V Led Dimmer**  
56001459  
IEC 60669-2-1  
50Hz, 230 V~  
Piece in Box / Package - 10 / 100



**Remote Controlled Dimmer(IR) Coil Filtered**  
56001045  
60-300 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Audio Switch 10 W**  
56001086  
10 W  
Piece in Box / Package - 6 / 60



**Emergency-Light**  
56001055  
250 V~  
Piece in Box / Package - 6 / 60



**Warning Bell**  
56001056  
250 V~  
Piece in Box / Package - 6 / 60



**Delayed Energy Saver (Without Relay)\***  
56001046  
10A, 220 V~  
Piece in Box / Package - 10 / 100



**Energy Saver (Without Relay)\***  
56001183  
10A, 220 V~  
Piece in Box / Package - 12 / 120



**Electro-Magnetic Energy Saver\***  
56001301  
12 V ~  
Piece in Box / Package - 12 / 120



**Radio Frequency Energy Saver\***  
56001302  
12 V ~  
Piece in Box / Package - 12 / 120



**Cooling Switch**  
56001084  
16 A, 250 V~  
Piece in Box / Package - 12 / 120



**Surge-Protective Socket Outlet  
with Child Protection**  
56001139K  
16 A, 250 V~  
Piece in Box / Package - 5 / 30



**HDMI Socket (with jack)**  
56001494  
Piece in Box / Package - 12 / 120



**USB Socket (with jack)**  
56001495  
Piece in Box / Package - 12 / 120



**USB Charging Socket**  
56001465  
Input: 250V AC, Output: 5V DC, 2A  
Piece in Box / Package - 12 / 120



**USB Charging Socket**  
56001A80  
Piece in Box / Package - 12 / 120

\* Energy saver product visuals are given as representations, the card must be ordered separately.

# Karea Switch & Socket Outlet Series



Frame  
56001701



Double Horizontal Frame  
56001702



Triple Horizontal Frame  
56001703



Quartet Horizontal Frame  
56001704



Fiftet Horizontal Frame  
56001705



Sixtet Horizontal Frame  
56001706



Double Vertical Frame  
56001707



Triple Vertical Frame  
56001708



Quartet Vertical Frame  
56001709

## Sales Options

---

### 1st Sales Option - Complete Product



Complete Product

### 2nd Sales Option - Module (with Rocker / Cover Plate) and Frame



Module

(With Rocker / Cover Plate)

+



Frame

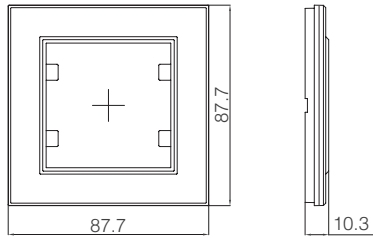
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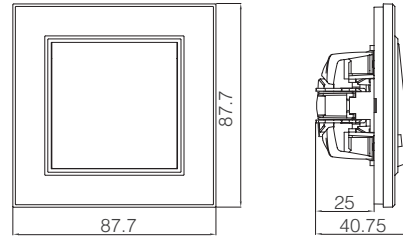
Complete Product

## Technical Drawings

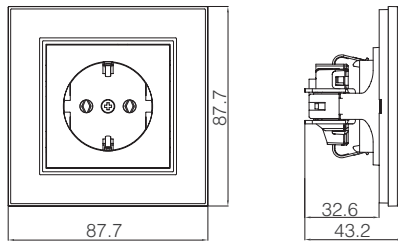
Frame



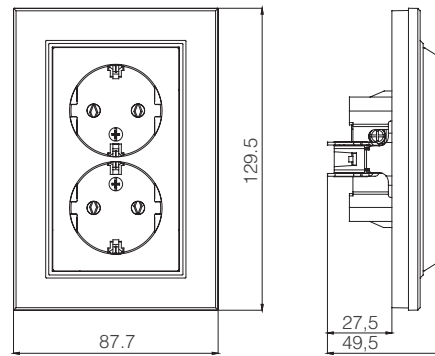
One Way Switch



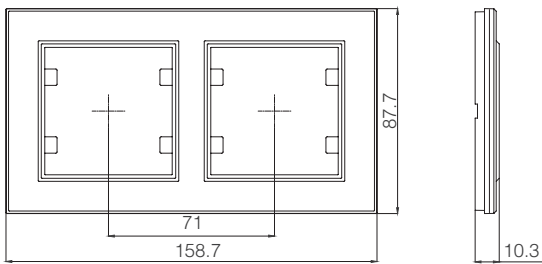
Schuko Socket Outlet



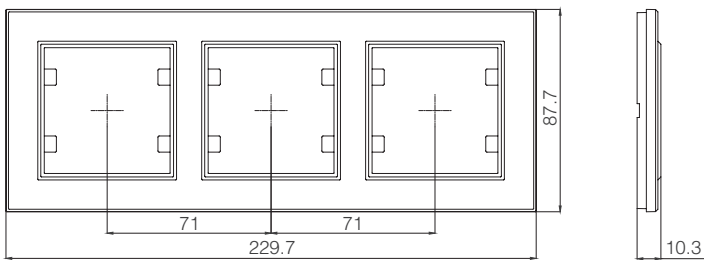
Double Schuko Socket Outlet



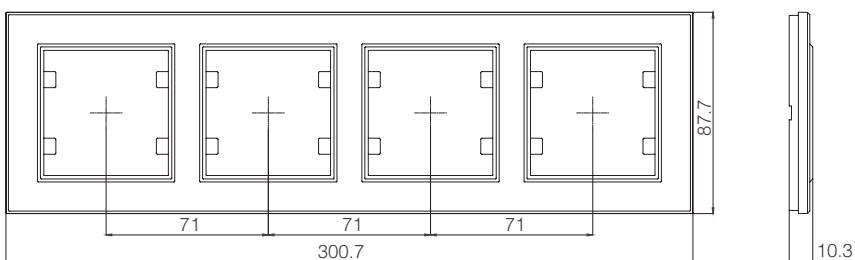
Double Horizontal Frame



Triple Horizontal Frame

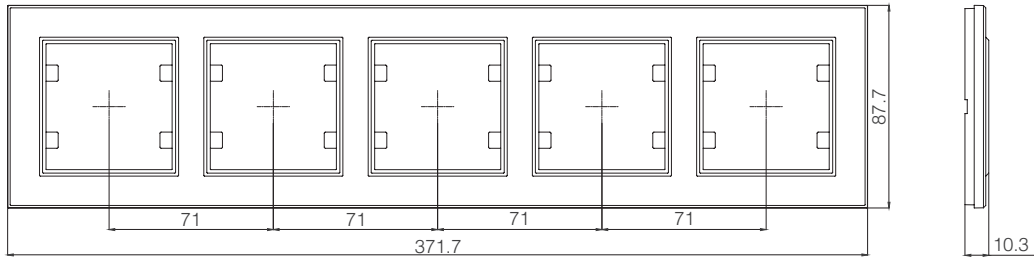


Quartet Horizontal Frame

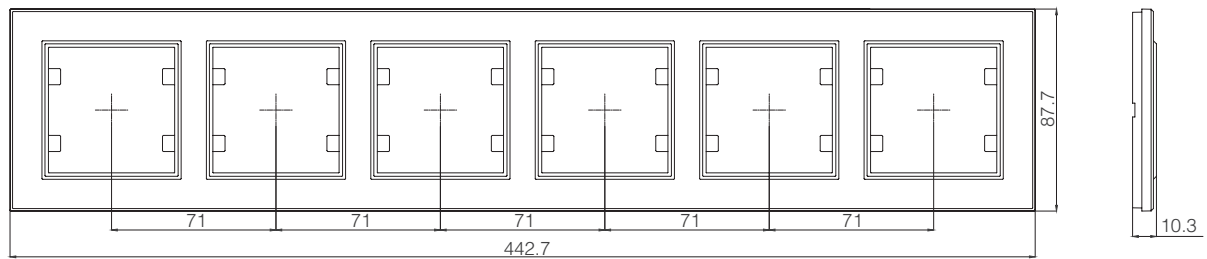




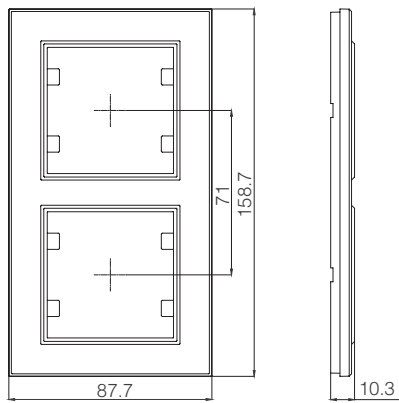
Fiftet Horizontal Frame



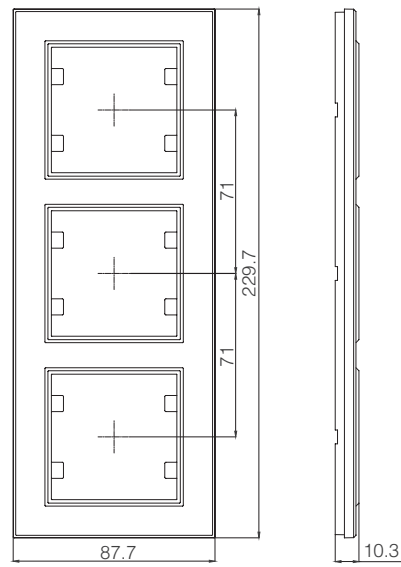
Sixtet Horizontal Frame



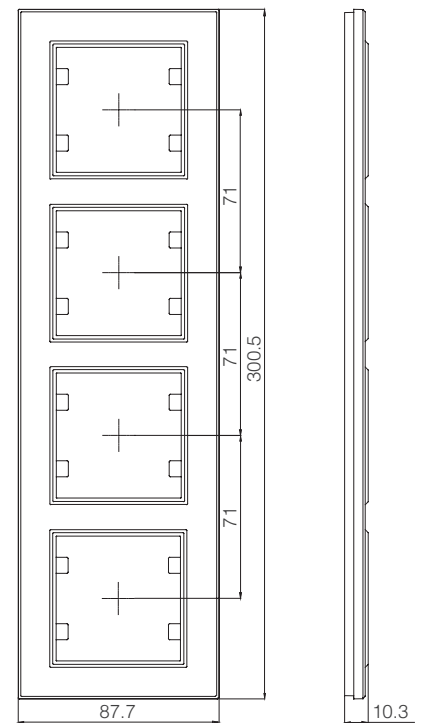
Double Vertical Frame



Triple Vertical Frame



Quartet Vertical Frame



# Karea Switch & Socket Outlet Series

## 1st Sales Option - Complete Product

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch	56 xxx 001	12	120	11,79	315 x 495 x 280
• One Way Switch Illuminated	56 xxx 021	12	120	12,11	315 x 495 x 280
• Two-Circuit Switch	56 xxx 003	12	120	12,40	315 x 495 x 280
• Two-Circuit Switch Illuminated	56 xxx 023	12	120	12,65	315 x 495 x 280
• Light Switch	56 xxx 004	12	120	11,75	315 x 495 x 280
• Light Switch Illuminated	56 xxx 024	12	120	12,19	315 x 495 x 280
Double Light	56 xxx 441	12	120	11,88	315 x 495 x 280
• Two-Way Switch	56 xxx 005	12	120	12,01	315 x 495 x 280
• Two-Way Switch Illuminated	56 xxx 025	12	120	12,32	315 x 495 x 280
• Door Switch	56 xxx 096	12	120	11,80	315 x 495 x 280
• Door Switch Illuminated	56 xxx 097	12	120	12,15	315 x 495 x 280
• Intermediate Switch	56 xxx 020	12	120	11,93	315 x 495 x 280
• Intermediate Switch Illuminated	56 xxx 040	12	120	12,40	315 x 495 x 280
• Bell Switch	56 xxx 050	12	120	11,84	315 x 495 x 280
• Bell Switch Illuminated 12V	56 xxx 085	12	120	11,84	315 x 495 x 280
• Bell Switch Illuminated	56 xxx 070	12	120	11,84	315 x 495 x 280
• Bell Switch With Label	56 xxx 010	12	120	11,79	315 x 495 x 280
• Bell Switch Illuminated With Label 12V	56 xxx 030	12	120	11,70	315 x 495 x 280
3 Circuit Switch	56 xxx 091	12	120	12,15	315 x 495 x 280
3 Gang 3 Pole Switch	56 xxx 092	12	120	12,15	315 x 495 x 280
1 Gang 3 Circuit Switch	56 xxx 094	12	120	12,15	315 x 495 x 280
1 Gang 3 Pole Switch	56 xxx 095	12	120	12,15	315 x 495 x 280
Cooling Switch	56 xxx 084	12	120	13,15	315 x 495 x 280
Double Two-Way Switch	56 xxx 026	12	120	12,80	315 x 495 x 280
• Shutter Push-Button	56 xxx 041	12	120	12,53	315 x 495 x 280
One Gang Shutter Push-Button	56 xxx 279	12	120	12,33	315 x 495 x 280
• Control Switch 2-Pole	56 xxx 071	12	120	10,63	315 x 495 x 280
Hotel Room Signalling Switch	56 xxx 252	12	120	12,11	315 x 495 x 280
Hotel Room Bell Switch	56 xxx 253	12	120	12,08	315 x 495 x 280
Emergency Switch with Cord	56 xxx 128	12	120	10,82	285 x 505 x 280
<b>Socket Outlet Group</b>					
Socket Outlet	56 xxx 022	12	120	16,60	315 x 495 x 280
Schuko Socket Outlet	56 xxx 028	12	120	11,78	315 x 495 x 280
Schuko Socket Outlet Screwless	56 xxx 172	12	120	11,96	315 x 495 x 280
Schuko Socket Outlet with Lid	56 xxx 029	12	120	12,04	320 x 485 x 300
Schuko Socket Outlet Screwless with Lid	56 xxx 099	12	120	11,22	315 x 495 x 280
Schuko Socket Outlet with Child Protection and Lid	56 xxx 254	12	120	12,23	320 x 485 x 300
Schuko Socket Outlet Screwless with Child Protection and Lid	56 xxx 255	12	120	12,34	315 x 495 x 280
Socket Outlet with Earthing Pin	56 xxx 019	12	120	13,11	315 x 495 x 280
Socket Outlet Screwless with Earthing Pin	56 xxx 173	12	120	12,87	315 x 495 x 280
Socket Outlet with Earthing Pin and Lid	56 xxx 016	12	120	12,42	320 x 485 x 300
Socket Outlet with Child Protection	56 xxx 052	12	120	10,61	315 x 495 x 280
Socket Outlet with Earthing Pin and Child Protection	56 xxx 053	12	120	12,15	315 x 495 x 280
Socket Outlet Screwless with Earthing Pin and Child Protection	56 xxx 198	12	120	12,15	315 x 495 x 280
Socket Outlet with Child Protection Schuko Socket Outlet with	56 xxx 300	12	120	13,56	320 x 485 x 300
Schuko Socket Outlet with Child Protection	56 xxx 058	12	120	10,61	315 x 495 x 280
Schuko Socket Outlet Screwless with Child Protection	56 xxx 174	12	120	10,61	315 x 495 x 280
Double Socket Outlet with Earthing Pin	56 xxx 018	12	120	10,61	335 x 475 x 300
Double Socket Outlet	56 xxx 017	12	120	10,61	320 x 485 x 300
Double Schuko Socket Outlet	56 xxx 082	12	120	10,61	410 x 485 x 310

## 1st Sales Option - Complete Product



Complete Product

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### Tv Socket Outlet Group

Antenna Socket Through 6 dB Female	56 xxx 007	12	120	15,58	315 x 495 x 280
Antenna Socket End 4 dB Female	56 xxx 027	12	120	15,58	315 x 495 x 280
Antenna Socket End 0.5 dB Metal Case	56 xxx 087	12	120	15,58	315 x 495 x 280
Antenna Socket Through 11 dB Metal Case *	56 xxx 088	12	120	15,58	315 x 495 x 280
TV Antenna Socket Non-Resistance	56 xxx 142	12	120	10,38	315 x 495 x 280
Antenna Socket Through Male	56 xxx 043	12	120	10,30	285 x 505 x 280
Antenna Socket End Male	56 xxx 044	12	120	10,30	285 x 505 x 280
TV-RF Antenna Socket Through 7 dB**	56 xxx 060	12	120	9,99	315 x 495 x 280
TV-RF Antenna Socket End 1.5 dB	56 xxx 065	12	120	10,77	315 x 495 x 280
TV-SAT Antenna Socket End 1 dB	56 xxx 098	12	120	10,77	315 x 495 x 280
TV-SAT Antenna Socket Through 4 dB	56 xxx 083	12	120	9,99	315 x 495 x 280
TV-RF-SAT Antenna Socket End 1.5 dB	56 xxx 066	12	120	9,99	315 x 495 x 280
TV-RF-SAT Antenna Socket Through 4 dB	56 xxx 067	12	120	9,99	315 x 495 x 280
SAT Antenna Socket Through	56 xxx 133	12	120	9,99	315 x 495 x 280
SAT Antenna Socket End	56 xxx 134	12	120	10,66	315 x 495 x 280

### Data Transmission Group

Telephone Socket	56 xxx 014	12	120	11,18	315 x 495 x 280
Double Telephone Socket	56 xxx 034	12	120	10,36	315 x 495 x 280
Double Telephone Socket (1xCat3) with Data Connector	56 xxx 042	12	120	9,98	315 x 495 x 280
Double Data Socket Outlet (1xCat5)	56 xxx 035	12	120	9,99	315 x 495 x 280
Double Data Socket Outlet (2xCat5)	56 xxx 036	12	120	9,99	315 x 495 x 280
Data Socket Outlet (Cat5+Telephone Socket)	56 xxx 037	12	120	9,99	315 x 495 x 280
Data Socket Outlet (Empty)	56 xxx 038	12	120	9,99	315 x 495 x 280
Double Data Socket Outlet (1xCat6)	56 xxx 135	12	120	10,66	315 x 495 x 280
Double Data Socket Outlet (2xCat6)	56 xxx 136	12	120	9,99	315 x 495 x 280
Data Socket Outlet (Cat3+Cat6)	56 xxx 137	12	120	9,99	315 x 495 x 280
Double Data Socket-Outlet (1xCat 3)	56 xxx 075	12	120	10,04	315 x 495 x 280
Data Socket Outlet (2xCat3)	56 xxx 076	12	120	9,99	315 x 495 x 280
Loudspeaker - connection, 1 gang	56 xxx 449	12	120	10,66	315 x 495 x 280
HDMI Socket (with jack)	56 xxx 494	12	120	9,83	315 x 495 x 280
USB Socket (with jack)	56 xxx 495	12	120	9,83	315 x 495 x 280

### Electronic Group

Dimmer 60-600W	56 xxx 011	10	100	13,42	370 x 485 x 260
Dimmer Coil Filtered 60-600W	56 xxx 031	10	100	18,91	410 x 545 x 315
Dimmer 60-1000W	56 xxx 093	10	100	11,73	370 x 485 x 260
1-10V Led Dimmer	56 xxx 459	10	100	15,22	380 x 495 x 310
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	56 xxx 045	10	100	15,76	410 x 545 x 315
Audio Switch 10 W	56 xxx 086	6	60	8,11	195 x 385 x 95
Emergency-Light	56 xxx 055	6	60	10,24	195 x 385 x 95
Warning Bell	56 xxx 056	6	60	7,76	195 x 385 x 95
■ Delayed Energy Saver (Without Relay)	56 xxx 046	12	120	12,07	410 x 545 x 315
■ Energy Saver (Without Relay)	56 xxx 183	12	120	12,45	285 x 475 x 275
■ Electro-Magnetic Energy Saver	56 xxx 301	12	120	7,03	365 x 472 x 215
■ Radio Frequency Energy saver	56 xxx 302	12	120	7,62	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	56 xxx 139K	5	30	4,71	265 x 425 x 175
USB Charging Socket	56 xxx 465	12	120	12,94	315 x 495 x 280
Double USB Charge Socket	56 xxx A80	12	120	12,45	315 x 495 x 280

(\*) Marked products are available with screwless terminal option. (\*) 14 dB and 18 dB versions are available. (\*\*) 10 - 12 - 15 - 20 dB versions are available.

■ See page 231 for relay options for marked products.

### SAMPLE

White	Product Name	Code No
	Screw Switch	56 001 0 01
	Screwless Terminal Switch	56 001 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

Within the product codes showing 'xxx', enter the color from the table below.

Colors	Code No	Colors	Code No	Colors	Code No
	xxx		xxx		xxx
White	001	Fume	050	Pearl	100
Beige	010	Brown	096	Natural Oak	101
Metallic Silver	065	Light Brown	097	Natural Walnut	102
Dore	057	Brown / Light Brown	009	Natural Cherry	103
Green	052	Black	111	Natural Pine	105

# Karea Switch & Socket Outlet Series

## 2nd Sales Option - Module (With Rocker / Cover Plate) and Frame

### a) Module (With Rocker / Cover Plate)

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch, Module with Rocker	57 xxx 001	12	120	8,58	365 x 470 x 215
• One Way Switch Illuminated, Module with Rocker	57 xxx 021	12	120	8,87	365 x 472 x 215
• Two-Circuit Switch, Module with Rocker	57 xxx 003	12	120	9,19	365 x 470 x 215
• Two-Circuit Switch Illuminated, Module with Rocker	57 xxx 023	12	120	9,36	365 x 472 x 215
• Light Switch, Module with Rocker	57 xxx 004	12	120	8,63	365 x 470 x 215
• Light Switch Illuminated, Module with Rocker	57 xxx 024	12	120	8,92	365 x 472 x 215
• Double Light Module and Rocker	57 xxx 441	12	120	9,62	365 x 472 x 215
• Two-Way Switch, Module with Rocker	57 xxx 005	12	120	8,94	365 x 470 x 215
• Two-Way Switch Illuminated, Module with Rocker	57 xxx 025	12	120	9,22	365 x 472 x 215
• Door Switch, Module with Rocker	57 xxx 096	12	120	8,63	365 x 472 x 215
• Door Switch Illuminated, Module with Rocker	57 xxx 097	12	120	8,92	365 x 472 x 215
• Intermediate Switch, Module with Rocker	57 xxx 020	12	120	9,30	365 x 472 x 215
• Intermediate Switch Illuminated, Module with Rocker	57 xxx 040	12	120	9,54	355 x 435 x 210
• 3 Circuit Switch, Module with Rocker	57 xxx 091	12	120	8,61	365 x 472 x 215
• 3 Gang 3 Pole Switch, Module with Rocker	57 xxx 092	12	120	8,61	365 x 472 x 215
• 1 Gang 3 Circuit Switch, Module with Rocker	57 xxx 094	12	120	8,61	365 x 472 x 215
• 1 Gang 3 Pole Switch, Module with Rocker	57 xxx 095	12	120	8,61	365 x 472 x 215
• Cooling Switch, Module with Rocker	57 xxx 084	12	120	9,61	365 x 472 x 215
• Double Two-Way Switch, Module with Rocker	57 xxx 026	12	120	10,94	285 x 475 x 275
• Shutter Push-Button, Module with Rocker	57 xxx 041	12	120	9,42	365 x 472 x 215
• One Gang Shutter Push-Button, Module with Rocker	57 xxx 279	12	120	8,94	365 x 472 x 215
• Bell Switch, Module with Rocker	57 xxx 050	12	120	8,86	365 x 472 x 215
• Bell Switch With Label, Module with Rocker	57 xxx 010	12	120	8,78	365 x 472 x 215
• Bell Switch Illuminated 12V, Module with Rocker	57 xxx 085	12	120	9,08	365 x 472 x 215
• Bell Switch Illuminated, Module with Rocker	57 xxx 070	12	120	9,08	365 x 472 x 215
• Bell Switch Illuminated With Label 12V, Module with Rocker	57 xxx 030	12	120	9,08	365 x 472 x 215
• Control Switch 2-Pole, Module with Rocker	57 xxx 071	12	120	8,68	365 x 472 x 215
• Hotel Room Signalling Switch, Module with Rocker	57 xxx 252	12	120	8,85	365 x 472 x 215
• Hotel Room Bell Switch, Module with Rocker	57 xxx 253	12	120	9,01	365 x 472 x 215
• Emergency Switch with Cord, Module with Rocker	57 xxx 128	12	120	8,63	365 x 472 x 215
• Cable Outlet Module	57 xxx A64	12	120	7,25	365 x 472 x 215
• Cavity Module	57 xxx A63	12	120	6,42	365 x 472 x 215

### Socket Outlet Group

Socket Outlet, Module with Cover Plate	57 xxx 022	12	120	7,54	365 x 472 x 215
Schuko Socket Outlet, Module with Cover Plate	57 xxx 028	12	120	10,35	365 x 470 x 215
Schuko Socket Outlet Screwless, Module with Cover Plate	57 xxx 172	12	120	9,35	365 x 472 x 215
Schuko Socket Outlet with Lid, Module with Cover Plate	57 xxx 029	12	120	12,05	280 x 480 x 280
Schuko Socket Outlet Screwless with Lid, Module with Cover Plate	57 xxx 099	12	120	8,90	285 x 475 x 275
Socket Outlet with Earthing Pin, Module with Cover Plate	57 xxx 019	12	120	8,78	365 x 472 x 215
Socket Outlet Screwless with Earthing Pin, Module with Cover Plate	57 xxx 173	12	120	8,79	365 x 472 x 215
Socket Outlet with Earthing Pin and Lid, Module with Cover Plate	57 xxx 016	12	120	9,94	285 x 475 x 275
Socket Outlet with Child Protection, Module with Cover Plate	57 xxx 052	12	120	8,86	365 x 472 x 215
Socket Outlet with Earthing Pin and Child Protection, Module with Cover Plate	57 xxx 053	12	120	8,78	365 x 472 x 215
Socket Outlet Screwless with Earthing Pin and Child Protection, Module with Cover Plate	57 xxx 198	12	120	8,78	365 x 472 x 215
Socket Outlet with Child Protection, Module with Cover Plate	57 xxx 300	12	120	10,18	285 x 475 x 275
Schuko Socket Outlet with Child Protection, Module with Cover Plate	57 xxx 058	12	120	8,78	365 x 470 x 215
Schuko Socket Outlet Screwless with Child Protection, Module with Cover Plate	57 xxx 174	12	120	8,72	365 x 472 x 215
Schuko Socket Outlet with Child Protection and Lid, Module with Cover Plate	57 xxx 254	12	120	9,67	365 x 472 x 215
Schuko Socket Outlet Screwless with Child Protection and Lid, Module with Cover Plate	57 xxx 255	12	120	8,90	285 x 475 x 275
Double Socket Outlet, Module with Cover Plate	57 xxx 017	12	120	9,74	285 x 475 x 275
Double Socket Outlet with Earthing Pin, Module with Cover Plate	57 xxx 018	12	120	11,60	335 x 475 x 300
Double Schuko Socket Outlet, Module with Cover Plate	57 xxx 082	12	120	11,35	335 x 475 x 300

## 2nd Sales Option - Module (With Rocker / Cover Plate) and Frame



Module  
(With Rocker /  
Cover Plate)

+



Frame

=



Complete Product

(\*) Marked products are available with screwless terminal option.

### SAMPLE

	Product Name	Code No
White	Screw Switch	57 001 0 01
	Screwless Terminal Switch	57 001 1 01

When you order screwless terminals must use '1'  
instead of '0' at the third digit of the item code.

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Tv Socket Outlet Group</b>					
Antenna Socket End 4 dB Female, Module with Cover Plate	57 xxx 027	12	120	8.01	365 x 472 x 215
Antenna Socket Through 6 dB Female, Module with Cover Plate	57 xxx 007	12	120	8.01	365 x 472 x 215
Antenna Socket End 0.5 dB Metal Case, Module with Cover Plate	57 xxx 087	12	120	8.70	365 x 472 x 215
Antenna Socket Through 11 dB Metal Case, Module with Cover Plate*	57 xxx 088	12	120	8.70	365 x 472 x 215
TV Antenna Socket Non-Resistance, Module with Cover Plate	57 xxx 142	12	120	7.95	365 x 472 x 215
SAT Antenna Socket Through, Module with Cover Plate	57 xxx 133	12	120	9.37	365 x 472 x 215
SAT Antenna Socket End, Module with Cover Plate	57 xxx 134	12	120	9.47	365 x 472 x 215
TV-RF Antenna Socket End 1.5 dB, Module with Cover Plate	57 xxx 065	12	120	12.44	365 x 472 x 215
TV-RF Antenna Socket Through 7 dB, Module with Cover Plate**	57 xxx 060	12	120	12.44	365 x 472 x 215
TV-RF-SAT Antenna Socket End 1.5 dB, Module with Cover Plate	57 xxx 066	12	120	12.38	365 x 472 x 215
TV-RF-SAT Antenna Socket Through 4 dB, Module with Cover Plate	57 xxx 067	12	120	12.50	365 x 472 x 215
TV-SAT Antenna Socket End 1 dB, Module with Cover Plate	57 xxx 098	12	120	12.74	365 x 472 x 215
TV-SAT Antenna Socket Through 4 dB, Module with Cover Plate	57 xxx 083	12	120	12.74	365 x 472 x 215

### Data Transmission Group

Telephone Socket, Module with Cover Plate	57 xxx 014	12	120	7,70	365 x 472 x 215
Double Telephone Socket, Module with Cover Plate	57 xxx 034	12	120	7,72	365 x 472 x 215
Double Telephone Socket (1xCat3) Data Connector, Module with Cover Plate	57 xxx 042	12	120	7,72	365 x 477 x 220
Double Data Socket Outlet (1xCat5), Module with Cover Plate	57 xxx 035	12	120	7,62	285 x 475 x 275
Double Data Socket Outlet (2xCat5), Module with Cover Plate	57 xxx 036	12	120	8,20	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket), Module with Cover Plate	57 xxx 037	12	120	8,77	285 x 475 x 275
Data Socket Outlet (empty), Module with Cover Plate	57 xxx 038	12	120	7,62	285 x 475 x 275
Double Data Socket-Outlet (1xCat6) Module with Cover Plate	57 xxx 135	12	120	8,00	365 x 472 x 215
Double Data Socket-Outlet (2xCat6) Module with Cover Plate	57 xxx 136	12	120	8,67	365 x 472 x 215
Double Data Socket-Outlet (Cat3xCat6) Module with Cover Plate	57 xxx 137	12	120	8,42	365 x 472 x 215
Double Data Socket-Outlet (1xCat3) Module with Cover Plate	57 xxx 075	12	120	7,78	365 x 472 x 215
Loudspeaker - connection, 1 gang, Module with Cover Plate	57 xxx 449	12	120	7,49	365 x 472 x 215
HDMI Socket (with jack), Module with Cover Plate	57 xxx 494	12	120	7,67	365 x 472 x 215
USB Socket (with jack), Module with Cover Plate	57 xxx 495	12	120	7,64	365 x 472 x 215

### Electronic Group

Dimmer 60-600W, Module with Cover Plate	57 xxx 011	12	120	10,60	335 x 475 x 300
Dimmer Coil Filtered 60-600W, Module with Cover Plate	57 xxx 031	12	120	16,05	335 x 475 x 300
Dimmer 60-1000W, Module with Cover Plate	57 xxx 093	12	120	10,57	335 x 475 x 300
Remote Controlled Dimmer(IR) Coil Filtered 60-300W, Module with Cover Plate	57 xxx 045	12	120	15,37	335 x 475 x 300
1-10V Led Dimmer, Module with Cover Plate	57 xxx 459	10	100	10,46	335 x 480 x 305
Audio Switch 10 W, Module with Cover Plate	57 xxx 086	6	60	4,59	315 x 420 x 195
Emergency-Light, Module with Cover Plate	57 xxx 055	6	60	3,20	315 x 420 x 195
Warning Bell, Module with Cover Plate	57 xxx 056	6	60	2,57	315 x 420 x 195
■ Delayed Energy Saver (Without Relay), Module with Cover Plate	57 xxx 046	12	120	8,95	365 x 472 x 215
■ Energy Saver (Without Relay), Module with Cover Plate	57 xxx 183	12	120	9,81	355 x 435 x 210
■ Electro-Magnetic Energy Saver, Module with Cover Plate	57 xxx 301	12	120	7,29	365 x 472 x 215
■ Radio Frequency Energy saver, Module with Cover Plate	57 xxx 302	12	120	7,43	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection, Module with Cover Plate	57 xxx 139K	5	30	3,70	190 x 290 x 272
USB Charging Socket, Module with Cover Plate	57 xxx 465	12	120	10,72	365 x 472 x 215
Double USB Charge Socket, Module with Cover Plate	57 xxx A80	12	120	10,23	365 x 472 x 215

(\*) 14 dB and 18 dB versions are available. (\*\*) 10 - 12 - 15 - 20 dB versions are available. (■) See page 231 for relay options for marked products.

### b) Frames

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Frame	56 xxx 701	12	120	3,22	250 x 495 x 150
Double Horizontal Frame	56 xxx 702	25	250	9,52	385 x 495 x 270
Triple Horizontal Frame	56 xxx 703	20	200	10,66	415 x 505 x 280
Quartet Horizontal Frame	56 xxx 704	25	250	17,30	525 x 490 x 335
Fiftet Horizontal Frame	56 xxx 705	5	60	5,25	210 x 370 x 345
Sixtet Horizontal Frame	56 xxx 706	5	60	6,06	350 x 440 x 210
Double Vertical Frame	56 xxx 707	25	250	4,69	385 x 495 x 270
Triple Vertical Frame	56 xxx 708	20	200	9,31	415 x 505 x 280
Quartet Vertical Frame	56 xxx 709	25	250	16,43	525 x 495 x 340
Double Socket Outlet Frame	56 xxx 710	12	120	3,93	315 x 420 x 195

Please specify your choice of pastel colors by applying below color codes into the 'xxx' marked space.

	Code No		Code No
Colors	xxx	Colors	xxx
Yellow	074	Blue	092
Lilac	078	Rose	093
Magenta	085	Orange	094
Green	091	Light Lilac	095

Within frame codes showing 'xxx', enter the color codes from the table below.

	Code No		Code No		Code No
Colors	xxx	Colors	xxx	Colors	xxx
White	001	Fume	050	Pearl	100
Beige	010	Brown	096	Natural Oak	101
Metallic Silver	065	Light Brown	097	Natural Walnut	102
Dore	057	Brown / Light Brown	009	Natural Cherry	103
Green	052	Black	111	Natural Pine	105







# Defne

Switch & Socket Outlet Series



# Defne Switch & Socket Outlet Series

## Colourful Products



Every detail is important in your life your choices add value to your environment. Defne switch and socket series, with its modern and elegant design, color options and quality, it makes your choices unique.

## Functions



One Way Switch



Two-Circuit Switch



One Way Switch Illuminated



3 Circuit Switch



Double USB Charge Socket



Socket Outlet with Earthing Pin and Child Protection



Audio Switch 10 W



Dimmer



Data Socket Outlet



Loudspeaker - connection, 1 gang

## Innovational aspect to your environments

With functionality, product quality, environmental sensitivity criterias, Defne series are developed for elegant and original designs for eye catching aesthetics in your environments.



## Multi Frames



Double Horizontal Frame



Triple Horizontal Frame



Double Vertical Frame



Quartet Horizontal Frame



Fiftet Horizontal Frame



Sixtet Horizontal Frame



Triple Vertical Frame



## Colourful Products



001 White



010 Beige



065 Metallic Silver



057 Dore



052 Green



050 Fume



100 Pearl



105 Natural Pine



101 Natural Oak



103 Natural Cherry



102 Natural Walnut



096 Brown



009 Brown - Light Brown



060 Gold



## Pastel Colour Frames

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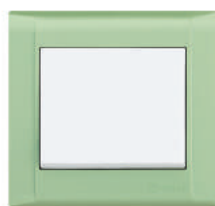
085 Magenta



092 Blue



078 Lilac



091 Green



074 Yellow



095 Light Lilac



094 Orange

The secret of soft and relaxing environment is hidden in the combining of delicate details with inspiring colors.



093 Rose

## Defne Switch & Socket Outlet Series



**One Way Switch \***

42001001

10 AX, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120



**One Way Switch Illuminated \***

42001021

10 AX, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120



**Two-Circuit Switch \***

42001003

10 AX, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120



**Two-Circuit Switch Illuminated \***

42001023

10 AX, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120



**Light Switch \***

42001004

10 A, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120



**Light Switch Illuminated \***

42001024

10 A, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120



**Two-Way Switch \***

42001005

10 AX, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120



**Two-Way Switch Illuminated \***

42001025

10 AX, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120



**Door Switch \***

42001096

10 A, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120



**Door Switch Illuminated \***

42001097

10 A, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120



**Intermediate Switch \***

42001020

10 AX, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120



**Intermediate Switch Illuminated \***

42001040

10 AX, 250 V~  
EN 60669-1

Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Bell Switch\***  
 42001050  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated 12V\***  
 42001085  
 10 A, 12 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch With Label\***  
 42001010  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
 42001070  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \*  
 With Label 12V**  
 42001030  
 10 A, 12 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Control Switch 2-Pole \***  
 42001071  
 16 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Double Two-Way Switch**  
 42001026  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Shutter Push-Button \***  
 42001041  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**3 Circuit Switch**  
 42001091  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**3 Gang 3 Pole Switch**  
 42001092  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**1 Gang 3 Circuit Switch**  
 42001094  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**1 Gang 3 Pole Switch**  
 42001095  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120

## Defne Switch & Socket Outlet Series



### Socket Outlet

42001022

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Schuko Socket Outlet \*

42001028

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Schuko Socket Outlet with Lid \*

42001029

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Schuko Socket Outlet with Child Protection and Lid \*

42001254

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Socket Outlet with Earthing Pin \*

42001019

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Socket Outlet with Child Protection

42001052

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Socket Outlet with Earthing Pin and Child Protection \*

42001053

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Schuko Socket Outlet with Child Protection \*

42001058

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Double Socket Outlet with Earthing Pin

42001018

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Double Socket Outlet

42001017

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Double Schuko Socket Outlet High

42001082

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Antenna Socket Through**  
**6 dB Female**  
 42001007  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**4 dB Female**  
 42001027  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket Through**  
**Male 6 dB**  
 42001043  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**Male 4 dB**  
 42001044  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket Through 7 dB**  
 42001060  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket End 1.5 dB**  
 42001065  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket Through**  
**4 dB**  
 42001083  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket End**  
**1 dB**  
 42001098  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket**  
**Through 4 dB**  
 42001067  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket End**  
**1.5 dB**  
 42001066  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Telephone Socket**  
 42001014  
 TSE K 71  
 Piece in Box / Package - 12 / 120



**Double Telephone Socket**  
 42001034  
 TSE K 71  
 Piece in Box / Package - 12 / 120



## Defne Switch & Socket Outlet Series



**Double Data Socket Outlet (1xCat5)**  
42001035  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Data Socket Outlet (2xCat5)**  
42001036  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (2xCat3)**  
42001076  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet  
(Cat5+Telephone Socket)**  
42001037  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (empty)**  
42001038  
TSE K 71  
Piece in Box / Package - 12 / 120



**Loudspeaker - connection, 1 gang**  
42001080  
TSE K 71  
Piece in Box / Package - 12 / 120



**Dimmer**  
42001011  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer Coil Filtered**  
42001031  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer**  
42001093  
60-1000 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**1-10V Led Dimmer**  
42001459  
50Hz, 230 V~  
IEC 60669-2-1  
Piece in Box / Package - 10 / 100



**Remote Controlled Dimmer(IR)  
Coil Filtered**  
42001045  
60-300 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Audio Switch 10 W**  
42001086  
10 W  
Piece in Box / Package - 6 / 60



**Emergency-Light**  
42001055  
250 V~  
Piece in Box / Package - 6 / 60



**Delayed Energy Saver (Without Relay) \***  
42001046  
10 A, 220 V~  
Piece in Box / Package - 10 / 100  
**Energy Saver (Without Relay)**  
42001183  
10 A, 220 V~  
Piece in Box / Package - 12 / 120



**Electro-Magnetic Energy Saver \***  
42001301  
12 V~  
Piece in Box / Package - 12 / 120  
**Radio Frequency Energy saver**  
42001302  
12 V~  
Piece in Box / Package - 12 / 120



**Warning Bell**  
42001056  
250 V~  
Piece in Box / Package - 6 / 60



**Cooling Switch**  
42001084  
16 A, 250 V~  
Piece in Box / Package - 12 / 120



**Surge-Protective Socket Outlet with Child Protection**  
42001139K  
16 A, 250 V~  
Piece in Box / Package - 5 / 30



**Universal Grounding Sockets With Child Protection (British-German)**  
42001306  
13 A, 250 V~  
Piece in Box / Package - 12 / 120



**Universal Socket with Switch and Child Protection**  
42001305  
13 A, 250 V~  
Piece in Box / Package - 12 / 120



**Hotel Room Bell Switch**  
42001253  
10 A, 250 V~  
Piece in Box / Package - 12 / 120



**Hotel Room Signalling Switch**  
42001252  
10 A, 250 V~  
Piece in Box / Package - 12 / 120

\* Energy saver product visuals are given as representations, the card must be ordered separately.

# Defne Switch & Socket Outlet Series



**HDMI Socket (with jack)**  
42001494  
Piece in Box / Package - 12 / 120



**USB Socket (with jack)**  
42001495  
Piece in Box / Package - 12 / 120



**USB Charging Socket**  
42001465  
Input: 250V AC, Output: 5V DC, 2A  
Piece in Box / Package - 12 / 120



**Double USB Charge Socket**  
42001A80  
Piece in Box / Package - 12 / 120

## Sales Options

### 1st Sales Option - Complete Product



Complete Product

### 2nd Sales Option - Module (With Rocker / Cover Plate) and Frame



Module  
(With Rocker / Cover Plate)

+



Frame

=



Complete Product



Frame  
42001701



Double Horizontal Frame  
42001702



Triple Horizontal Frame  
42001703



Quartet Horizontal Frame  
42001704



Fiftet Horizontal Frame  
42001705



Sixtet Horizontal Frame  
42001706



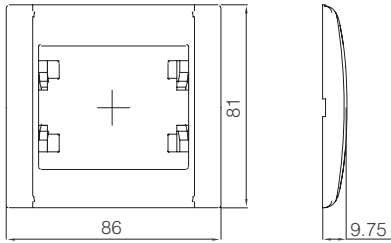
Double Vertical Frame  
42001707



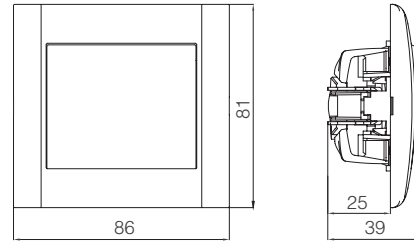
Triple Vertical Frame  
42001708

## Technical Drawings

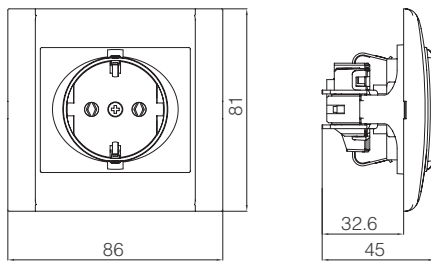
Frame



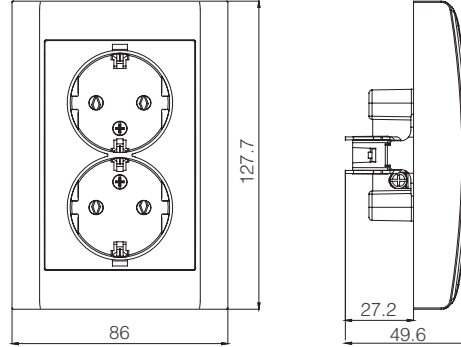
One Way Switch



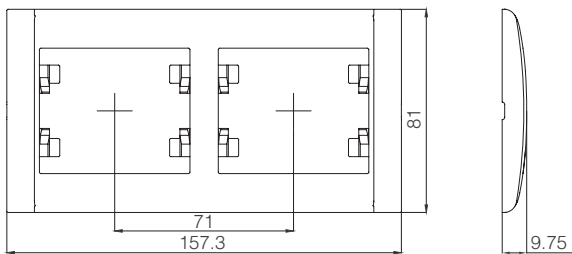
Schuko Socket Outlet



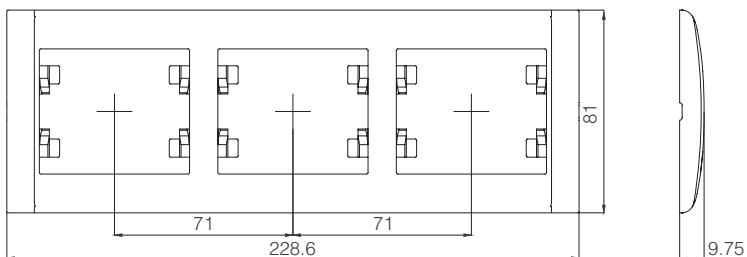
Double Schuko Socket Outlet



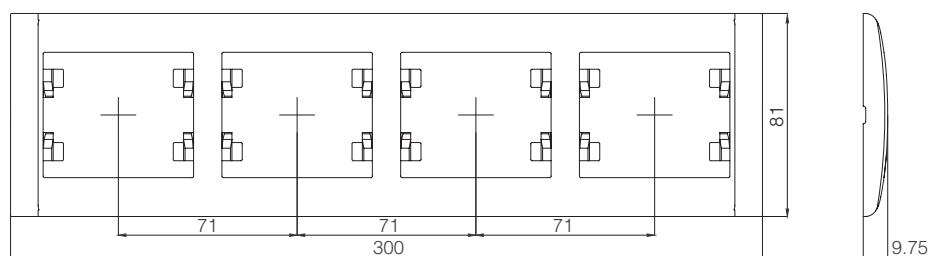
Double Horizontal Frame



Triple Horizontal Frame

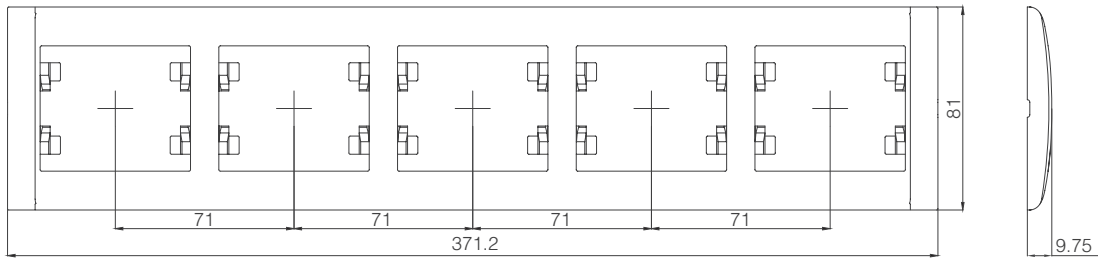


Quartet Horizontal Frame

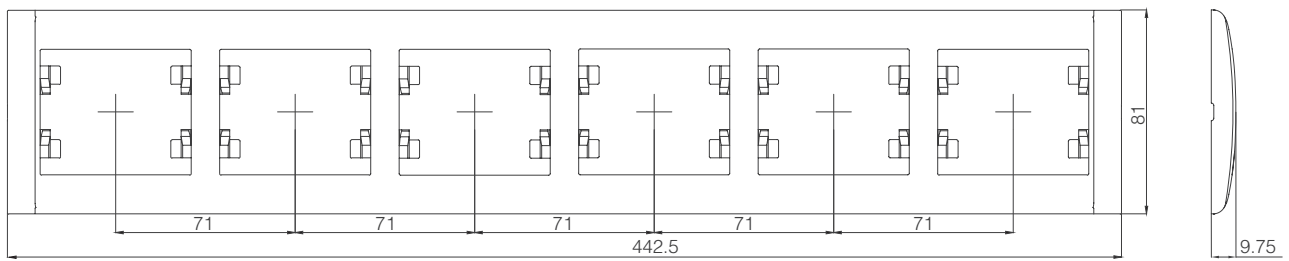




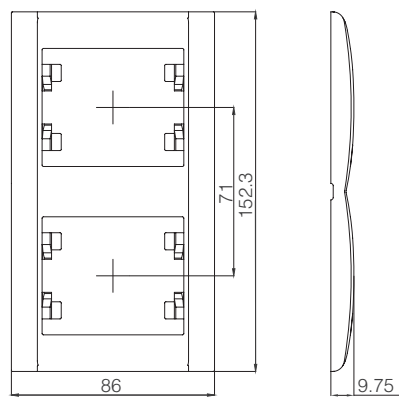
Fiftet Horizontal Frame



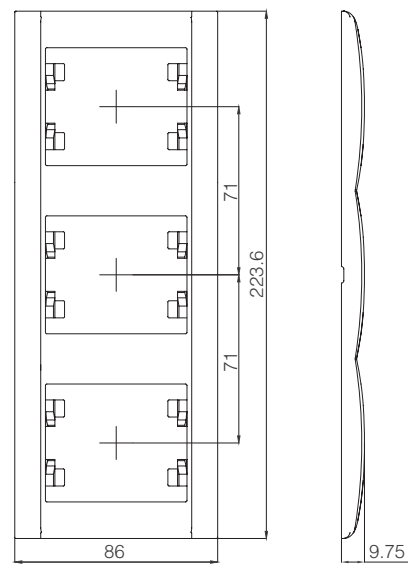
Sixtet Horizontal Frame



Double Vertical Frame



Triple Vertical Frame



# Defne Switch & Socket Outlet Series

## 1st Sales Option - Complete Product

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch	42 xxx 001	12	120	10,20	285 x 505 x 280
• One Way Switch Illuminated	42 xxx 021	12	120	10,39	285 x 505 x 280
• Two-Circuit Switch	42 xxx 003	12	120	10,59	285 x 505 x 280
• Two-Circuit Switch Illuminated	42 xxx 023	12	120	10,85	285 x 505 x 280
• Light Switch	42 xxx 004	12	120	10,15	285 x 505 x 280
• Light Switch Illuminated	42 xxx 024	12	120	10,37	285 x 505 x 280
• Double Light	42 xxx 441	12	120	10,83	285 x 505 x 280
• Two-Way Switch	42 xxx 005	12	120	10,40	285 x 505 x 280
• Two-Way Switch Illuminated	42 xxx 025	12	120	10,64	285 x 505 x 280
• Door Switch	42 xxx 096	12	120	10,15	285 x 505 x 280
• Door Switch Illuminated	42 xxx 097	12	120	10,08	285 x 505 x 280
• Intermediate Switch	42 xxx 020	12	120	10,28	285 x 505 x 280
• Intermediate Switch Illuminated	42 xxx 040	12	120	10,86	285 x 505 x 280
• Bell Switch	42 xxx 050	12	120	10,15	285 x 505 x 280
• Bell Switch Illuminated 12V	42 xxx 085	12	120	10,08	285 x 505 x 280
• Bell Switch Illuminated	42 xxx 070	12	120	10,35	285 x 505 x 280
• Bell Switch With Label	42 xxx 010	12	120	10,10	285 x 505 x 280
• Bell Switch Illuminated With Label 12V	42 xxx 030	12	120	10,10	285 x 505 x 280
• 3 Circuit Switch	42 xxx 091	12	120	10,85	285 x 505 x 280
• 3 Gang 3 Pole Switch	42 xxx 092	12	120	11,18	285 x 505 x 280
• 1 Gang 3 Circuit Switch	42 xxx 094	12	120	10,69	285 x 505 x 280
• 1 Gang 3 Pole Switch	42 xxx 095	12	120	11,03	285 x 505 x 280
• Cooling Switch	42 xxx 084	12	120	10,97	285 x 505 x 280
• Double Two-Way Switch	42 xxx 026	12	120	11,73	285 x 505 x 280
• Shutter Push-Button	42 xxx 041	12	120	10,79	285 x 505 x 280
• One Gang Shutter Push-Button	42 xxx 279	12	120	10,63	285 x 505 x 280
• Control Switch 2-Pole	42 xxx 071	12	120	10,32	285 x 505 x 280
• Hotel Room Signalling Switch	42 xxx 252	12	120	10,77	285 x 505 x 280
• Hotel Room Bell Switch	42 xxx 253	12	120	10,74	285 x 505 x 280
• British Type Two Phase Illuminated Switches Emergency	42 xxx 304	12	120	11,61	285 x 505 x 280
• Emergency Switch with Cord	42 xxx 128	12	120	10,11	285 x 505 x 280
<b>Socket Outlet Group</b>					
• Socket Outlet	42 xxx 022	12	120	8,96	285 x 505 x 280
• Schuko Socket Outlet	42 xxx 028	12	120	10,28	285 x 505 x 280
• Schuko Socket Outlet Screwless	42 xxx 172	12	120	10,39	285 x 505 x 280
• Schuko Socket Outlet with Lid	42 xxx 029	12	120	13,17	335 x 475 x 300
• Schuko Socket Outlet Screwless with Lid	42 xxx 099	12	120	10,02	285 x 475 x 275
• Schuko Socket Outlet with Child Protection and Lid	42 xxx 254	12	120	11,35	335 x 475 x 300
• Schuko Socket Outlet Screwless with Child Protection and Lid	42 xxx 255	12	120	10,02	285 x 475 x 275
• Socket Outlet with Earthing Pin	42 xxx 019	12	120	10,58	285 x 505 x 280
• Socket Outlet Screwless with Earthing Pin	42 xxx 173	12	120	10,65	285 x 475 x 275
• Socket Outlet with Earthing Pin and Lid	42 xxx 016	12	120	11,06	335 x 475 x 300
• Socket Outlet with Child Protection	42 xxx 052	12	120	9,20	285 x 505 x 280
• Socket Outlet with Earthing Pin and Child Protection	42 xxx 053	12	120	10,82	285 x 505 x 280
• Socket Outlet Screwless with Earthing Pin and Child Protection	42 xxx 198	12	120	10,47	285 x 475 x 275
• Socket Outlet with Child Protection Schuko Socket Outlet with	42 xxx 300	12	120	11,30	335 x 475 x 300
• Schuko Socket Outlet with Child Protection	42 xxx 058	12	120	10,56	285 x 505 x 280
• Schuko Socket Outlet Screwless with Child Protection	42 xxx 174	12	120	10,67	285 x 505 x 280
• Double Socket Outlet with Earthing Pin	42 xxx 018	12	120	15,75	410 x 485 x 310
• Double Socket Outlet	42 xxx 017	12	120	11,80	335 x 475 x 300
• Double Schuko Socket Outlet High	42 xxx 082	12	120	14,85	380 x 505 x 390
• Universal Socket with Switch and Child Protection	42 xxx 305	12	120	11,22	285 x 505 x 280
• Universal Grounding Sockets With Child Protection (British-German)	42 xxx 306	12	120	3,32	505 x 280 x 185
• "H" Type Grounded Socket	42 xxx 048	12	120	10,19	285 x 475 x 275

## 1st Sales Option - Complete Product



Complete Product

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### Tv Socket Outlet Group

Antenna Socket Through 6 dB Female	42 xxx 007	12	120	9,26	285 x 505 x 280
Antenna Socket End 4 dB Female	42 xxx 027	12	120	9,25	285 x 505 x 280
Antenna Socket End 0.5 dB Metal Case	42 xxx 087	12	120	10,89	285 x 505 x 280
Antenna Socket Through 11 dB Metal Case *	42 xxx 088	12	120	10,49	285 x 505 x 280
TV Antenna Socket Non-Resistance	42 xxx 142	12	120	9,37	285 x 505 x 280
Antenna Socket Through Male	42 xxx 043	12	120	9,50	285 x 505 x 280
Antenna Socket End Male	42 xxx 044	12	120	8,69	285 x 505 x 280
TV-RF Antenna Socket Through 7 dB **	42 xxx 060	12	120	14,42	285 x 505 x 280
TV-RF Antenna Socket End 1.5 dB	42 xxx 065	12	120	13,65	285 x 505 x 280
TV-SAT Antenna Socket End 1 dB	42 xxx 098	12	120	14,36	285 x 505 x 280
TV-SAT Antenna Socket Through 4 dB	42 xxx 083	12	120	14,23	285 x 505 x 280
TV-RF-SAT Antenna Socket End 1.5 dB	42 xxx 066	12	120	14,05	285 x 505 x 280
TV-RF-SAT Antenna Socket Through 4 dB	42 xxx 067	12	120	13,95	285 x 505 x 280
SAT Antenna Socket Through	42 xxx 133	12	120	10,74	285 x 505 x 280
SAT Antenna Socket End	42 xxx 134	12	120	10,76	285 x 505 x 280

### Data Transmission Group

Telephone Socket	42 xxx 014	12	120	8,93	280 x 500 x 290
Double Telephone Socket	42 xxx 034	12	120	9,20	285 x 505 x 280
Double Telephone Socket (1xCat3) with Data Connector	42 xxx 042	12	120	8,99	285 x 505 x 280
Double Data Socket Outlet (1xCat5)	42 xxx 035	12	120	9,33	285 x 505 x 280
Double Data Socket Outlet (2xCat5)	42 xxx 036	12	120	10,10	285 x 505 x 280
Data Socket Outlet (Cat5+ Telephone Socket)	42 xxx 037	12	120	8,72	285 x 505 x 280
Data Socket Outlet (empty)	42 xxx 038	12	120	8,57	285 x 505 x 280
Double Data Socket Outlet (1xCat6)	42 xxx 135	12	120	9,27	285 x 505 x 280
Double Data Socket Outlet (2xCat6)	42 xxx 136	12	120	9,98	285 x 505 x 280
Data Socket Outlet (Cat3+Cat6)	42 xxx 137	12	120	9,73	285 x 505 x 280
Double Data Socket-Outlet (1xCat 3)	42 xxx 075	12	120	9,52	285 x 505 x 280
Data Socket Outlet (2xCat3)	42 xxx 076	12	120	8,67	285 x 505 x 280
Loudspeaker - connection, 1 gang	42 xxx 080	12	120	9,32	285 x 505 x 280
HDMI Socket (with jack)	42 xxx 494	12	120	9,04	285 x 480 x 280
USB Socket (with jack)	42 xxx 495	12	120	9,04	285 x 480 x 280

### Electronic Group

Dimmer 60-600W	42 xxx 011	10	100	12,47	370 x 485 x 260
Dimmer Coil Filtered 60-600W	42 xxx 031	10	100	17,92	410 x 545 x 315
Dimmer 60-1000W	42 xxx 093	10	100	10,78	370 x 485 x 260
1-10V Led Dimmer	42 xxx 459	10	100	14,72	380 x 495 x 310
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	42 xxx 045	10	100	14,77	410 x 545 x 315
Audio Switch 10 W	42 xxx 086	6	60	6,36	385 x 500 x 190
Emergency-Light	42 xxx 055	6	60	8,49	370 x 500 x 165
Warning Bell	42 xxx 056	6	60	6,01	370 x 500 x 165
■ Delayed Energy Saver (Without Relay)	42 xxx 046	12	120	11,53	410 x 545 x 315
■ Energy Saver (Without Relay)	42 xxx 183	12	120	10,37	285 x 475 x 275
■ Electro-Magnetic Energy Saver	42 xxx 301	12	120	8,07	365 x 472 x 215
■ Radio Frequency Energy saver	42 xxx 302	12	120	8,22	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	42 xxx 139K	5	30	3,81	265 x 425 x 175
USB Charging Socket	42 xxx 465	12	120	11,79	285 x 480 x 280
Double USB Charge Socket	42 xxx A80	12	120	11,67	285 x 480 x 280

(♦) Marked products are available with screwless terminal option. (\*) 14 dB and 18 dB versions are available. (\*\*) 10 - 12 - 15 - 20 dB versions are available.

■ See page 231 for relay options for marked products.

### SAMPLE

	Product Name	Code No
White	Screw Switch	42 001 0 01
	Screwless Terminal Switch	42 001 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

Within the product codes showing 'xxx', enter the color from the table below.

	Code No		Code No		Code No
Colors	xxx	Colors	xxx	Colors	xxx
White	001	Metallic Silver	065	Natural Oak	101
Beige	010	Dore	057	Natural Walnut	102
Brown	096	Green	052	Natural Cherry	103
Light Brown	097	Fume	050	Natural Pine	105
Brown / Light Brown	009	Gold	060		
Black	111	Pearl	100		

# Defne Switch & Socket Outlet Series

## 2nd Sales Option - Module (With Rocker / Cover Plate) and Frame

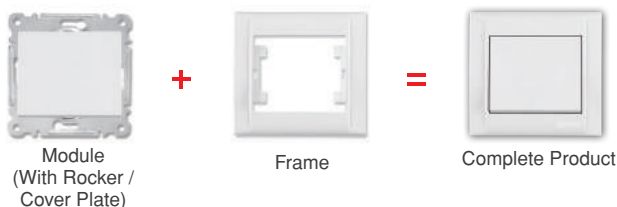
### a) Module (With Rocker / Cover Plate)

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch, Module with Rocker	43 xxx 001	12	120	8,35	365 x 472 x 215
• One Way Switch Illuminated, Module with Rocker	43 xxx 021	12	120	8,57	365 x 472 x 215
• Two-Circuit Switch, Module with Rocker	43 xxx 003	12	120	8,85	365 x 472 x 215
• Two-Circuit Switch Illuminated, Module with Rocker	43 xxx 023	12	120	9,06	365 x 472 x 215
• Light Switch, Module with Rocker	43 xxx 004	12	120	8,33	365 x 472 x 215
• Light Switch Illuminated, Module with Rocker	43 xxx 024	12	120	8,62	365 x 472 x 215
• Double Light Module and Rocker	43 xxx 441	12	120	10,37	365 x 472 x 215
• Two-Way Switch, Module with Rocker	43 xxx 005	12	120	8,64	365 x 472 x 215
• Two-Way Switch Illuminated, Module with Rocker	43 xxx 025	12	120	8,92	365 x 472 x 215
• Door Switch, Module with Rocker	43 xxx 096	12	120	8,33	365 x 472 x 215
• Door Switch Illuminated, Module with Rocker	43 xxx 097	12	120	8,62	365 x 472 x 215
• Intermediate Switch, Module with Rocker	43 xxx 020	12	120	9,00	365 x 472 x 215
• Intermediate Switch Illuminated, Module with Rocker	43 xxx 040	12	120	9,24	355 x 435 x 210
• 3 Circuit Switch, Module with Rocker	43 xxx 091	12	120	8,31	365 x 472 x 215
• 3 Gang 3 Pole Switch, Module with Rocker	43 xxx 092	12	120	8,31	365 x 472 x 215
• 1 Gang 3 Circuit Switch, Module with Rocker	43 xxx 094	12	120	8,31	365 x 472 x 215
• 1 Gang 3 Pole Switch, Module with Rocker	43 xxx 095	12	120	8,31	365 x 472 x 215
• Cooling Switch, Module with Rocker	43 xxx 084	12	120	9,31	365 x 472 x 215
• Double Two-Way Switch, Module with Rocker	43 xxx 026	12	120	10,01	285 x 475 x 275
• Shutter Push-Button, Module with Rocker	43 xxx 041	12	120	9,12	365 x 472 x 215
• One Gang Shutter Push-Button, Module with Rocker	43 xxx 279	12	120	8,64	365 x 472 x 215
• Bell Switch, Module with Rocker	43 xxx 050	12	120	8,56	365 x 472 x 215
• Bell Switch With Label, Module with Rocker	43 xxx 010	12	120	8,48	365 x 472 x 215
• Bell Switch Illuminated 12V, Module with Rocker	43 xxx 085	12	120	8,78	365 x 472 x 215
• Bell Switch Illuminated, Module with Rocker	43 xxx 070	12	120	8,78	365 x 472 x 215
• Bell Switch Illuminated With Label 12V, Module with Rocker	43 xxx 030	12	120	8,78	365 x 472 x 215
• Control Switch 2-Pole, Module with Rocker	43 xxx 071	12	120	8,38	365 x 472 x 215
• Hotel Room Signalling Switch, Module with Rocker	43 xxx 252	12	120	8,85	365 x 472 x 215
• Hotel Room Bell Switch, Module with Rocker	43 xxx 253	12	120	9,01	365 x 472 x 215
• Emergency Switch with Cord, Module with Rocker	43 xxx 128	12	120	8,33	365 x 472 x 215

### Socket Outlet Group

• Socket Outlet, Module with Cover Plate	43 xxx 022	12	120	7,24	365 x 472 x 215
• Schuko Socket Outlet, Module with Cover Plate	43 xxx 028	12	120	10,01	365 x 472 x 215
• Schuko Socket Outlet Screwless, Module with Cover Plate	43 xxx 172	12	120	8,75	365 x 472 x 215
• Schuko Socket Outlet with Lid, Module with Cover Plate	43 xxx 029	12	120	11,75	285 x 475 x 275
• Schuko Socket Outlet Screwless with Lid, Module with Cover Plate	43 xxx 099	12	120	8,60	285 x 475 x 275
• Socket Outlet with Earthing Pin, Module with Cover Plate	43 xxx 019	12	120	8,48	365 x 472 x 215
• Socket Outlet Screwless with Earthing Pin, Module with Cover Plate	43 xxx 173	12	120	8,49	365 x 472 x 215
• Socket Outlet with Earthing Pin and Lid, Module with Cover Plate	43 xxx 016	12	120	9,64	285 x 475 x 275
• Socket Outlet with Child Protection, Module with Cover Plate	43 xxx 052	12	120	8,56	365 x 472 x 215
• Socket Outlet with Earthing Pin and Child Protection, Module with Cover Plate	43 xxx 053	12	120	8,48	365 x 472 x 215
• Socket Outlet Screwless with Earthing Pin and Child Protection, Module with Cover Plate	43 xxx 198	12	120	8,48	365 x 472 x 215
• Socket Outlet with Child Protection, Module with Cover Plate	43 xxx 300	12	120	9,88	285 x 475 x 275
• Schuko Socket Outlet with Child Protection, Module with Cover Plate	43 xxx 058	12	120	8,48	365 x 472 x 215
• Schuko Socket Outlet Screwless with Child Protection, Module with Cover Plate	43 xxx 174	12	120	8,42	365 x 472 x 215
• Schuko Socket Outlet with Child Protection and Lid, Module with Cover Plate	43 xxx 254	12	120	9,90	365 x 472 x 215
• Schuko Socket Outlet Screwless with Child Protection and Lid, Module with Cover Plate	43 xxx 255	12	120	8,60	285 x 475 x 275
• Double Socket Outlet, Module with Cover Plate	43 xxx 017	12	120	9,44	285 x 475 x 275
• Double Socket Outlet with Earthing Pin, Module with Cover Plate	43 xxx 018	12	120	11,30	335 x 475 x 300
• Double Schuko Socket Outlet High, Module with Cover Plate	43 xxx 082	12	120	11,01	335 x 475 x 300
• Universal Grounding Sockets With Child Protection (British-German), Module with Cover Plate	43 xxx 306	12	120	8,22	365 x 472 x 215

## 2nd Sales Option - Module (With Rocker / Cover Plate) and Frame



(\*) Marked products are available with screwless terminal option.

### SAMPLE

	Product Name	Code No
White	Screw Switch	43 001 0 01
	Screwless Terminal Switch	43 001 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### Tv Socket Outlet Group

Antenna Socket End 4 dB Female, Module with Cover Plate	43 xxx 027	12	120	7,71	365 x 472 x 215
Antenna Socket Through 6 dB Female, Module with Cover Plate	43 xxx 007	12	120	7,71	365 x 472 x 215
Antenna Socket End 0.5 dB Metal Case, Module with Cover Plate	43 xxx 087	12	120	8,40	365 x 472 x 215
Antenna Socket Through 11 dB Metal Case, Module with Cover Plate *	43 xxx 088	12	120	8,40	365 x 472 x 215
TV Antenna Socket Non-Resistance, Module with Cover Plate	43 xxx 142	12	120	8,18	365 x 472 x 215
SAT Antenna Socket Through, Module with Cover Plate	43 xxx 133	12	120	9,07	365 x 472 x 215
SAT Antenna Socket End, Module with Cover Plate	43 xxx 134	12	120	9,17	365 x 472 x 215
TV-RF Antenna Socket End 1.5 dB, Module with Cover Plate	43 xxx 065	12	120	12,14	365 x 472 x 215
TV-RF Antenna Socket Through 7 dB, Module with Cover Plate **	43 xxx 060	12	120	12,14	365 x 472 x 215
TV-RF-SAT Antenna Socket End 1.5 dB, Module with Cover Plate	43 xxx 066	12	120	12,08	365 x 472 x 215
TV-RF-SAT Antenna Socket Through 4 dB, Module with Cover Plate	43 xxx 067	12	120	12,20	365 x 472 x 215
TV-SAT Antenna Socket End 1 dB, Module with Cover Plate	43 xxx 098	12	120	12,44	365 x 472 x 215
TV-SAT Antenna Socket Through 4 dB, Module with Cover Plate	43 xxx 083	12	120	12,44	365 x 472 x 215

### Data Transmission Group

Telephone Socket, Module with Cover Plate	43 xxx 014	12	120	7,40	365 x 472 x 215
Double Telephone Socket, Module with Cover Plate	43 xxx 034	12	120	7,42	365 x 472 x 215
Double Telephone Socket (1xCat3) Data Connector, Module with Cover Plate	43 xxx 042	12	120	7,65	285 x 475 x 275
Double Data Socket Outlet (1xCat5), Module with Cover Plate	43 xxx 035	12	120	6,75	285 x 475 x 275
Double Data Socket Outlet (2xCat5), Module with Cover Plate	43 xxx 036	12	120	7,86	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket), Module with Cover Plate	43 xxx 037	12	120	7,90	285 x 475 x 275
Data Socket Outlet (empty), Module with Cover Plate	43 xxx 038	12	120	6,75	285 x 475 x 275
Double Data Socket-Outlet (1xCat6) Module with Cover Plate	43 xxx 135	12	120	7,85	365 x 477 x 220
Double Data Socket-Outlet (2xCat6) Module with Cover Plate	43 xxx 136	12	120	8,22	365 x 477 x 220
Double Data Socket-Outlet (Cat3xCat6) Module with Cover Plate	43 xxx 137	12	120	8,31	365 x 477 x 220
Double Data Socket-Outlet (1xCat3) Module with Cover Plate	43 xxx 075	12	120	7,71	285 x 475 x 275
Loudspeaker - connection, 1 gang, Module with Cover Plate	43 xxx 080	12	120	7,19	365 x 472 x 215
HDMI Socket (with jack), Module with Cover Plate	43 xxx 494	12	120	7,59	365 x 472 x 215
USB Socket (with jack), Module with Cover Plate	43 xxx 495	12	120	7,59	365 x 472 x 215

### Electronic Group

Dimmer 60-600W, Module with Cover Plate	43 xxx 011	12	120	10,30	335 x 475 x 300
Dimmer Coil Filtered 60-600W, Module with Cover Plate	43 xxx 031	12	120	15,75	335 x 475 x 300
Dimmer 60-1000W, Module with Cover Plate	43 xxx 093	12	120	10,27	335 x 475 x 300
1-10V Led Dimmer, Module with Cover Plate	43 xxx 459	10	100	9,91	335 x 480 x 305
Remote Controlled Dimmer(IR) Coil Filtered 60-300W, Module with Cover Plate	43 xxx 045	12	120	15,07	335 x 475 x 300
Audio Switch 10 W, Module with Cover Plate	43 xxx 086	6	60	4,92	315 x 420 x 195
Emergency-Light, Module with Cover Plate	43 xxx 055	6	60	5,82	315 x 420 x 195
Warning Bell, Module with Cover Plate	43 xxx 056	6	60	4,55	315 x 420 x 195
■ Delayed Energy Saver (Without Relay), Module with Cover Plate	43 xxx 046	12	120	8,60	365 x 472 x 215
■ Energy Saver (Without Relay), Module with Cover Plate	43 xxx 183	12	120	8,07	365 x 472 x 215
■ Electro-Magnetic Energy Saver, Module with Cover Plate	43 xxx 301	12	120	6,63	365 x 472 x 215
■ Radio Frequency Energy saver, Module with Cover Plate	43 xxx 302	12	120	6,77	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection, Module with Cover Plate	43 xxx 139K	5	30	3,40	190 x 290 x 272
USB Charging Socket, Module with Cover Plate	43 xxx 465	12	120	10,35	365 x 472 x 215
Double USB Charge Socket, Module with Cover Plate	43 xxx A80	12	120	10,22	365 x 472 x 215

(\* ) 14 dB and 18 dB versions are available. (\*\* ) 10 - 12 - 15 - 20 dB versions are available. (■) See page 231 for relay options for marked products.

## b) Frames

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Frame	42 xxx 701	12	120	2,39	185 x 365 x 205
Double Horizontal Frame	42 xxx 702	25	250	6,16	385 x 450 x 290
Triple Horizontal Frame	42 xxx 703	20	200	7,98	417 x 455 x 290
Quartet Horizontal Frame	42 xxx 704	25	250	10,90	400 x 600 x 345
Fiftet Horizontal Frame	42 xxx 705	5	60	3,69	210 x 370 x 345
Sixtet Horizontal Frame	42 xxx 706	5	60	3,90	350 x 440 x 210
Double Vertical Frame	42 xxx 707	25	250	6,76	385 x 450 x 290
Triple Vertical Frame	42 xxx 708	20	200	8,48	417 x 455 x 290
Double Socket Outlet Frame	42 xxx 710	12	120	3,21	180 x 450 x 270
Double Outlet Frame (high)	42 xxx 759	12	120	3,86	285 x 475 x 275

Please specify your choice of pastel colors by applying below color codes into the 'xxx' marked space.

Colors	Code No	Colors	Code No
Yellow	074	Blue	092
Lilac	078	Rose	093
Magenta	085	Orange	094
Green	091	Light Lilac	095

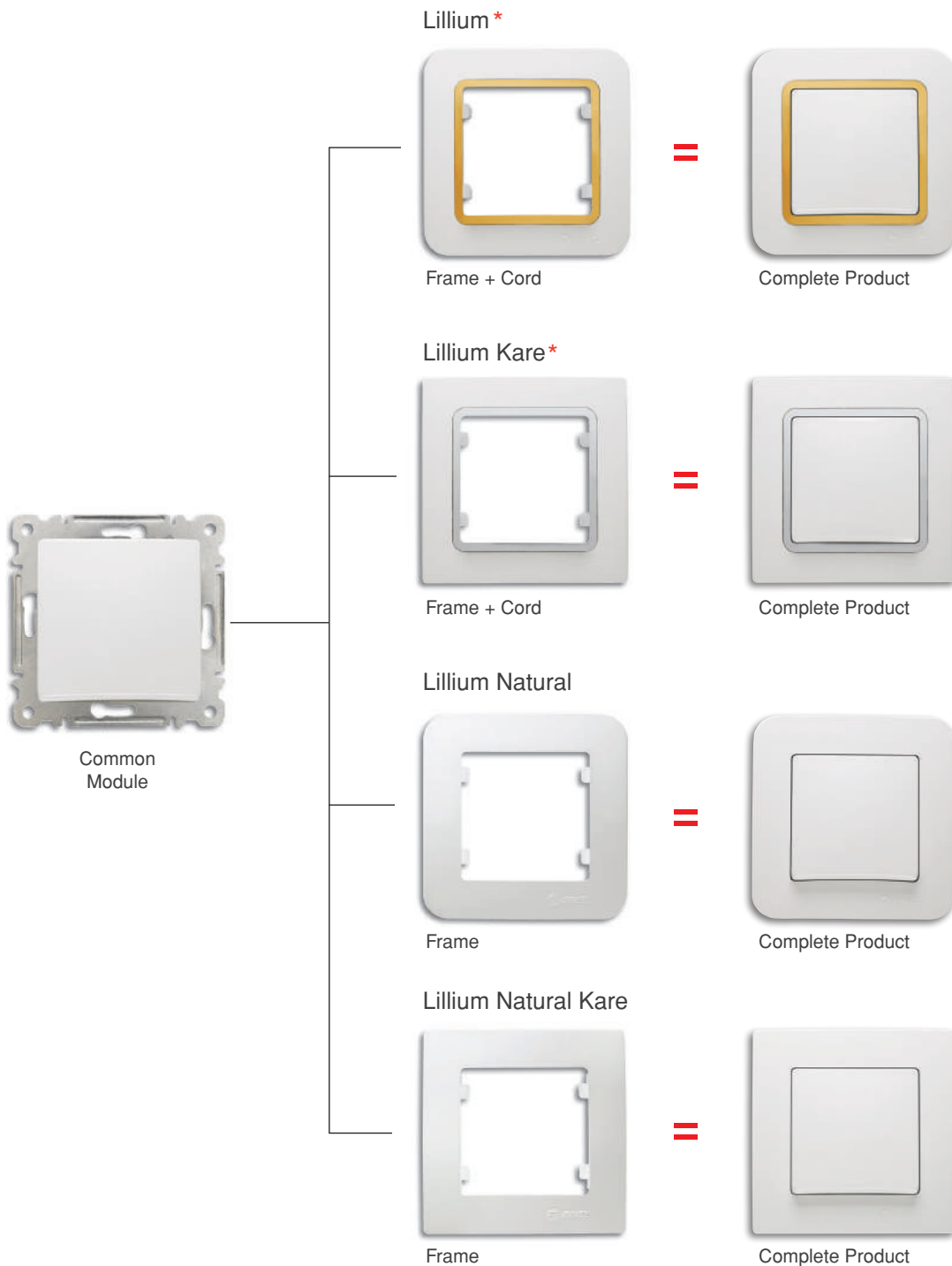
Within frame codes showing 'xxx', enter the color codes from the table below.

Colors	Code No	Colors	Code No	Colors	Code No
White	001	Metallic Silver	065	Natural Oak	101
Beige	010	Dore	057	Natural Walnut	102
Brown	096	Green	052	Natural Cherry	103
Light Brown	097	Fume	050	Natural Pine	105
Brown / Light Brown	009	Gold	060		
Black	111	Pearl	100		



## Module - Frame Changing Table

- Lillium Family Switch and Socket Series can be ordered in modular form; Modul (white and cream button/cover mounted) and frameworks and cords are packed separately.
- Common module(white and cream button/cover mounted) can be supplied with 4 different frame and 4 different Lillium switch and socket series can be created; Lillium Kare, Lillium Natural Kare, Lillium and Lillium Natural.
- Keeping only the common module (white and cream button/cover mounted) in your stock, your stock can be held minimum and you may procure necessary frames and cords for your own choice depending on the order you receive.



\* Cords of Lillium and Lillium Kare products are ordered separately.

## Module (With Rocker / Cover Plate)

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch, Module with Rocker	30 xxx 001	12	120	8,35	365 x 472 x 215
• One Way Switch Illuminated, Module with Rocker	30 xxx 021	12	120	8,74	365 x 472 x 215
• Two-Circuit Switch, Module with Rocker	30 xxx 003	12	120	8,87	365 x 472 x 215
• Two-Circuit Switch Illuminated, Module with Rocker	30 xxx 023	12	120	9,13	365 x 472 x 215
• Light Switch, Module with Rocker	30 xxx 004	12	120	8,44	365 x 472 x 215
• Light Switch Illuminated, Module with Rocker	30 xxx 024	12	120	9,59	365 x 472 x 215
• Double Light Module	30 xxx 441	12	120	9,48	365 x 472 x 215
• Two-Way Switch, Module with Rocker	30 xxx 005	12	120	7,21	365 x 472 x 215
• Two-Way Switch Illuminated, Module with Rocker	30 xxx 025	12	120	8,92	365 x 472 x 215
• Door Switch, Module with Rocker	30 xxx 096	12	120	8,36	365 x 472 x 215
• Door Switch Illuminated, Module with Rocker	30 xxx 097	12	120	8,56	365 x 472 x 215
• Intermediate Switch, Module with Rocker	30 xxx 020	12	120	8,93	365 x 472 x 215
• Intermediate Switch Illuminated, Module with Rocker	30 xxx 040	12	120	9,28	365 x 472 x 215
• Bell Switch, Module with Rocker	30 xxx 050	12	120	8,65	365 x 472 x 215
• Bell Switch Illuminated 12V, Module with Rocker	30 xxx 085	12	120	8,87	365 x 472 x 215
• Bell Switch Illuminated, Module with Rocker	30 xxx 070	12	120	8,91	365 x 472 x 215
• Bell Switch with Label, Module with Rocker	30 xxx 010	12	120	8,63	365 x 472 x 215
• Bell Switch Illuminated 12V with Label, Module with Rocker	30 xxx 030	12	120	8,85	365 x 472 x 215
• 3 Circuit Switch, Module with Rocker	30 xxx 091	12	120	9,46	365 x 472 x 215
• Double Two-Way Switch, Module with Rocker	30 xxx 026	12	120	11,18	285 x 475 x 275
• Shutter Push-Button, Module with Rocker	30 xxx 041	12	120	9,07	365 x 472 x 215
• Control Switch 2-Pole, Module with Rocker	30 xxx 071	12	120	9,22	365 x 472 x 215
<b>Socket Outlet Group</b>					
Socket Outlet, Module with Cover Plate	30 xxx 022	12	120	8,69	365 x 472 x 215
Schuko Socket Outlet, Module with Cover Plate	30 xxx 028	12	120	8,94	365 x 472 x 215
Schuko Socket Outlet Screwless, Module with Cover Plate	30 xxx 172	12	120	9,04	365 x 472 x 215
Schuko Socket Outlet with Lid, Module with Cover Plate	30 xxx 029	12	120	10,66	285 x 475 x 275
Schuko Socket Outlet Screwless with Lid, Module with Cover Plate	30 xxx 099	12	120	10,10	285 x 475 x 275
Schuko Socket Outlet with Child Protection and Lid, Module with Cover Plate	30 xxx 254	12	120	10,66	285 x 475 x 275
Schuko Socket Outlet Screwless with Child Protection and Lid, Module with Cover Plate	30 xxx 255	12	120	10,10	285 x 475 x 275
Socket Outlet with Earthing Pin, Module with Cover Plate	30 xxx 019	12	120	10,24	365 x 472 x 215
Socket Outlet Screwless with Earthing Pin, Module with Cover Plate	30 xxx 173	12	120	10,13	365 x 472 x 215
Socket Outlet with Child Protection, Module with Cover Plate	30 xxx 052	12	120	8,86	365 x 472 x 215
Socket Outlet Screwless with Earthing Pin and Child Protection, Module with Cover Plate	30 xxx 053	12	120	9,83	365 x 472 x 215
Socket Outlet Screwless with Earthing Pin and Child Protection, Module with Cover Plate	30 xxx 198	12	120	10,09	365 x 472 x 215
Socket Outlet with Child Protection, Module with Cover Plate	30 xxx 300	12	120	11,62	285 x 475 x 275
Schuko Socket Outlet with Child Protection, Module with Cover Plate	30 xxx 058	12	120	9,71	365 x 472 x 215
Schuko Socket Outlet Screwless with Child Protection, Module with Cover Plate	30 xxx 174	12	120	9,25	365 x 472 x 215
Double Socket Outlet with Earthing Pin, Module with Cover Plate	30 xxx 018	12	120	10,75	285 x 475 x 275
Double Socket Outlet, Module with Cover Plate	30 xxx 017	12	120	9,18	285 x 475 x 275
Double Schuko Socket Outlet, Module with Cover Plate	30 xxx 082	12	120	10,55	335 x 475 x 300
Double Schuko Socket Outlet High, Module with Cover Plate	30 xxx 057	12	120	11,50	335 x 475 x 300
<b>Tv Socket Outlet Group</b>					
Antenna Socket Through 6 dB Female, Module with Cover Plate	30 xxx 007	12	120	8,64	365 x 472 x 215
Antenna Socket End 4 dB Female, Module with Cover Plate	30 xxx 027	12	120	8,40	365 x 472 x 215
Antenna Socket End 0.5dB Metal Case, Module with Cover Plate	30 xxx 087	12	120	8,49	365 x 472 x 215
Antenna Socket Through 11 dB Metal Case, Module with Cover Plate *	30 xxx 088	12	120	9,29	365 x 472 x 215
Tv Antenna Socket Non-resistance, Module With Cover Plate	30 xxx 142	12	120	8,37	365 x 472 x 215
TV-RF Antenna Socket Through 7 dB, Module with Cover Plate **	30 xxx 060	12	120	12,42	365 x 472 x 215
TV-RF Antenna Socket End 1.5 dB, Module with Cover Plate	30 xxx 065	12	120	12,60	365 x 472 x 215
TV-SAT Antenna Socket Through 4 dB, Module with Cover Plate	30 xxx 083	12	120	12,11	365 x 472 x 215
TV-SAT Antenna Socket End 1dB, Module with Cover Plate	30 xxx 098	12	120	12,10	365 x 472 x 215
TV-RF-SAT Antenna Socket End 1.5 dB, Module with Cover Plate	30 xxx 066	12	120	13,28	365 x 472 x 215
TV-RF-SAT Antenna Socket Through 4 dB, Module with Cover Plate	30 xxx 067	12	120	13,52	365 x 472 x 215
SAT Antenna Socket Through, Module with Cover Plate	30 xxx 133	12	120	9,09	365 x 472 x 215
SAT Antenna Socket End, Module with Cover Plate	30 xxx 134	12	120	9,69	365 x 472 x 215

# Variation Table for Lillium Series

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Data Transmission Group</b>					
Telephone Socket Module with Cover Plate	30 xxx 014	12	120	8,04	365 x 472 x 215
Double Telephone Socket, Module with Cover Plate	30 xxx 034	12	120	7,86	365 x 472 x 215
Double Data Socket Outlet (1xCat5), Module with Cover Plate	30 xxx 035	12	120	7,80	285 x 475 x 275
Double Data Socket Outlet (2xCat5), Module with Cover Plate	30 xxx 036	12	120	8,34	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket), Module with Cover Plate	30 xxx 037	12	120	8,22	365 x 472 x 215
Data Socket Outlet (empty), Module with Cover Plate	30 xxx 038	12	120	6,48	365 x 472 x 215
Double Data Socket-Outlet (1xCat6) Module with Cover Plate	30 xxx 135	12	120	8,05	365 x 477 x 220
Double Data Socket-Outlet (2xCat6) Module with Cover Plate	30 xxx 136	12	120	8,76	365 x 477 x 220
Double Data Socket-Outlet (Cat3xCat6) Module with Cover Plate	30 xxx 137	12	120	8,50	365 x 477 x 220
Double Data Socket-Outlet (1xCat3) Module with Cover Plate	30 xxx 075	12	120	8,05	365 x 477 x 220
Loudspeaker - connection, 1 gang, Module with Cover Plate	30 xxx 080	12	120	7,98	365 x 472 x 215

<b>Electronic Group</b>					
Dimmer, Module with Cover Plate	30 xxx 011	12	120	12,32	335 x 475 x 300
Dimmer Coil Filtered, Module with Cover Plate	30 xxx 031	12	120	18,16	335 x 475 x 300
Dimmer, Module with Cover Plate	30 xxx 093	12	120	10,25	335 x 475 x 300
1-10V Led Dimmer, Module with Cover Plate	30 xxx 459	10	100	9,91	335 x 480 x 305
Remote Controlled Dimmer(IR) Coil Filtered, Module with Cover Plate	30 xxx 045	12	120	16,32	335 x 475 x 300
Audio Switch 10 W, Module with Cover Plate	30 xxx 086	6	60	5,53	315 x 420 x 195
Emergency-Light, Module with Cover Plate	30 xxx 055	6	60	5,90	180 x 450 x 270
Warning Bell, Module With Cover Plate	30 xxx 056 **	6	60	5,20	180 x 450 x 270
■ Delayed Energy Saver (Without Relay), Module with Cover Plate	30 xxx 046 **	12	120	9,76	365 x 472 x 215
■ Energy Saver (Without Relay), Module with Cover Plate	30 xxx 183	12	120	8,85	365 x 472 x 215
■ Electro-Magnetic Energy Saver, Module with Cover Plate	30 xxx 301	12	120	8,23	365 x 472 x 215
■ Radio Frequency Energy saver, Module with Cover Plate	30 xxx 302	12	120	8,38	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection, Module with Cover Plate	30 xxx 139K	5	30	3,30	265 x 425 x 175

Product Name	Without Thin Frame	With Thin Frame	Colored	Piece in Box	Piece in Package	Without Thin Frame	Size of Package (mm)
	(White-Beige) Code No.	(White-Beige) Code No.	Corded Code No			Gross Weight (kg)***	
Frame	18 xxx 701	18 xxx 701	18 xxx 701	12	120	2,47	185 x 365 x 205
Double Horizontal Frame	71 x 12	70 x 12	72 x 12	25	250	7,45	335 x 475 x 300
Triple Horizontal Frame	71 x 13	70 x 13	72 x 13	20	200	9,08	417 x 455 x 290
Quartet Horizontal Frame	71 x 39	70 x 39	72 x 39	25	250	13,70	410 x 545 x 315
Fiftet Horizontal Frame	71 x 59	70 x 59	72 x 59	5	60	3,55	210 x 370 x 345
Sixtet Horizontal Frame	71 x 69	70 x 69	72 x 69	5	60	4,00	440 x 450 x 140
Double Vertical Frame	71 x 32	70 x 32	72 x 32	25	250	7,92	335 x 475 x 300
Triple Vertical Frame	71 x 33	70 x 33	72 x 33	20	200	8,38	417 x 455 x 290
Double Socket Outlet Frame ***	18 xxx 710	18 xxx 710	18 xxx 710	12	120	4,02	180 x 450 x 270
Double Socket Outlet Frame High ***	18 xxx 759	18 xxx 759	18 xxx 759	12	120	4,36	285 x 475 x 275

Product Name	Code No.	Piece in Box	Piece in Package	Without Thin Frame	Size of Package (mm)
				Gross Weight (kg)***	
Frame	31 xxx 701	12	120	2,35	185 x 365 x 205
Double Horizontal Frame	31 xxx 702	25	250	6,90	335 x 475 x 300
Triple Horizontal Frame	31 xxx 703	20	200	8,22	417 x 455 x 290
Quartet Horizontal Frame	31 xxx 704	25	250	12,07	400 x 600 x 345
Fiftet Horizontal Frame	31 xxx 705	5	60	3,90	350 x 370 x 210
Sixtet Horizontal Frame	31 xxx 706	5	60	4,60	350 x 440 x 210
Double Vertical Frame	31 xxx 707	25	250	6,91	335 x 475 x 300
Triple Vertical Frame	31 xxx 708	20	200	8,37	417 x 455 x 290
Double Socket Outlet Frame ***	31 xxx 710	12	120	3,22	180 x 450 x 270
Double Socket Outlet Frame High ***	31 xxx 759	12	120	4,35	285 x 475 x 275

- (\*) Marked products are available with screwless terminal option.
- (\*\*) The available products shall be only used within Lillium Square series.
- (\*\*\*) Marked products can be ordered only in white and beige colors.
- (■) See page 231 for relay options for marked products.
- (\*) 14 dB and 18 dB versions are available.
- (\*\*) 10 - 12 - 15 - 20 dB versions are available.
- (\*\*\*) Must add 0,34 / 0,40 kg to gross weight for orders with thin frame.

### SAMPLE

	Product Name	Code No
White	Screw Switch	30 001 0 01
	Screwless Terminal Switch	30 001 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

Within the product codes showing 'xxx', and 'x' enter the color codes from the table below

Colors	Code No	
	xxx	x
White	001	0
Beige	010	2

## Lillium Natural Frames

Product Name	(White-Beige) Code No.	Colour Code No.	Brown Code No.	Root Oak Root Walnut Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Frame	19 xxx 701	19 xxx 701	19 xxx 701	19 xxx 701	12	120	2,36	185 x 365 x 205
Double Horizontal Frame	55 x 12	57 x 12	55 x 12	56 x 12	25	250	6,56	335 x 475 x 300
Triple Horizontal Frame	55 x 13	57 x 13	55 x 13	56 x 13	20	200	7,74	417 x 455 x 290
Quartet Horizontal Frame	55 x 39	57 x 39	55 x 39	56 x 39	25	250	11,54	400 x 600 x 345
Fiftet Horizontal Frame	55 x 59	57 x 59	55 x 59	56 x 59	5	60	3,66	210 x 370 x 345
Sixtet Horizontal Frame	55 x 69	57 x 69	55 x 69	56 x 69	5	60	4,40	440 x 450 x 140
Double Vertical Frame	55 x 32	57 x 32	55 x 32	56 x 32	25	250	6,64	335 x 475 x 300
Triple Vertical Frame	55 x 33	57 x 33	55 x 33	56 x 33	20	200	8,25	417 x 455 x 290
Double Socket Outlet Frame***	19 xxx 710	19 xxx 710	19 xxx 710	19 xxx 710	12	120	3,19	180 x 450 x 270
Double Socket Outlet Frame High***	19 xxx 759	19 xxx 759	19 xxx 759	19 xxx 759	12	120	4,34	285 x 475 x 275

## Lillium Natural Kare Frames

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Frame	32 xxx 701	12	120	2,31	185 x 365 x 205
Double Horizontal Frame	32 xxx 702	25	250	6,55	335 x 475 x 300
Triple Horizontal Frame	32 xxx 703	20	200	8,34	417 x 455 x 290
Quartet Horizontal Frame	32 xxx 704	25	250	11,74	400 x 600 x 345
Fiftet Horizontal Frame	32 xxx 705	5	60	3,45	350 x 370 x 210
Sixtet Horizontal Frame	32 xxx 706	5	60	4,25	350 x 440 x 210
Double Vertical Frame	32 xxx 707	25	250	6,72	335 x 475 x 300
Triple Vertical Frame	32 xxx 708	20	200	8,36	417 x 455 x 290
Double Socket Outlet Frame***	32 xxx 710	12	120	4,12	180 x 450 x 270
Double Socket Outlet Frame High***	32 xxx 759	12	120	5,24	285 x 475 x 275

(\*\*\* ) Marked products can be ordered only in white and beige colors.

Within the product codes showing 'xxx', and 'x' enter the color codes from the table below.

Colors	Code No	
	xxx	x
White	001	0
Beige	010	2

Please specify your choice of pastel colors by applying below color codes into the 'xxx' marked space.

Colors	Code No	Colors	Code No
	xxx		xxx
Yellow	074	Blue	092
Lilac	078	Rose	093
Magenta	085	Orange	094
Green	091	Light Lilac	095

*Note: Pastel colored frame option is valid for only Lillium Natural Square.*







# Lillium Natural

Switch & Socket Outlet Series



## Colourful Products



White



Beige



Metallic Silver



Antrasit



Root Oak



Root Walnut



Brown /  
Light Brown



Champagne



Lillium Natural, a combination of natural colors with 6 different color application apart from white and cream color application.

## Functions



One Way Switch



Cooler Switch



Socket Outlet with Earthing  
Pin and Child Protection



Audio Switch 10 W



Dimmer



Data Socket Outlet



Loudspeaker - connection,  
1 gang

## Simplicity Integrates With Your Lifestyle

With different color options, vertical and horizontal multiple framework choices, Lillium Natural brings value to your environment with its simplicity in appearance and alternative color options.



### Multi Frames



Double Horizontal Frame



Triple Horizontal Frame



Double Vertical Frame



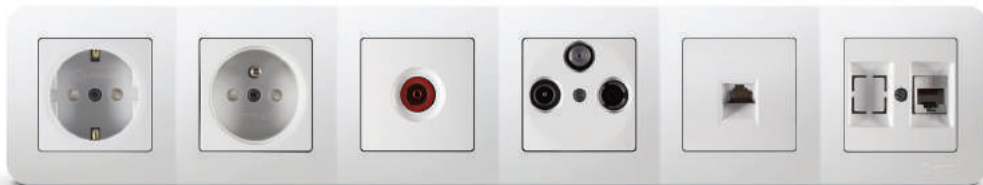
Quartet Horizontal Frame



Triple Vertical Frame



Fiftet Horizontal Frame



Sixtet Horizontal Frame

## Lillium Natural Switch & Socket Outlet Series



**One Way Switch \***

55001  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**One Way Switch Illuminated \***

55021  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch \***

55003  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch Illuminated \***

55023  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch \***

55004  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch Illuminated \***

55024  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch \***

55005  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch Illuminated \***

55025  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch \***

55096  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch Illuminated \***

55097  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch \***

55020  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch Illuminated \***

55040  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Bell Switch \***  
55050  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated 12V \***  
55085  
10 A, 12 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch With Label \***  
55010  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
55070  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated With Label 12V \***  
12V55030  
10 A, 12 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Control Switch 2-Pole \***  
55071  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Double Two-Way Switch**  
55026  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Shutter Push-Button \***  
55041  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**3 Circuit Switch**  
55091  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**3 Gang 3 Pole Switch**  
55092  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**1 Gang 3 Circuit Switch**  
55094  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**1 Gang 3 Pole Switch**  
55095  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



# Lillium Natural Switch & Socket Outlet Series



**Socket Outlet**  
55022  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet \***  
55028  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Lid \***  
55029  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Child Protection and Lid\***  
19001254  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin \***  
55019  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Child Protection**  
55052  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin and Child Protection \***  
55053  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Child Protection \***  
55058  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet with Earthing Pin**  
55018  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet**  
55017  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Schuko Socket Outlet**  
55082  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Schuko Socket Outlet High**  
55057  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Antenna Socket Through 6 dB Female**  
55007  
TSE K 72  
Piece in Box / Package - 12 / 120



**Antenna Socket End 4 dB Female**  
455027  
TSE K 72  
Piece in Box / Package - 12 / 120



**Antenna Socket Through Male 6 dB**  
55043  
TSE K 72  
Piece in Box / Package - 12 / 120



**Antenna Socket End Male 4 dB**  
55044  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket Through 7 dB**  
55060  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket End 1.5 dB**  
55065  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket Through 4 dB**  
55083  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket End 1dB**  
55098  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket Through 4 dB**  
55067  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket End 1.5 dB**  
55066  
TSE K 72  
Piece in Box / Package - 12 / 120



**Telephone Socket**  
55014  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Telephone Socket**  
55034  
TSE K 71  
Piece in Box / Package - 12 / 120

# Lillium Natural Switch & Socket Outlet Series



**Double Data Socket Outlet  
(1xCat5)**  
55035  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Data Socket Outlet  
(2xCat5)**  
55036  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet  
(Cat5+Telephone Socket)**  
55037  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (empty)**  
55038  
TSE K 71  
Piece in Box / Package - 12 / 120



**Loudspeaker - connection,  
1 gang**  
55080  
TSE K 71  
Piece in Box / Package - 12 / 120



**Dimmer**  
55011  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer Coil Filtered**  
55031  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer**  
55093  
60-1000 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**1-10V Led Dimmer**  
19001459  
50Hz, 230 V~  
IEC 60669-2-1  
Piece in Box / Package - 10 / 100



**Remote Controlled Dimmer(IR)  
Coil Filtered**  
55045  
60-300 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Audio Switch 10 W**  
55086  
10 W  
Piece in Box / Package- 6 / 60



**Emergency-Light**  
55055  
250 V~  
Piece in Box / Package - 6 / 60



**Warning Bell**  
55056  
250 V~  
Piece in Box / Package - 6 / 60



**Delayed Energy Saver (Without Relay)\***  
55046  
10A, 220 V~  
Piece in Box / Package - 10 / 100  
**Energy Saver (Without Relay)**  
55183  
10A, 220 V~  
Piece in Box / Package - 12 / 120



**Electro-Magnetic Energy Saver\***  
19001301  
12 V ~  
Piece in Box / Package - 12 / 120  
**Radio Frequency Energy saver**  
19001302  
12 V ~  
Piece in Box / Package - 12 / 120



**Cooling Switch**  
55084  
16 A, 250 V~  
Piece in Box / Package - 12 / 120



**Surge-Protective Socket Outlet with Child Protection**  
19001139K  
16 A, 250 V~  
Piece in Box / Package - 5 / 30

\* Energy saver product visuals are given as representations, the card must be ordered separately.



**Frame**  
19001701



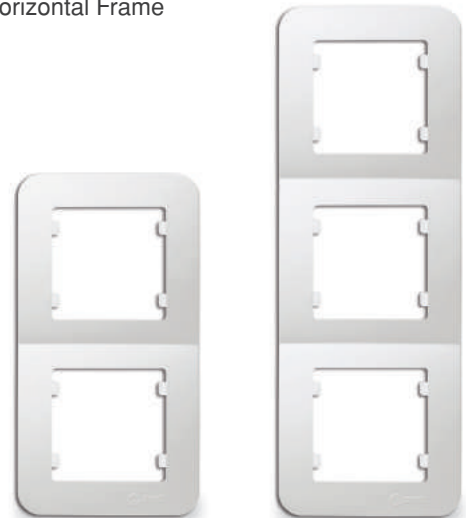
**Double Horizontal Frame**  
55012



**Triple Horizontal Frame**  
55013



**Quartet Horizontal Frame**  
55039



**Double Vertical Frame**  
55032

**Triple Vertical Frame**  
55033



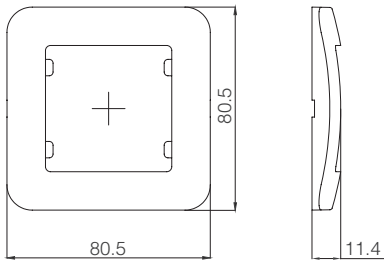
**Fifet Horizontal Frame**  
55059



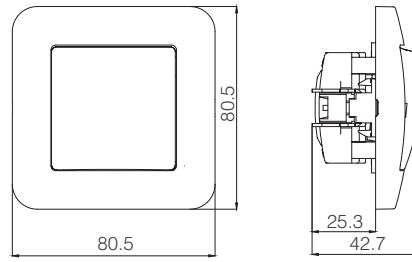
**Sixtet Horizontal Frame**  
55069

## Technical Drawings

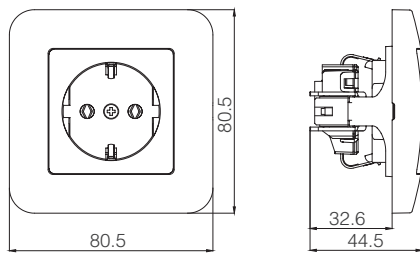
Frame



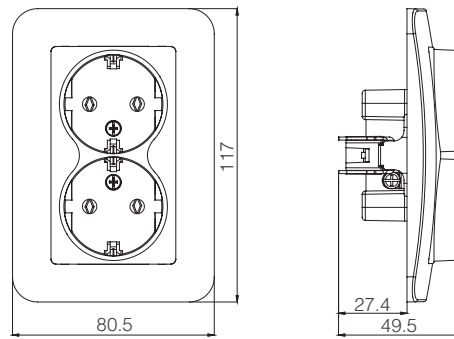
One Way Switch



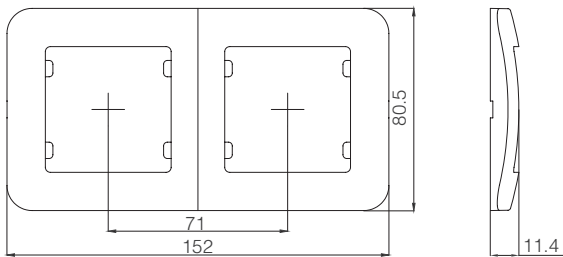
Schuko Socket Outlet



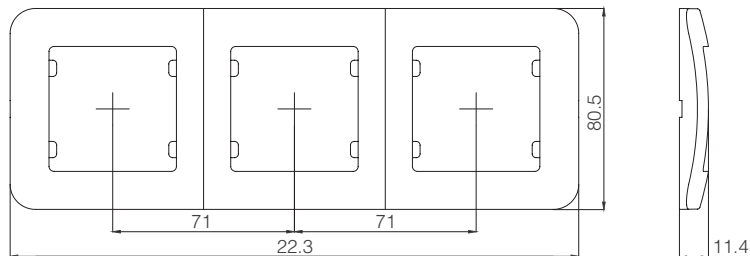
Double Schuko Socket Outlet



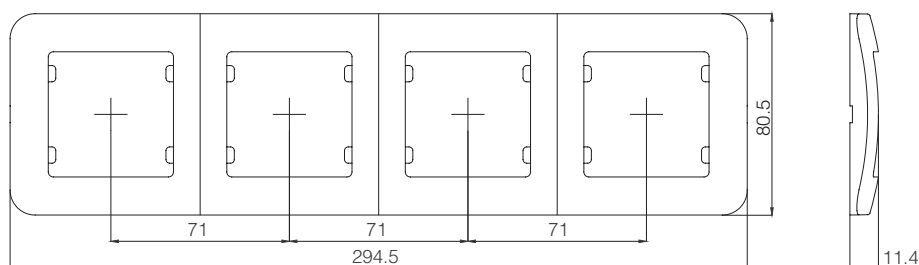
Double Horizontal Frame



Triple Horizontal Frame

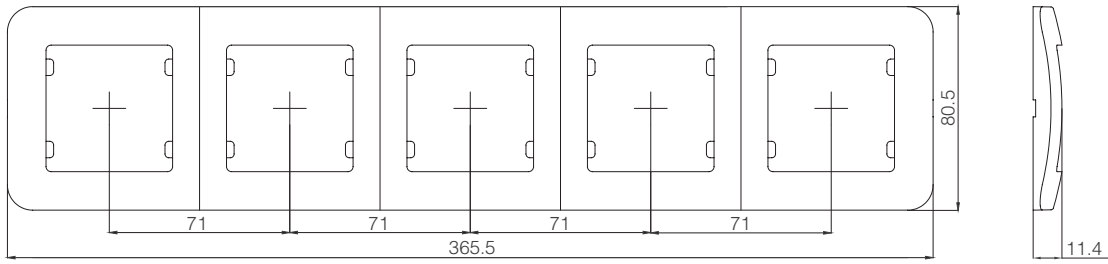


Quartet Horizontal Frame

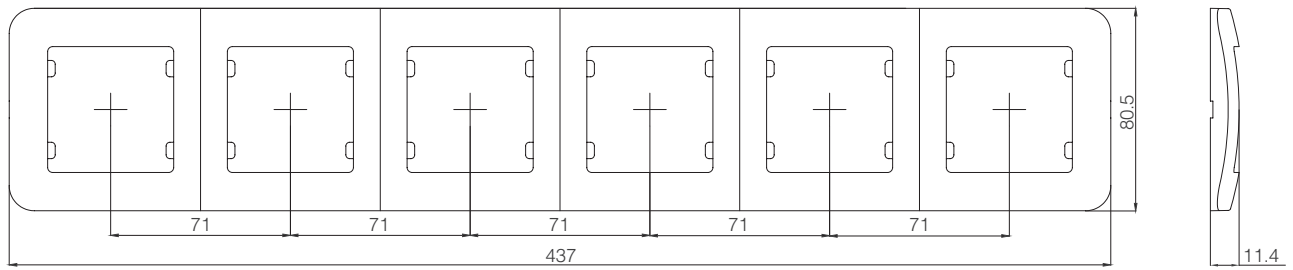




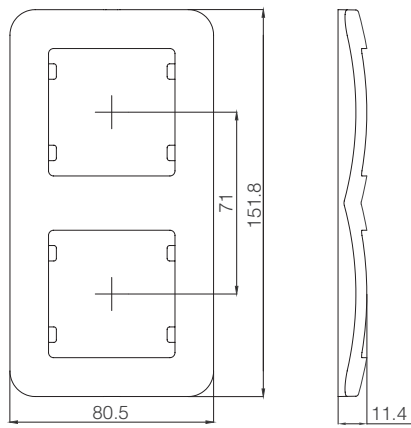
Fiftet Horizontal Frame



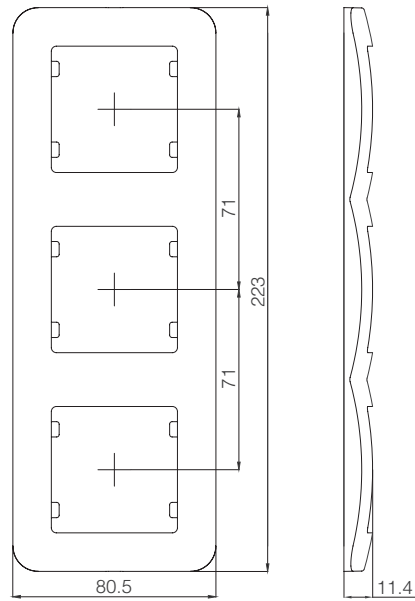
Sixtet Horizontal Frame



Double Vertical Frame



Triple Vertical Frame



# Lillium Natural Switch & Socket Outlet Series

Product Name	White - Beige Code No	Colourful Code No	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>						
• One Way Switch	55 x 01	57 x 01	12	120	10,26	285 x 475 x 275
• One Way Switch Illuminated	55 x 21	57 x 21	12	120	10,61	285 x 475 x 275
• Two-Circuit Switch	55 x 03	57 x 03	12	120	10,78	285 x 475 x 275
• Two-Circuit Switch Illuminated	55 x 23	57 x 23	12	120	11,04	285 x 475 x 275
• Light Switch	55 x 04	57 x 04	12	120	10,35	285 x 475 x 275
• Light Switch Illuminated	55 x 24	57 x 24	12	120	11,50	285 x 475 x 275
• Two-Way Switch	55 x 05	57 x 05	12	120	10,47	285 x 475 x 275
• Two-Way Switch Illuminated	55 x 25	57 x 25	12	120	10,83	285 x 475 x 275
• Door Switch	55 x 96	57 x 96	12	120	10,35	285 x 475 x 275
• Door Switch Illuminated	55 x 97	57 x 97	12	120	10,35	285 x 475 x 275
• Intermediate Switch	55 x 20	57 x 20	12	120	10,84	285 x 475 x 275
• Intermediate Switch Illuminated	55 x 40	57 x 40	12	120	11,19	285 x 475 x 275
• Bell Switch	55 x 50	57 x 50	12	120	10,56	285 x 475 x 275
• Bell Switch Illuminated 12V	55 x 85	57 x 85	12	120	10,78	285 x 475 x 275
• Bell Switch Illuminated	55 x 70	57 x 70	12	120	10,82	285 x 475 x 275
• Bell Switch With Label	55 x 10	57 x 10	12	120	10,54	285 x 475 x 275
• Bell Switch Illuminated With Label 12V	55 x 30	57 x 30	12	120	10,76	285 x 475 x 275
3 Circuit Switch	55 x 91	57 x 91	12	120	11,45	285 x 475 x 275
3 Gang 3 Pole Switch	55 x 92	57 x 92	12	120	11,87	285 x 475 x 275
1 Gang 3 Circuit Switch	55 x 94	57 x 94	12	120	11,87	285 x 475 x 275
1 Gang 3 Pole Switch	55 x 95	57 x 95	12	120	11,75	285 x 475 x 275
Cooling Switch	55 x 84	57 x 84	12	120	11,27	285 x 475 x 275
Double Two-Way Switch	55 x 26	57 x 26	12	120	13,09	285 x 475 x 275
• Shutter Push-Button	55 x 41	57 x 41	12	120	10,98	285 x 475 x 275
• Control Switch 2-Pole	55 x 71	57 x 71	12	120	11,13	285 x 475 x 275
<b>Socket Outlet Group</b>						
Socket Outlet	55 x 22	57 x 22	12	120	10,68	285 x 475 x 275
Schuko Socket Outlet	55 x 28	57 x 28	12	120	10,93	285 x 475 x 275
Schuko Socket Outlet Screwless ***	55 x 72	57 x 72	12	120	10,92	285 x 475 x 275
Schuko Socket Outlet with Lid	55 x 29	57 x 29	12	120	11,76	335 x 475 x 300
Schuko Socket Outlet Screwless with Lid	55 x 99	57 x 99	12	120	10,93	335 x 475 x 300
Schuko Socket Outlet with Child Protection and Lid	19 xxx 254	19 xxx 254	12	120	10,93	335 x 475 x 300
Schuko Socket Outlet Screwless with Child Protection and Lid	19 xxx 255	19 xxx 255	12	120	10,93	335 x 475 x 300
Socket Outlet with Earthing Pin	55 x 19	57 x 19	12	120	12,23	285 x 475 x 275
Socket Outlet Screwless with Earthing Pin ***	55 x 73	57 x 73	12	120	10,77	285 x 475 x 275
Socket Outlet with Earthing Pin and Lid	55 x 16	57 x 16	12	120	12,78	335 x 475 x 300
Socket Outlet with Child Protection	55 x 52	57 x 52	12	120	10,77	285 x 475 x 275
Socket Outlet with Earthing Pin and Child Protection	55 x 53	57 x 53	12	120	11,74	285 x 475 x 275
Socket Outlet Screwless with Earthing Pin and Child Protection	19 xxx 198	19 xxx 198	12	120	12,23	285 x 475 x 275
Socket Outlet with Child Protection	19 xxx 300	19 xxx 300	12	120	13,02	335 x 475 x 300
Schuko Socket Outlet with Child Protection	55 x 58	57 x 58	12	120	11,62	285 x 475 x 275
Schuko Socket Outlet Screwless with Child Protection ***	55 x 74	57 x 74	12	120	11,62	285 x 475 x 275
Double Socket Outlet with Earthing Pin	55 x 18	57 x 18	12	120	11,54	410 x 485 x 310
Double Socket Outlet	55 x 17	57 x 17	12	120	10,54	335 x 475 x 300
Double Schuko Socket Outlet	55 x 82	57 x 82	12	120	12,44	410 x 485 x 310
Double Schuko Socket Outlet High	55 x 57	57 x 57	12	120	13,24	380 x 505 x 390
Double Schuko Socket Outlet High Porcelain	55 x 68	57 x 68	12	120	20,17	380 x 505 x 390
<b>Tv Socket Outlet Group</b>						
Antenna Socket Through 6 dB Female	55 x 07	57 x 07	12	120	10,55	285 x 475 x 275
Antenna Socket End 4 dB Female	55 x 27	57 x 27	12	120	10,31	285 x 475 x 275
Antenna Socket End 0.5 dB Metal Case	55 x 87	57 x 87	12	120	10,68	285 x 475 x 275
Antenna Socket Through 11 dB Metal Case *	55 x 88	57 x 88	12	120	10,68	285 x 475 x 275
TV Antenna Socket Non-Resistance ***	55 x 42	57 x 42	12	120	10,55	285 x 475 x 275
Antenna Socket Through Male	55 x 43	57 x 43	12	120	9,48	285 x 475 x 275
Antenna Socket End Male	55 x 44	57 x 44	12	120	9,03	285 x 475 x 275
TV-RF Antenna Socket Through 7 dB **	55 x 60	57 x 60	12	120	14,33	285 x 475 x 275
TV-RF Antenna Socket End 1.5 dB	55 x 65	57 x 65	12	120	14,51	285 x 475 x 275
TV-SAT Antenna Socket End 1 dB	55 x 98	57 x 98	12	120	14,27	285 x 475 x 275
TV-SAT Antenna Socket Through 4 dB	55 x 83	57 x 83	12	120	14,50	285 x 475 x 275
TV-RF-SAT Antenna Socket End 1.5 dB	55 x 66	57 x 66	12	120	15,19	285 x 475 x 275
TV-RF-SAT Antenna Socket Through 4 dB	55 x 67	57 x 67	12	120	15,43	285 x 475 x 275
SAT Antenna Socket Through ***	55 x 33	57 x 33	12	120	11,19	285 x 475 x 275
SAT Antenna Socket End ***	55 x 34	57 x 34	12	120	11,19	285 x 475 x 275

Product Name	White - Beige Code No	Colourful Code No	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Data Transmission Group</b>						
Telephone Socket	55 x 14	57 x 14	12	120	9,95	285 x 475 x 275
Double Telephone Socket	55 x 34	57 x 34	12	120	9,77	285 x 475 x 275
Double Data Socket Outlet (1xCat5)	55 x 35	57 x 35	12	120	9,71	285 x 475 x 275
Double Data Socket Outlet (2xCat5)	55 x 36	57 x 36	12	120	10,25	285 x 475 x 275
Data Socket Outlet (Cat5+ Telephone Socket)	55 x 37	57 x 37	12	120	10,13	285 x 475 x 275
Data Socket Outlet (empty)	55 x 38	57 x 38	12	120	8,39	285 x 475 x 275
Double Data Socket Outlet (1xCat6)	19 xxx 135	19 xxx 135	12	120	9,68	285 x 475 x 275
Double Data Socket Outlet (2xCat6)	19 xxx 136	19 xxx 136	12	120	10,37	285 x 475 x 275
Data Socket Outlet (Cat3+Cat6)	19 xxx 137	19 xxx 137	12	120	10,25	285 x 475 x 275
Double Data Socket-Outlet (1xCat 3)	19 xxx 075	19 xxx 075	12	120	6,61	285 x 475 x 275
Loudspeaker - connection, 1 gang	55 x 80	57 x 80	12	120	9,89	285 x 475 x 275

### Electronic Group

Dimmer 60-600W	55 x 11	57 x 11	10	100	11,33	370 x 485 x 260
Dimmer Coil Filtered 60-600W	55 x 31	57 x 31	10	100	17,59	410 x 545 x 315
Dimmer 60-1000W	55 x 93	57 x 93	10	100	12,79	370 x 485 x 260
1-10V Led Dimmer	19 xxx 459	19 xxx 459	10	100	13,90	385 x 500 x 275
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	55 x 45	57 x 45	10	100	15,85	410 x 545 x 315
Audio Switch 10 W	55 x 86	57 x 86	6	60	7,74	385 x 500 x 190
Emergency-Light	55 x 55	57 x 55	6	60	9,01	370 x 500 x 165
Warning Bell	55 x 56	57 x 56	6	60	8,26	370 x 500 x 165
■ Delayed Energy Saver (Without Relay)	55 x 46	57 x 46	10	100	12,95	410 x 545 x 315
■ Energy Saver (Without Relay) ***	55 x 83	57 x 83	12	120	14,50	285 x 475 x 275
■ Electro-Magnetic Energy Saver	19 xxx 301	19 xxx 301	12	120	7,97	365 x 472 x 215
■ Radio Frequency Energy saver	19 xxx 302	19 xxx 302	12	120	8,05	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	19 xxx 139K	19 xxx 139K	5	30	3,84	190 x 290 x 272

### Frame Group

Frame	19 xxx 701	19 xxx 701	12	120	2,36	185 x 365 x 205
Double Horizontal Frame	55 x 12	57 x 12	25	250	6,56	335 x 475 x 300
Triple Horizontal Frame	55 x 13	57 x 13	20	200	7,74	417 x 455 x 290
Quartet Horizontal Frame	55 x 39	57 x 39	25	250	11,54	400 x 600 x 345
Fiftet Horizontal Frame	55 x 59	57 x 59	5	60	3,66	210 x 370 x 345
Sixtet Horizontal Frame	55 x 69	57 x 69	5	60	4,40	440 x 450 x 140
Double Vertical Frame	55 x 32	57 x 32	25	250	6,64	335 x 475 x 300
Triple Vertical Frame	55 x 33	57 x 33	20	200	8,25	417 x 455 x 290
Double Socket Outlet Frame **	19 xxx 710	19 xxx 710	12	120	3,19	180 x 450 x 270
Double Socket Outlet Frame High **	19 xxx 759	19 xxx 759	12	120	4,34	285 x 475 x 275

(•) Marked products are available with screwless terminal option. (••) marked products can be ordered white and cream color.

(\*) 14 dB and 18 dB versions are available. (\*\*) 10 - 12 - 15 - 20 dB versions are available.

(■) See page 231 for relay options for marked products.

### SAMPLE

	Product Name	Code No
White	Screw Switch	55 0 01
	Screwless Terminal Switch	55 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

(\*\*\*) The order shall be placed with increasing the code in the 3rd order by 1.

### SAMPLE

	Product Name	Code No
White	Energy Saver (Without Relay)	55 1 83
	SAT Antenna Socket Through	55 1 33
	SAT Antenna Socket End	55 1 34
Beige	Energy Saver (Without Relay)	55 3 83
	SAT Antenna Socket Through	55 3 33
	SAT Antenna Socket End	55 3 34

Within the product codes showing 'xxx', and 'x' enter the color codes from the table below.

Colors	Code No	
	xxx	x
White	001	0
Beige	010	2
Metalic Silver	065	6
Antrasit	086	8

In orders for products with slots, in place of 'x', write '7' for metallic Silver. For Anthracite, write '9'.

# Lillium Natural Switch & Socket Outlet Series

Product Name	Brown Code No.	Root Oak Root Walnut Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>						
• One Way Switch	55 x 01	56 x 01	12	120	10,26	285 x 475 x 275
• One Way Switch Illuminated	55 x 21	56 x 21	12	120	10,61	285 x 475 x 275
• Two-Circuit Switch	55 x 03	56 x 03	12	120	10,78	285 x 475 x 275
• Two-Circuit Switch Illuminated	55 x 23	56 x 23	12	120	11,04	285 x 475 x 275
• Light Switch	55 x 04	56 x 04	12	120	10,35	285 x 475 x 275
• Light Switch Illuminated	55 x 24	56 x 24	12	120	11,50	285 x 475 x 275
• Two-Way Switch	55 x 05	56 x 05	12	120	10,62	285 x 475 x 275
• Two-Way Switch Illuminated	55 x 25	56 x 25	12	120	10,83	285 x 475 x 275
• Door Switch	55 x 96	56 x 96	12	120	10,35	285 x 475 x 275
• Door Switch Illuminated	55 x 97	56 x 97	12	120	10,35	285 x 475 x 275
• Intermediate Switch	55 x 20	56 x 20	12	120	10,84	285 x 475 x 275
• Intermediate Switch Illuminated	55 x 40	56 x 40	12	120	11,19	285 x 475 x 275
• Bell Switch	55 x 50	56 x 50	12	120	10,56	285 x 475 x 275
• Bell Switch Illuminated 12V	55 x 85	56 x 85	12	120	10,78	285 x 475 x 275
• Bell Switch Illuminated	55 x 70	56 x 70	12	120	10,82	285 x 475 x 275
• Bell Switch With Label	55 x 10	56 x 10	12	120	10,54	285 x 475 x 275
• Bell Switch Illuminated With Label 12V	55 x 30	56 x 30	12	120	10,76	285 x 475 x 275
• 3 Circuit Switch	55 x 91	56 x 91	12	120	11,45	285 x 475 x 275
• 3 Gang 3 Pole Switch	55 x 92	56 x 92	12	120	11,87	285 x 475 x 275
• 1 Gang 3 Circuit Switch	55 x 94	56 x 94	12	120	11,87	285 x 475 x 275
• 1 Gang 3 Pole Switch	55 x 95	56 x 95	12	120	11,75	285 x 475 x 275
• Cooling Switch	55 x 84	56 x 84	12	120	11,27	285 x 475 x 275
• Double Two-Way Switch	55 x 26	56 x 26	12	120	13,09	285 x 475 x 275
• Shutter Push-Button	55 x 41	56 x 41	12	120	10,98	285 x 475 x 275
• Control Switch 2-Pole	55 x 71	56 x 71	12	120	11,13	285 x 475 x 275
<b>Socket Outlet Group</b>						
• Socket Outlet	55 x 22	56 x 22	12	120	10,68	285 x 475 x 275
• Schuko Socket Outlet	55 x 28	56 x 28	12	120	10,93	285 x 475 x 275
• Schuko Socket Outlet Screwless ***	55 x 72	56 x 72	12	120	10,92	285 x 475 x 275
• Schuko Socket Outlet with Lid	55 x 29	56 x 29	12	120	11,76	335 x 475 x 300
• Schuko Socket Outlet Screwless with Lid	55 x 99	56 x 99	12	120	10,93	335 x 475 x 300
• Schuko Socket Outlet with Child Protection and Lid	19 xxx 254	19 xxx 254	12	120	10,93	335 x 475 x 300
• Schuko Socket Outlet Screwless with Child Protection and Lid	19 xxx 255	19 xxx 255	12	120	10,93	335 x 475 x 300
• Socket Outlet with Earthing Pin	55 x 19	56 x 19	12	120	12,23	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin ***	55 x 73	56 x 73	12	120	10,77	285 x 475 x 275
• Socket Outlet with Earthing Pin and Lid	55 x 16	56 x 16	12	120	12,78	335 x 475 x 300
• Socket Outlet with Child Protection	55 x 52	56 x 52	12	120	10,77	285 x 475 x 275
• Socket Outlet with Earthing Pin and Child Protection	55 x 53	56 x 53	12	120	11,74	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin and Child Protection	19 xxx 198	19 xxx 198	12	120	12,23	285 x 475 x 275
• Socket Outlet with Child Protection	19 xxx 300	19 xxx 300	12	120	13,02	335 x 475 x 300
• Schuko Socket Outlet with Child Protection	55 x 58	56 x 58	12	120	11,62	285 x 475 x 275
• Schuko Socket Outlet Screwless with Child Protection ***	55 x 74	56 x 74	12	120	11,62	285 x 475 x 275
• Double Socket Outlet with Earthing Pin	55 x 18	56 x 18	12	120	11,54	410 x 485 x 310
• Double Socket Outlet	55 x 17	56 x 17	12	120	10,54	335 x 475 x 300
• Double Schuko Socket Outlet	55 x 82	56 x 82	12	120	12,44	410 x 485 x 310
• Double Schuko Socket Outlet High	55 x 57	56 x 57	12	120	13,24	380 x 505 x 390
• Double Schuko Socket Outlet High Porcelain	55 x 68	55 x 57	12	120	20,17	380 x 505 x 390
<b>Tv Socket Outlet Group</b>						
• Antenna Socket Through 6 dB Female	55 x 07	56 x 07	12	120	10,55	285 x 475 x 275
• Antenna Socket End 4 dB Female	55 x 27	56 x 27	12	120	10,31	285 x 475 x 275
• Antenna Socket End 0.5 dB Metal Case	55 x 87	56 x 87	12	120	10,68	285 x 475 x 275
• Antenna Socket Through 11 dB Metal Case *	55 x 88	56 x 88	12	120	10,68	285 x 475 x 275
• TV Antenna Socket Non-Resistance	55 x 42	56 x 42	12	120	10,55	285 x 475 x 275
• Antenna Socket Through Male	55 x 43	56 x 43	12	120	9,48	285 x 475 x 275
• Antenna Socket End Male	55 x 44	56 x 44	12	120	9,03	285 x 475 x 275
• TV-RF Antenna Socket Through 7 dB**	55 x 60	56 x 60	12	120	14,33	285 x 475 x 275
• TV-RF Antenna Socket End 1.5 dB	55 x 65	56 x 65	12	120	14,51	285 x 475 x 275
• TV-SAT Antenna Socket End 1 dB	55 x 98	56 x 98	12	120	14,27	285 x 475 x 275
• TV-SAT Antenna Socket Through 4 dB	55 x 83	56 x 83	12	120	14,50	285 x 475 x 275
• TV-RF-SAT Antenna Socket End 1.5 dB	55 x 66	56 x 66	12	120	15,19	285 x 475 x 275
• TV-RF-SAT Antenna Socket Through 4 dB	55 x 67	56 x 67	12	120	15,43	285 x 475 x 275
• SAT Antenna Socket Through ***	55 x 33	56 x 33	12	120	11,19	285 x 475 x 275
• SAT Antenna Socket End ***	55 x 34	56 x 34	12	120	11,19	285 x 475 x 275

Product Name	Brown Code No.	Root Oak Root Walnut Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Data Transmission Group</b>						
Telephone Socket	55 x 14	56 x 14	12	120	9,95	285 x 475 x 275
Double Telephone Socket	55 x 34	56 x 34	12	120	9,77	285 x 475 x 275
Double Data Socket Outlet (1xCat5)	55 x 35	56 x 35	12	120	9,71	285 x 475 x 275
Double Data Socket Outlet (2xCat5)	55 x 36	56 x 36	12	120	10,25	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket)	55 x 37	56 x 37	12	120	10,13	285 x 475 x 275
Data Socket Outlet (empty)	55 x 38	56 x 38	12	120	8,39	285 x 475 x 275
Double Data Socket Outlet (1xCat6)	19 xxx 135	19 xxx 135	12	120	9,68	285 x 475 x 275
Double Data Socket Outlet (2xCat6)	19 xxx 136	19 xxx 136	12	120	10,37	285 x 475 x 275
Data Socket Outlet (Cat3+Cat6)	19 xxx 137	19 xxx 137	12	120	10,25	285 x 475 x 275
Double Data Socket-Outlet (1xCat 3)	19 xxx 075	19 xxx 075	12	120	6,61	285 x 475 x 275
Loudspeaker - connection, 1 gang	55 x 80	56 x 80	12	120	9,89	285 x 475 x 275

### Electronic Group

Dimmer 60-600W	55 x 11	56 x 11	10	100	11,33	370 x 485 x 260
Dimmer Coil Filtered 60-600W	55 x 31	56 x 31	10	100	17,59	410 x 545 x 315
Dimmer 60-1000W	55 x 93	56 x 93	10	100	12,79	370 x 485 x 260
1-10V Led Dimmer	19 xxx 459	19 xxx 459	10	100	13,90	385 x 500 x 275
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	55 x 45	56 x 45	10	100	15,85	410 x 545 x 315
Audio Switch 10 W	55 x 86	56 x 86	6	60	7,74	385 x 500 x 190
Emergency-Light	55 x 55	56 x 55	6	60	9,01	370 x 500 x 165
Warning Bell	55 x 56	56 x 56	6	60	8,26	370 x 500 x 165
■ Delayed Energy Saver (Without Relay)	55 x 46	56 x 46	12	120	12,95	410 x 545 x 315
■ Energy Saver (Without Relay) ***	55 x 83	56 x 83	12	120	14,50	285 x 475 x 275
■ Electro-Magnetic Energy Saver	19 xxx 301	19 xxx 301	12	120	7,97	365 x 472 x 215
■ Radio Frequency Energy saver	19 xxx 302	19 xxx 302	12	120	8,05	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	19 xxx 139K	19 xxx 139K	5	30	3,84	190 x 290 x 272

### Frame Group

Frame	19 xxx 701	19 xxx 701	12	120	2,36	185 x 365 x 205
Double Horizontal Frame	55 x 12	56 x 12	25	250	6,56	335 x 475 x 300
Triple Horizontal Frame	55 x 13	56 x 13	20	200	7,74	417 x 455 x 290
Quartet Horizontal Frame	55 x 39	56 x 39	25	250	11,54	400 x 600 x 345
Fiftet Horizontal Frame	55 x 59	56 x 59	5	60	3,66	210 x 370 x 345
Sixtet Horizontal Frame	55 x 69	56 x 69	5	60	4,40	440 x 450 x 140
Double Vertical Frame	55 x 32	56 x 32	25	250	6,64	335 x 475 x 300
Triple Vertical Frame	55 x 33	56 x 33	20	200	8,25	417 x 455 x 290
Double Socket Outlet Frame **	19 xxx 710	19 xxx 710	12	120	3,19	180 x 450 x 270
Double Socket Outlet Frame High **	19 xxx 759	19 xxx 759	12	120	4,34	285 x 475 x 275

(•) Marked products are available with screwless terminal option. (••) Marked products can be ordered white and cream color.

(\*) 14 dB and 18 dB versions are available. (\*\*) 10 - 12 - 15 - 20 dB versions are available.

■ See page 231 for relay options for marked products.

### SAMPLE

	Product Name	Code No
Brown	Screw Switch	55 0 01
Light Brown	Screwless Terminal Switch	55 1 01

When you order screwless terminals must use '4' instead of '5' at the third digit of the item code.

(\*\*\*) The order shall be placed with increasing the code in the 3rd order by 1.

### SAMPLE

	Product Name	Code No
Brown	Energy Saver (Without Relay)	56 9 83
	SAT Antenna Socket Through	56 9 33
	SAT Antenna Socket End	56 9 34
Root Oak	Energy Saver (Without Relay)	56 3 83
	SAT Antenna Socket Through	56 3 33
	SAT Antenna Socket End	56 3 34

Within the product codes showing 'xxx' and 'x' enter the color codes from the table below.

Colors	Code No	
	xxx	x
Brown	009	4
Light Brown	097	6
Brown	096	8
Root Oak	037	2
Root Walnut	038	0

In orders for products with slots, in place of 'x' write '3' for Root Oak.  
write '1' for Root Walnut.  
Brown-For Light Brown, write '5'.  
Light Brown-For Light Brown, write '7'.  
Brown-For Brown, write '9'.







# Lillium Natural Kare

Switch & Socket Outlet Series



## Colourful Products



Your environments are warmer and aesthetic with the modern and elegant design, rich color availability and quality of Lillium Natural Kare...

## Functions



One Way Switch



Two-Circuit Switch



One Way Switch Illuminated



3 Circuit Switch



Cooler Switch



Socket Outlet with Earthing Pin and Child Protection



Audio Switch 10 W



Dimmer



Data Socket Outlet



Loudspeaker - connection, 1 gang

## Special For You

The color of walls and your furniture in your environment defines you and your personality. Lillium Natural Kare switches and sockets are designed with the same care and love.



## Multi Frames



Double Horizontal Frame



Triple Horizontal Frame



Quartet Horizontal Frame



Fiftet Horizontal Frame



Sixtet Horizontal Frame



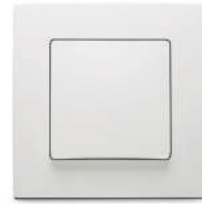
Double Vertical Frame



Triple Vertical Frame



## Colourful Products



001 White



010 Beige



065 Metallic Silver



057 Dore



052 Green



050 Fume



100 Pearls



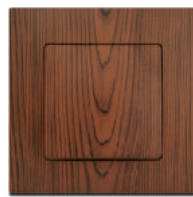
105 Natural Pine



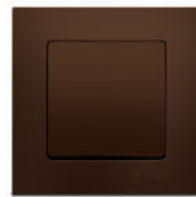
101 Natural Oak



103 Natural Cherry



102 Natural Walnut



096 Brown



060 Gold



## Pastel Colour Frames

---



085 Magenta



092 Blue

With pastel colored frames and colorful products of Lillium Natural Kare, you shall reflect your personality as well.



078 Lilac



091 Green



074 Yellow



095 Light Lilac



094 Orange



093 Rose

# Lillium Natural Kare Switch & Socket Outlet Series



**One Way Switch \***  
32001001  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**One Way Switch Illuminated \***  
32001021  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch \***  
32001003  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch Illuminated \***  
32001023  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch \***  
32001004  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch Illuminated \***  
32001024  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch \***  
32001005  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch Illuminated \***  
32001025  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch \***  
32001096  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch Illuminated \***  
32001097  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch \***  
32001020  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch Illuminated \***  
32001040  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Bell Switch \***  
 32001050  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated 12V \***  
 32001085  
 10 A, 12 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch With Label \***  
 32001010  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
 32001070  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \*  
 With Label 12V**  
 32001030  
 10 A, 12 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Control Switch 2-Pole \***  
 32001071  
 16 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Double Two-Way Switch**  
 32001026  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Shutter Push-Button \***  
 32001041  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**3 Circuit Switch**  
 32001091  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**3 Gang 3 Pole Switch**  
 32001092  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**1 Gang 3 Circuit Switch**  
 32001094  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**1 Gang 3 Pole Switch**  
 32001095  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120

## Lillium Natural Kare Switch & Socket Outlet Series



### Socket Outlet

32001022

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Schuko Socket Outlet \*

32001028

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Schuko Socket Outlet with Lid \*

32001029

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Schuko Socket Outlet with Child Protection and Lid \*

32001254

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Socket Outlet with Earthing Pin \*

32001019

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Socket Outlet with Child Protection

32001052

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Socket Outlet with Earthing Pin and Child Protection \*

32001053

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Schuko Socket Outlet with Child Protection \*

32001058

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Double Socket Outlet with Earthing Pin

32001018

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Double Socket Outlet

32001017

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Double Schuko Socket Outlet

32001082

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



### Double Schuko Socket Outlet High

32001057

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Antenna Socket Through**  
**6 dB Female**  
 32001007  
 TSEK 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**4 dB Female**  
 32001027  
 TSEK 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket Through**  
**Male 6 dB**  
 32001043  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**Male 4 dB**  
 32001044  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket Through 7 dB**  
 32001060  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket End 1.5 dB**  
 32001065  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket Through**  
**4 dB**  
 32001083  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket End**  
**1 dB**  
 32001098  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket**  
**Through 4 dB**  
 32001067  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket End**  
**1.5 dB**  
 32001066  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Telephone Socket**  
 32001014  
 TSE K 71  
 Piece in Box / Package - 12 / 120



**Double Telephone Socket**  
 32001034  
 TSE K 71  
 Piece in Box / Package - 12 / 120



# Lillium Natural Kare Switch & Socket Outlet Series



**Double Data Socket Outlet (1xCat5)**  
32001035  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Data Socket Outlet (2xCat5)**  
32001036  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet  
(Cat5+Telephone Socket)**  
32001037  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (empty)**  
32001038  
TSE K 71  
Piece in Box / Package - 12 / 120



**Loudspeaker - connection, 1 gang**  
32001080  
TSE K 71  
Piece in Box / Package - 12 / 120



**Dimmer**  
32001011  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer Coil Filtered**  
32001031  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer**  
32001093  
60-1000 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**1-10V Led Dimmer**  
32001459  
50Hz, 230 V~  
IEC 60669-2-1  
Piece in Box / Package - 10 / 100



**Remote Controlled Dimmer(IR)  
Coil Filtered**  
32001045  
60-300 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Audio Switch 10 W**  
32001086  
10 W  
Piece in Box / Package - 6 / 60



**Emergency-Light**  
32001055  
250 V~  
Piece in Box / Package - 6 / 60



**Warning Bell**  
32001056  
250 V~  
Piece in Box / Package - 6 / 60



**Delayed Energy Saver (Without Relay) \***  
32001046  
10A, 220 V~  
Piece in Box / Package - 10 / 100  
**Energy Saver (Without Relay)**  
32001183  
10A, 220 V~  
Piece in Box / Package - 12 / 120



**Electro-Magnetic Energy Saver \***  
32001301  
12 V ~  
Piece in Box / Package - 12 / 120  
**Radio Frequency Energy saver**  
32001302  
12 V ~  
Piece in Box / Package - 12 / 120



**Cooling Switch**  
32001084  
16 A, 250 V~  
Piece in Box / Package - 12 / 120



**Surge-Protective Socket Outlet with Child Protection**  
32001139K  
16 A, 250 V~  
Piece in Box / Package - 5 / 30

\* Energy saver product visuals are given as representations, the card must be ordered separately.



**Frame**  
32001701



**Double Horizontal Frame**  
32001702



**Triple Horizontal Frame**  
32001703



**Quartet Horizontal Frame**  
32001704



**Fiftet Horizontal Frame**  
32001705



**Double Vertical Frame**  
32001707



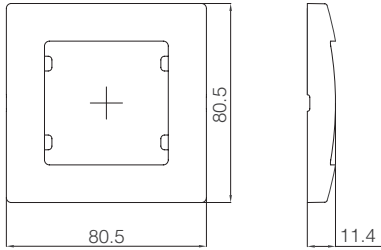
**Triple Vertical Frame**  
32001708



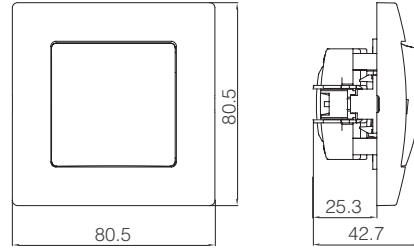
**Sixtet Horizontal Frame**  
32001706

## Technical Drawings

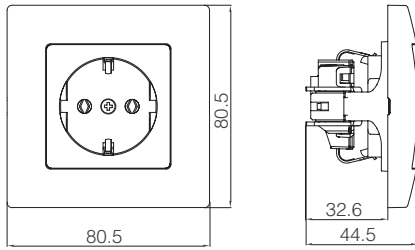
Frame



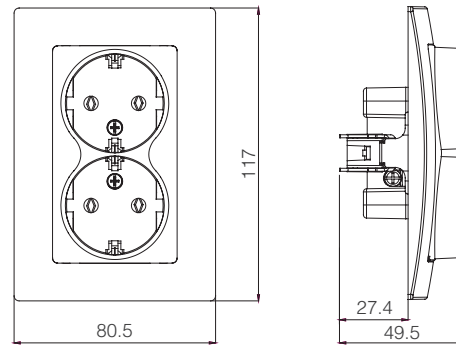
One Way Switch



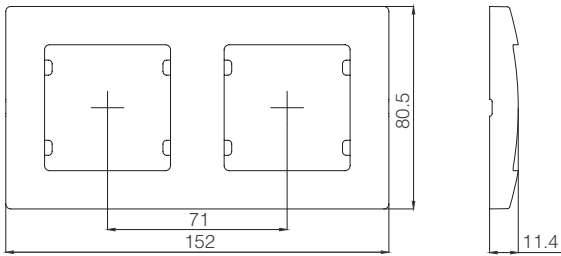
Schuko Socket Outlet



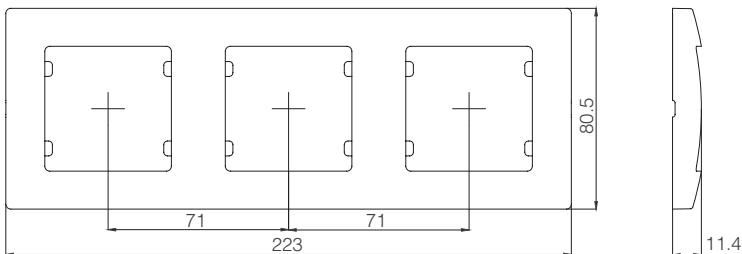
Double Schuko Socket Outlet



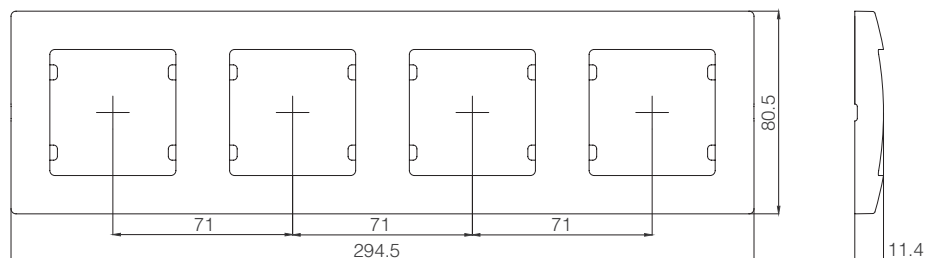
Double Horizontal Frame



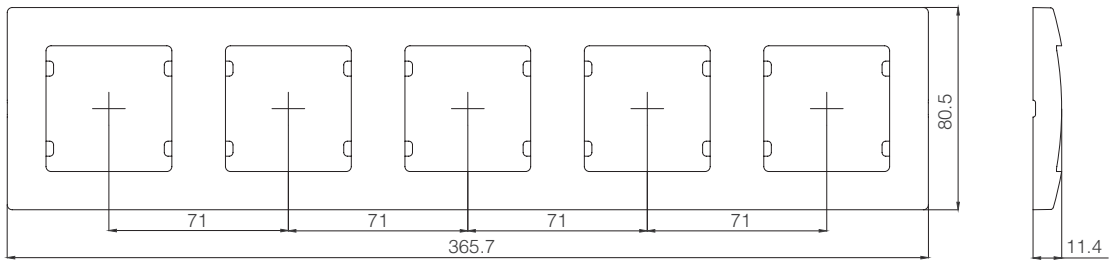
Triple Horizontal Frame



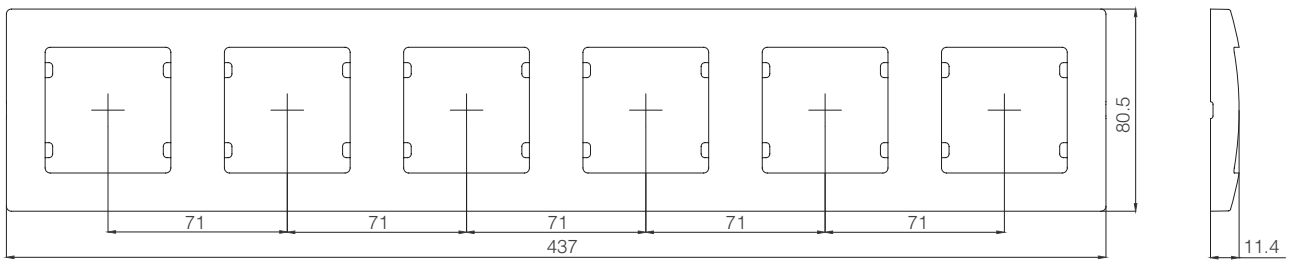
Quartet Horizontal Frame



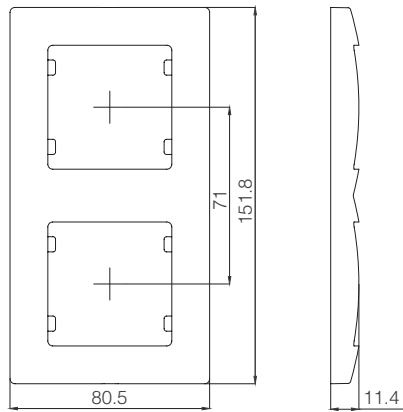
Fiftet Horizontal Frame



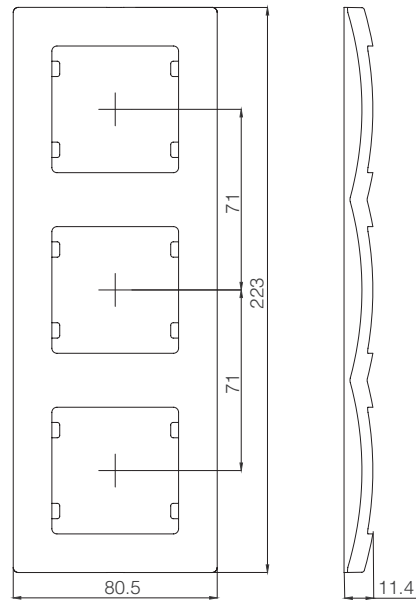
Sixtet Horizontal Frame



Double Vertical Frame



Triple Vertical Frame



# Lillium Natural Kare Switch & Socket Outlet Series

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch	32 xxx 001	12	120	10,26	285 x 475 x 275
• One Way Switch Illuminated	32 xxx 021	12	120	10,61	285 x 475 x 275
• Two-Circuit Switch	32 xxx 003	12	120	10,78	285 x 475 x 275
• Two-Circuit Switch Illuminated	32 xxx 023	12	120	11,04	285 x 475 x 275
• Light Switch	32 xxx 004	12	120	10,35	285 x 475 x 275
• Light Switch Illuminated	32 xxx 024	12	120	11,50	285 x 475 x 275
• Double Light	32 xxx 441	12	120	10,92	285 x 480 x 280
• Two-Way Switch	32 xxx 005	12	120	10,47	285 x 475 x 275
• Two-Way Switch Illuminated	32 xxx 025	12	120	10,83	285 x 475 x 275
• Door Switch	32 xxx 096	12	120	10,25	285 x 475 x 275
• Door Switch Illuminated	32 xxx 097	12	120	10,50	285 x 475 x 275
• Intermediate Switch	32 xxx 020	12	120	10,84	285 x 475 x 275
• Intermediate Switch Illuminated	32 xxx 040	12	120	11,19	285 x 475 x 275
• Bell Switch	32 xxx 050	12	120	10,56	285 x 475 x 275
• Bell Switch Illuminated 12V	32 xxx 085	12	120	10,85	285 x 475 x 275
• Bell Switch Illuminated	32 xxx 070	12	120	10,82	285 x 475 x 275
• Bell Switch With Label	32 xxx 010	12	120	10,54	285 x 475 x 275
• Bell Switch Illuminated With Label 12V	32 xxx 030	12	120	10,76	285 x 475 x 275
• 3 Circuit Switch	32 xxx 091	12	120	8,61	285 x 475 x 275
• 3 Gang 3 Pole Switch	32 xxx 092	12	120	11,87	285 x 475 x 275
• 1 Gang 3 Circuit Switch	32 xxx 094	12	120	8,61	285 x 475 x 275
• 1 Gang 3 Pole Switch	32 xxx 095	12	120	11,75	285 x 475 x 275
• Cooling Switch	32 xxx 084	12	120	10,76	285 x 475 x 275
• Double Two-Way Switch	32 xxx 026	12	120	13,09	285 x 475 x 275
• Shutter Push-Button	32 xxx 041	12	120	10,98	285 x 475 x 275
• Control Switch 2-Pole	32 xxx 071	12	120	11,13	285 x 475 x 275
<b>Socket Outlet Group</b>					
• Socket Outlet	32 xxx 022	12	120	9,40	285 x 475 x 275
• Schuko Socket Outlet	32 xxx 028	12	120	10,93	285 x 475 x 275
• Schuko Socket Outlet Screwless	32 xxx 172	12	120	8,26	285 x 475 x 275
• Schuko Socket Outlet with Lid	32 xxx 029	12	120	11,62	335 x 475 x 300
• Schuko Socket Outlet Screwless with Lid	32 xxx 099	12	120	12,74	335 x 475 x 300
• Schuko Socket Outlet with Child Protection and Lid	32 xxx 254	12	120	11,62	335 x 475 x 300
• Schuko Socket Outlet Screwless with Child Protection and Lid	32 xxx 255	12	120	11,62	335 x 475 x 300
• Socket Outlet with Earthing Pin	32 xxx 019	12	120	12,23	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin	32 xxx 173	12	120	12,04	285 x 475 x 275
• Socket Outlet with Earthing Pin and Lid	32 xxx 016	12	120	11,37	335 x 475 x 300
• Socket Outlet with Child Protection	32 xxx 052	12	120	9,55	285 x 475 x 275
• Socket Outlet with Earthing Pin and Child Protection	32 xxx 053	12	120	10,59	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin and Child Protection	32 xxx 198	12	120	12,00	285 x 475 x 275
• Socket Outlet with Child Protection	32 xxx 300	12	120	11,61	335 x 475 x 300
• Schuko Socket Outlet with Child Protection	32 xxx 058	12	120	10,93	285 x 475 x 275
• Schuko Socket Outlet Screwless with Child Protection	32 xxx 174	12	120	11,16	285 x 475 x 275
• Double Socket Outlet with Earthing Pin	32 xxx 018	12	120	12,67	410 x 485 x 310
• Double Socket Outlet	32 xxx 017	12	120	10,52	335 x 475 x 300
• Double Schuko Socket Outlet	32 xxx 082	12	120	14,17	410 x 485 x 310
• Double Schuko Socket Outlet High	32 xxx 057	12	120	13,24	380 x 505 x 390
• Double Schuko Socket Outlet High Porcelain	32 xxx 068	12	120	18,56	380 x 505 x 390
• Asymmetrical Double Socket-Outlet with Earthing Pin	32 xxx 081	12	120	12,67	410 x 485 x 310
<b>Tv Socket Outlet Group</b>					
• Antenna Socket Through 6 dB Female	32 xxx 007	12	120	9,57	285 x 475 x 275
• Antenna Socket End 4 dB Female	32 xxx 027	12	120	6,63	285 x 475 x 275
• Antenna Socket End 0.5 dB Metal Case	32 xxx 087	12	120	10,44	285 x 475 x 275
• Antenna Socket Through 11 dB Metal Case*	32 xxx 088	12	120	10,44	285 x 475 x 275
• TV Antenna Socket Non-Resistance	32 xxx 142	12	120	10,47	285 x 475 x 275
• Antenna Socket Through Male	32 xxx 043	12	120	9,81	285 x 475 x 275
• Antenna Socket End Male	32 xxx 044	12	120	9,81	285 x 475 x 275
• TV-RF Antenna Socket Through 7 dB**	32 xxx 060	12	120	14,33	285 x 475 x 275
• TV-RF Antenna Socket End 1.5 dB	32 xxx 065	12	120	14,51	285 x 475 x 275
• TV-SAT Antenna Socket End 1 dB	32 xxx 098	12	120	14,03	285 x 475 x 275
• TV-SAT Antenna Socket Through 4 dB	32 xxx 083	12	120	14,03	285 x 475 x 275
• TV-RF-SAT Antenna Socket End 1.5 dB	32 xxx 066	12	120	11,78	285 x 475 x 275
• TV-RF-SAT Antenna Socket Through 4 dB	32 xxx 067	12	120	11,80	285 x 475 x 275
• SAT Antenna Socket Through	32 xxx 133	12	120	11,02	285 x 475 x 275
• SAT Antenna Socket End	32 xxx 134	12	120	11,04	285 x 475 x 275



Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### Data Transmission Group

Telephone Socket	32 xxx 014	12	120	9,16	285 x 475 x 275
Double Telephone Socket	32 xxx 034	12	120	9,57	285 x 475 x 275
Double Telephone Socket (1xCat3) with Data Connector	32 xxx 042	12	120	9,53	285 x 475 x 275
Double Data Socket Outlet (1xCat5)	32 xxx 035	12	120	9,83	285 x 475 x 275
Double Data Socket Outlet (2xCat5)	32 xxx 036	12	120	10,53	285 x 475 x 275
Data Socket Outlet (Cat5+ Telephone Socket)	32 xxx 037	12	120	10,17	285 x 475 x 275
Data Socket Outlet (empty)	32 xxx 038	12	120	8,39	285 x 475 x 275
Double Data Socket Outlet (1xCat6)	32 xxx 135	12	120	10,04	285 x 475 x 275
Double Data Socket Outlet (2xCat6)	32 xxx 136	12	120	10,82	285 x 475 x 275
Data Socket Outlet (Cat3+Cat6)	32 xxx 137	12	120	10,52	285 x 475 x 275
Double Data Socket-Outlet (1xCat 3)	32 xxx 075	12	120	9,85	285 x 475 x 275
Loudspeaker - connection, 1 gang	32 xxx 080	12	120	9,89	285 x 475 x 275

### Electronic Group

Dimmer 60-600W	32 xxx 011	10	100	13,47	370 x 485 x 260
Dimmer Coil Filtered 60-600W	32 xxx 031	10	100	17,59	410 x 545 x 315
Dimmer 60-1000W	32 xxx 093	10	100	10,70	370 x 485 x 260
1-10V Led Dimmer	32 xxx 459	10	100	13,90	385 x 500 x 275
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	32 xxx 045	10	100	15,85	410 x 545 x 315
Audio Switch 10 W	32 xxx 086	6	60	6,77	385 x 500 x 190
Emergency-Light	32 xxx 055	6	60	8,93	370 x 500 x 165
Warning Bell	32 xxx 056	6	60	5,92	370 x 500 x 165
Delayed Energy Saver (Without Relay)	32 xxx 046	10	100	12,93	410 x 545 x 315
Energy Saver (Without Relay)	32 xxx 183	12	120	10,87	285 x 475 x 275
Electro-Magnetic Energy Saver	32 xxx 301	12	120	7,90	365 x 472 x 215
Radio Frequency Energy saver	32 xxx 302	12	120	7,98	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	32 xxx 139K	5	30	3,84	190 x 290 x 272

### Frame Group

Frame	32 xxx 701	12	120	2,31	185 x 365 x 205
Double Horizontal Frame	32 xxx 702	25	250	6,55	335 x 475 x 300
Triple Horizontal Frame	32 xxx 703	20	200	8,34	417 x 455 x 290
Quartet Horizontal Frame	32 xxx 704	25	250	11,74	400 x 600 x 345
Fiftet Horizontal Frame	32 xxx 705	5	60	3,45	350 x 370 x 210
Sixtet Horizontal Frame	32 xxx 706	5	60	4,25	350 x 440 x 210
Double Vertical Frame	32 xxx 707	25	250	6,72	335 x 475 x 300
Triple Vertical Frame	32 xxx 708	20	200	8,36	417 x 455 x 290
Double Socket Outlet Frame **	32 xxx 710	12	120	4,12	180 x 450 x 270
Double Socket Outlet Frame High **	32 xxx 759	12	120	5,24	285 x 475 x 275

### Pastel Colour Frames Group \*\*\*

Frame	32 xxx 701	12	120	2,31	370 x 485 x 260
Double Horizontal Frame	32 xxx 702	25	250	6,55	410 x 545 x 315
Triple Horizontal Frame	32 xxx 703	20	200	8,34	410 x 545 x 315
Quartet Horizontal Frame	32 xxx 704	25	250	11,74	410 x 545 x 315
Fiftet Horizontal Frame	32 xxx 705	5	60	3,45	410 x 545 x 315
Sixtet Horizontal Frame	32 xxx 706	5	60	4,25	410 x 545 x 315
Double Vertical Frame	32 xxx 707	25	250	6,72	280 x 470 x 275
Triple Vertical Frame	32 xxx 708	20	200	8,36	410 x 545 x 315

(\*) Marked products are available with screwless terminal option. (••) Marked products can be ordered white and cream color.

(\*) 14 dB and 18 dB versions are available. (\*\*) 10 - 12 - 15 - 20 dB versions are available. (■) See page 231 for relay options for marked products.

(\*\*\*) The pastel colored frames can only be used with modules with white/cream button-cover. For information about the modules with button-cover, see pages 137-138.

### SAMPLE

	Product Name	Code No
White	Screw Switch	32 001 0 01
	Screwless Terminal Switch	32 001 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

\*\*\*Please specify your choice of pastel colors by applying below color codes into the 'xxx' marked space.

	Code No		Code No
Colors	xxx	Colors	xxx
Yellow	074	Blue	092
Lilac	078	Rose	093
Magenta	085	Oange	094
Green	091	Light Lilac	095

Please specify your choice of color by applying below color codes into the 'xxx' marked space.

	Code No		Code No		Code No
Colors	xxx	Colors	xxx	Colors	xxx
White	001	Metallic Silver	065	Green	052
Beige	010	Antrasit	086	Fume	050
Brown	009	Anthracite Frame	099	Pearls	100
Light Brown		Metallic Silver Button		Natural Cherry	103
Light Brown	097	Metallic Silver Frame	098	Natural Pine	105
Light Brown		Anthracite Button		Natural Oak	101
Brown	096	Gold	060	Natural Walnut	102
Brown		Dore		057	







# Lillium

Switch & Socket Outlet Series



## Colourful Products



White



Beige



Metallic Silver



Meeting of elegant and soft lines of white, cream and metallic silver colors.

Lillium is safe and decorative with its environmentally friendly product content and child protection within the sockets.

## Functions



One Way Switch



Two-Circuit Switch



One Way Switch Illuminated



3 Circuit Switch



Cooler Switch



Socket Outlet with Earthing Pin and Child Protection



Audio Switch 10 W



Dimmer



Data Socket Outlet



Loudspeaker - connection, 1 gang

## Design and Elegance On Walls with One-Touch

Multiple frames can provide several options such as providing lighting for indoors such as houses, offices and hotels and providing data transferring in order to meet several needs. Safety, comfort and productivity are met within the design oriented multiple frameworks of Lillium.



### Multi Frames



Double Horizontal Frame



Triple Horizontal Frame



Quartet Horizontal Frame



Quartet Horizontal Frame



Sixtet Horizontal Frame



Double Vertical Frame



Triple Vertical Frame



## Colors of Cords



10371 White



10378 Beige



10376 Green



10377 Yellow



10373 Red



10372 Gray



10375 Pink



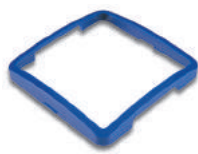
10380 Blue



10344 Lilac



10345 Magenta



10374 Dark Blue



## If you want to create difference in decoration...

You can create a special effect by using the cordon colors matching the three main colors of Lillium series.



10379 Painted Anthracite



10366 Painted Smoky



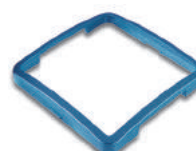
10367 Painted Grey



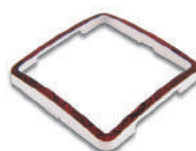
10368 Painted Champagne



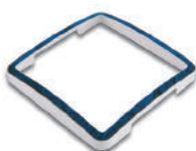
10369 Painted Green



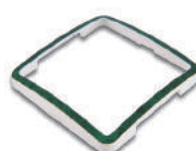
10370 Painted Blue



10363 Mahogany Leaf



10364 Blue Leaf



10365 Green Leaf



10362 Silver Leaf



10361 Gold Leaf

# Lillium Switch & Socket Outlet Series



**One Way Switch \***

70001

10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**One Way Switch Illuminated \***

70021

10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch \***

70003

10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch Illuminated \***

70023

10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch \***

70004

10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch Illuminated \***

70024

10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch \***

70005

10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch Illuminated \***

70025

10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch \***

70096

10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch Illuminated \***

70097

10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch \***

70020

10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch Illuminated \***

70040

10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Bell Switch \***  
 70050  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
 70085  
 10 A, 12 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch With Label \***  
 70010  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
 70070  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \*  
 With Label 12V**  
 70030  
 10 A, 12 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Control Switch 2-Pole \***  
 70071  
 16 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Double Two-Way Switch**  
 70026  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Shutter Push-Button \***  
 70041  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**3 Circuit Switch**  
 70091  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**3 Gang 3 Pole Switch**  
 70092  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**1 Gang 3 Circuit Switch**  
 70094  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**1 Gang 3 Pole Switch**  
 70095  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120

## Lillium Switch & Socket Outlet Series



**Socket Outlet**

70022

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet \***

70028

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Lid \***

70029

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Child Protection and Lid \***

18000254

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin \***

70019

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Child Protection**

70052

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin and Child Protection \***

70053

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Child Protection \***

70058

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet with Earthing Pin**

70018

16 A, 250 V  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet**

70017

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Schuko Socket Outlet**

70082

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Schuko Socket Outlet High**

70057

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.





**Antenna Socket Through  
6 dB Female**  
70007  
TSE K 72  
Piece in Box / Package - 12 / 120



**Antenna Socket End  
4 dB Female**  
70027  
TSE K 72  
Piece in Box / Package - 12 / 120



**Antenna Socket Through  
Male 6 dB**  
70043  
TSE K 72  
Piece in Box / Package - 12 / 120



**Antenna Socket End  
Male 4 dB**  
70044  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket Through 7 dB**  
70060  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket End 1.5 dB**  
70065  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket Through  
4 dB**  
70083  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket End  
1 dB**  
70098  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket  
Through 4 dB**  
70067  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket End  
1.5 dB**  
70066  
TSE K 72  
Piece in Box / Package - 12 / 120



**Telephone Socket**  
70014  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Telephone Socket**  
70034  
TSE K 71  
Piece in Box / Package - 12 / 120

# Lillium Switch & Socket Outlet Series



**Double Data Socket Outlet (1xCat5)**  
70035  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Data Socket Outlet (2xCat5)**  
70036  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (Cat5+Telephone Socket)**  
70037  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (empty)**  
70038  
TSE K 71  
Piece in Box / Package - 12 / 120



**Loudspeaker - connection, 1 gang**  
70080  
TSE K 71  
Piece in Box / Package - 12 / 120



**Dimmer**  
70011  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer Coil Filtered**  
70031  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package -- 10 / 100



**Dimmer**  
70093  
60-1000 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**1-10V Led Dimmer**  
18001459  
50Hz, 230 V~  
IEC 60669-2-1  
Piece in Box / Package - 10 / 100



**Remote Controlled Dimmer(IR) Coil Filtered**  
70045  
60-300 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Audio Switch 10 W**  
70086  
10 W  
Piece in Box / Package - 6 / 60



**Emergency-Light**  
70055  
250 V~  
Piece in Box / Package - 6 / 60



**Warning Bell**  
70056  
250 V~  
Piece in Box / Package - 6 / 60



**Delayed Energy Saver (Without Relay) \***  
70046  
10 A, 220 V~  
Piece in Box / Package - 10 / 100  
**Energy Saver (Without Relay)**  
70183  
10 A, 220 V~  
Piece in Box / Package - 12 / 120



**Electro-Magnetic Energy Saver \***  
70301  
12 V~  
Piece in Box / Package - 12 / 120  
**Radio Frequency Energy saver**  
70302  
12 V~  
Piece in Box / Package - 12 / 120



**Cooling Switch**  
70084  
16 A, 250 V~  
Piece in Box / Package - 12 / 120



**Surge-Protective Socket Outlet with Child Protection**  
18002139K  
16 A, 250 V~  
Piece in Box / Package - 5 / 30

\* Energy saver product visuals are given as representations, the card must be ordered separately.



**Frame**  
18001701



**Double Horizontal Frame**  
71012



**Triple Horizontal Frame**  
71013



**Quartet Horizontal Frame**  
71039



**Fiftet Horizontal Frame**  
71059



**Double Vertical Frame**  
71032



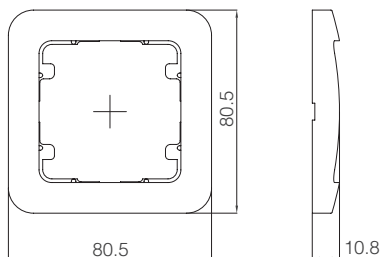
**Triple Vertical Frame**  
71033



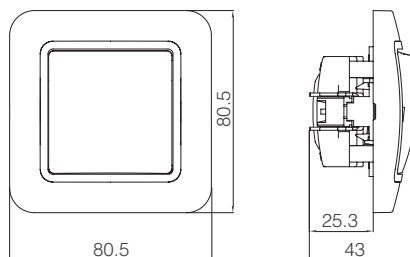
**Sixtet Horizontal Frame**  
71069

## Technical Drawings

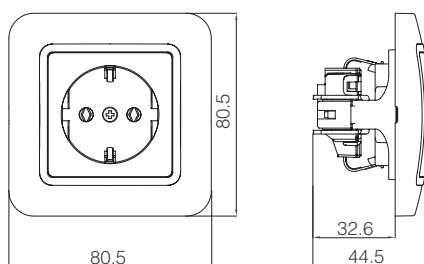
Frame



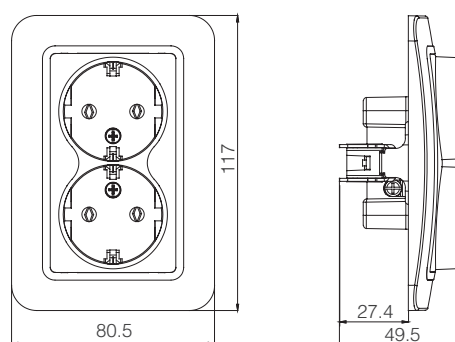
One Way Switch



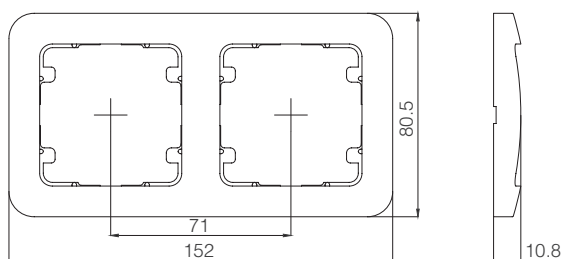
Schuko Socket Outlet



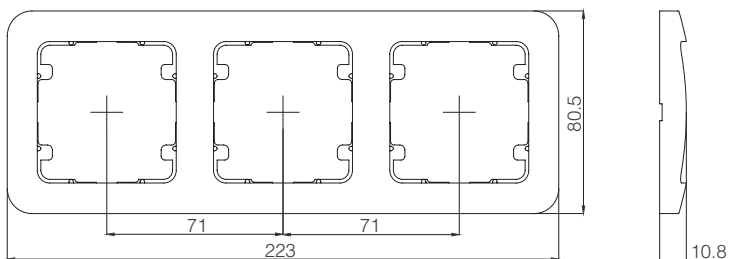
Double Schuko Socket Outlet



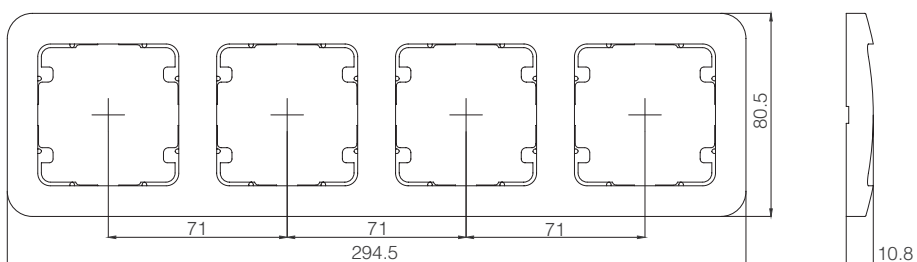
Double Horizontal Frame



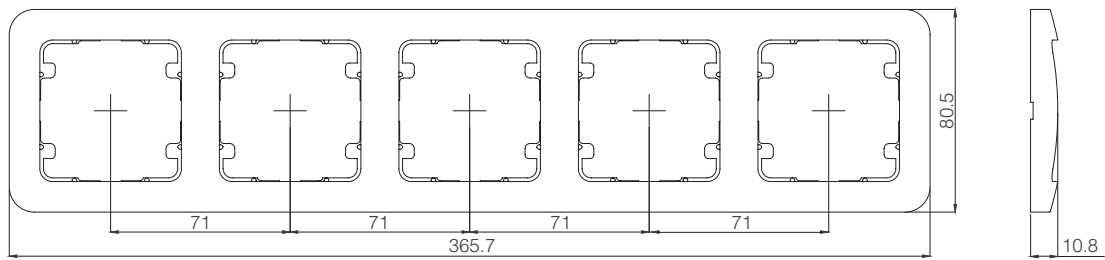
Triple Horizontal Frame



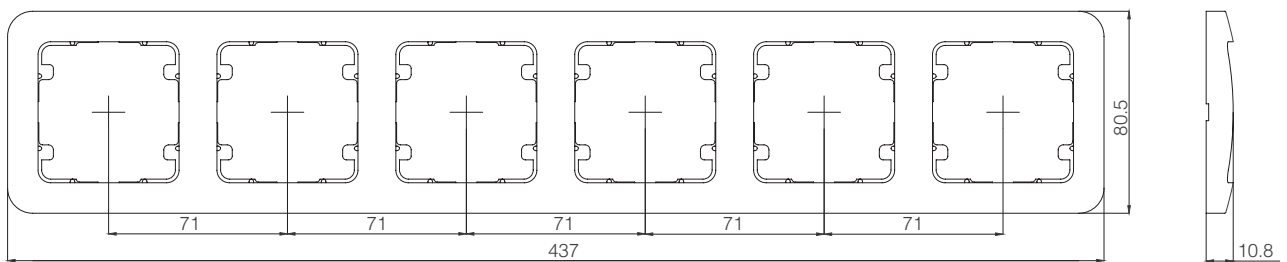
Quartet Horizontal Frame



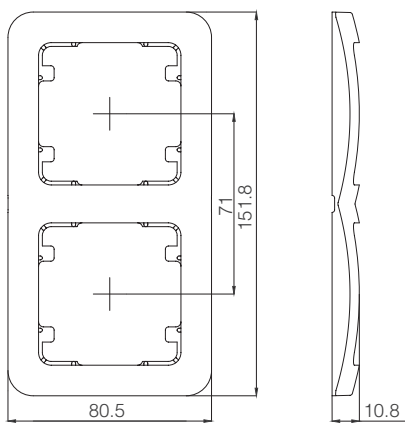
Fiftet Horizontal Frame



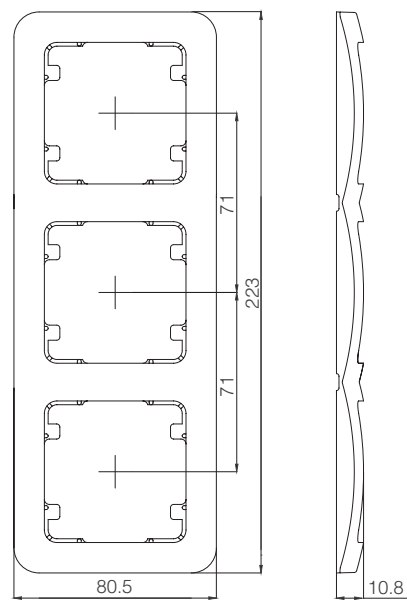
Sixtet Horizontal Frame



Double Vertical Frame



Triple Vertical Frame





# Lillium Switch & Socket Outlet Series

Product Name	Without Thin Frame (White-Beige) Code No.	With Thin Frame (White-Beige) Code No.	Piece in Box	Piece in Package	Without Thin Frame Gross Weight (kg) ***	Size of Package (mm)
<b>Switch Group</b>						
• One Way Switch	71 x 01	70 x 01	12	120	10,36	285 x 475 x 275
• One Way Switch Illuminated	71 x 21	70 x 21	12	120	10,71	285 x 475 x 275
• Two-Circuit Switch	71 x 03	70 x 03	12	120	10,88	285 x 475 x 275
• Two-Circuit Switch Illuminated	71 x 23	70 x 23	12	120	11,14	285 x 475 x 275
• Light Switch	71 x 04	70 x 04	12	120	10,45	285 x 475 x 275
• Light Switch Illuminated	71 x 24	70 x 24	12	120	11,60	285 x 475 x 275
• Two-Way Switch	71 x 05	70 x 05	12	120	10,57	285 x 475 x 275
• Two-Way Switch Illuminated	71 x 25	70 x 25	12	120	10,93	285 x 475 x 275
• Door Switch	71 x 96	70 x 96	12	120	10,45	285 x 475 x 275
• Door Switch Illuminated	71 x 97	70 x 97	12	120	10,45	285 x 475 x 275
• Intermediate Switch	71 x 20	70 x 20	12	120	10,94	285 x 475 x 275
• Intermediate Switch Illuminated	71 x 40	70 x 40	12	120	11,29	285 x 475 x 275
• Bell Switch	71 x 50	70 x 50	12	120	10,66	285 x 475 x 275
• Bell Switch Illuminated 12V	71 x 85	70 x 85	12	120	10,87	285 x 475 x 275
• Bell Switch Illuminated	71 x 70	70 x 70	12	120	10,92	285 x 475 x 275
• Bell Switch With Label	71 x 10	70 x 10	12	120	10,64	285 x 475 x 275
• Bell Switch Illuminated With Label 12V	71 x 30	70 x 30	12	120	10,86	285 x 475 x 275
• 3 Circuit Switch	71 x 91	70 x 91	12	120	11,55	285 x 475 x 275
• 3 Gang 3 Pole Switch	71 x 92	70 x 92	12	120	11,97	285 x 475 x 275
• 1 Gang 3 Circuit Switch	71 x 94	70 x 94	12	120	11,37	285 x 475 x 275
• 1 Gang 3 Pole Switch	71 x 95	70 x 95	12	120	11,85	285 x 475 x 275
• Cooling Switch	71 x 84	70 x 84	12	120	11,85	285 x 475 x 275
• Double Two-Way Switch	71 x 26	70 x 26	12	120	13,42	285 x 475 x 275
• Shutter Push-Button	71 x 41	70 x 41	12	120	11,08	285 x 475 x 275
• Control Switch 2-Pole	71 x 71	70 x 71	12	120	11,23	285 x 475 x 275
<b>Socket Outlet Group</b>						
• Socket Outlet	71 x 22	70 x 22	12	120	10,78	285 x 475 x 275
• Schuko Socket Outlet	71 x 28	70 x 28	12	120	11,03	285 x 475 x 275
• Schuko Socket Outlet Screwless ***	71 x 72	70 x 72	12	120	11,03	285 x 475 x 275
• Schuko Socket Outlet with Lid	71 x 29	70 x 29	12	120	12,48	335 x 475 x 300
• Schuko Socket Outlet Screwless with Lid	71 x 99	70 x 99	12	120	12,48	335 x 475 x 300
• Schuko Socket Outlet with Child Protection and Lid	18 xxx 254	18 xxx 254	12	120	12,48	335 x 475 x 300
• Schuko Socket Outlet Screwless with Child Protection and Lid	18 xxx 255	18 xxx 255	12	120	11,31	335 x 475 x 300
• Socket Outlet with Earthing Pin	71 x 19	70 x 19	12	120	12,33	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin ***	71 x 73	70 x 73	12	120	12,33	285 x 475 x 275
• Socket Outlet with Earthing Pin and Lid	71 x 16	70 x 16	12	120	12,88	335 x 475 x 300
• Socket Outlet with Child Protection	71 x 52	70 x 52	12	120	10,87	285 x 475 x 275
• Socket Outlet with Earthing Pin and Child Protection	71 x 53	70 x 53	12	120	11,84	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin and Child Protection ***	71 x 98	70 x 98	12	120	12,33	285 x 475 x 275
• Socket Outlet with Child Protection	18 xxx 300	18 xxx 300	12	120	13,12	335 x 475 x 300
• Schuko Socket Outlet with Child Protection	71 x 58	70 x 58	12	120	11,72	285 x 475 x 275
• Schuko Socket Outlet Screwless with Child Protection ***	71 x 74	70 x 74	12	120	11,03	285 x 475 x 275
• Double Socket Outlet with Earthing Pin	71 x 18	70 x 18	12	120	12,04	410 x 485 x 310
• Double Socket Outlet	71 x 17	70 x 17	12	120	11,00	335 x 475 x 300
• Double Schuko Socket Outlet	71 x 82	70 x 82	12	120	12,54	410 x 485 x 310
• Double Schuko Socket Outlet High	71 x 57	70 x 57	12	120	14,18	380 x 505 x 390
• Double Schuko Socket Outlet High Porcelain	71 x 68	70 x 68	12	120	19,92	380 x 505 x 390
<b>Tv Socket Outlet Group</b>						
• Antenna Socket Through 6 dB Female	71 x 07	70 x 07	12	120	10,65	285 x 475 x 275
• Antenna Socket End 4 dB Female	71 x 27	70 x 27	12	120	10,41	285 x 475 x 275
• Antenna Socket End 0.5 dB Metal Case	71 x 87	70 x 87	12	120	10,58	285 x 475 x 275
• Antenna Socket Through 11 dB Metal Case *	71 x 88	70 x 88	12	120	10,82	285 x 475 x 275
• TV Antenna Socket Non-Resistance ***	71 x 42	70 x 42	12	120	9,63	285 x 475 x 275
• Antenna Socket Through Male	71 x 43	70 x 43	12	120	9,81	285 x 475 x 275
• Antenna Socket End Male	71 x 44	70 x 44	12	120	8,99	285 x 475 x 275
• TV-RF Antenna Socket Through 7 dB **	71 x 60	70 x 60	12	120	14,43	285 x 475 x 275
• TV-RF Antenna Socket End 1.5 dB	71 x 65	70 x 65	12	120	14,61	285 x 475 x 275
• TV-SAT Antenna Socket End 1 dB	71 x 98	70 x 98	12	120	14,27	285 x 475 x 275
• TV-SAT Antenna Socket Through 4 dB	71 x 83	70 x 83	12	120	14,50	285 x 475 x 275
• TV-RF-SAT Antenna Socket End 1.5 dB	71 x 66	70 x 66	12	120	15,29	285 x 475 x 275
• TV-RF-SAT Antenna Socket Through 4 dB	71 x 67	70 x 67	12	120	15,53	285 x 475 x 275
• SAT Antenna Socket Through ***	71 x 33	70 x 33	12	120	11,19	285 x 475 x 275
• SAT Antenna Socket End ***	71 x 34	70 x 34	12	120	11,19	285 x 475 x 275

Product Name	Without Thin Frame (White-Beige) Code No.	With Thin Frame (White-Beige) Code No.	Piece in Box	Piece in Package	Without Thin Frame Gross Weight (kg) ***	Size of Package (mm)
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### Data Transmission Group

Telephone Socket	71 x 14	70 x 14	12	120	10,05	285 x 475 x 275
Double Telephone Socket	71 x 34	70 x 34	12	120	9,87	285 x 475 x 275
Double Telephone Socket (1xCat3) with Data Connector	18 xxx 042	18 xxx 042	12	120	9,22	285 x 475 x 275
Double Data Socket Outlet (1xCat5)	71 x 35	70 x 35	12	120	9,81	285 x 475 x 275
Double Data Socket Outlet (2xCat5)	71 x 36	70 x 36	12	120	10,35	285 x 475 x 275
Data Socket Outlet (Cat5+ Telephone Socket)	71 x 37	70 x 37	12	120	10,23	285 x 475 x 275
Data Socket Outlet (empty)	71 x 38	70 x 38	12	120	8,49	285 x 475 x 275
Double Data Socket Outlet (1xCat6)	18 xxx 135	18 xxx 135	12	120	9,84	285 x 475 x 275
Double Data Socket Outlet (2xCat6)	18 xxx 136	18 xxx 136	12	120	10,39	285 x 475 x 275
Data Socket Outlet (Cat3+Cat6)	18 xxx 137	18 xxx 137	12	120	10,23	285 x 475 x 275
Double Data Socket-Outlet (1xCat 3)	18 xxx 075	18 xxx 075	12	120	9,75	285 x 475 x 275
Loudspeaker - connection, 1 gang	71 x 80	74 x 80	12	120	9,99	285 x 475 x 275

### Electronic Group

Dimmer 60-600W	71 x 11	70 x 11	10	100	11,33	370 x 485 x 260
Dimmer Coil Filtered 60-600W	71 x 31	70 x 31	10	100	17,69	410 x 545 x 315
Dimmer 60-1000W	71 x 93	70 x 93	10	100	12,89	370 x 485 x 260
1-10V Led Dimmer	18 xxx 459	18 xxx 459	10	100	14,20	385 x 500 x 275
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	71 x 45	70 x 45	10	100	15,85	410 x 545 x 315
Audio Switch 10 W	71 x 86	70 x 86	6	60	7,70	385 x 500 x 190
Emergency-Light	71 x 55	70 x 55	6	60	9,01	370 x 500 x 165
Warning Bell	71 x 56	70 x 56	6	60	8,26	370 x 500 x 165
■ Delayed Energy Saver (Without Relay)	71 x 46	70 x 46	12	120	13,08	410 x 545 x 315
■ Energy Saver (Without Relay) ***	71 x 83	70 x 83	12	120	14,50	285 x 475 x 275
■ Electro-Magnetic Energy Saver	18 xxx 301	18 xxx 301	12	120	8,49	365 x 472 x 215
■ Radio Frequency Energy saver	18 xxx 302	18 xxx 302	12	120	8,29	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	18 xxx 139K	18 xxx 139K	5	30	3,84	190 x 290 x 272

### Frame Group

Frame	18 xxx 701	18 xxx 701	12	120	2,47	185 x 365 x 205
Double Horizontal Frame	71 x 12	18 xxx 702	25	250	7,45	335 x 475 x 300
Triple Horizontal Frame	71 x 13	18 xxx 703	20	200	9,08	417 x 455 x 290
Quartet Horizontal Frame	71 x 39	18 xxx 704	25	250	13,70	410 x 545 x 315
Fiftet Horizontal Frame	71 x 59	18 xxx 705	5	60	3,55	210 x 370 x 345
Sixtet Horizontal Frame	71 x 69	18 xxx 706	5	60	4,00	440 x 450 x 140
Double Vertical Frame	71 x 32	18 xxx 707	25	250	7,92	335 x 475 x 300
Triple Vertical Frame	71 x 33	18 xxx 708	20	200	8,38	417 x 455 x 290
Double Socket Outlet Frame **	18 xxx 710	18 xxx 710	12	120	4,02	180 x 450 x 270
Double Socket Outlet Frame High **	18 xxx 759	18 xxx 759	12	120	4,36	285 x 475 x 275

(•) Marked products are available with screwless terminal option.

(••) Marked products can be ordered only in white and beige colors.

(•••) Must add 0,34 / 0,40 kg to gross weight for orders with thin frame.

■ See page 231 for relay options for marked products.

(\*) 14 dB and 18 dB versions are available.

(\*\*) 10 - 12 - 15 - 20 dB versions are available.

#### SAMPLE

	Product Name	Code No
White	Screw Switch	71 0 01
	Screwless Terminal Switch	71 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

Within the product codes showing 'xxx', and 'x' enter the color codes from the table below.

Colors	Code No	
	xxx	x
White	001	0
Beige	010	2
Metallic Silver	036	6

In orders for products with slots, in place of 'x', write '7' for metallic Silver.

For the frame cords showing 'xxx' enter the color codes from the table.

	Code No
Colors	xxx
White	002
Beige	012

(\*\*\*) The order shall be placed with increasing the code in the 3rd order by 1

#### SAMPLE

	Product Name	Code No
White	Energy Saver (Without Relay)	71 1 83
	Sat Antenna Socket Single - Transient	71 1 33
	Sat Antenna Socket Single - Terminated	71 1 34
Beige	Energy Saver (Without Relay)	71 3 83
	Sat Antenna Socket Single - Transient	71 3 33
	Sat Antenna Socket Single - Terminated	71 3 34

# Lillium Switch & Socket Outlet Series

## Thin Frames

Product Name	Code No.	Piece in Box	Piece in Package	Without Thin Frame Gross Weight (kg) ***	Size of Package (mm)
<b>Painted Thin Frames (Single)</b>					
Thin Frame / Fume	10366	120	1200	6,53	380 x 505 x 390
Thin Frame / Gray	10367	120	1200	6,53	380 x 505 x 390
Thin Frame / Champagne	10368	120	1200	6,53	380 x 505 x 390
Thin Frame / Green	10369	120	1200	6,53	380 x 505 x 390
Thin Frame / Blue	10370	120	1200	6,53	380 x 505 x 390
Thin Frame / Anthracite	10379	120	1200	6,53	380 x 505 x 390
<b>Color and Leaf Thin Frames (Single)</b>					
Thin Frame / White	10371	120	1200	6,50	380 x 505 x 390
Thin Frame / Gray	10372	120	1200	6,50	380 x 505 x 390
Thin Frame / Red	10373	120	1200	6,53	380 x 505 x 390
Thin Frame / Dark Blue	10374	120	1200	6,53	380 x 505 x 390
Thin Frame / Pink	10375	120	1200	6,53	380 x 505 x 390
Thin Frame / Green	10376	120	1200	6,53	380 x 505 x 390
Thin Frame / Yellow	10377	120	1200	6,53	380 x 505 x 390
Thin Frame / Beige	10378	120	1200	6,50	380 x 505 x 390
Thin Frame / Blue	10380	120	1200	6,53	380 x 505 x 390
Thin Frame / Lilac	10344	120	1200	6,53	380 x 505 x 390
Thin Frame / Magenta	10345	120	1200	6,53	380 x 505 x 390
Thin Frame / Gold Leaf	10361	120	1200	6,51	380 x 505 x 390
Thin Frame / Silver Leaf	10362	120	1200	6,51	380 x 505 x 390
Thin Frame / Mahogany Leaf	10363	120	1200	6,51	380 x 505 x 390
Thin Frame / Bule Leaf	10364	120	1200	6,51	380 x 505 x 390
Thin Frame / Green Leaf	10365	120	1200	6,51	380 x 505 x 390

## Thin Frames

Product Name	Code No.	Piece in Box	Piece in Package	Without Thin Frame Gross Weight (kg) ***	Size of Package (mm)
<b>Painted Thin Frames (Double)</b>					
Thin Frame / Fume	10266	60	600	4,18	410 x 485 x 310
Thin Frame / Gray	10267	60	600	4,18	410 x 485 x 310
Thin Frame / Champagne	10268	60	600	4,18	410 x 485 x 310
Thin Frame / Green	10269	60	600	4,18	410 x 485 x 310
Thin Frame / Blue	10270	60	600	4,18	410 x 485 x 310
Thin Frame / Anthracite	10279	60	600	4,18	410 x 485 x 310
<b>Color and Leaf Thin Frames (Double)</b>					
Thin Frame / White	10271	60	600	4,16	410 x 485 x 310
Thin Frame / Gray	10272	60	600	4,16	410 x 485 x 310
Thin Frame / Red	10273	60	600	4,18	410 x 485 x 310
Thin Frame / Dark Blue	10274	60	600	4,18	410 x 485 x 310
Thin Frame / Pink	10275	60	600	4,18	410 x 485 x 310
Thin Frame / Green	10276	60	600	4,18	410 x 485 x 310
Thin Frame / Yellow	10277	60	600	4,18	410 x 485 x 310
Thin Frame / Beige	10278	60	600	4,16	410 x 485 x 310
Thin Frame / Blue	10280	60	600	4,16	410 x 485 x 310
Thin Frame / Lilac	10244	60	600	4,16	410 x 485 x 310
Thin Frame / Magenta	10245	60	600	4,16	410 x 485 x 310
Thin Frame / Gold Leaf	10261	60	600	4,17	410 x 485 x 310
Thin Frame / Silver Leaf	10262	60	600	4,17	410 x 485 x 310
Thin Frame / Mahogany Leaf	10263	60	600	4,17	410 x 485 x 310
Thin Frame / Bule Leaf	10264	60	600	4,17	410 x 485 x 310
Thin Frame / Green Leaf	10265	60	600	4,17	410 x 485 x 310

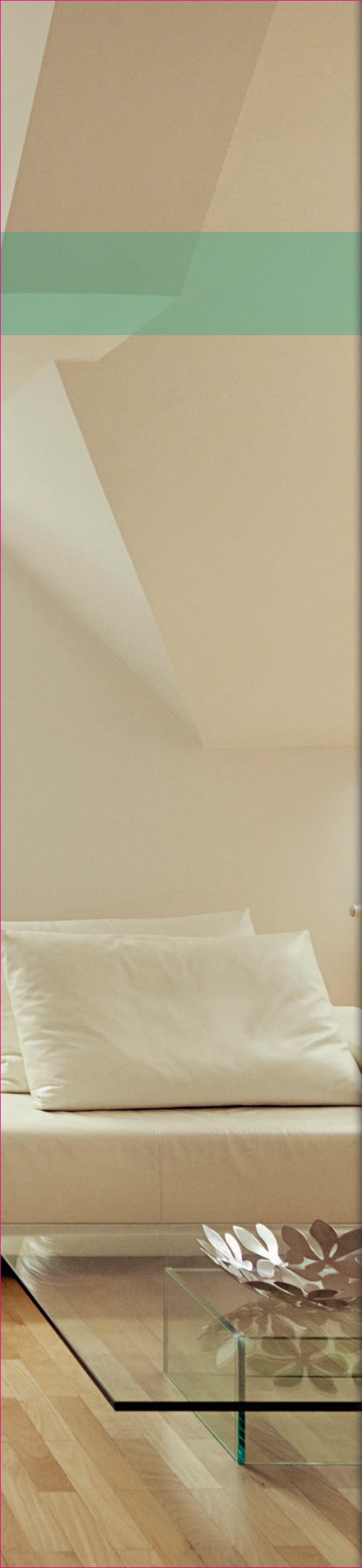






# Lillium Kare

Switch & Socket Outlet Series



## Colourful Products



White



Beige



Metallic Silver

Feel the simple and relaxing effect of white, cream and metallic silver tones.



You can add a modern spirit to your living spaces with the special structure, different functions, stylish design and aesthetics of Lillium Kare.

## Functions



One Way Switch



Two-Circuit Switch



3 Circuit Switch



Cooler Switch



Socket Outlet with Earthing Pin and Child Protection



Audio Switch 10 W



Dimmer



Data Socket Outlet



Loudspeaker - connection, 1 gang

## Unique environments emerging from unique designs

With multiple framework options, it combines functions and colors matching every environment, allowing you to create elegant and stylish atmospheres easily.



### Multi Frames



Double Horizontal Frame



Triple Horizontal Frame



Double Vertical Frame



Quartet Horizontal Frame



Triple Vertical Frame



Fiftet Horizontal Frame



Sixtet Horizontal Frame

# Lillium Kare Switch & Socket Outlet Series

## Colors of Cords



10371 White



10378 Beige



10376 Green



10377 Yellow



10373 Red



10372 Gray



10375 Pink



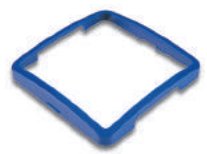
10380 Blue



10344 Lilac



10345 Magenta

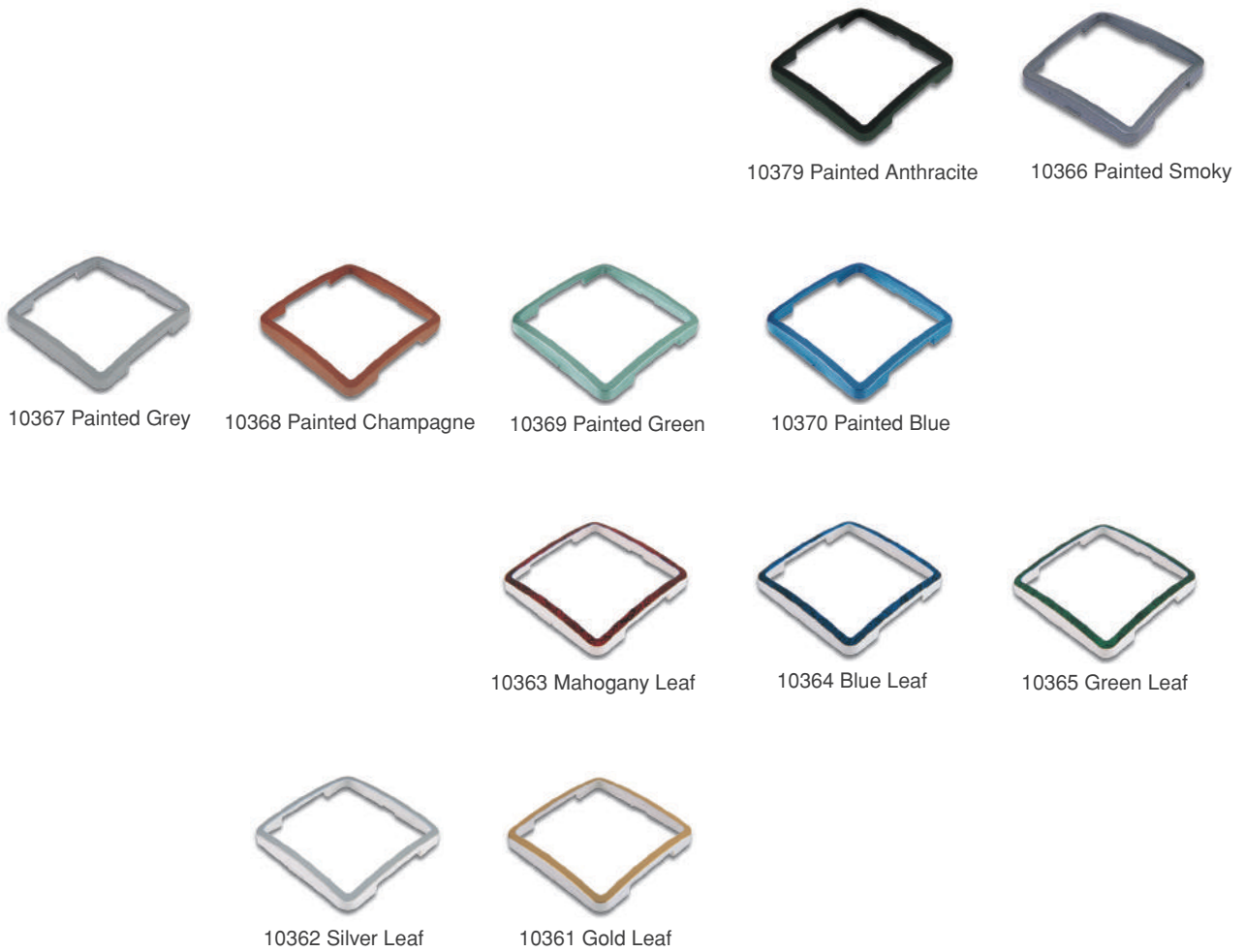


10374 Dark Blue





The color choices of Lillium Kare cord scala allowing you to create your own design options.





# Lillium Kare Switch & Socket Outlet Series



**One Way Switch \***

31002001  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**One Way Switch Illuminated \***

31002021  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch \***

31002003  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch Illuminated \***

31002023  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch \***

31002004  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch Illuminated \***

31002024  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch \***

31002005  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch Illuminated \***

31002025  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch \***

31002096  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch Illuminated \***

31002097  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch \***

31002020  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch Illuminated \***

31002040  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Bell Switch \***  
31002050  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
12V31002085  
10 A, 12 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch With Label \***  
31002010  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
31002070  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
With Label 12V  
31002030  
10 A, 12 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Control Switch 2-Pole \***  
31002071  
16 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Double Two-Way Switch**  
31002026  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Double Two-Way Switch \***  
31002041  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**3 Circuit Switch**  
31002091  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**3 Gang 3 Pole Switch**  
31002092  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**1 Gang 3 Circuit Switch**  
31002094  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**1 Gang 3 Pole Switch**  
31002095  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120

# Lillium Kare Switch & Socket Outlet Series



**Socket Outlet**

31002022

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet \***

31002028

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Lid \***

31002029

16 A, 250 V~  
IEC 60884-1  
Kutu / Koli Adedi - 12 / 120



**Schuko Socket Outlet with Child Protection and Lid \***

31002254

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin \***

31002019

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Child Protection**

31002052

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin and Child Protection \***

31002053

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Child Protection \***

31002058

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet with Earthing Pin**

31002018

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet**

31002017

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Schuko Socket Outlet**

31002082

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Schuko Socket Outlet High**

31002057

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Antenna Socket Through**  
**6 dB Female**  
 31002007  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**4 dB Female**  
 31002027  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket Through**  
**Male 6 dB**  
 31002043  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Antenna Socket End**  
**Male 4 dB**  
 31002044  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket Through 7 dB**  
 31002060  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket End 1.5 dB**  
 31002065  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket Through**  
**4 dB**  
 31002083  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket End**  
**1 dB**  
 31002098  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket**  
**Through 4 dB**  
 31002067  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket End**  
**1.5 dB**  
 31002066  
 TSE K 72  
 Piece in Box / Package - 12 / 120



**Telephone Socket**  
 31002014  
 TSE K 71  
 Piece in Box / Package - 12 / 120



**Double Telephone Socket**  
 31002034  
 TSE K 71  
 Piece in Box / Package - 12 / 120

## Lillium Kare Switch & Socket Outlet Series



**Double Data Socket Outlet (1xCat5)**  
31002035  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Data Socket Outlet (2xCat5)**  
31002036  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet  
(Cat5+Telephone Socket)**  
31002037  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (empty)**  
31002038  
TSE K 71  
Piece in Box / Package - 12 / 120



**Loudspeaker - connection, 1 gang**  
31002080  
TSE K 71  
Piece in Box / Package - 12 / 120



**Dimmer**  
31002011  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer Coil Filtered**  
31002031  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer**  
31002093  
60-1000 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**1-10V Led Dimmer**  
31002359  
50Hz, 230 V~  
IEC 60669-2-1  
Piece in Box / Package - 10 / 100



**Remote Controlled Dimmer(IR)  
Coil Filtered**  
31002045  
60-300 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Audio Switch 10 W**  
31002086  
10 W  
Piece in Box / Package - 6 / 60



**Emergency-Light**  
31002055  
250 V~  
Piece in Box / Package - 6 / 60





**Warning Bell**  
31002056  
250 V~  
Piece in Box / Package - 6 / 60



**Delayed Energy Saver (Without Relay)\***  
31002046  
10A, 220 V~  
Piece in Box / Package - 10 / 100  
**Energy Saver (Without Relay)**  
31002183  
10A, 220 V~  
Piece in Box / Package - 12 / 120



**Electro-Magnetic Energy Saver\***  
31002301  
12 V ~  
Piece in Box / Package - 12 / 120  
**Radio Frequency Energy saver**  
31002302  
12 V ~  
Piece in Box / Package - 12 / 120



**Cooling Switch**  
31002084  
16 A, 250 V~  
Piece in Box / Package - 12 / 120



**Surge-Protective Socket Outlet with Child Protection**  
31002139K  
16 A, 250 V~  
Piece in Box / Package - 5 / 30

\* Energy saver product visuals are given as representations, the card must be ordered separately.



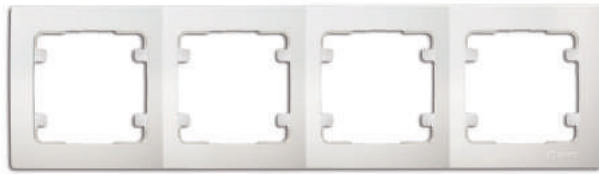
**Frame**  
31001701



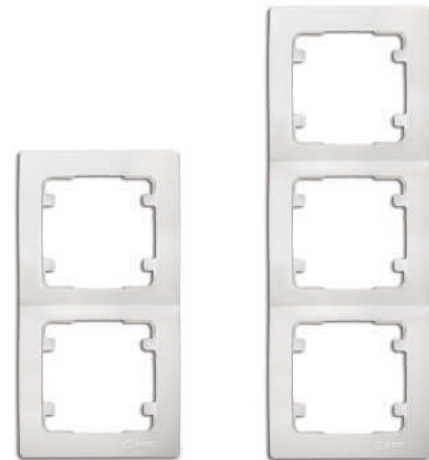
**Double Horizontal Frame**  
31001702



**Triple Horizontal Frame**  
31001703



**Quartet Horizontal Frame**  
31001704



**Double Vertical Frame** **Triple Vertical Frame**  
31001707 31001708



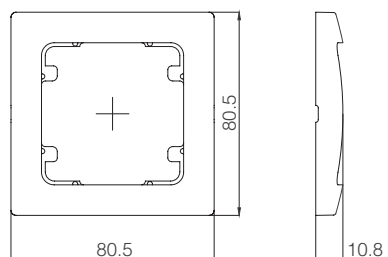
**Fiftet Horizontal Frame**  
31001705



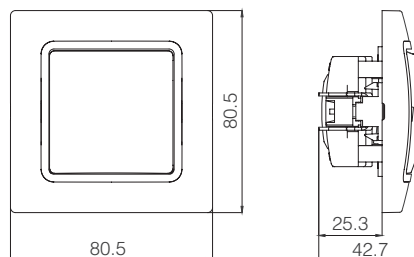
**Sixtet Horizontal Frame**  
31001706

## Technical Drawings

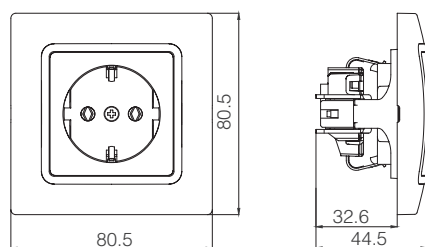
Frame



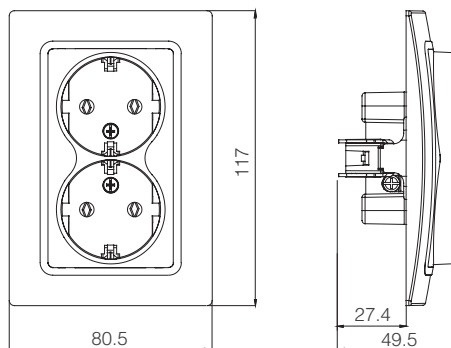
One Way Switch



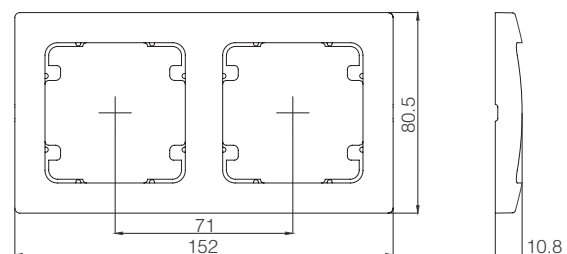
Schuko Socket Outlet



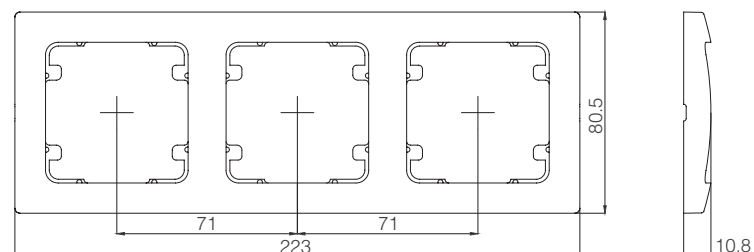
Double Schuko Socket Outlet



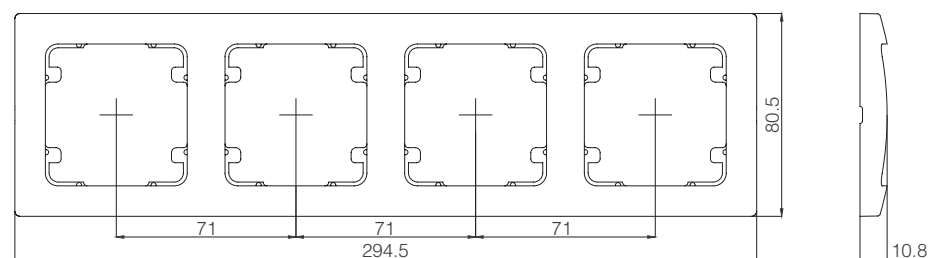
Double Horizontal Frame



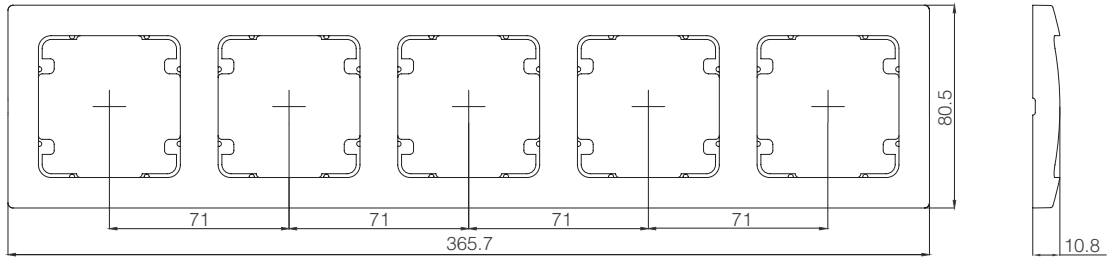
Triple Horizontal Frame



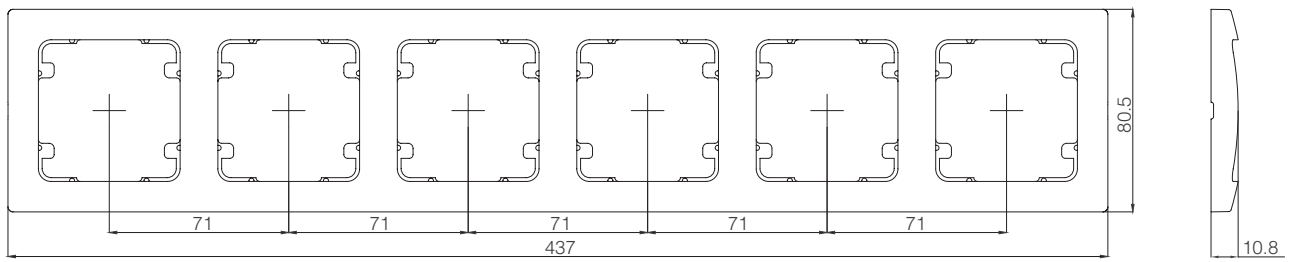
Quartet Horizontal Frame



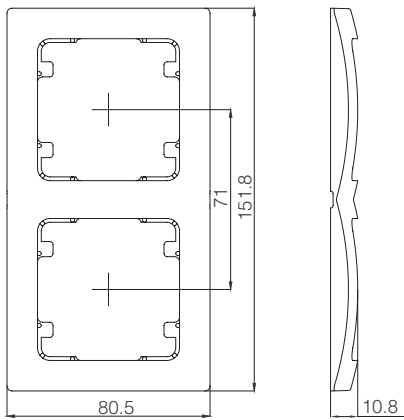
Fiftet Horizontal Frame



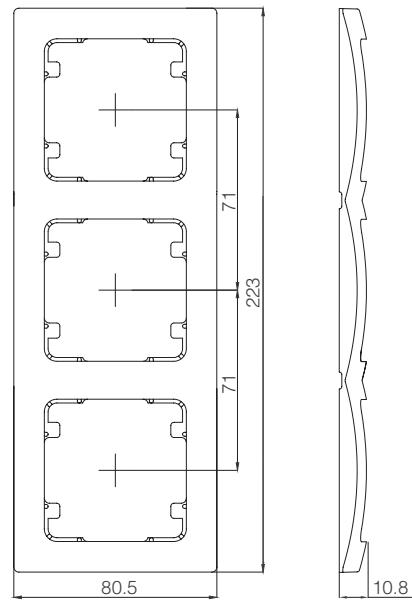
Sixtet Horizontal Frame



Double Vertical Frame



Triple Vertical Frame



# Lillium Kare Switch & Socket Outlet Series

Product Name	Code No.	Piece in Box	Piece in Package	Without Thin Frame Gross Weight (kg) ***	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch	31 xxx 001	12	120	10,27	285 x 475 x 275
• One Way Switch Illuminated	31 xxx 021	12	120	10,62	285 x 475 x 275
• Two-Circuit Switch	31 xxx 003	12	120	10,79	285 x 475 x 275
• Two-Circuit Switch Illuminated	31 xxx 023	12	120	11,05	285 x 475 x 275
• Light Switch	31 xxx 004	12	120	10,36	285 x 475 x 275
• Light Switch Illuminated	31 xxx 024	12	120	11,51	285 x 475 x 275
• Two-Way Switch	31 xxx 005		120	10,48	285 x 475 x 275
• Two-Way Switch Illuminated	31 xxx 025	12	120	10,84	285 x 475 x 275
• Door Switch	31 xxx 096	12	120	10,36	285 x 475 x 275
• Door Switch Illuminated	31 xxx 097	12	120	10,87	285 x 475 x 275
• Intermediate Switch	31 xxx 020	12	120	10,81	285 x 475 x 275
• Intermediate Switch Illuminated	31 xxx 040	12	120	11,20	285 x 475 x 275
• Bell Switch	31 xxx 050	12	120	10,57	285 x 475 x 275
• Bell Switch Illuminated 12V	31 xxx 085	12	120	10,78	285 x 475 x 275
• Bell Switch Illuminated	31 xxx 070	12	120	10,83	285 x 475 x 275
• Bell Switch With Label	31 xxx 010	12	120	10,55	285 x 475 x 275
• Bell Switch Illuminated With Label 12V	31 xxx 030	12	120	10,77	285 x 475 x 275
• 3 Circuit Switch	31 xxx 091	12	120	11,46	285 x 475 x 275
• 3 Gang 3 Pole Switch	31 xxx 092	12	120	11,88	285 x 475 x 275
• 1 Gang 3 Circuit Switch	31 xxx 094	12	120	8,98	285 x 475 x 275
• 1 Gang 3 Pole Switch	31 xxx 095	12	120	11,76	285 x 475 x 275
• Cooling Switch	31 xxx 084	12	120	10,85	285 x 475 x 275
• Double Two-Way Switch	31 xxx 026	12	120	13,34	285 x 475 x 275
• Shutter Push-Button	31 xxx 041	12	120	10,99	285 x 475 x 275
• Control Switch 2-Pole	31 xxx 071	12	120	11,14	285 x 475 x 275
<b>Socket Outlet Group</b>					
• Socket Outlet	31 xxx 022	12	120	10,69	285 x 475 x 275
• Schuko Socket Outlet	31 xxx 028	12	120	10,94	285 x 475 x 275
• Schuko Socket Outlet Screwless	31 xxx 172	12	120	8,26	285 x 475 x 275
• Schuko Socket Outlet with Lid	31 xxx 029	12	120	12,39	335 x 475 x 300
• Schuko Socket Outlet Screwless with Lid	31 xxx 099	12	120	12,82	335 x 475 x 300
• Schuko Socket Outlet with Child Protection and Lid	31 xxx 254	12	120	12,39	335 x 475 x 300
• Schuko Socket Outlet Screwless with Child Protection and Lid	31 xxx 255	12	120	12,82	335 x 475 x 300
• Socket Outlet with Earthing Pin	31 xxx 019	12	120	12,24	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin	31 xxx 173	12	120	12,41	285 x 475 x 275
• Socket Outlet with Earthing Pin and Lid	31 xxx 016	12	120	12,45	335 x 475 x 300
• Socket Outlet with Child Protection	31 xxx 052	12	120	10,78	285 x 475 x 275
• Socket Outlet with Earthing Pin and Child Protection	31 xxx 053	12	120	11,75	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin and Child Protection	31 xxx 198	12	120	12,37	285 x 475 x 275
• Socket Outlet with Child Protection	31 xxx 300	12	120	12,69	335 x 475 x 300
• Schuko Socket Outlet with Child Protection	31 xxx 058	12	120	11,63	285 x 475 x 275
• Schuko Socket Outlet Screwless with Child Protection	31 xxx 174	12	120	11,53	285 x 475 x 275
• Double Socket Outlet with Earthing Pin	31 xxx 018	12	120	11,95	410 x 485 x 310
• Double Socket Outlet	31 xxx 017	12	120	10,91	335 x 475 x 300
• Double Schuko Socket Outlet	31 xxx 082	12	120	12,45	410 x 485 x 310
• Double Schuko Socket Outlet High	31 xxx 057	12	120	12,67	380 x 505 x 390
• Double Schuko Socket Outlet High Porcelain	31 xxx 068	12	120	20,61	380 x 505 x 390
<b>Tv Socket Outlet Group</b>					
• Antenna Socket Through 6 dB Female	31 xxx 007	12	120	10,56	285 x 475 x 275
• Antenna Socket End 4 dB Female	31 xxx 027	12	120	10,32	285 x 475 x 275
• Antenna Socket End 0.5 dB Metal Case	31 xxx 087	12	120	8,03	285 x 475 x 275
• Antenna Socket Through 11 dB Metal Case *	31 xxx 088	12	120	10,81	285 x 475 x 275
• TV Antenna Socket Non-Resistance	31 xxx 142	12	120	10,84	285 x 475 x 275
• Antenna Socket Through Male	31 xxx 043	12	120	10,86	285 x 475 x 275
• Antenna Socket End Male	31 xxx 044	12	120	10,72	285 x 475 x 275
• TV-RF Antenna Socket Through 7 dB **	31 xxx 060	12	120	14,34	285 x 475 x 275
• TV-RF Antenna Socket End 1.5 dB	31 xxx 065	12	120	14,52	285 x 475 x 275
• TV-SAT Antenna Socket End 1 dB	31 xxx 098	12	120	14,20	285 x 475 x 275
• TV-SAT Antenna Socket Through 4 dB	31 xxx 083	12	120	14,43	285 x 475 x 275
• TV-RF-SAT Antenna Socket End 1.5 dB	31 xxx 066	12	120	15,20	285 x 475 x 275
• TV-RF-SAT Antenna Socket Through 4 dB	31 xxx 067	12	120	15,44	285 x 475 x 275
• SAT Antenna Socket Through	31 xxx 133	12	120	9,65	285 x 475 x 275
• SAT Antenna Socket End	31 xxx 134	12	120	9,65	285 x 475 x 275

Product Name	Code No.	Piece in Box	Piece in Package	Without Thin Frame Gross Weight (kg) ***	Size of Package (mm)
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### Data Transmission Group

Telephone Socket	31 xxx 014	12	120	9,96	285 x 475 x 275
Double Telephone Socket	31 xxx 034	12	120	9,78	285 x 475 x 275
Double Telephone Socket (1xCat3) with Data Connector	31 xxx 042	12	120	10,13	285 x 475 x 275
Double Data Socket Outlet (1xCat5)	31 xxx 035	12	120	9,72	285 x 475 x 275
Double Data Socket Outlet (2xCat5)	31 xxx 036	12	120	10,26	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket)	31 xxx 037	12	120	10,14	285 x 475 x 275
Data Socket Outlet (empty)	31 xxx 038	12	120	8,40	285 x 475 x 275
Double Data Socket Outlet (1xCat6)	31 xxx 135	12	120	9,38	285 x 475 x 275
Double Data Socket Outlet (2xCat6)	31 xxx 136	12	120	10,16	285 x 475 x 275
Data Socket Outlet (Cat3+Cat6)	31 xxx 137	12	120	10,19	285 x 475 x 275
Double Data Socket-Outlet (1xCat 3)	31 xxx 075	12	120	9,30	285 x 475 x 275
Loudspeaker - connection, 1 gang	31 xxx 080	12	120	11,38	285 x 475 x 275

### Electronic Group

Dimmer 60-600W	31 xxx 011	10	100	11,24	370 x 485 x 260
Dimmer Coil Filtered 60-600W	31 xxx 031	10	100	17,88	410 x 545 x 315
Dimmer 60-1000W	31 xxx 093	10	100	10,99	370 x 485 x 260
1-10V Led Dimmer	31 xxx 459	10	100	14,10	385 x 500 x 275
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	31 xxx 045	10	100	15,85	410 x 545 x 315
Audio Switch 10 W	31 xxx 086	6	60	6,95	385 x 500 x 190
Emergency-Light	31 xxx 055	6	60	9,10	370 x 500 x 165
Warning Bell	31 xxx 056	6	60	9,73	285 x 475 x 275
■ Delayed Energy Saver (Without Relay)	31 xxx 046	12	120	14,05	410 x 545 x 315
■ Energy Saver (Without Relay)	31 xxx 183	12	120	11,24	285 x 475 x 275
■ Electro-Magnetic Energy Saver	31 xxx 301	12	120	8,00	365 x 472 x 215
■ Radio Frequency Energy saver	31 xxx 302	12	120	8,15	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	31 xxx 139K	5	30	3,84	190 x 290 x 272

### Frame Group

Frame	31 xxx 701	12	120	2,35	185 x 365 x 205
Double Horizontal Frame	31 xxx 702	25	250	6,90	335 x 475 x 300
Triple Horizontal Frame	31 xxx 703	20	200	8,22	417 x 455 x 290
Quartet Horizontal Frame	31 xxx 704	25	250	12,07	400 x 600 x 345
Fiftet Horizontal Frame	31 xxx 705	5	60	3,90	350 x 370 x 210
Sixtet Horizontal Frame	31 xxx 706	5	60	4,60	350 x 440 x 210
Double Vertical Frame	31 xxx 707	25	250	6,91	335 x 475 x 300
Triple Vertical Frame	31 xxx 708	20	200	8,37	417 x 455 x 290
Double Socket Outlet Frame **	31 xxx 710	12	120	3,22	180 x 450 x 270
Double Socket Outlet Frame High**	31 xxx 759	12	120	4,35	285 x 475 x 275

- (•) Marked products are available with screwless terminal option.  
 (••) Marked products can be ordered only in white and beige colors.  
 (■) See page 231 for relay options for marked products.

- (\*) 14 dB and 18 dB versions are available.  
 (\*\*\*) 10 - 12 - 15 - 20 dB versions are available.  
 (\*\*\*) Must add 0,34 / 0,40 kg to gross weight for orders with thin frame.

### SAMPLE

	Product Name	Code No
White	Screw Switch	31 001 0 01
	Screwless Terminal Switch	31 001 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

Please specify your choice of color by applying below color codes into the 'xxx' marked space.

Colors	Code No
White Without Thin Frame	001
White With Thin Frame	002
Beige Without Thin Frame	010
Beige With Thin Frame	012
Metallic Silver With Thin Frame	036
Anthracite With Thin Frame	034



# Lillium Kare Switch & Socket Outlet Series

## Thin Frames

Product Name	Code No.	Piece in Box	Piece in Package	Without Thin Frame Gross Weight (kg) ***	Size of Package (mm)
<b>Painted Thin Frames (Single)</b>					
Thin Frame / Fume	10366	120	1200	6,53	380 x 505 x 390
Thin Frame / Gray	10367	120	1200	6,53	380 x 505 x 390
Thin Frame / Champagne	10368	120	1200	6,53	380 x 505 x 390
Thin Frame / Green	10369	120	1200	6,53	380 x 505 x 390
Thin Frame / Blue	10370	120	1200	6,53	380 x 505 x 390
Thin Frame / Anthracite	10379	120	1200	6,53	380 x 505 x 390
<b>Color and Leaf Thin Frames (Single)</b>					
Thin Frame / White	10371	120	1200	6,50	380 x 505 x 390
Thin Frame / Gray	10372	120	1200	6,50	380 x 505 x 390
Thin Frame / Red	10373	120	1200	6,53	380 x 505 x 390
Thin Frame / Dark Blue	10374	120	1200	6,53	380 x 505 x 390
Thin Frame / Pink	10375	120	1200	6,53	380 x 505 x 390
Thin Frame / Green	10376	120	1200	6,53	380 x 505 x 390
Thin Frame / Yellow	10377	120	1200	6,53	380 x 505 x 390
Thin Frame / Beige	10378	120	1200	6,50	380 x 505 x 390
Thin Frame / Blue	10380	120	1200	6,53	380 x 505 x 390
Thin Frame / Lilac	10344	120	1200	6,53	380 x 505 x 390
Thin Frame / Magenta	10345	120	1200	6,53	380 x 505 x 390
Thin Frame / Gold Leaf	10361	120	1200	6,51	380 x 505 x 390
Thin Frame / Silver Leaf	10362	120	1200	6,51	380 x 505 x 390
Thin Frame / Mahogany Leaf	10363	120	1200	6,51	380 x 505 x 390
Thin Frame / Bule Leaf	10364	120	1200	6,51	380 x 505 x 390
Thin Frame / Green Leaf	10365	120	1200	6,51	380 x 505 x 390

## Thin Frames

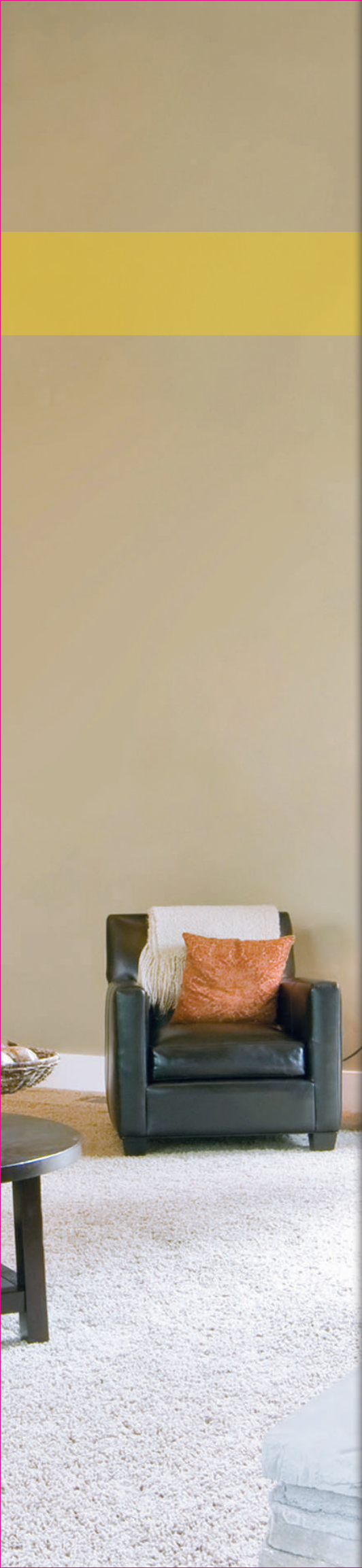
Product Name	Code No.	Piece in Box	Piece in Package	Without Thin Frame Gross Weight (kg) ***	Size of Package (mm)
<b>Painted Thin Frames (Double)</b>					
Thin Frame / Fume	10266	60	600	4,18	410 x 485 x 310
Thin Frame / Gray	10267	60	600	4,18	410 x 485 x 310
Thin Frame / Champagne	10268	60	600	4,18	410 x 485 x 310
Thin Frame / Green	10269	60	600	4,18	410 x 485 x 310
Thin Frame / Blue	10270	60	600	4,18	410 x 485 x 310
Thin Frame / Anthracite	10279	60	600	4,18	410 x 485 x 310
<b>Color and Leaf Thin Frames (Double)</b>					
Thin Frame / White	10271	60	600	4,16	410 x 485 x 310
Thin Frame / Gray	10272	60	600	4,16	410 x 485 x 310
Thin Frame / Red	10273	60	600	4,18	410 x 485 x 310
Thin Frame / Dark Blue	10274	60	600	4,18	410 x 485 x 310
Thin Frame / Pink	10275	60	600	4,18	410 x 485 x 310
Thin Frame / Green	10276	60	600	4,18	410 x 485 x 310
Thin Frame / Yellow	10277	60	600	4,18	410 x 485 x 310
Thin Frame / Beige	10278	60	600	4,16	410 x 485 x 310
Thin Frame / Blue	10280	60	600	4,16	410 x 485 x 310
Thin Frame / Lilac	10244	60	600	4,16	410 x 485 x 310
Thin Frame / Magenta	10245	60	600	4,16	410 x 485 x 310
Thin Frame / Gold Leaf	10261	60	600	4,17	410 x 485 x 310
Thin Frame / Silver Leaf	10262	60	600	4,17	410 x 485 x 310
Thin Frame / Mahogany Leaf	10263	60	600	4,17	410 x 485 x 310
Thin Frame / Bule Leaf	10264	60	600	4,17	410 x 485 x 310
Thin Frame / Green Leaf	10265	60	600	4,17	410 x 485 x 310





# Mimoza

Switch & Socket Outlet Series



## Colourful Products



Mimoza Series perfectly fit any premises with four color options and main colors of white and cream.

## Functions





## With you for long years

Mimoza series, still among the indispensables with its quality and usage comfort and rich function availability, with its vertical frameworks varying from two to six options and dual, triple vertical framework, it makes perfect combinations of aesthetic appearance and functionality making every kind of life environment ideal.



### Multi Frames



Double Horizontal Frame



Triple Horizontal Frame



Quartet Horizontal Frame



Fiftet Horizontal Frame



Sixtet Horizontal Frame



Double Vertical Frame



Triple Vertical Frame

# Mimoza Switch & Socket Outlet Series

## Colors of Cords



10321 White



10328 Beige



10326 Green



10327 Yellow



10323 Red



10322 Gray



10325 Pink



10330 Blue



10342 Lilac



10347 Magenta



10324 Dark Blue



10329 Black

## All the colors on your canvas

Compositions varying from classic to modern with 22 different cord colors of Mimoza.



10316 Painted Smoky



10317 Painted Grey



10318 Painted Champagne



10319 Painted Green



10320 Painted Blue



10313 Mahogany Leaf



10314 Blue Leaf



10315 Green Leaf



10312 Silver Leaf



10311 Gold Leaf

# Mimoza Switch & Socket Outlet Series



**One Way Switch\***

12001  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**One Way Switch Illuminated\***

12021  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch\***

12003  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch Illuminated\***

12023  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch\***

12004  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch Illuminated\***

12024  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch\***

12005  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch Illuminated\***

12025  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch\***

12096  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Door Switch Illuminated\***

12097  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch\***

12020  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch Illuminated\***

12040  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Bell Switch \***  
 12050  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated 12V \***  
 12085  
 10 A, 12 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch With Label \***  
 12010  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated \***  
 12070  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Bell Switch Illuminated With Label 12V \***  
 12030  
 10 A, 12 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Control Switch 2-Pole \***  
 12071  
 16 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Double Two-Way Switch**  
 12026  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**Shutter Push-Button \***  
 12041  
 10 A, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**3 Circuit Switch**  
 12091  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**3 Gang 3 Pole Switch**  
 12092  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**1 Gang 3 Circuit Switch**  
 12094  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



**1 Gang 3 Pole Switch**  
 12095  
 10 AX, 250 V~  
 EN 60669-1  
 Piece in Box / Package - 12 / 120



## Mimoza Switch & Socket Outlet Series



**Socket Outlet**

12022

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet \***

12028

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Lid \***

12029

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Child Protection and Lid \***

14002254

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin \***

12019

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Child Protection**

12052

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Socket Outlet with Earthing Pin and Child Protection \***

12053

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Child Protection \***

12058

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet with Earthing Pin**

12018

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Socket Outlet**

12017

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Schuko Socket Outlet**

12082

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Double Schuko Socket Outlet High**

12057

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120

\* Marked products are available with screwless terminal option.



**Antenna Socket Through  
6 dB Female**  
12007  
TSE K 72  
Piece in Box / Package - 12 / 120



**Antenna Socket End 4 dB Female**  
12027  
TSE K 72  
Piece in Box / Package - 12 / 120



**Antenna Socket Through  
Male 6 dB**  
12043  
TSE K 72  
Piece in Box / Package - 12 / 120



**Antenna Socket End Male 4 dB**  
12044  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket Through 7 dB**  
12060  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-RF Antenna Socket End 1.5 dB**  
12065  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-SAT Antenna Socket  
Through 4 dB**  
12083  
TSE K 72  
Piece in Box / Package - 12 / 120



**Sat-Tv Final Socket Outlet 1 dB**  
12098  
TSE K 72  
Piece in Box / Package - 12 / 120



**Sat-Tv-Radio Transient  
Socket Outlet 4 dB**  
12067  
TSE K 72  
Piece in Box / Package - 12 / 120



**TV-RF-SAT Antenna Socket  
End 1.5 dB**  
12066  
TSE K 72  
Piece in Box / Package - 12 / 120



**Telephone Socket**  
12014  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Telephone Socket**  
12034  
TSE K 71  
Piece in Box / Package - 12 / 120

## Mimoza Switch & Socket Outlet Series



**Double Data Socket Outlet  
(1xCat5)**  
12035  
TSE K 71  
Piece in Box / Package - 12 / 120



**Double Data Socket Outlet  
(2xCat5)**  
12036  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet  
(Cat5+Telephone Socket)**  
12037  
TSE K 71  
Piece in Box / Package - 12 / 120



**Data Socket Outlet (empty)**  
12038  
TSE K 71  
Piece in Box / Package - 12 / 120



**Loudspeaker - connection, 1 gang**  
12080  
TSE K 71  
Piece in Box / Package - 12 / 120



**Dimmer**  
12011  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer Coil Filtered**  
12031  
60-600 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Dimmer**  
12093  
60-1000 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**1-10V Led Dimmer**  
14001459  
50Hz, 230 V~  
IEC 60669-2-1  
Piece in Box / Package - 10 / 100



**Remote Controlled Dimmer(IR)  
Coil Filtered**  
12045  
60-300 W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 10 / 100



**Audio Switch 10 W**  
12086  
10 W  
Piece in Box / Package - 6 / 60



**Emergency Lamp**  
31001055  
250 V~  
Piece in Box / Package - 6 / 60



**Warning Bell**  
12056  
250 V~  
Piece in Box / Package - 6 / 60



**Delayed Energy Saver (Without Relay)\***  
12046  
10A, 220 V~  
Piece in Box / Package - 10 / 100

**Energy Saver (Without Relay)**  
12183  
10A, 220 V~  
Piece in Box / Package - 12 / 120



**Electro-Magnetic Energy Saver\***  
14002301  
12 V ~  
Piece in Box / Package - 12 / 120

**Radio Frequency Energy saver**  
14002302  
12 V ~  
Piece in Box / Package - 12 / 120

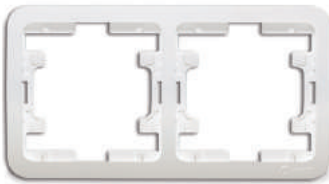


**Cooling Switch**  
12084  
16 A, 250 V~  
Piece in Box / Package - 12 / 120

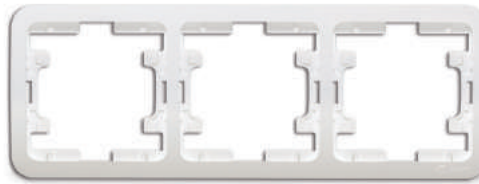


**Surge-Protective Socket Outlet with Child Protection**  
14002139K  
16 A, 250 V~  
Piece in Box / Package - 5 / 30

\* Energy saver product visuals are given as representations, the card must be ordered separately.



**Double Horizontal Frame**  
22012



**Triple Horizontal Frame**  
22013



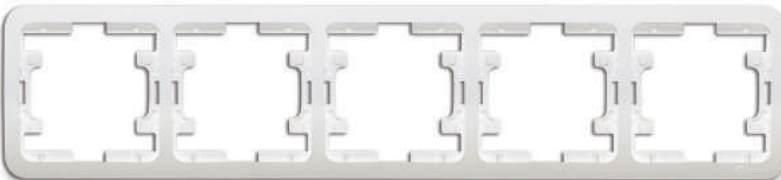
**Quartet Horizontal Frame**  
22039



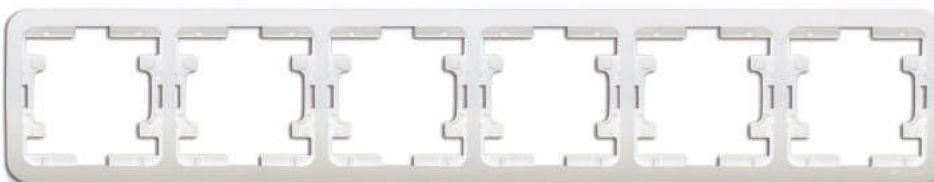
**Double Vertical Frame**  
22032



**Triple Vertical Frame**  
22033



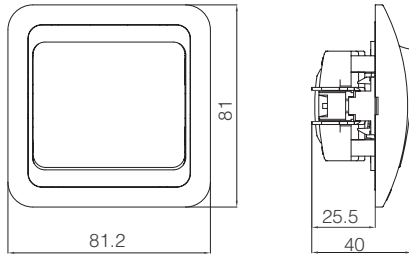
**Fiftet Horizontal Frame**  
22059



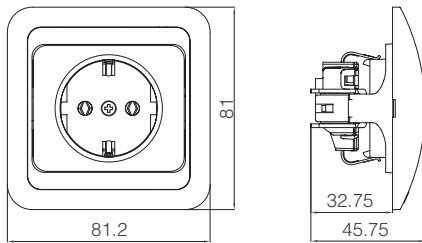
**Sixtet Horizontal Frame**  
22069

## Technical Drawings

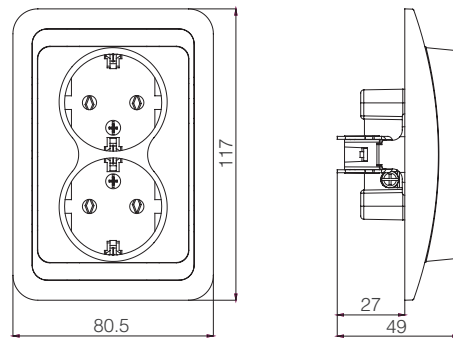
One Way Switch



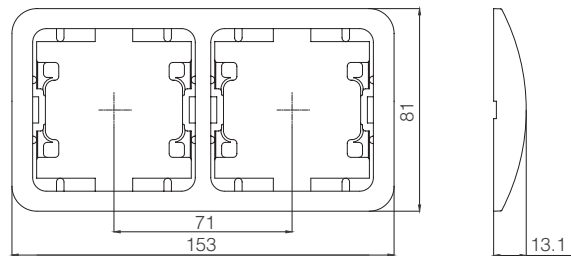
Schuko Socket Outlet



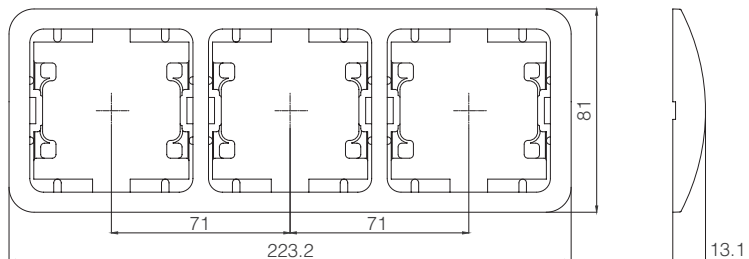
Double Schuko Socket Outlet



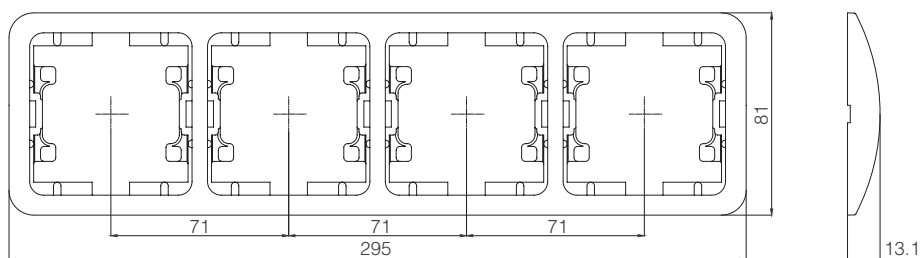
Double Horizontal Frame



Triple Horizontal Frame

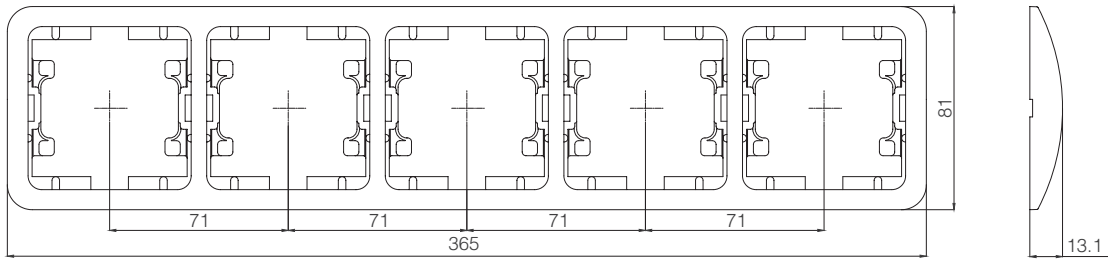


Quartet Horizontal Frame

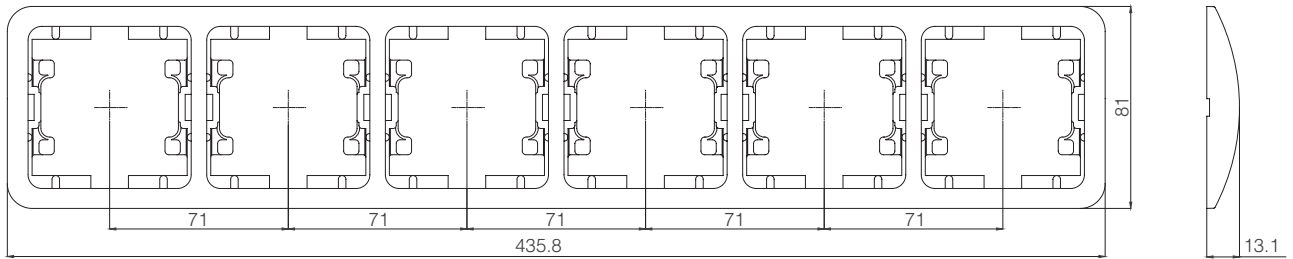




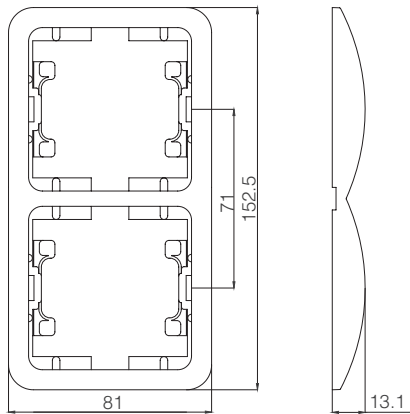
Fiftet Horizontal Frame



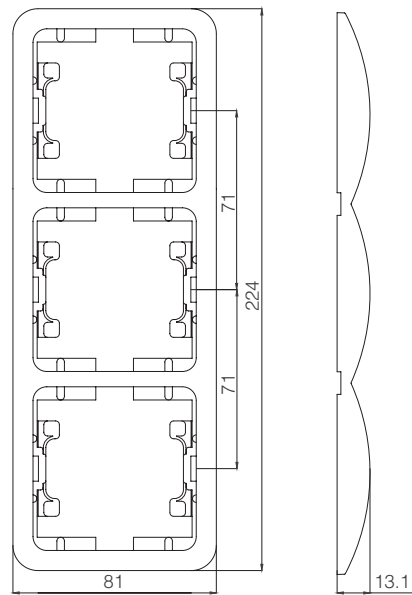
Sixtet Horizontal Frame



Double Vertical Frame



Triple Vertical Frame



# Mimoza Switch & Socket Outlet Series

## Without Thin Frame

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>					
• One Way Switch	x 2001	12	120	10,71	285 x 475 x 275
• One Way Switch Illuminated	x 2021	12	120	10,97	285 x 475 x 275
• Two-Circuit Switch	x 2003	12	120	11,09	285 x 475 x 275
• Two-Circuit Switch Illuminated	x 2023	12	120	11,36	285 x 475 x 275
• Light Switch	x 2004	12	120	10,80	285 x 475 x 275
• Light Switch Illuminated	x 2024	12	120	11,07	285 x 475 x 275
• Two-Way Switch	x 2005	12	120	10,92	285 x 475 x 275
• Two-Way Switch Illuminated	x 2025	12	120	11,19	285 x 475 x 275
• Door Switch	x 2096	12	120	10,80	285 x 475 x 275
• Door Switch Illuminated	x 2097	12	120	10,80	285 x 475 x 275
• Intermediate Switch	x 2020	12	120	11,29	285 x 475 x 275
• Intermediate Switch Illuminated	x 2040	12	120	11,55	285 x 475 x 275
• Bell Switch	x 2050	12	120	10,92	285 x 475 x 275
• Bell Switch Illuminated 12V	x 2085	12	120	11,13	285 x 475 x 275
• Bell Switch Illuminated	x 2070	12	120	11,18	285 x 475 x 275
• Bell Switch With Label	x 2010	12	120	11,12	285 x 475 x 275
• Bell Switch Illuminated With Label 12V	x 2030	12	120	11,34	285 x 475 x 275
3 Circuit Switch	x 2091	12	120	11,73	285 x 475 x 275
3 Gang 3 Pole Switch	x 2092	12	120	11,64	285 x 475 x 275
1 Gang 3 Circuit Switch	x 2094	12	120	11,64	285 x 475 x 275
1 Gang 3 Pole Switch	x 2095	12	120	11,64	285 x 475 x 275
Cooling Switch	x 2084	12	120	11,64	285 x 475 x 275
Double Two-Way Switch	x 2026	12	120	13,41	285 x 475 x 275
• Shutter Push-Button	x 2041	12	120	11,34	285 x 475 x 275
• Control Switch 2-Pole	x 2071	12	120	11,49	285 x 475 x 275
<b>Socket Outlet Group</b>					
Socket Outlet	x 2022	12	120	10,78	285 x 475 x 275
Schuko Socket Outlet	x 2028	12	120	11,36	285 x 475 x 275
Schuko Socket Outlet Screwless	x 2172	12	120	11,00	285 x 475 x 275
Schuko Socket Outlet with Lid	x 2029	12	120	12,89	335 x 475 x 300
Schuko Socket Outlet Screwless with Lid	x 2099	12	120	11,75	335 x 475 x 300
Schuko Socket Outlet with Child Protection and Lid	14 xxx 254	12	120	12,89	335 x 475 x 300
Schuko Socket Outlet Screwless with Child Protection and Lid	14 xxx 255	12	120	12,89	335 x 475 x 300
Socket Outlet with Earthing Pin	x 2019	12	120	11,83	285 x 475 x 275
Socket Outlet Screwless with Earthing Pin	x 2173	12	120	12,45	285 x 475 x 275
Socket Outlet with Child Protection	x 2052	12	120	11,07	285 x 475 x 275
Socket Outlet with Earthing Pin and Child Protection	x 2053	12	120	12,10	285 x 475 x 275
Socket Outlet Screwless with Earthing Pin and Child Protection	x 2198	12	120	12,10	285 x 475 x 275
Schuko Socket Outlet with Child Protection	x 2058	12	120	12,01	285 x 475 x 275
Schuko Socket Outlet Screwless with Child Protection	x 2174	12	120	11,25	285 x 475 x 275
Double Socket Outlet with Earthing Pin	x 2018	12	120	12,48	410 x 485 x 310
Double Socket Outlet	x 2017	12	120	10,60	335 x 475 x 300
Double Schuko Socket Outlet	x 2082	12	120	12,98	410 x 485 x 310
Double Schuko Socket Outlet High	x 2057	12	120	11,14	380 x 505 x 390
Double Schuko Socket Outlet High Porcelain	x 2068	12	120	20,34	380 x 505 x 390
"H" Type Grounded Socket	x 2048	12	120	10,97	285 x 475 x 275
<b>Tv Socket Outlet Group</b>					
Antenna Socket Through 6 dB Female	x 2007	12	120	10,91	285 x 475 x 275
Antenna Socket End 4 dB Female	x 2027	12	120	10,71	285 x 475 x 275
Antenna Socket End 0.5 dB Metal Case	x 2087	12	120	10,75	285 x 475 x 275
Antenna Socket Through 11dB Metal Case *	x 2088	12	120	10,91	285 x 475 x 275
TV Antenna Socket Non-Resistance	x 2142	12	120	10,63	285 x 475 x 275
Antenna Socket Through Male	x 2043	12	120	11,37	285 x 475 x 275
Antenna Socket End Male	x 2044	12	120	11,23	285 x 475 x 275
TV-RF Antenna Socket Through 7 dB **	x 2060	12	120	14,25	285 x 475 x 275
TV-RF Antenna Socket End 1.5 dB	x 2065	12	120	14,43	285 x 475 x 275
TV-SAT Antenna Socket End 1dB	x 2098	12	120	14,43	285 x 475 x 275
TV-SAT Antenna Socket Through 4 dB	x 2083	12	120	14,63	285 x 475 x 275
TV-RF-SAT Antenna Socket End 1.5 dB	x 2066	12	120	15,33	285 x 475 x 275
TV-RF-SAT Antenna Socket Through 4 dB	x 2067	12	120	15,57	285 x 475 x 275
SAT Antenna Socket Through	x 2133	12	120	15,55	285 x 475 x 275
SAT Antenna Socket End	x 2134	12	120	15,55	285 x 475 x 275

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Data Transmission Group</b>					
Telephone Socket	x 2014	12	120	10,27	285 x 475 x 275
Double Numeric 1 pcs	x 2042	12	120	9,75	285 x 475 x 275
Double Telephone Socket	x 2034	12	120	9,99	285 x 475 x 275
Double Data Socket Outlet (1xCat5)	x 2035	12	120	9,99	285 x 475 x 275
Double Data Socket Outlet (2xCat5)	x 2036	12	120	10,59	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket)	x 2037	12	120	10,35	285 x 475 x 275
Data Socket Outlet (empty)	x 2038	12	120	8,73	285 x 475 x 275
Double Data Socket Outlet (1xCat6)	14 xxx 135	12	120	9,52	285 x 475 x 275
Double Data Socket Outlet (2xCat6)	14 xxx 136	12	120	10,22	285 x 475 x 275
Data Socket Outlet (Cat3+Cat6)	14 xxx 137	12	120	9,97	285 x 475 x 275
Double Data Socket-Outlet (1xCat 3)	x 2075	12	120	9,29	285 x 475 x 275
Loudspeaker - connection, 1 gang	x 2080	12	120	9,75	285 x 475 x 275
<b>Electronic Group</b>					
Dimmer 60-600W	x 2011	10	100	11,83	370 x 485 x 260
Dimmer Coil Filtered 60-600W	x 2031	10	100	15,90	410 x 545 x 315
Dimmer 60-600W	x 2093	10	100	13,31	370 x 485 x 260
1-10V Led Dimmer	14 xxx 459	10	100	11,13	335 x 480 x 305
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	x 2045	10	100	17,72	410 x 545 x 315
Audio Switch 10 W	x 2086	6	60	7,74	385 x 500 x 190
Emergency-Light	x 2055	6	60	9,10	370 x 500 x 165
Warning Bell	x 2056	6	60	8,26	370 x 500 x 165
■ Delayed Energy Saver (Without Relay)	x 2046	12	120	10,77	410 x 545 x 315
■ Energy Saver (Without Relay)	x 2183	12	120	11,55	285 x 475 x 275
■ Electro-Magnetic Energy Saver	14 xxx 301	12	120	9,35	365 x 472 x 215
■ Radio Frequency Energy saver	14 xxx 302	12	120	9,10	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	14 xxx 139K	5	30	3,80	190 x 290 x 272
<b>Frame Group</b>					
Double Horizontal Frame	x 2012	25	250	6,16	385 x 450 x 290
Triple Horizontal Frame	x 2013	20	200	7,14	280 x 490 x 390
Quartet Horizontal Frame	x 2039	25	250	11,60	400 x 600 x 345
Fiftet Horizontal Frame	x 2059	5	60	3,40	440 x 370 x 140
Sixtet Horizontal Frame	x 2069	5	60	4,04	440 x 450 x 140
Double Vertical Frame	x 2032	20	200	6,32	385 x 450 x 290
Triple Vertical Frame	x 2033	15	150	7,44	417 x 455 x 290

(•) Marked products are available with screwless terminal option.

(\*) 14 dB and 18 dB versions are available.

(\*\*) 10 - 12 - 15 - 20 dB versions are available.

(■) See page 231 for relay options for marked products.

#### SAMPLE

	Product Name	Code No
White	Screw Switch	22 0 01
	Screwless Terminal Switch	22 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

Within the product codes showing 'xxx', and 'x' enter the color codes from the table below.

Without Thin Frame	Code No	
	xxx	x
White	001	2
Beige	010	3

# Mimoza Switch & Socket Outlet Series

## Thin Frames

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Painted Thin Frames (Single)</b>					
Thin Frame / Fume	10316	120	1200	5,08	335 x 475 x 300
Thin Frame / Gray	10317	120	1200	5,08	335 x 475 x 300
Thin Frame / Champagne	10318	120	1200	5,08	335 x 475 x 300
Thin Frame / Green	10319	120	1200	5,08	335 x 475 x 300
Thin Frame / Blue	10320	120	1200	5,08	335 x 475 x 300
<b>Color and Leaf Thin Frames (Single)</b>					
Thin Frame / White	10321	120	1200	5,05	335 x 475 x 300
Thin Frame / Gray	10322	120	1200	5,05	335 x 475 x 300
Thin Frame / Red	10323	120	1200	5,08	335 x 475 x 300
Thin Frame / Dark Blue	10324	120	1200	5,08	335 x 475 x 300
Thin Frame / Pink	10325	120	1200	5,08	335 x 475 x 300
Thin Frame / Green	10326	120	1200	5,08	335 x 475 x 300
Thin Frame / Yellow	10327	120	1200	5,08	335 x 475 x 300
Thin Frame / Beige	10328	120	1200	5,05	335 x 475 x 300
Thin Frame / Black	10329	120	1200	4,64	335 x 475 x 300
Thin Frame / Blue	10330	120	1200	5,08	335 x 475 x 300
Thin Frame / Lilac	10342	120	1200	5,05	335 x 475 x 300
Thin Frame / Magenta	10347	120	1200	5,05	335 x 475 x 300
Thin Frame / Gold Leaf	10311	120	1200	5,07	335 x 475 x 300
Thin Frame / Silver Leaf	10312	120	1200	5,07	335 x 475 x 300
Thin Frame / Mahogany Leaf	10313	120	1200	5,07	335 x 475 x 300
Thin Frame / Bule Leaf	10314	120	1200	5,07	335 x 475 x 300
Thin Frame / Green Leaf	10315	120	1200	5,07	335 x 475 x 300

## Thin Frames

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Painted Thin Frames (Double)</b>					
Thin Frame / Fume	10216	60	600	4,94	295 x 390 x 245
Thin Frame / Gray	10217	60	600	4,94	295 x 390 x 245
Thin Frame / Champagne	10218	60	600	4,94	295 x 390 x 245
Thin Frame / Green	10219	60	600	4,94	295 x 390 x 245
Thin Frame / Blue	10220	60	600	4,94	295 x 390 x 245
<b>Color and Leaf Thin Frames (Double)</b>					
Thin Frame / White	10221	60	600	4,92	295 x 390 x 245
Thin Frame / Gray	10222	60	600	4,92	295 x 390 x 245
Thin Frame / Red	10223	60	600	4,94	295 x 390 x 245
Thin Frame / Dark Blue	10224	60	600	4,94	295 x 390 x 245
Thin Frame / Pink	10225	60	600	4,94	295 x 390 x 245
Thin Frame / Green	10226	60	600	4,94	295 x 390 x 245
Thin Frame / Yellow	10227	60	600	4,94	295 x 390 x 245
Thin Frame / Beige	10228	60	600	4,92	295 x 390 x 245
Thin Frame / Black	10229	60	600	4,94	295 x 390 x 245
Thin Frame / Blue	10230	60	600	4,94	295 x 390 x 245
Thin Frame / Lilac	10242	60	600	4,94	295 x 390 x 245
Thin Frame / Magenta	10247	60	600	4,92	295 x 390 x 245
Thin Frame / Varak Gold	10211	60	600	4,93	295 x 390 x 245
Thin Frame / Varak Silver	10212	60	600	4,93	295 x 390 x 245
Thin Frame / Varak Mahogany	10213	60	600	4,93	295 x 390 x 245
Thin Frame / Varak Bule	10214	60	600	4,93	295 x 390 x 245
Thin Frame / Varak Green	10215	60	600	4,93	295 x 390 x 245



# Mimoza Switch & Socket Outlet Series

Product Name	White Corded Code No.	Creme Corded Code No	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>						
• One Way Switch	12001	25001	12	120	11,13	285 x 475 x 275
• One Way Switch Illuminated	12021	25021	12	120	11,39	285 x 475 x 275
• Two-Circuit Switch	12003	25003	12	120	11,51	285 x 475 x 275
• Two-Circuit Switch Illuminated	12023	25023	12	120	11,78	285 x 475 x 275
• Light Switch	12004	25004	12	120	11,22	285 x 475 x 275
• Light Switch Illuminated	12024	25024	12	120	11,49	285 x 475 x 275
• Two-Way Switch	12005	25005	12	120	11,34	285 x 475 x 275
• Two-Way Switch Illuminated	12025	25025	12	120	11,61	285 x 475 x 275
• Door Switch	12096	25096	12	120	11,22	285 x 475 x 275
• Door Switch Illuminated	12097	25097	12	120	11,15	285 x 475 x 275
• Intermediate Switch	12020	25020	12	120	11,71	285 x 475 x 275
• Intermediate Switch Illuminated	12040	25040	12	120	11,97	285 x 475 x 275
• Bell Switch	12050	25050	12	120	11,34	285 x 475 x 275
• Bell Switch Illuminated 12V	12085	25085	12	120	11,55	285 x 475 x 275
• Bell Switch Illuminated	12070	25070	12	120	11,60	285 x 475 x 275
• Bell Switch With Label	12010	25010	12	120	11,54	285 x 475 x 275
• Bell Switch Illuminated With Label 12V	12030	25030	12	120	11,76	285 x 475 x 275
3 Circuit Switch	12091	25091	12	120	12,15	285 x 475 x 275
3 Gang 3 Pole Switch	12092	25092	12	120	12,63	285 x 475 x 275
1 Gang 3 Circuit Switch	12094	25094	12	120	11,92	285 x 475 x 275
1 Gang 3 Pole Switch	12095	25095	12	120	11,92	285 x 475 x 275
Cooling Switch	12084	25084	12	120	11,92	285 x 475 x 275
Double Two-Way Switch	12026	25026	12	120	13,83	285 x 475 x 275
• Shutter Push-Button	12041	25041	12	120	11,76	285 x 475 x 275
• Control Switch 2-Pole	12071	25071	12	120	11,91	285 x 475 x 275
<b>Socket Outlet Group</b>						
Socket Outlet	12022	25022	12	120	11,20	285 x 475 x 275
Schuko Socket Outlet	12028	25028	12	120	11,79	285 x 475 x 275
Schuko Socket Outlet Screwless	12172	25172	12	120	11,35	285 x 475 x 275
Schuko Socket Outlet with Lid	12029	25029	12	120	13,34	335 x 475 x 300
Schuko Socket Outlet Screwless with Lid	12099	25099	12	120	12,10	335 x 475 x 300
Schuko Socket Outlet with Child Protection and Lid	14002254	14012254	12	120	13,24	335 x 475 x 300
Schuko Socket Outlet Screwless with Child Protection and Lid	14002255	14012255	12	120	13,24	335 x 475 x 300
Socket Outlet with Earthing Pin	12019	25019	12	120	12,25	285 x 475 x 275
Socket Outlet Screwless with Earthing Pin	12173	25173	12	120	12,87	285 x 475 x 275
Socket Outlet with Child Protection	12052	25052	12	120	11,49	285 x 475 x 275
Socket Outlet with Earthing Pin and Child Protection	12053	25053	12	120	12,52	285 x 475 x 275
Socket Outlet Screwless with Earthing Pin and Child Protection	12198	25198	12	120	12,45	285 x 475 x 275
Schuko Socket Outlet with Child Protection	12058	25058	12	120	12,43	285 x 475 x 275
Schuko Socket Outlet Screwless with Child Protection	12174	25174	12	120	11,67	285 x 475 x 275
Double Socket Outlet with Earthing Pin	12018	25018	12	120	12,50	410 x 485 x 310
Double Socket Outlet	12017	25017	12	120	11,02	335 x 475 x 300
Double Schuko Socket Outlet	12082	25082	12	120	13,00	410 x 485 x 310
Double Schuko Socket Outlet High	12057	25057	12	120	13,07	380 x 505 x 390
Double Schuko Socket Outlet High Porcelain	12068	25068	12	120	20,18	380 x 505 x 390
"H" Type Grounded Socket	12048	25048	12	120	11,37	285 x 475 x 275
<b>Tv Socket Outlet Group</b>						
Antenna Socket Through 6 dB Female	12007	25007	12	120	11,33	285 x 475 x 275
Antenna Socket End 4 dB Female	12027	25027	12	120	11,13	285 x 475 x 275
Antenna Socket End 0.5 dB Metal Case	12087	25087	12	120	11,10	285 x 475 x 275
Antenna Socket Through 11dB Metal Case *	12088	25088	12	120	11,26	285 x 475 x 275
TV Antenna Socket Non-Resistance	12142	25142	12	120	10,98	285 x 475 x 275
Antenna Socket Through Male	12043	25043	12	120	11,67	285 x 475 x 275
Antenna Socket End Male	12044	25044	12	120	11,53	285 x 475 x 275
TV-RF Antenna Socket Through 7 dB **	12060	25060	12	120	14,67	285 x 475 x 275
TV-RF Antenna Socket End 1.5 dB	12065	25065	12	120	14,85	285 x 475 x 275
TV-SAT Antenna Socket End 1dB	12098	25098	12	120	14,78	285 x 475 x 275
TV-SAT Antenna Socket Through 4 dB	12083	25083	12	120	14,98	285 x 475 x 275
TV-RF-SAT Antenna Socket End 1.5 dB	12066	25066	12	120	15,75	285 x 475 x 275
TV-RF-SAT Antenna Socket Through 4 dB	12067	25067	12	120	15,99	285 x 475 x 275
SAT Antenna Socket Through	12133	25133	12	120	15,90	285 x 475 x 275
SAT Antenna Socket End	12134	25134	12	120	15,90	285 x 475 x 275

Product Name	White Corded Code No.	Creme Corded Code No	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Data Transmission Group</b>						
Telephone Socket	12014	25014	12	120	10,69	285 x 475 x 275
Double Numeric 1 pcs	12042	25042	12	120	10,17	285 x 475 x 275
Double Telephone Socket	12034	25034	12	120	10,41	285 x 475 x 275
Double Data Socket Outlet (1xCat5)	12035	25035	12	120	10,41	285 x 475 x 275
Double Data Socket Outlet (2xCat5)	12036	25036	12	120	11,01	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket)	12037	25037	12	120	10,79	285 x 475 x 275
Data Socket Outlet (empty)	12038	25038	12	120	9,15	285 x 475 x 275
Double Data Socket Outlet (1xCat6)	14 002 135	14 012 135	12	120	9,86	285 x 475 x 275
Double Data Socket Outlet (2xCat6)	14 002 136	14 012 136	12	120	10,57	285 x 475 x 275
Data Socket Outlet (Cat3+Cat6)	14 002 137	14 012 137	12	120	10,31	285 x 475 x 275
Double Data Socket-Outlet (1xCat 3)	12075	25075	12	120	9,63	285 x 475 x 275
Loudspeaker - connection, 1 gang	12080	25080	12	120	10,17	285 x 475 x 275
<b>Electronic Group</b>						
Dimmer 60-600W	12011	25011	10	100	12,20	370 x 485 x 260
Dimmer Coil Filtered 60-600W	12031	25031	10	100	16,30	410 x 545 x 315
Dimmer 60-600W	12093	25093	10	100	13,71	370 x 485 x 260
1-10V Led Dimmer	14 002 459	14 012 459	10	100	14,30	385 x 500 x 275
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	12045	25045	10	100	18,10	410 x 545 x 315
Audio Switch 10 W	12086	25086	6	60	8,14	385 x 500 x 190
Emergency-Light	12055	25055	6	60	9,50	370 x 500 x 165
Warning Bell	12056	25056	6	60	8,61	370 x 500 x 165
■ Delayed Energy Saver (Without Relay)	12046	25046	12	120	11,17	410 x 545 x 315
■ Energy Saver (Without Relay)	12183	25183	12	120	11,97	285 x 475 x 275
■ Electro-Magnetic Energy Saver	14 002 301	14 012 301	12	120	9,17	365 x 472 x 215
■ Radio Frequency Energy saver	14 002 302	14 012 302	12	120	9,48	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	14002139K	14012139K	5	30	3,89	190 x 290 x 272

(•) Marked products are available with screwless terminal option.

(\*) 14 dB and 18 dB versions are available.

(\*\*) 10 - 12 - 15 - 20 dB versions are available.

■ See page 231 for relay options for marked products.

#### SAMPLE

	Product Name	Code No
White	Screw Switch	12 0 01
	Screwless Terminal Switch	12 1 01

When you order screwless terminals must use '1' instead of '0' at the third digit of the item code.

# Mimoza Switch & Socket Outlet Series

Product Name	Anthracite Metallic silver CordedCode No.	Grey, Champagne and Green Corded Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>						
• One Way Switch	26 x 01	23 x 01	12	120	11,13	285 x 475 x 275
• One Way Switch Illuminated	26 x 21	23 x 21	12	120	11,39	285 x 475 x 275
• Two-Circuit Switch	26 x 03	23 x 03	12	120	11,51	285 x 475 x 275
• Two-Circuit Switch Illuminated	26 x 23	23 x 23	12	120	11,78	285 x 475 x 275
• Light Switch	26 x 04	23 x 04	12	120	11,22	285 x 475 x 275
• Light Switch Illuminated	26 x 24	23 x 24	12	120	11,49	285 x 475 x 275
• Two-Way Switch	26 x 05	23 x 05	12	120	11,34	285 x 475 x 275
• Two-Way Switch Illuminated	26 x 25	23 x 25	12	120	11,61	285 x 475 x 275
• Door Switch	26 x 96	23 x 96	12	120	11,22	285 x 475 x 275
• Door Switch Illuminated	26 x 97	23 x 97	12	120	11,15	285 x 475 x 275
• Intermediate Switch	26 x 20	23 x 20	12	120	11,71	285 x 475 x 275
• Intermediate Switch Illuminated	26 x 40	23 x 40	12	120	11,97	285 x 475 x 275
• Bell Switch	26 x 50	23 x 50	12	120	11,34	285 x 475 x 275
• Bell Switch Illuminated 12V	26 x 85	23 x 85	12	120	11,55	285 x 475 x 275
• Bell Switch Illuminated	26 x 70	23 x 70	12	120	11,60	285 x 475 x 275
• Bell Switch With Label	26 x 10	23 x 10	12	120	11,54	285 x 475 x 275
• Bell Switch Illuminated With Label 12V	26 x 30	23 x 30	12	120	11,76	285 x 475 x 275
• 3 Circuit Switch	26 x 91	23 x 91	12	120	12,15	285 x 475 x 275
• 3 Gang 3 Pole Switch	26 x 92	23 x 92	12	120	12,63	285 x 475 x 275
• 1 Gang 3 Circuit Switch	26 x 94	23 x 94	12	120	11,92	285 x 475 x 275
• 1 Gang 3 Pole Switch	26 x 95	23 x 95	12	120	11,92	285 x 475 x 275
• Cooling Switch	26 x 84	23 x 84	12	120	11,92	285 x 475 x 275
• Double Two-Way Switch	26 x 26	23 x 26	12	120	13,83	285 x 475 x 275
• Shutter Push-Button	26 x 41	23 x 41	12	120	11,76	285 x 475 x 275
• Control Switch 2-Pole	26 x 71	23 x 71	12	120	11,91	285 x 475 x 275
<b>Socket Outlet Group</b>						
• Socket Outlet	26 x 22	23 x 22	12	120	11,20	285 x 475 x 275
• Schuko Socket Outlet	26 x 28	23 x 28	12	120	11,79	285 x 475 x 275
• Schuko Socket Outlet Screwless ***	26 x 72	23 x 72	12	120	11,35	285 x 475 x 275
• Schuko Socket Outlet with Lid	26 x 29	23 x 29	12	120	13,34	335 x 475 x 300
• Schuko Socket Outlet Screwless with Lid	26 x 99	23 x 99	12	120	12,10	335 x 475 x 300
• Schuko Socket Outlet with Child Protection and Lid	14 xxx 254	14 xxx 254	12	120	13,24	335 x 475 x 300
• Schuko Socket Outlet Screwless with Child Protection and Lid	14 xxx 255	14 xxx 255	12	120	13,24	335 x 475 x 300
• Socket Outlet with Earthing Pin	26 x 19	23 x 19	12	120	12,25	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin ***	26 x 73	23 x 73	12	120	12,87	285 x 475 x 275
• Socket Outlet with Child Protection	26 x 52	23 x 52	12	120	11,49	285 x 475 x 275
• Socket Outlet with Earthing Pin and Child Protection	26 x 53	23 x 53	12	120	12,52	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin and Child Protection ***	26 x 98	23 x 98	12	120	12,45	285 x 475 x 275
• Schuko Socket Outlet with Child Protection	26 x 58	23 x 58	12	120	12,43	285 x 475 x 275
• Schuko Socket Outlet Screwless with Child Protection ***	26 x 74	23 x 74	12	120	11,67	285 x 475 x 275
• Double Socket Outlet with Earthing Pin	26 x 18	23 x 18	12	120	12,50	410 x 485 x 310
• Double Socket Outlet	26 x 17	23 x 17	12	120	11,02	335 x 475 x 300
• Double Schuko Socket Outlet	26 x 82	23 x 82	12	120	13,00	410 x 485 x 310
• Double Schuko Socket Outlet High	26 x 57	23 x 57	12	120	13,07	380 x 505 x 390
• Double Schuko Socket Outlet High Porcelain	26 x 68	23 x 68	12	120	20,18	380 x 505 x 390
• "H" Type Grounded Socket	26 x 48	23 x 48	12	120	11,37	285 x 475 x 275
<b>Tv Socket Outlet Group</b>						
• Antenna Socket Through 6 dB Female	26 x 07	23 x 07	12	120	11,33	285 x 475 x 275
• Antenna Socket End 4 dB Female	26 x 27	23 x 27	12	120	11,13	285 x 475 x 275
• Antenna Socket End 0.5 dB Metal Case	26 x 87	23 x 87	12	120	11,10	285 x 475 x 275
• Antenna Socket Through 11dB Metal Case *	26 x 88	23 x 88	12	120	11,26	285 x 475 x 275
• TV Antenna Socket Non-Resistance ***	26 x 42	23 x 42	12	120	10,98	285 x 475 x 275
• Antenna Socket Through Male	26 x 43	23 x 43	12	120	11,67	285 x 475 x 275
• Antenna Socket End Male	26 x 44	23 x 44	12	120	11,53	285 x 475 x 275
• TV-RF Antenna Socket Through 7 dB **	26 x 60	23 x 60	12	120	14,67	285 x 475 x 275
• TV-RF Antenna Socket End 1.5 dB	26 x 65	23 x 65	12	120	14,85	285 x 475 x 275
• TV-SAT Antenna Socket End 1dB	26 x 98	23 x 98	12	120	14,78	285 x 475 x 275
• TV-SAT Antenna Socket Through 4 dB	26 x 83	23 x 83	12	120	14,98	285 x 475 x 275
• TV-RF-SAT Antenna Socket End 1.5 dB	26 x 66	23 x 66	12	120	15,75	285 x 475 x 275
• TV-RF-SAT Antenna Socket Through 4 dB	26 x 67	23 x 67	12	120	15,99	285 x 475 x 275
• SAT Antenna Socket Through ***	26 x 33	23 x 33	12	120	15,90	285 x 475 x 275
• SAT Antenna Socket End ***	26 x 34	23 x 34	12	120	15,90	285 x 475 x 275

Product Name	Anthracite Metallic silver Corded Code No.	Grey, Champagne and Green Corded Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Data Transmission Group</b>						
Telephone Socket	26 x 14	23 x 14	12	120	10,69	285 x 475 x 275
Double Numeric 1 pcs	26 x 42	23 x 42	12	120	10,17	285 x 475 x 275
Double Telephone Socket	26 x 34	23 x 34	12	120	10,41	285 x 475 x 275
Double Data Socket Outlet (1xCat5)	26 x 35	23 x 35	12	120	10,41	285 x 475 x 275
Double Data Socket Outlet (2xCat5)	26 x 36	23 x 36	12	120	11,01	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket)	26 x 37	23 x 37	12	120	10,79	285 x 475 x 275
Data Socket Outlet (empty)	26 x 38	23 x 38	12	120	9,15	285 x 475 x 275
Double Data Socket Outlet (1xCat6)	14 xxx 135	14 xxx 135	12	120	9,86	285 x 475 x 275
Double Data Socket Outlet (2xCat6)	14 xxx 136	14 xxx 136	12	120	10,57	285 x 475 x 275
Data Socket Outlet (Cat3+Cat6)	14 xxx 137	14 xxx 137	12	120	10,31	285 x 475 x 275
Double Data Socket-Outlet (1xCat 3)	26 x 75	23 x 75	12	120	9,63	285 x 475 x 275
Loudspeaker - connection, 1 gang	26 x 80	23 x 80	12	120	10,17	285 x 475 x 275

### Electronic Group

Dimmer 60-600W	26 x 11	23 x 11	10	100	12,20	370 x 485 x 260
Dimmer Coil Filtered 60-600W	26 x 31	23 x 31	10	100	16,30	410 x 545 x 315
Dimmer 60-600W	26 x 93	23 x 93	10	100	13,71	370 x 485 x 260
1-10V Led Dimmer	14 xxx 459	14 xxx 459	10	100	14,30	385 x 500 x 275
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	26 x 45	23 x 45	10	100	18,10	410 x 545 x 315
Audio Switch 10 W	26 x 86	23 x 86	6	60	8,14	385 x 500 x 190
Emergency-Light	26 x 55	23 x 55	6	60	9,45	370 x 500 x 165
Warning Bell	26 x 56	23 x 56	6	60	8,46	370 x 500 x 165
■ Delayed Energy Saver (Without Relay)	26 x 46	23 x 46	12	120	12,60	410 x 545 x 315
■ Energy Saver (Without Relay) ***	26 x 83	23 x 83	12	120	12,00	285 x 475 x 275
■ Electro-Magnetic Energy Saver	14 xxx 301	14 xxx 301	12	120	9,73	365 x 472 x 215
■ Radio Frequency Energy saver	14 xxx 302	14 xxx 302	12	120	9,48	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	14 xxx 139K	14 xxx 139K	5	30	3,89	190 x 290 x 272

(•) Marked products are available with screwless terminal option.

(\*) 14 dB and 18 dB versions are available.

(\*\*) 10 - 12 - 15 - 20 dB versions are available.

(■) See page 231 for relay options for marked products.

### SAMPLE

	Product Name	Code No
Metallic Silver Corded	Screw Switch	26 6 01
	Screwless Terminal Switch	26 7 01

For products with Metallic Silver Socket  
Change the 3rd order '6' with '7'

(\*\*\*) The order shall be placed with increasing the code in the 3rd order by 1.

### SAMPLE

	Product Name	Code No
Metallic Silver Corded	SAT Antenna Socket Through	26 7 33
	SAT Antenna Socket End	26 7 34

Within the product codes showing 'xxx', and 'x' enter the color codes from the table below.

Colors	Code No	
	xxx	x
Anthracite	034	8
Metalic Silver	065	6
Grey	021	4
Champagne	024	6
Green	027	8

In orders for products with slots, in place of 'x',  
For Anthracite, write '9'.  
For Champagne, write '7'.  
For Green, write '9'.

# Mimoza Switch & Socket Outlet Series

Product Name	Blue Corded Code No	Root Oak, Root Walnut Corded Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Switch Group</b>						
• One Way Switch	30 x 01	24 x 01	12	120	11,13	285 x 475 x 275
• One Way Switch Illuminated	30 x 21	24 x 21	12	120	11,39	285 x 475 x 275
• Two-Circuit Switch	30 x 03	24 x 03	12	120	11,51	285 x 475 x 275
• Two-Circuit Switch Illuminated	30 x 23	24 x 23	12	120	11,78	285 x 475 x 275
• Light Switch	30 x 04	24 x 04	12	120	11,22	285 x 475 x 275
• Light Switch Illuminated	30 x 24	24 x 24	12	120	11,49	285 x 475 x 275
• Two-Way Switch	30 x 05	24 x 05	12	120	11,34	285 x 475 x 275
• Two-Way Switch Illuminated	30 x 25	24 x 25	12	120	11,61	285 x 475 x 275
• Door Switch	30 x 96	24 x 96	12	120	11,22	285 x 475 x 275
• Door Switch Illuminated	30 x 97	24 x 97	12	120	11,15	285 x 475 x 275
• Intermediate Switch	30 x 20	24 x 20	12	120	11,71	285 x 475 x 275
• Intermediate Switch Illuminated	30 x 40	24 x 40	12	120	11,97	285 x 475 x 275
• Bell Switch	30 x 50	24 x 50	12	120	11,34	285 x 475 x 275
• Bell Switch Illuminated 12V	30 x 85	24 x 85	12	120	11,55	285 x 475 x 275
• Bell Switch Illuminated	30 x 70	24 x 70	12	120	11,60	285 x 475 x 275
• Bell Switch With Label	30 x 10	24 x 10	12	120	11,54	285 x 475 x 275
• Bell Switch Illuminated With Label 12V	30 x 30	24 x 30	12	120	11,76	285 x 475 x 275
• 3 Circuit Switch	30 x 91	24 x 91	12	120	12,15	285 x 475 x 275
• 3 Gang 3 Pole Switch	30 x 92	24 x 92	12	120	12,63	285 x 475 x 275
• 1 Gang 3 Circuit Switch	30 x 94	24 x 94	12	120	11,92	285 x 475 x 275
• 1 Gang 3 Pole Switch	30 x 95	24 x 95	12	120	11,92	285 x 475 x 275
• Cooling Switch	30 x 84	24 x 84	12	120	11,92	285 x 475 x 275
• Double Two-Way Switch	30 x 26	24 x 26	12	120	13,83	285 x 475 x 275
• Shutter Push-Button	30 x 41	24 x 41	12	120	11,76	285 x 475 x 275
• Control Switch 2-Pole	30 x 71	24 x 71	12	120	11,91	285 x 475 x 275
<b>Socket Outlet Group</b>						
• Socket Outlet	30 x 22	24 x 22	12	120	11,20	285 x 475 x 275
• Schuko Socket Outlet	30 x 28	24 x 28	12	120	11,79	285 x 475 x 275
• Schuko Socket Outlet Screwless ***	30 x 72	24 x 72	12	120	11,35	285 x 475 x 275
• Schuko Socket Outlet with Lid	30 x 29	24 x 29	12	120	13,34	335 x 475 x 300
• Schuko Socket Outlet Screwless with Lid	30 x 99	24 x 99	12	120	12,10	335 x 475 x 300
• Schuko Socket Outlet with Child Protection and Lid	14 xxx 254	14 xxx 254	12	120	13,24	335 x 475 x 300
• Schuko Socket Outlet Screwless with Child Protection and Lid	14 xxx 255	14 xxx 255	12	120	13,24	335 x 475 x 300
• Socket Outlet with Earthing Pin	30 x 19	24 x 19	12	120	12,25	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin ***	30 x 73	24 x 73	12	120	12,87	285 x 475 x 275
• Socket Outlet with Child Protection	30 x 52	24 x 52	12	120	11,49	285 x 475 x 275
• Socket Outlet with Earthing Pin and Child Protection	30 x 53	24 x 53	12	120	12,52	285 x 475 x 275
• Socket Outlet Screwless with Earthing Pin and Child Protection	30 x 98	24 x 98	12	120	12,45	285 x 475 x 275
• Schuko Socket Outlet with Child Protection	30 x 58	24 x 58	12	120	12,43	285 x 475 x 275
• Schuko Socket Outlet Screwless with Child Protection ***	30 x 74	24 x 74	12	120	11,67	285 x 475 x 275
• Double Socket Outlet with Earthing Pin	30 x 18	24 x 18	12	120	12,50	410 x 485 x 310
• Double Socket Outlet	30 x 17	24 x 17	12	120	11,02	335 x 475 x 300
• Double Schuko Socket Outlet	30 x 82	24 x 82	12	120	13,00	410 x 485 x 310
• Double Schuko Socket Outlet High	30 x 57	24 x 57	12	120	13,07	380 x 505 x 390
• Double Schuko Socket Outlet High Porcelain	30 x 68	24 x 68	12	120	20,18	380 x 505 x 390
• "H" Type Grounded Socket	30 x 48	24 x 48	12	120	11,37	285 x 475 x 275
<b>Tv Socket Outlet Group</b>						
• Antenna Socket Through 6 dB Female	30 x 07	24 x 07	12	120	11,33	285 x 475 x 275
• Antenna Socket End 4 dB Female	30 x 27	24 x 27	12	120	11,13	285 x 475 x 275
• Antenna Socket End 0.5 dB Metal Case	30 x 87	24 x 87	12	120	11,10	285 x 475 x 275
• Antenna Socket Through 11dB Metal Case *	30 x 88	24 x 88	12	120	11,26	285 x 475 x 275
• TV Antenna Socket Non-Resistance ***	30 x 42	24 x 42	12	120	10,98	285 x 475 x 275
• Antenna Socket Through Male	30 x 43	24 x 43	12	120	11,67	285 x 475 x 275
• Antenna Socket End Male	30 x 44	24 x 44	12	120	11,53	285 x 475 x 275
• TV-RF Antenna Socket Through 7 dB**	30 x 60	24 x 60	12	120	14,67	285 x 475 x 275
• TV-RF Antenna Socket End 1.5 dB	30 x 65	24 x 65	12	120	14,85	285 x 475 x 275
• TV-SAT Antenna Socket End 1dB	30 x 98	24 x 98	12	120	14,78	285 x 475 x 275
• TV-SAT Antenna Socket Through 4 dB	30 x 83	24 x 83	12	120	14,98	285 x 475 x 275
• TV-RF-SAT Antenna Socket End 1.5 dB	30 x 66	24 x 66	12	120	15,75	285 x 475 x 275
• TV-RF-SAT Antenna Socket Through 4 dB	30 x 67	24 x 67	12	120	15,99	285 x 475 x 275
• SAT Antenna Socket Through***	30 x 33	24 x 33	12	120	15,90	285 x 475 x 275
• SAT Antenna Socket End***	30 x 34	24 x 34	12	120	15,90	285 x 475 x 275



Product Name	Blue Corded Code No	Root Oak, Root Walnut Corded Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### Data Transmission Group

Telephone Socket	30 x 14	24 x 14	12	120	10,69	285 x 475 x 275
Double Numeric 1 pcs	30 x 42	24 x 42	12	120	10,17	285 x 475 x 275
Double Telephone Socket	30 x 34	24 x 34	12	120	10,41	285 x 475 x 275
Double Data Socket Outlet (1xCat5)	30 x 35	24 x 35	12	120	10,41	285 x 475 x 275
Double Data Socket Outlet (2xCat5)	30 x 36	24 x 36	12	120	11,01	285 x 475 x 275
Data Socket Outlet (Cat5+Telephone Socket)	30 x 37	24 x 37	12	120	10,79	285 x 475 x 275
Data Socket Outlet (empty)	30 x 38	24 x 38	12	120	9,15	285 x 475 x 275
Double Data Socket Outlet (1xCat6)	14 xxx 135	14 xxx 135	12	120	9,86	285 x 475 x 275
Double Data Socket Outlet (2xCat6)	14 xxx 136	14 xxx 136	12	120	10,57	285 x 475 x 275
Data Socket Outlet (Cat3+Cat6)	14 xxx 137	14 xxx 137	12	120	10,31	285 x 475 x 275
Double Data Socket-Outlet (1xCat 3)	30 x 75	24 x 75	12	120	9,63	285 x 475 x 275
Loudspeaker - connection, 1 gang	30 x 80	24 x 80	12	120	10,17	285 x 475 x 275

### Electronic Group

Dimmer 60-600W	30 x 11	24 x 11	10	100	12,20	370 x 485 x 260
Dimmer Coil Filtered 60-600W	30 x 31	24 x 31	10	100	16,30	410 x 545 x 315
Dimmer 60-600W	30 x 93	24 x 93	10	100	13,71	370 x 485 x 260
1-10V Led Dimmer	14 xxx 459	14 xxx 459	10	100	14,30	385 x 500 x 275
Remote Controlled Dimmer(IR) Coil Filtered 60-300W	30 x 45	24 x 45	10	100	18,10	410 x 545 x 315
Audio Switch 10 W	30 x 86	24 x 86	6	60	8,14	385 x 500 x 190
Emergency-Light	30 x 55	24 x 55	6	60	9,50	370 x 500 x 165
Warning Bell	30 x 56	24 x 56	6	60	8,46	370 x 500 x 165
■ Delayed Energy Saver (Without Relay)	30 x 46	24 x 46	12	120	12,60	410 x 545 x 315
■ Energy Saver (Without Relay)	30 x 83	24 x 83	12	120	12,00	285 x 475 x 275
■ Electro-Magnetic Energy Saver	14 xxx 301	14 xxx 301	12	120	9,73	365 x 472 x 215
■ Radio Frequency Energy saver	14 xxx 302	14 xxx 302	12	120	9,48	365 x 472 x 215
Surge-Protective Socket Outlet with Child Protection	14 xxx 139K	14 xxx 139K	5	30	3,89	190 x 290 x 272

(•) Marked products are available with screwless terminal option. (\*) 14 dB and 18 dB versions are available. (\*\*) 10 - 12 - 15 - 20 dB versions are available.

(■) See below table for relay options for marked products.

#### SAMPLE

	Product Name	Code No
Root Oak Corded	Screw Switch	24 2 01
	Screwless Terminal Switch	24 3 01

For products with socket, Change the 3rd order '2' with '3'.

Within the product codes showing 'xxx', and 'x' enter the color codes from the table below.

Colors	Code No	
	xxx	x
Root Oak	037	2
Root Walnut	038	0
Blue	031	0

In orders for products with slots, in place of 'x', write '3' for root Oak. write '1' for Root Walnut.

(\*\*\*) The order shall be placed with increasing the code in the 3rd order by 1.

#### SAMPLE

	Product Name	Code No
Corded Root Walnut	SAT Antenna Socket Through	26 7 33
	SAT Antenna Socket End	26 7 34

## Key and Socket Series (Energy Saver Relays)

Product Name	Code No	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### Energy Saver Relays

Em Power Unit 1x16A, 2x10A Output	43000A47	6	36	10,03	265 x 380 x 195
Em Power Unit 1x16A, 3x10A Output	43000A48	6	36	10,03	265 x 380 x 195
Em Power Unit 1x16A, 1x40A Output	43000A49	6	36	10,03	265 x 380 x 195
Em Power Unit 2x16A, 1x40A Output	43000A50	6	36	10,03	265 x 380 x 195
Em Power Unit 1x16A, 1x2A Dry Contact Output	43000A51	6	36	10,03	265 x 380 x 195
Em Power Unit 1x16A, 2x2A Dry Contact Output	43000A52	6	36	10,03	265 x 380 x 195
Em Power Unit 1x16A, 3x2A Dry Contact Output	43000A53	6	36	10,03	265 x 380 x 195
Em Power Unit 1x40A, 1x2A Dry Contact Output	43000A54	6	36	10,03	265 x 380 x 195
Em Power Unit 1x40A, 2x2A Dry Contact Output	43000A55	6	36	10,03	265 x 380 x 195
Rf Power Unit 1x16A, Single Air Conditioner 1x10A	43000A64	6	36	10,03	265 x 380 x 195
Rf Power Unit 1x16A, 1x40A Output	43000A56	6	36	10,03	265 x 380 x 195
Rf Power Unit 2x16A, 1x40A Output	43000A57	6	36	10,03	265 x 380 x 195
Rf Power Unit 1x16A, 1x2A Dry Contact	43000492	6	36	10,03	265 x 380 x 195
Rf Power Unit 1x16A, 2x2A Dry Contact Output	43000A58	6	36	10,03	265 x 380 x 195
Rf Power Unit 1x16A, 3x2A Dry Contact Output	43000A59	6	36	10,03	265 x 380 x 195
Rf Power Unit 1x40A, 1x2A Dry Contact Output	43000A60	6	36	10,03	265 x 380 x 195
Rf Power Unit 1x40A, 2x2A Dry Contact Output	43000A61	6	36	10,03	265 x 380 x 195





# Rose

Switch & Socket Outlet Series



# Rose Switch & Socket Outlet Series



White



Beige



Your environments are more colorful now with 15 separate cord color apart from the main colors comprising of white and cream color in Rose Series

## Colors of Cords



10421 White



10422 Gray



10423 Red



10424 Dark Blue



10413 Varak Mahogany



10425 Pink



10426 Green



10427 Yellow



10411 Varak Gold



10414 Varak Blue



10442 Lilac



10445 Magenta



10428 Beige

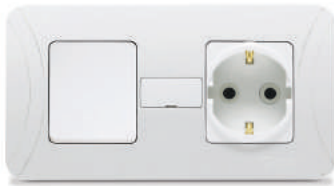


10412 Varak Silver



10415 Varak Green

## Frames



Double Frame



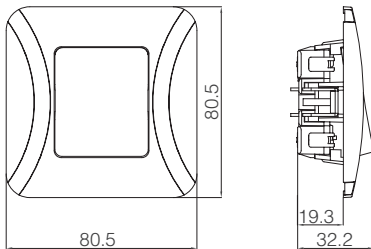
Triple Frame



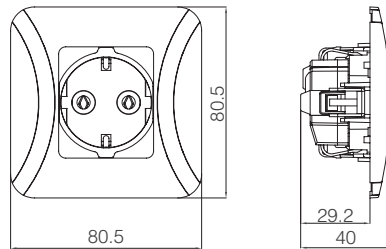
**Decorative appearance  
on monoblock body**

## Technical Drawings

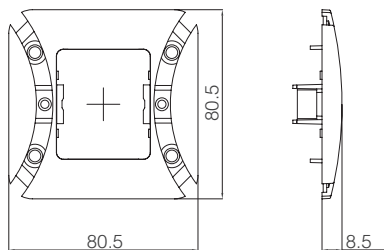
One Way Switch



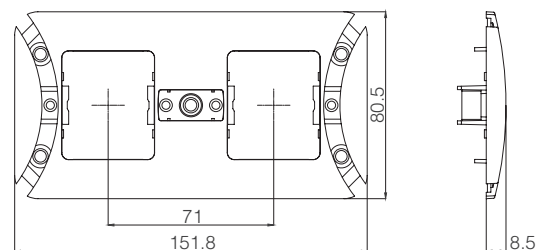
Schuko Socket Outlet



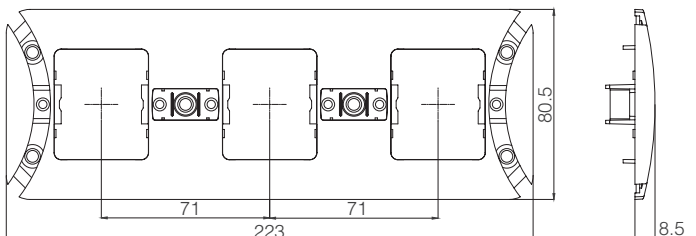
Frame



Double Horizontal Frame



Triple Horizontal Frame



*Note: The frames shall be used only with modules.*



# Rose Switch & Socket Outlet Series



## One Way Switch Module

16501

10 AX, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



## One Way Switch Illuminated Module

16521

10 AX, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



## Two-Circuit Switch Module

16503

10 AX, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



## Two-Circuit Switch Illuminated Module

16523

10 AX, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



## Light Switch Module

16504

10 A, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



## Light Switch Illuminated Module

16524

10 A, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



## Two-Way Switch Module

16505

10 AX, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



## Two-Way Switch Illuminated Module

16525

10 AX, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



## Door Switch Module

16596

10 A, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



## Door Switch Illuminated Module

16597

10 A, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



## Intermediate Switch Module

16520

10 AX, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



## Intermediate Switch Illuminated Module

16540

10 AX, 250 V~

EN 60669-1

Piece in Box / Package - 24 / 240



**Bell Switch Illuminated  
Module**  
16570  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 24 / 240



**Bell Switch Illuminated  
12V Module**  
16585  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 24 / 240



**Schuko Socket Outlet Module**  
16528  
16 A, 250 V~  
C 60884-1  
Piece in Box / Package - 24 / 240



**Schuko Socket Outlet with Lid  
Module**  
16529  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 24 / 240



**Antenna Socket End 1.5 dB  
Female Module**  
16587  
TSE K 72  
Piece in Box / Package - 24 / 240



**Antenna Socket  
8 dB Female Module**  
16588  
TSE K 72  
Piece in Box / Package - 24 / 240



**Telephone Socket Module**  
16514  
TSE K 71  
Piece in Box / Package - 24 / 240



**Double Telephone Socket Module  
(1xCat3)**  
16575  
TSE K 71  
Piece in Box / Package - 24 / 240



**Double Telephone Socket Module  
(2xCat3)**  
16534  
TSE K 71  
Piece in Box / Package - 24 / 240



**Double Data Socket Outlet  
(1xCat6)**  
16635  
TSE K 71  
Piece in Box / Package - 24 / 240



**Double Data Socket Outlet Module  
(2xCat6)**  
16636  
TSE K 71  
Piece in Box / Package - 24 / 240



**Data Socket Outlet (empty)  
Module**  
16538  
TSE K 71  
Piece in Box / Package - 24 / 240

# Rose Switch & Socket Outlet Series



TV-RF Antenna Socket Through  
11 dB Module  
16626  
TSE K 72  
Piece in Box / Package - 24 / 240



TV-RF Antenna Socket End 1 dB  
Module  
16627  
TSE K 72  
Piece in Box / Package - 24 / 240



TV-SAT Antenna Socket Through  
4 dB Module  
16629  
TSE K 72  
Piece in Box / Package - 24 / 240



TV-SAT Antenna Socket End 1dB  
Module  
16628  
TSE K 72  
Piece in Box / Package - 24 / 240



TV-RF-SAT Antenna Socket End  
1.5 dB  
82066  
TSE K 72  
Piece in Box / Package - 12 / 120



TV-RF-SAT Antenna Socket  
Through 4 dB  
82067  
TSE K 72  
Piece in Box / Package - 12 / 120



Dimmer  
82011  
600W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 12 / 120



Dimmer Coil Filtered  
82031  
1000W, 250 V~  
EN 60669-2-2  
Piece in Box / Package - 12 / 120



Frame  
22001701

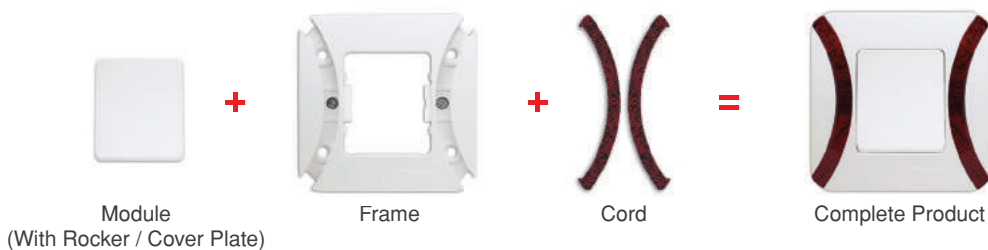


Double Frame  
16512



Triple Frame  
16513

## Sales Option - Module (With Rocker / Cover Plate)+ Frame+Cord



## a) Module

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
One Way Switch Module	16501	24	240	7,25	335 x 475 x 300
One Way Switch Illuminated Module	16521	24	240	7,31	335 x 475 x 300
Two-Circuit Switch Module	16503	24	240	7,61	335 x 475 x 300
Two-Circuit Switch Illuminated Module	16523	24	240	7,75	335 x 475 x 300
Light Switch Module	16504	24	240	7,23	335 x 475 x 300
Light Switch Illuminated Module	16524	24	240	7,37	335 x 475 x 300
Two-Way Switch Module	16505	24	240	7,51	335 x 475 x 300
Two-Way Switch Illuminated Module	16525	24	240	7,66	335 x 475 x 300
Door Switch Module	16596	24	240	7,12	335 x 475 x 300
Door Switch Illuminated Module	16597	24	240	7,12	335 x 475 x 300
Intermediate Switch Module	16520	24	240	7,57	335 x 475 x 300
Intermediate Switch Illuminated Module	16540	24	240	7,74	335 x 475 x 300
Bell Switch Module	16550	24	240	7,35	335 x 475 x 300
Bell Switch Illuminated Module	16570	24	240	7,44	335 x 475 x 300
Bell Switch Illuminated 12 V Module	16585	24	240	7,16	285 x 475 x 275
Schuko Socket Outlet Module	16528	24	240	7,97	335 x 475 x 300
Schuko Socket Outlet with Lid Module	16529	24	240	8,94	335 x 475 x 300
Antenna Socket End 1.5 dB Female Module	16587	24	240	8,26	285 x 475 x 275
Antenna Socket 8 dB Female Module *	16588	24	240	7,99	285 x 475 x 275
Telephone Socket Module	16514	24	240	5,33	285 x 475 x 275
Double Telephone Socket Module (1xCat3)	16575	24	240	5,29	335 x 475 x 300
Double Telephone Socket Module (2xCat3)	16534	24	240	6,00	335 x 475 x 300
Double Data Socket Outlet (1xCat6)	16635	24	240	4,91	335 x 475 x 300
Double Data Socket Outlet Module (2xCat6)	16636	24	240	6,98	335 x 475 x 300
Data Socket Outlet (empty) Module	16538	24	240	3,21	335 x 475 x 300
TV-RF Antenna Socket Through 11 dB Module	16626	24	240	9,90	285 x 475 x 275
TV-RF Antenna Socket End 1 dBModule	16627	24	240	10,35	285 x 475 x 275
TV-SAT Antenna Socket Through 4 dB Module	16629	24	240	10,52	285 x 475 x 275
TV-SAT Antenna Socket End 1dB Module	16628	24	240	10,52	285 x 475 x 275

TV-RF-SAT Antenna Socket End 1.5 dB **	82066	12	120	13,87	285 x 475 x 275
TV-RF-SAT Antenna Socket Through 4 dB **	82067	12	120	13,75	285 x 475 x 275
Dimmer **	82011	10	100	10,95	370 x 485 x 260
Dimmer Coil Filtered **	82031	10	100	11,00	370 x 485 x 260

## b) Frames

Frame	22001701	12	120	4,76	210 x 495 x 270
Double Frame	16512	10	100	4,59	365 x 472 x 215
Triple Frame	16513	10	100	9,41	417 x 455 x 290

(\*) 10 dB, 12 dB, 15 dB, 18 dB and 20 dB versions are available. (\*\*)The marked products shall be provided as complete products

## c) Cords

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Painted Thin Frames</b>					
White	10421	240	2400	4,54	285 x 475 x 275
Gray	10422	240	2400	4,54	285 x 475 x 275
Red	10423	240	2400	4,54	285 x 475 x 275
Dark Blue	10424	240	2400	4,54	285 x 475 x 275
Pink	10425	240	2400	4,54	285 x 475 x 275
Green	10426	240	2400	4,54	285 x 475 x 275
Yellow	10427	240	2400	4,54	285 x 475 x 275
Beige	10428	240	2400	4,54	285 x 475 x 275
Lilac	10442	240	2400	4,54	285 x 475 x 275
Magenta	10445	240	2400	4,54	285 x 475 x 275
Varak Gold	10411	240	2400	4,71	285 x 475 x 275
Varak Silver	10412	240	2400	4,71	285 x 475 x 275
Varak Mahogany	10413	240	2400	4,71	285 x 475 x 275
Varak Blue	10414	240	2400	4,71	285 x 475 x 275
Varak Green	10415	240	2400	4,71	285 x 475 x 275

Note: There are 2 cords within every product.



### Surge-Protected Socket-Outlet with Child Protection

Shock-proof grounded outlet protects all kinds of electric-electronic devices such as, refrigerator, washing machines, oven, LCD Plasma TV, computer from instantaneous shocks caused from the variation of mains voltage. The protection function is active when the light indicator on the grounded socket is in "red" color. Because of continued protection mode, it protects devices from any kind of danger in this aspect all the time



### Energy Saver

Apart from normal switches with turning on and off button, controlled with cards which are normally used in hotel rooms named Energy Savers cuts the power of the room when the card is removed. The Delayed Energy Saver is similar and the only difference is that it keeps the room energised for a while (approximately 45 sec) before shutting the power down. The Delayed Energy Savers are used with a relay to cut and connect the mains power.



### Emergency-Light

The emergency light gets activated automatically in case of a cut in the mains voltage and the white LED placed on it allows an amount of light to enter into the environment enough to recognise the elements of the environment. The battery inside the mechanism of the product gets charged as long as the mains have voltage and it allows a usage of over 10 hours.





### USB Charger Socket

Mobile devices such as smart phones, tablets etc. can be charged directly without an additional power adapter. Easy and safe... Anti static dust-free material, in appropriate standards, 5V - 2A



### USB Socket (with jack)

With a USB socket, data can be transferred safely from all devices requiring USB connection without the cable mess.

USB socket enables access to any device from a single point to share and view data.



### HDMI Socket (with jack)

With an HDMI socket, projectors, computers or TVs are connected from a single spot without the cable mess. High quality image is carried through the HDMI socket for all devices needing HDMI connection. With Type A Connection Point. It supports HDMI High Speed with Ethernet V1.4 standard.







# Surface Mounted

## Switch & Socket Outlet Series



# Surface Mounted Switch & Socket Outlet Series

## Color Options

---



White



Beige



Gray



Root Oak



Root Walnut



Surface mounted switch and socket series consist of two color group; white and cream. Root oak, root walnut and grey color options are everywhere you need.

## Functions

---



One Way Switch



Light Switch



Socket Outlet



Antenna Socket

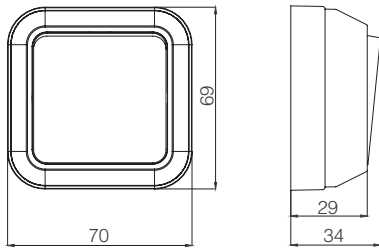


Telephone Socket

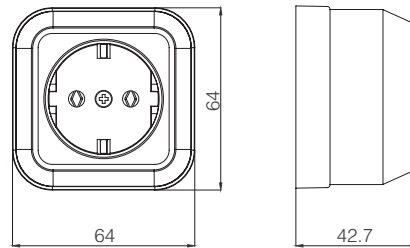


## Technical Drawings

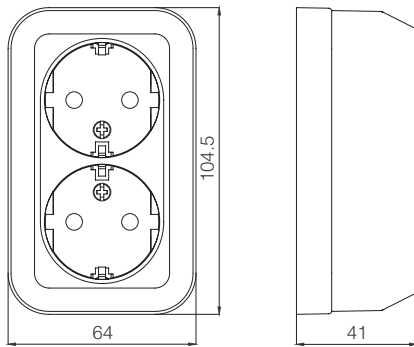
One Way Switch



Schuko Socket Outlet



Double Schuko Socket Outlet



**Surface-mounted switch and socket series;  
ideal solution to carry electrical connections  
to anywhere you need**

Surface-mounted switch and socket series products provides quick and practical solutions for environments with no flush mounted installations and on walls.





## Surface Mounted Switch & Socket Outlet Series



**One Way Switch**  
45101  
10 AX, 250 V~  
Piece in Box / Package - 10 / 100



**One Way Switch Illuminated**  
45121  
10 AX, 250 V~  
Piece in Box / Package - 10 / 100



**Two-Circuit Switch**  
45103  
10 AX, 250 V~  
Piece in Box / Package - 10 / 100



**Two-Circuit Switch Illuminated**  
45123  
10 AX, 250 V~  
Piece in Box / Package - 10 / 100



**Light Switch**  
45104  
10 A, 250 V~  
Piece in Box / Package - 10 / 100



**Light Switch Illuminated**  
45124  
10 A, 250 V~  
Piece in Box / Package - 10 / 100



**Two-Way Switch**  
45105  
10 AX, 250 V~  
Piece in Box / Package - 10 / 100



**Two-Way Switch Illuminated**  
45125  
10 AX, 250 V~  
Piece in Box / Package - 10 / 100



**Triple Switch 3 Button (1+3)**  
451A5  
10 AX, 250 V~  
Piece in Box / Package - 10 / 100



**Triple Switch 3 Button (3+3)**  
451A6  
10 AX, 250 V~  
Piece in Box / Package - 10 / 100



**Triple Switch Single Button (1+3)**  
451A7  
10 AX, 250 V~  
Piece in Box / Package - 10 / 100



**Triple Switch Single Button (3+3)**  
451A8  
10 AX, 250 V~  
Piece in Box / Package - 10 / 100



**Socket Outlet**  
45102  
16 A, 250 V~  
Piece in Box / Package - 10 / 100



**Schuko Socket Outlet**  
45108  
16 A, 250 V~  
Piece in Box / Package - 10 / 100



**Antenna Socket Through  
8 dB Female**  
45107  
Piece in Box / Package - 10 / 100



**Antenna Socket End  
15 dB Female**  
45127  
Piece in Box / Package - 10 / 100



**Telephone Socket**  
45114  
Piece in Box / Package - 10 / 100



**Double Socket Outlet**  
45117  
16 A, 250 V~  
Piece in Box / Package - 10 / 100



**Double Schuko  
Socket Outlet**  
45182  
16 A, 250 V~  
Piece in Box / Package - 10 / 100



**Double Surface Mounted One  
Way Switch + Schuko Socket  
Outlet**  
451A1  
10 AX, 250 V~ / 16 A, 250 V~  
Piece in Box / Package - 10 / 60



**Double Surface Mounted  
Two-Circuit Switch + Schuko  
Socket Outlet**  
451A2  
10 AX, 250 V~ / 16 A, 250 V~  
Piece in Box / Package - 10 / 60



**Double Surface Mounted One  
Way Switch Illuminated +  
Schuko Socket Outlet**  
451A3  
10 AX, 250 V~ / 16 A, 250 V~  
Piece in Box / Package - 10 / 60



**Double Surface Mounted Two-  
Circuit Switch Illuminated +  
Schuko Socket Outlet**  
451A4  
10 AX, 250 V~ / 16 A, 250 V~  
Piece in Box / Package - 10 / 60



**Double Vertical Surface Mounted  
Switch + Grounded Socket**  
16001454  
10 AX, 250 V~ / 16 A, 250 V~  
Piece in Box / Package - 10 / 60

# Surface Mounted Switch & Socket Outlet Series


## Packing Information

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
One Way Switch	45x01	10	100	6,40	315 x 420 x 195
Socket Outlet	45x02	10	100	6,40	315 x 420 x 195
Two-Circuit Switch	45x03	10	100	6,80	315 x 420 x 195
Light Switch	45x04	10	100	6,40	315 x 420 x 195
Two-Way Switch	45x05	10	100	6,60	315 x 420 x 195
Antenna Socket Through 8 dB Female	45x07	10	100	5,40	315 x 420 x 195
Antenna Socket End 15 dB Female	45x27	10	100	5,20	315 x 420 x 195
Schuko Socket Outlet	45x08	10	100	8,00	295 x 390 x 245
Telephone Socket	45x14	10	100	5,00	315 x 420 x 195
Double Telephone Socket	45x34	10	100	4,74	315 x 420 x 195
Double Data Socket Outlet (2xCat3)	45x76	10	100	4,82	315 x 420 x 195
One Way Switch Illuminated	45x21	10	100	6,60	315 x 420 x 195
Two-Circuit Switch Illuminated	45x23	10	100	7,00	315 x 420 x 195
Light Switch Illuminated	45x24	10	100	6,60	315 x 420 x 195
Two-Way Switch Illuminated	45x25	10	100	6,80	315 x 420 x 195
Double Socket Outlet	45x17	10	100	8,77	365 x 385 x 320
Double Schuko Socket Outlet	45x82	10	100	10,97	365 x 385 x 320
Double Surface Mounted One Way Switch + Schuko Socket Outlet	45xA1	10	60	8,98	280 x 305 x 265
Double Surface Mounted Two-Circuit Switch + Schuko Socket Outlet	45xA2	10	60	8,92	280 x 305 x 265
Double Surface Mounted One Way Switch Illuminated + Schuko Socket Outlet	45xA3	10	60	8,97	280 x 305 x 265
Double Surface Mounted Two-Circuit Switch Illuminated + Schuko Socket Outlet	45xA4	10	60	9,19	280 x 305 x 265
Data Socket-Outlet (1xCat6)	45xB2	10	100	4,79	315 x 420 x 195
Double Data Socket-Outlet (1xCat 3)	45xA9	10	100	4,74	315 x 420 x 195
Double Data Socket-Outlet (1xCat 5)	45xB1	10	100	4,94	315 x 420 x 195
Triple Switch 3 Button (1+3)	45xA5	10	100	6,26	315 x 420 x 195
Triple Switch 3 Button (3+3)	45xA6	10	100	6,26	315 x 420 x 195
Triple Switch Single Button (1+3)	45xA7	10	100	6,26	315 x 420 x 195
Triple Switch Single Button (3+3)	45xA8	10	100	6,26	315 x 420 x 195
Double Vertical Surface Mounted Switch + Grounded Socket	16 001 454	10	60	8,52	280 x 370 x 310

Please specify your choice of color by applying below color codes into the 'x' marked space.

	Code No.
Colors	x
Grey	0
White	1
Beige	2
Root Oak	3
Root Walnut	4

## Assembly

 Disconnect the power before installation.

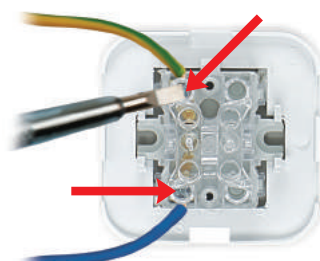
### One Way Switch



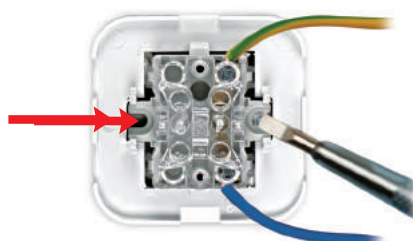
① Touch to the button with screwdriver



② Push the mechanism and remove the cover as shown in the picture



③ Place the connections and tighten the screws



④ Mount to the wall with fixation screws

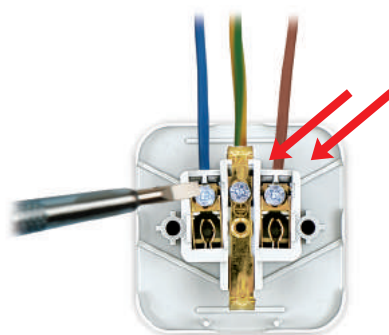


Backside appearance of the product

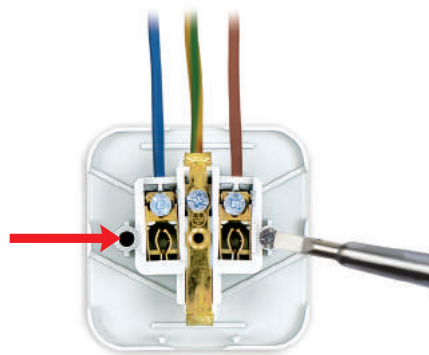
### Schuko Socket Outlet



① Remove the cover with screwdriver



② Place the connections and tighten the screws



③ Mount to the wall with fixation screws



Backside appearance of the product







# Moisture Proof IP44

## Switch & Socket Outlet Series



## Absolute protection and safety



White



Beige



Gray



In moist places, IP44 series is splashing water resistant, it is the indispensable product for moist places with three color options.

## Functions

---



One Way Switch



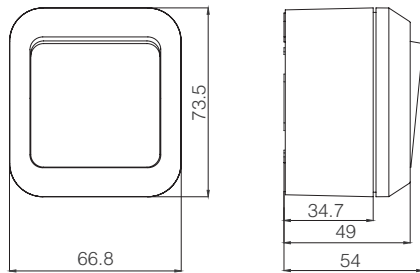
Light Switch



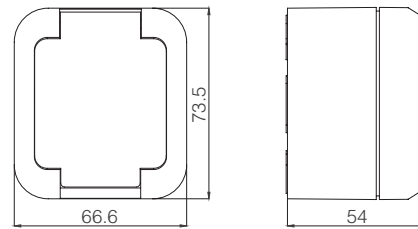
Schuko Socket Outlet with Lid

## Technical Drawings

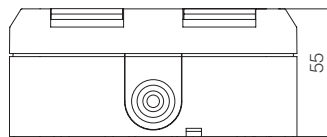
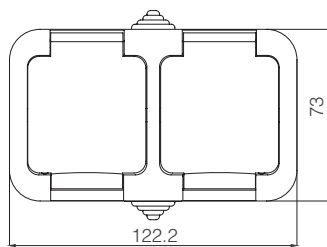
One Way Switch



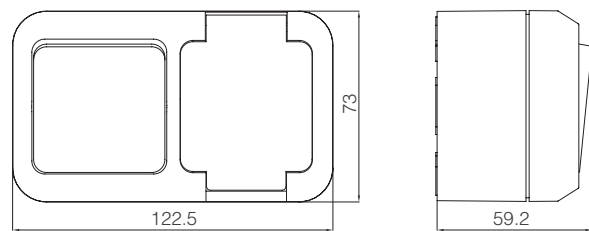
Schuko Socket Outlet with Lid



Double Schuko Socket Outlet With Cover



One Way Switch + Schuko Socket Outlet with Lid



IP44 series is good to use for moist environments such as bathrooms and similar places.

## Moisture Proof IP44 Switch & Socket Outlet Series



**One Way Switch**

18300  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 10 / 100



**Two Way Switch**

18301  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 10 / 100



**Two-Way Switch**

18303  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 10 / 100



**Intermediate Switch**

18305  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 10 / 100



**Light Switch**

18302  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 10 / 100



**Bell Switch**

18310  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 10 / 100



**Shutter Push-Button**

18341  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 10 / 100



**Socket Outlet**

18306  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 10 / 100



**Schuko Socket Outlet**

18308  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 10 / 100



**Schuko Socket Outlet with Lid**

18304  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 10 / 100



**Dual Moist Environment Switch +  
Schuko Socket Outlet with Lid**

18350  
10 AX, 250 V~ / 16 A, 250 V~  
EN 60669-1 / IEC 60884-1  
Piece in Box / Package - 6 / 60



**Dual Moist Environment Com-  
mutator + Schuko Socket Outlet  
with Lid**

18351  
10 AX, 250 V~ / 16 A, 250 V~  
EN 60669-1 / IEC 60884-1  
Piece in Box / Package - 6 / 60





**Dual Moist Environment  
Schuko Socket Outlet with Lid**  
18354  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 6 / 60

## Vertical Combination

The elastic plugs in the junctions can be replaced with some parts in order to join enclosures and it is possible to establish as many vertical combinations as you want.



## Packing Information

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
One Way Switch	18x00	10	100	12,02	365 x 385 x 320
Two-Circuit Switch	18x01	10	100	12,32	365 x 385 x 320
Light Switch	18x02	10	100	12,12	365 x 385 x 320
Two-Way Switch	18x03	10	100	12,14	365 x 385 x 320
Schuko Socket Outlet with Lid	18x04	10	100	13,77	365 x 385 x 320
Socket Outlet with Earthing Pin and Lid	18x16	10	100	11,03	365 x 385 x 320
Intermediate Switch	18x05	10	100	12,14	365 x 385 x 320
Bell Switch	18x10	10	100	7,50	365 x 385 x 320
Shutter Push-Button	18x41	10	100	10,10	365 x 385 x 320
Socket Outlet	18x06	10	100	11,97	365 x 385 x 320
Antenna Socket Through 8 dB Female	18x07	10	100	10,97	365 x 385 x 320
Antenna Socket End 15 dB Female	18x27	10	100	11,52	365 x 385 x 320
Schuko Socket Outlet	18x08	10	100	12,47	365 x 385 x 320
Telephone Socket	18x14	10	100	10,70	365 x 385 x 320
Double Moist Environment Switch + Schuko Socket Outlet with Lid	18x50	6	60	13,47	385 x 450 x 290
Double Moist Environment Commutator + Schuko Socket Outlet with Lid	18x51	6	60	13,72	385 x 450 x 290
Double Moist Environment Covered Schuko Socket	18x54	6	60	14,01	385 x 450 x 290
Double Moist Environment Light + Schuko Socket Outlet with Lid	18x52	6	60	12,20	385 x 450 x 290
Double Moist Environment Blind Switch + Schuko Socket Outlet with Lid	18x55	6	60	12,20	385 x 450 x 290
Double Moist Environment Vaiven + Schuko Socket Outlet with Lid	18x53	6	60	12,20	385 x 450 x 290
Connector	18x11	6	60	3,73	194 x 238 x 407

Please specify your choice of color by applying below color codes into the 'x' marked space.

	Code No.		Code No.		Code No.
Colors	x	Colors	x	Colors	x
Gray	1	White	3	Beige	2







# Moisture Proof IP44/55 Plus Switch & Socket Outlet Series



# Moisture Proof IP44/55 Plus Switch & Socket Outlet Series



White



Beige



Gray

Moist Environment Plus IP44 series can be used in moist environments; bathrooms and similar places with water splash potential.

Moist Environment Plus IP55 series can be used in outdoor environments; gardens, garages etc places with spray water and dust potential.

As color options, there is white, cream and grey color choices.



The products of Moisture plus series are produced by using thermoplastic material that is impact resistant in case and cover, is resistant to deformation and breakage at low and high temperatures that is subjected on challenging conditions of the external environment.

## Functions

### Moisture Proof IP44 Plus



One Way Switch



Schuko Socket Outlet with Lid

#### IP44

- Protected against splash water from any direction
- Protected against solid objects over 1.0 mm e.g. wires

### Moisture Proof IP55 Plus



One Way Switch



Schuko Socket Outlet with Lid

#### IP55

- Protected against pressurized water from all angles.
- Protection against dust ingress



## IP (Ingress Protection) What is the protection class?

IP protection class is a classification standard for the level of environmental protection a electrical casing provides which is improved by European Commission

IP classification consists of 2 digits.

- 1) Protection against solid objects or materials
- 2) Protection against liquids (water)

With different numeric codes, the protection level of the product can be determined easily and quickly. The numeric values corresponds to the levels indicated in the below table.

The value of the used IP protection number of a product shows the level of the protection. For outer or moist environments, it is recommended to use products with high IP values. Because, the working performance and also the user safety requires the product to be of maximum protection level.

The second digit in IP protection is very important for the user. The products used in outer environments and moist environments are subject to water frequently. While this does not mean that the first digit is not important but the second digit is very important and carries lethal value.

### First Digit: Protection Against Foreign Solid Objects

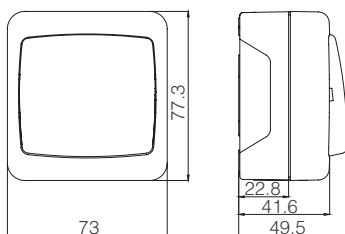
Number	Description
0(x)	not protected.
1	Protected against solid objects with diameter $\geq 50$ mm. (example: unintentional touch of hand)
2	Protected against solid objects with diameter $\geq 12.5$ mm. (example: touch with finger)
3	Protected against solid objects with diameter $\geq 2.5$ mm. (example: tools, screws)
4	Protected against solid objects with diameter $\geq 1$ mm. (example: fine tools, fine wires)
5	Protected against dust. (there shall be no more than an amount which can effect well functioning of the equipment.)
6	Protected against dust. (there shall be no more than an amount which can effect well functioning of the equipment.)

### Second Digit: Protection Against Liquids

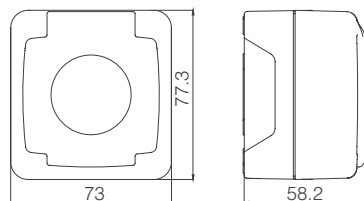
Number	Description
0(x)	not protected
1	Protected against vertically dropping water drops.
2	Protected against water drops falling up to $15^\circ$ of angle.
3	Protected against water drops falling up to $60^\circ$ of angle.
4	Protected against splash water from all angles.
5	Protected against pressurized water from all angles.
6	Protected against pressurized water impacts from all angles.
7	Protected against temporary dipping in water.
8	Protected against permanent dipping in water.

## Technical Drawings

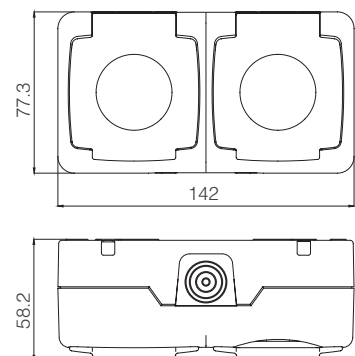
One Way Switch



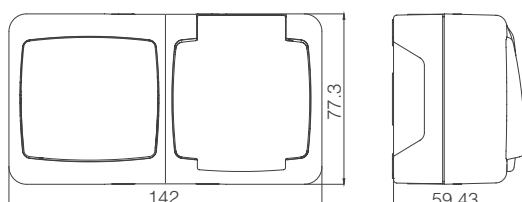
Schuko Socket Outlet with Lid



Double Schuko Socket Outlet With Cover



One Way Switch + Schuko Socket Outlet with Lid



## Moisture Proof IP44 Plus Switch & Socket Outlet Series



**One Way Switch**  
37064001  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**One Way Switch Illuminated**  
37064021  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch**  
37064003  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch Illuminated**  
37064023  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch**  
37064050  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch**  
37064004  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Shutter Push-Button**  
37064041  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch**  
37064005  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch**  
37064020  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Lid**  
37064029  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Dual Moist Environment Switch +  
Schuko Socket Outlet with Lid**  
37064202  
10 AX, 250 V~ / 16 A, 250 V~  
EN 60669-1 / IEC 60884-1  
Piece in Box / Package - 6 / 60



**Dual Moist Environment One  
Way Switch Illuminated +  
Schuko Socket Outlet with Lid**  
37064A82  
10 AX, 250 V~ / 16 A, 250 V~  
EN 60669-1 / IEC 60884-1  
Piece in Box / Package - 6 / 60





Dual Moist Environment  
Commutator + Schuko Socket  
Outlet with Lid

37064203  
10 AX, 250 V~ / 16 A, 250 V~  
EN 60669-1 / IEC 60884-1  
Piece in Box / Package - 6 / 60



Dual Moist Environment  
Two-Circuit Switch Illuminated +  
Schuko Socket Outlet with Lid

37064A84  
10 AX, 250 V~ / 16 A, 250 V~  
EN 60669-1 / IEC 60884-1  
Piece in Box / Package - 6 / 60



Dual Moist Environment  
Schuko Covered Socket

37064201  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 6 / 60

### Moisture Proof IP44 Plus

	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
One Way Switch	37 xxx 001	12	120	14,44	335 x 490 x 370
One Way Switch Illuminated	37 xxx 021	12	120	14,33	335 x 490 x 370
One Way Switch Screwless	37 xxx 101	12	120	14,34	335 x 490 x 370
One Way Switch Screwless Terminal Illuminated	37 xxx 121	12	120	12,59	335 x 475 x 300
Two-Circuit Switch	37 xxx 003	12	120	14,56	335 x 490 x 370
Two-Circuit Switch Illuminated	37 xxx 023	12	120	13,82	335 x 475 x 300
Two-Circuit Switch Screwless	37 xxx 103	12	120	14,50	335 x 490 x 370
Two-Circuit Switch Screwless Terminal Illuminated	37 xxx 123	12	120	15,08	335 x 490 x 370
Light Switch	37 xxx 004	12	120	15,06	335 x 490 x 370
Light Switch Screwless	37 xxx 104	12	120	15,00	335 x 490 x 370
Light Switch Illuminated	37 xxx 024	12	120	14,20	335 x 490 x 370
Light Switch Illuminated Screwless	37 xxx 124	12	120	14,14	335 x 490 x 370
Two-Way Switch	37 xxx 005	12	120	14,55	335 x 490 x 370
Two-Way Switch Screwless	37 xxx 105	12	120	14,50	335 x 490 x 370
Two-Way Switch Illuminated	37 xxx 025	12	120	14,35	335 x 490 x 370
Two-Way Switch Illuminated Screwless	37 xxx 125	12	120	14,29	335 x 490 x 370
Schuko Socket Outlet with Lid	37 xxx 029	12	120	16,56	320 x 475 x 385
Schuko Socket Outlet with Lid Screwless	37 xxx 099	12	120	16,56	320 x 475 x 385
Intermediate Switch	37 xxx 020	12	120	14,56	335 x 490 x 370
Intermediate Switch Screwless	37 xxx 120	12	120	14,50	335 x 490 x 370
Intermediate Switch Illuminated	37 xxx 040	12	120	14,40	335 x 490 x 370
Intermediate Switch Illuminated Screwless	37 xxx 140	12	120	14,34	335 x 490 x 370
Bell Switch	37 xxx 050	12	120	13,50	335 x 490 x 370
Bell Switch Screwless	37 xxx 150	12	120	13,44	335 x 490 x 370
Shutter Push-Button	37 xxx 041	12	120	14,06	335 x 490 x 370
Shutter Push-Button Screwless	37 xxx 141	12	120	14,05	335 x 490 x 370
Dual Moist Environment Switch + Schuko Socket Outlet with Lid	37 xxx 202	6	60	13,94	335 x 490 x 370
Dual Moist Environment One Way Switch Illuminated + Schuko Socket Outlet with Lid	37 xxx A82	6	60	13,94	335 x 490 x 370
Dual Moist Environment One Way Switch Illuminated + Schuko Socket Outlet with Lid Screwless	37 xxx A83	6	60	13,88	335 x 490 x 370
Dual Moist Environment Switch + Schuko Socket Outlet with Lid Screwless	37 xxx 207	6	60	13,88	335 x 490 x 370
Dual Moist Environment Commutator + Schuko Socket Outlet with Lid	37 xxx 203	6	60	14,00	335 x 490 x 370
Dual Moist Environment Two-Circuit Switch Illuminated + Schuko Socket Outlet with Lid	37 xxx A84	6	60	14,00	335 x 490 x 370
Dual Moist Environment Two-Circuit Switch Illuminated + Schuko Socket Outlet with Lid Screwless	37 xxx A85	6	60	14,00	335 x 490 x 370
Dual Moist Environment Commutator + Schuko Socket Outlet with Lid Screwless	37 xxx 208	6	60	14,00	335 x 490 x 370
Dual Moist Environment Covered Schuko Socket	37 xxx 201	6	60	14,59	335 x 490 x 370
Dual Moist Environment Covered Schuko Outlet with Socket Lid Screwless	37 xxx 206	6	60	14,53	335 x 490 x 370

Within the product codes showing 'xxx', enter the color from the table below.

	Code No
Colors	xxx
Gray	064
White	001
Beige	010

## Moisture Proof IP55 Plus Switch & Socket Outlet Series



**One Way Switch**  
36064001  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**One Way Switch Illuminated**  
36064021  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch**  
36064003  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Circuit Switch Illuminated**  
36064023  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Bell Switch**  
36064050  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Light Switch**  
36064004  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Shutter Push-Button**  
36064041  
10 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Two-Way Switch**  
36064005  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Intermediate Switch**  
36064020  
10 AX, 250 V~  
EN 60669-1  
Piece in Box / Package - 12 / 120



**Schuko Socket Outlet with Lid**  
36064029  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 120



**Dual Moist Environment Switch +  
Schuko Socket Outlet with Lid**  
36064202  
10 AX, 250 V~ / 16 A, 250 V~  
EN 60669-1 / IEC 60884-1  
Piece in Box / Package - 6 / 60



**Dual Moist Environment One  
Way Switch Illuminated + Schuko  
Socket Outlet with Lid**  
36064A82  
10 AX, 250 V~ / 16 A, 250 V~  
EN 60669-1 / IEC 60884-1  
Piece in Box / Package - 6 / 60



Dual Moist Environment  
Commutator + Schuko Socket  
Outlet with Lid  
36064203  
10 AX, 250 V~ / 16 A, 250 V~  
EN 60669-1 / IEC 60884-1  
Piece in Box / Package - 6 / 60



Dual Moist Environment  
Two-Circuit Switch Illuminated +  
Schuko Socket Outlet with Lid  
36064A84  
10 AX, 250 V~ / 16 A, 250 V~  
EN 60669-1 / IEC 60884-1  
Piece in Box / Package - 6 / 60



Dual Moist Environment  
Schuko Covered Socket  
36064201  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 6 / 60

### Moisture Proof IP55 Plus

	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
One Way Switch	36 xxx 001	12	120	14,70	335 x 490 x 370
One Way Switch Illuminated	36 xxx 021	12	120	14,00	335 x 475 x 300
One Way Switch Screwless	36 xxx 101	12	120	14,64	335 x 490 x 370
One Way Switch Screwless Terminal Illuminated	36 xxx 121	12	120	14,58	335 x 490 x 370
Two-Circuit Switch	36 xxx 003	12	120	14,83	335 x 490 x 370
Two-Circuit Switch Illuminated	36 xxx 023	12	120	15,43	335 x 490 x 370
Two-Circuit Switch Screwless	36 xxx 103	12	120	14,77	335 x 490 x 370
Two-Circuit Switch Screwless Terminal Illuminated	36 xxx 123	12	120	13,06	335 x 475 x 300
Light Switch	36 xxx 004	12	120	15,42	335 x 490 x 370
Light Switch Screwless	36 xxx 104	12	120	15,36	335 x 490 x 370
Light Switch Illuminated	36 xxx 024	12	120	14,50	335 x 490 x 370
Light Switch Illuminated Screwless	36 xxx 124	12	120	14,44	335 x 490 x 370
Two-Way Switch	36 xxx 005	12	120	14,92	335 x 490 x 370
Two-Way Switch Screwless	36 xxx 105	12	120	14,86	335 x 490 x 370
Two-Way Switch Illuminated	36 xxx 025	12	120	14,65	335 x 490 x 370
Two-Way Switch Illuminated Screwless	36 xxx 125	12	120	14,59	335 x 490 x 370
Schuko Socket Outlet with Lid	36 xxx 029	12	120	16,94	320 x 475 x 385
Schuko Socket Outlet with Lid Screwless	36 xxx 099	12	120	16,56	320 x 475 x 385
Intermediate Switch	36 xxx 020	12	120	14,85	335 x 490 x 370
Intermediate Switch Screwless	36 xxx 120	12	120	14,85	335 x 490 x 370
Intermediate Switch Illuminated	36 xxx 040	12	120	14,70	335 x 490 x 370
Intermediate Switch Illuminated Screwless	36 xxx 140	12	120	14,64	335 x 490 x 370
Bell Switch	36 xxx 050	12	120	13,83	335 x 490 x 370
Bell Switch Screwless	36 xxx 150	12	120	13,78	335 x 490 x 370
Shutter Push-Button	36 xxx 041	12	120	14,45	335 x 490 x 370
Shutter Push-Button Screwless	36 xxx 141	12	120	14,39	335 x 490 x 370
Dual Moist Environment Switch + Schuko Socket Outlet with Lid	36 xxx 202	6	60	14,30	335 x 490 x 370
Dual Moist Environment One Way Switch Illuminated + Schuko Socket Outlet with Lid	36 xxx A82	6	60	14,30	335 x 490 x 370
Dual Moist Environment One Way Switch Illuminated + Schuko Socket Outlet with Lid Screwless	36 xxx A83	6	60	14,24	335 x 490 x 370
Dual Moist Environment Switch + Schuko Socket Outlet with Lid Screwless	36 xxx 207	6	60	14,24	335 x 490 x 370
Dual Moist Environment Commutator + Schuko Socket Outlet with Lid	36 xxx 203	6	60	14,35	335 x 490 x 370
Dual Moist Environment Two-Circuit Switch Illuminated + Schuko Socket Outlet with Lid	36 xxx A84	6	60	14,35	335 x 490 x 370
Dual Moist Environment Two-Circuit Switch Illuminated + Schuko Socket Outlet with Lid Screwless	36 xxx A85	6	60	14,35	335 x 490 x 370
Dual Moist Environment Commutator + Schuko Socket Outlet with Lid Screwless	36 xxx 208	6	60	14,35	335 x 490 x 370
Dual Moist Environment Covered Schuko Socket	36 xxx 201	6	60	14,88	335 x 490 x 370
Dual Moist Environment Covered Schuko Outlet with Socket Lid Screwless	36 xxx 206	6	60	14,81	335 x 490 x 370

Within the product codes showing 'xxx', enter the color from the table below.

	Code No
Colors	xxx
Gray	064
White	001
Beige	010

## Technical Details

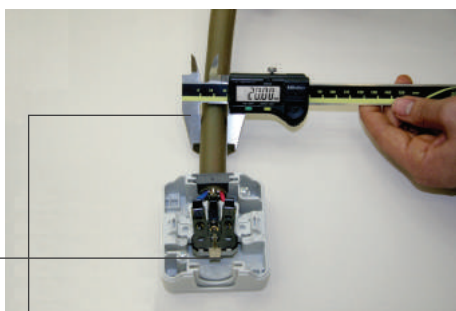
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You do not need to screw or unscrew throughly thanks to design.

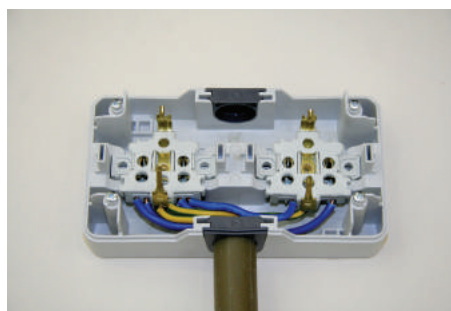


Possibility to connect earthing conductor to switches.



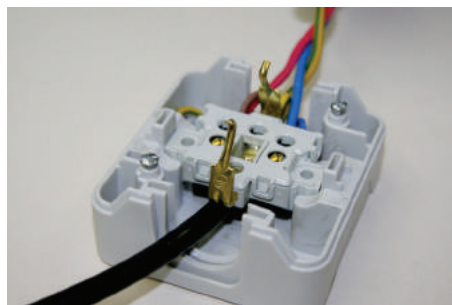
Conduits permit as  $\varnothing 20$  mm diameter.

Mechanisms can fit own place tight.



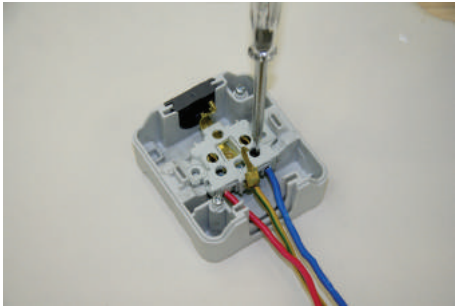
Bridge circuits are ready.  
Wide space for connection conductors.

Possibility to pass the cord below the mechanism

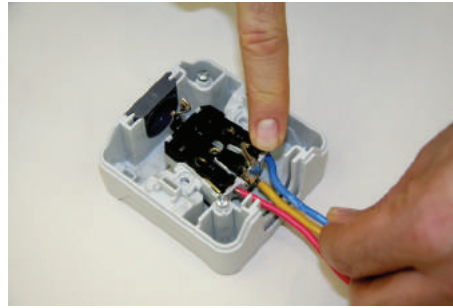




There are two options with or without screw terminals (quick connection)

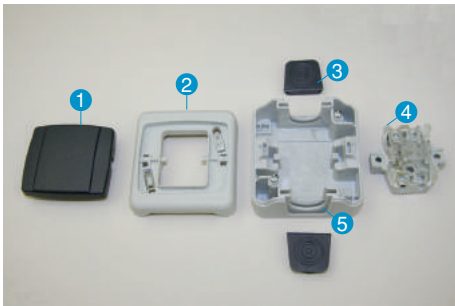


With screw terminals

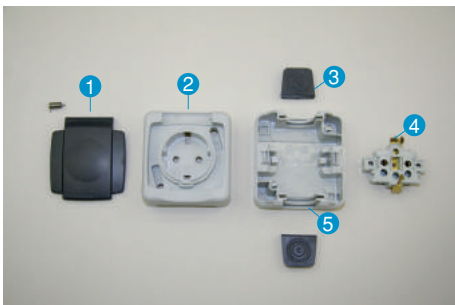


Without screw terminals and Socket Outlets

Materials of switches and socket outlets



1. Switch Button	ABS
2. Switch Cover	PP (polypropylene)
3. Conduit Plug	PVC
4. Mechanism	PA6 (polyamide 6 ) / PC (polycarbonate)
5. Box	PP (polypropylene)



1. Lid	ABS
2. Socket Cover	PP (polypropylene)
3. Conduit Plug	PVC
4. Mechanism	PA6 (polyamide 6 ) / PC (polycarbonate)
5. Box	PP (polypropylene)

Differences between IP44 and IP55



**IP44**

- └ Protected against splash water from any direction
- └ Protected against solid objects over 1.0 mm e.g. wires

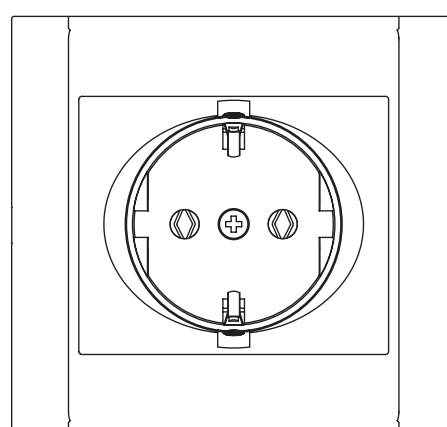
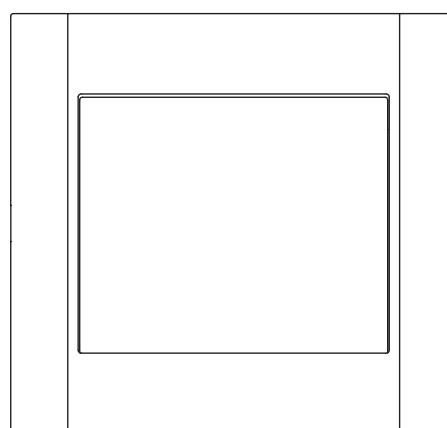
**IP55**

- └ Protected against pressurized water from all angles.
- └ Protection against dust ingress




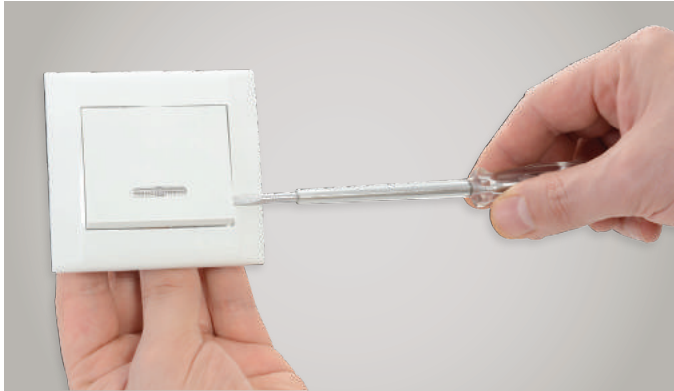
# Technical Drawings

- Switch and Socket Outlet Installation
- Switch and Socket Outlet Connection Diagrams

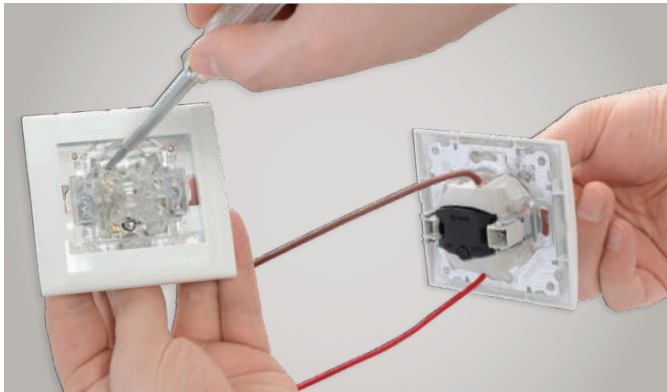


## Switch

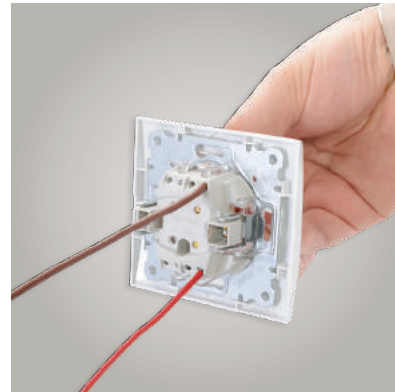
 Disconnect the power before installation



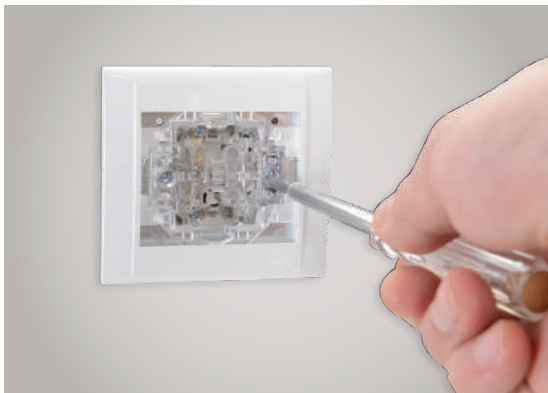
① Dismantle button using a screwdriver.



② Place cables to their housing in threaded switches and tighten connector screws to fix.



③ In socketed switches, push cables into their housings and fix.



④ Fasten to wall by tightening guide screws.




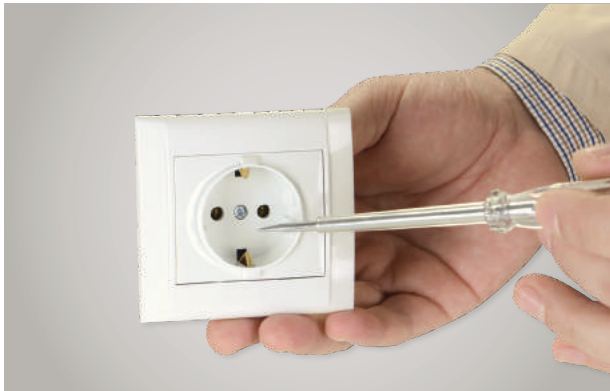
⑤ Place the button into its place.

*Note: Must use single-core cable with screwless terminal switches. Cable installation should be done by stripping the cable to appropriate size.*

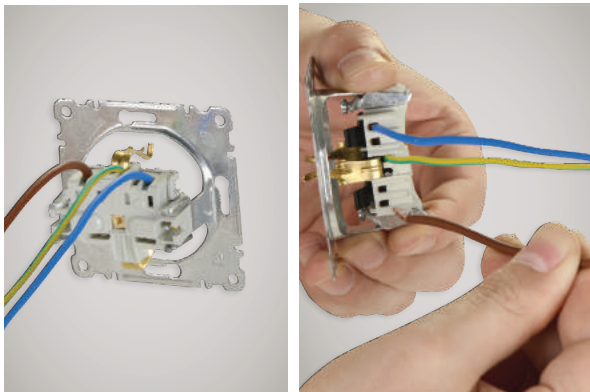


## Schuko Socket Outlet

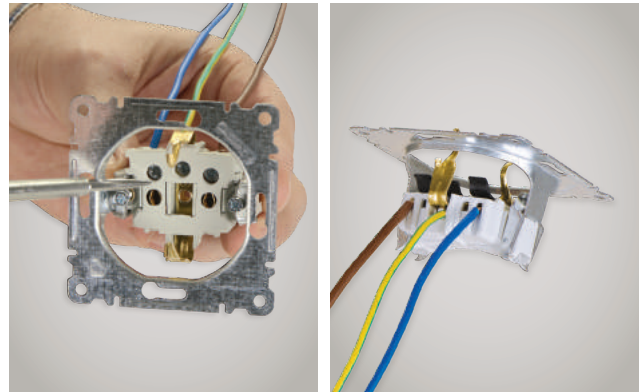
 Disconnect the power before installation



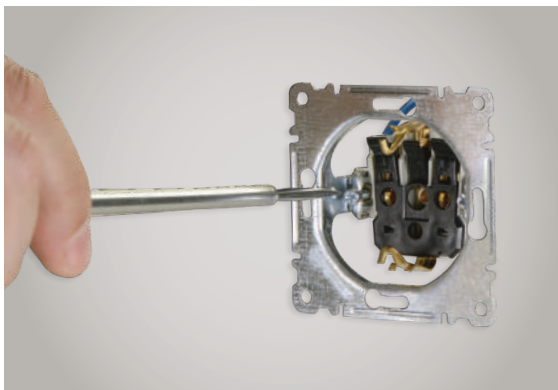
① Dismantle the cover, then the frame using a screwdriver.



② Place cables into their housing and loosen contact screws. Place cables into their housings by pushing in socketed switches.



③ Tighten screws to fix cables.



④ Fix the product to the wall by tightening guide screws.

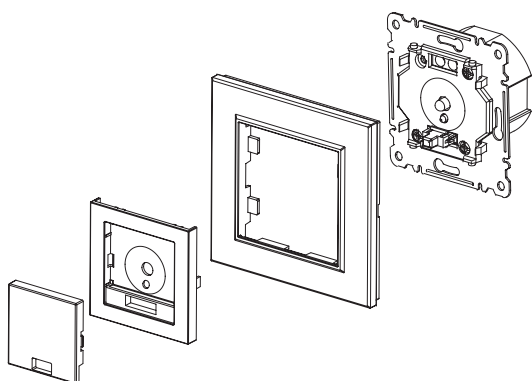


⑤ Fasten the screw and frame by tightening.

*Note: Must use single-core cable with screwless terminal switches. Cable installation should be done by stripping the cable to appropriate size.*

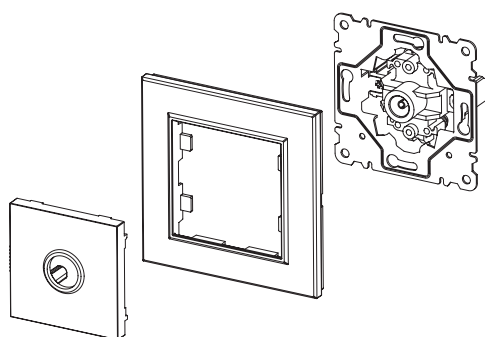
## Steps for Assembly

### Emergency-Light



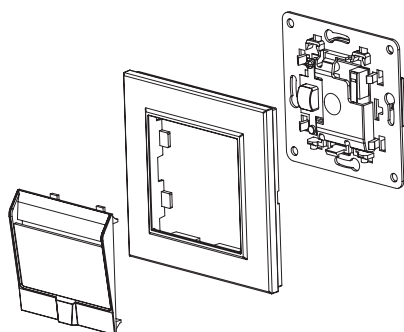
- ① Separate the cover and the frame from mechanism by pulling
- ② Place the neutral and phase wires into the specified terminals and tighten the screws with the help of a screwdriver
- ③ Complete the installation by tightening the clamping screws on the wall
- ④ After installing the product attach the frame and then the cover.

### Antenna Socket



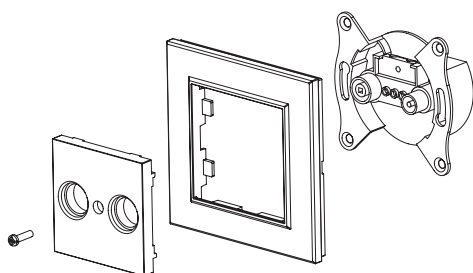
- ① Separate the cover and the frame from mechanism by pulling
- ② Connect the antenna cable into the specified slot on the product and screw it on tightly.
- ③ Complete the installation by tightening the clamping screws on the wall
- ④ After installing the product attach the frame and then the cover.

### Energy Saver



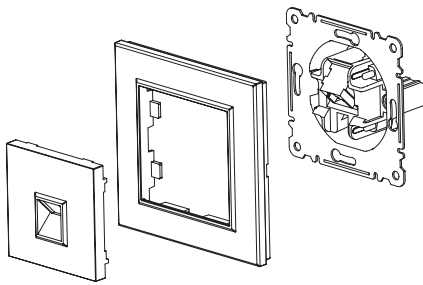
- ① Separate the cover and the frame from mechanism by pulling
- ② Fasten system cables into the terminals properly with the help of a screwdriver
- ③ Complete the installation by tightening the clamping screws on the wall
- ④ After installing the product attach the frame and then the cover

### TV-SAT Antenna Socket TV-RF Antenna Socket



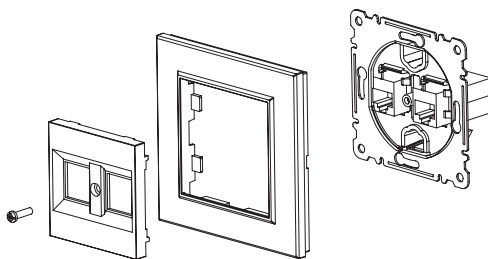
- ① Unscrew the lid and cover with a screwdriver and then take out the frame.
- ② Connect the antenna cable into the specified slot on the product and screw it on tightly.
- ③ Complete the installation by tightening the clamping screws on the wall
- ④ After installing the product attach the frame and then the cover.

### Telephone Socket



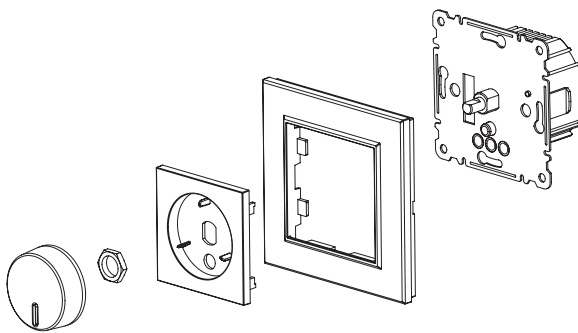
- ① Separate the cover and the frame from mechanism by pulling
- ② Insert telephone cables to appropriate places on the product in the same way with screwdriver
- ③ Complete the installation by tightening the clamping screws on the wall
- ④ After installing the product attach the frame and then the cover.

### Data Socket Outlet



- ① Unscrew the lid and cover with a screwdriver and then take out the frame.
- ② Insert data cables to appropriate slots with specified combination on the product
- ③ Complete the installation by tightening the clamping screws on the wall
- ④ After installing the product attach the frame and then the cover.

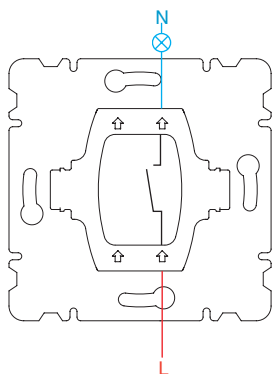
### Dimmer / Audio Switch



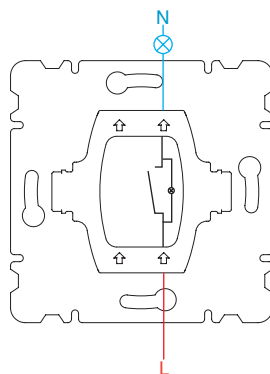
- ① Loosen the button and the nut and then remove from frame and mechanism.
- ② Insert phase and neutral cables ( for Audio Switch installation cables) from the central transmission system into terminals on the product with screwdriver.
- ③ Complete the installation by tightening the clamping screws on the wall
- ④ After installing the product attach the frame and then the cover.

# Switch and Socket Outlet Connection Diagrams

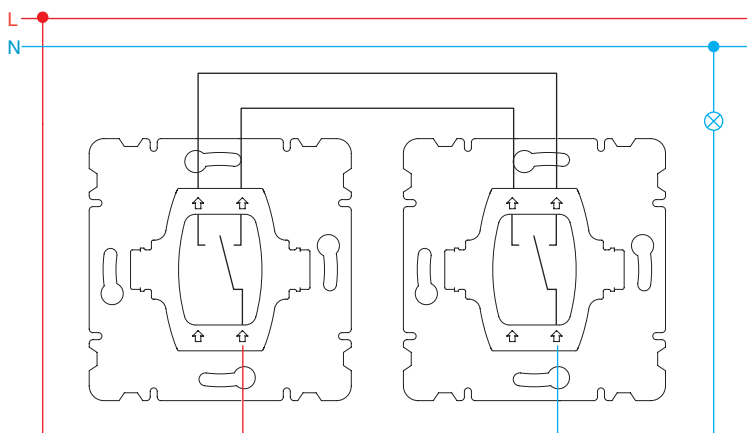
One Way Switch



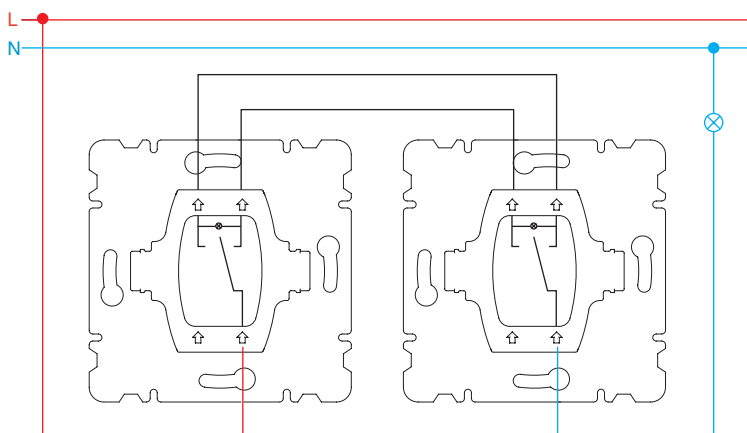
One Way Switch Illuminated



Two-Way Switch

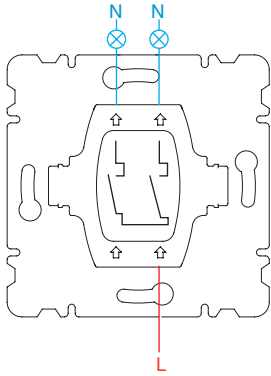


Two-Way Switch Illuminated

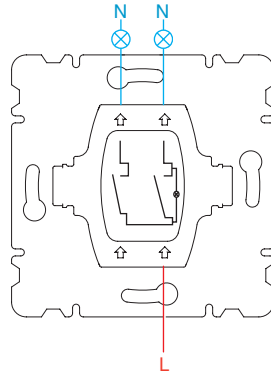




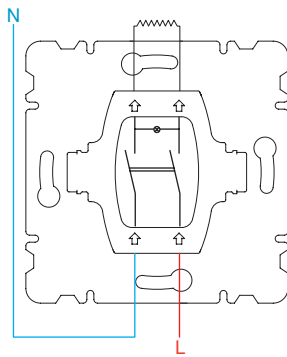
Two-Circuit Switch



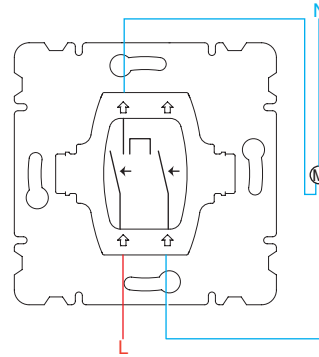
Two-Circuit Switch Illuminated



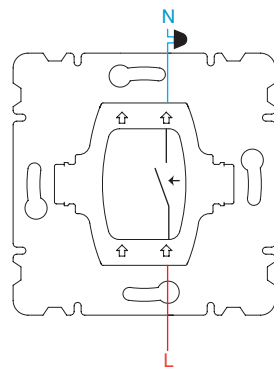
Control Switch 2-Pole



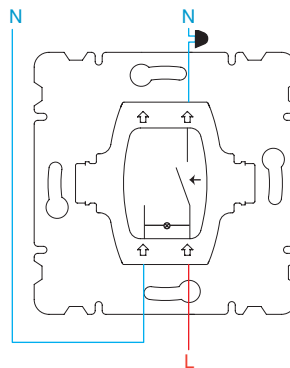
Shutter Push-Button



Bell Switch

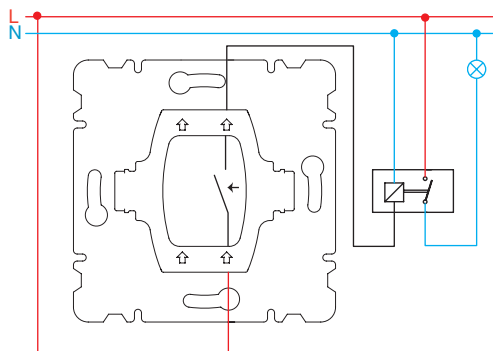


Bell Switch Illuminated 12V / 250 V

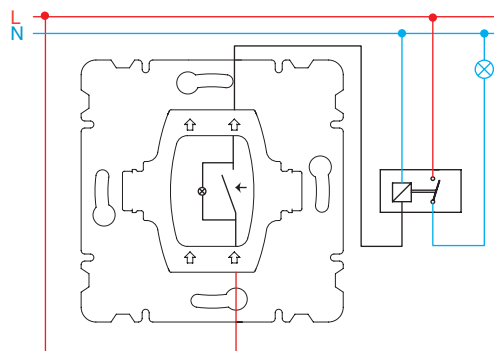


# Switch and Socket Outlet Connection Diagrams

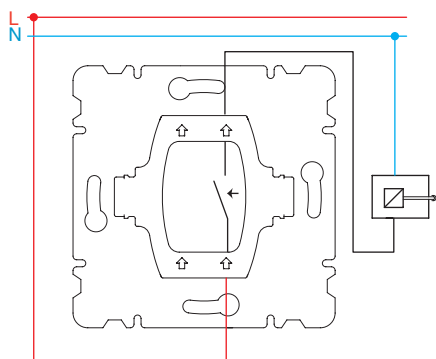
Light Switch



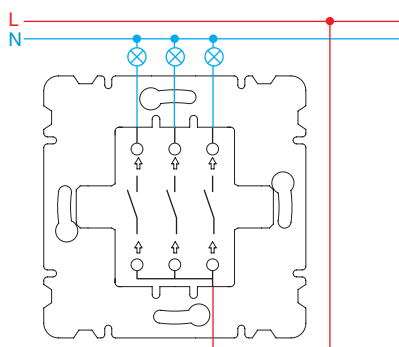
Light Switch Illuminated / Energy Saver



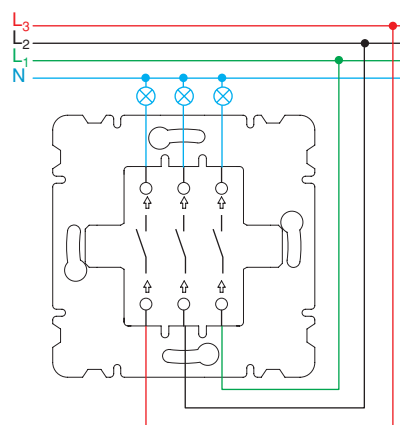
Door Switch



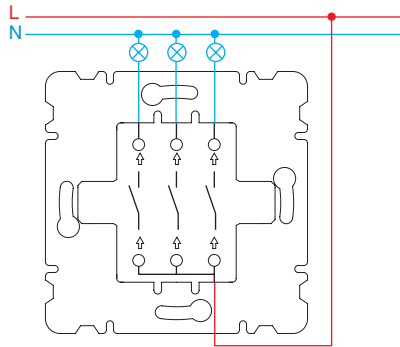
3 Gang Switch



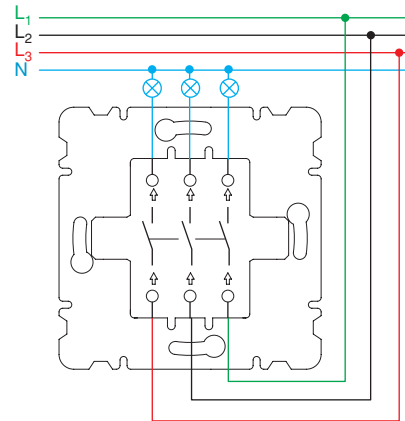
3 Gang 3 Pole Switch



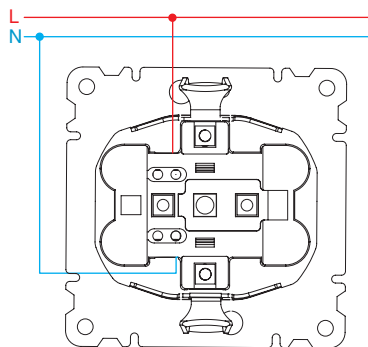
1 Gang 3 Circuit Switch



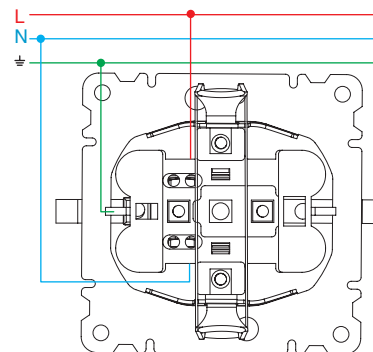
1 Gang 3 Pole Switch



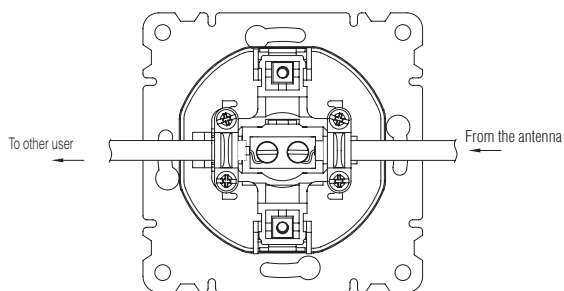
Flush Mounted Double Socket Outlet



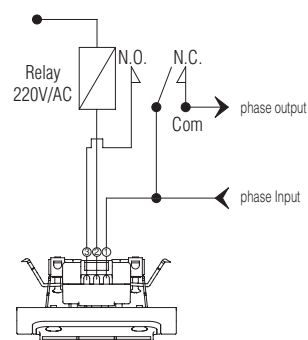
Flush Mounted Double Schuko Socket Outlet



Antenna Socket Through Female

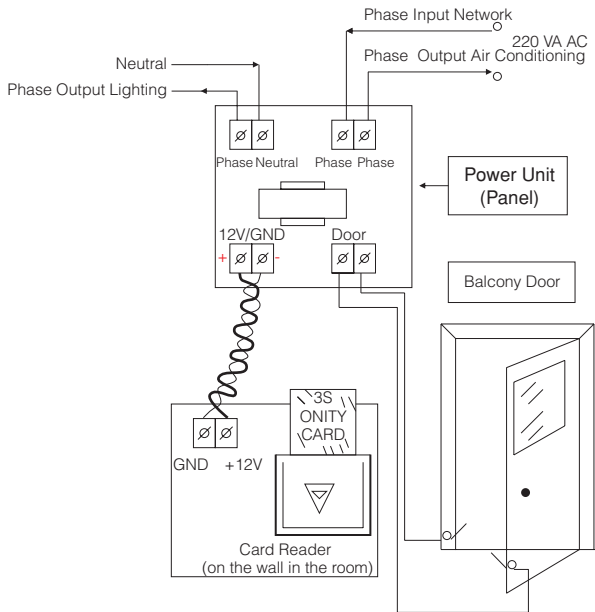


Delayed Energy Saver



# Switch and Socket Outlet Connection Diagrams

## Electro-Magnetic Energy Saver



The system consists of two units. The power supply unit which installs to the distribution box/board and the reading unit which installs to the door entry.

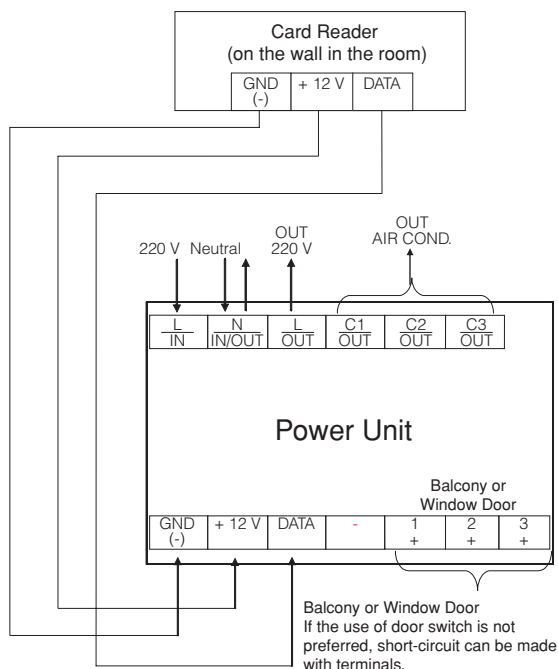
### Instructions and warnings about Power Unit Installation

- The power unit is being protected from all kinds of short-circuit currents
- The power unit wiring connections must be loose. Otherwise, rear may occur.
- Large terminals of the power unit provides a great access for 220V input and output (See wiring diagram)
- Small terminals on the power unit provides reading unit connection by 12 V DC, and provides links to the door switch. (See wiring diagram)
- When connection of the power unit to the clipboard completed (and when the reading unit assembled) and the power is applied, outputs (lighting and air-conditioning) of 220 V would not be observed directly.
- If there is no door switch connection, 220 V would not be observed on air-conditioning outlet.
- Upon request of having air conditioning output without using door control switch, short circuit can be made by using door switch terminals on the power unit

### Instructions and warnings about the Reading Unit Installation

- While installing the Reading unit 12 V DC +/- terminals must be connected correctly. Otherwise, the power unit can not recognize and can not supply 220 V voltage.
- LED lights on the reading unit will turn on, when the Reading unit installed correctly.
- LED lights will turn off and 220 V voltage supply turn on, when valid card placed into the reading unit. If the card is invalid, the LED lights will continue to flash and turn off supply of 220 V voltage.

## Radio Frequency Energy saver



The system consists of two units. The power supply unit which installs to the distribution box/board and the reading unit which installs to the door entry.

### Instructions and warnings about Power Unit Installation

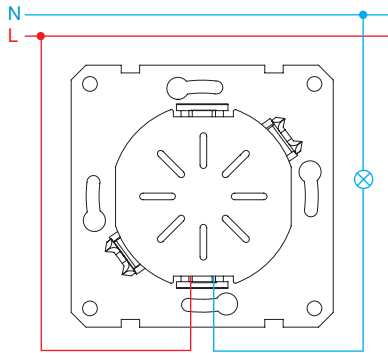
- The power unit wiring connections must be loose. Otherwise, rear may occur.
- Large terminals of the power unit provides a great access for 220V input and output (See wiring diagram)
- Small terminals on the power unit provide: connection to the reading unit 12 DC, door switch and data connections. (See wiring diagram)
- When connection of the power unit to the clipboard completed (and when the reading unit assembled) and the power is applied, outputs (lighting and air-conditioning) of 220 V would not be observed directly. Must install and connect the reading unit.
- If there is no door switch connection, on the air conditioning output 220 V or dry contact signal can not be seen.
- Upon request of having air conditioning output without using door control switch, short circuit can be made by using door switch terminals on the power unit

### Instructions and warnings about the Reading Unit Installation

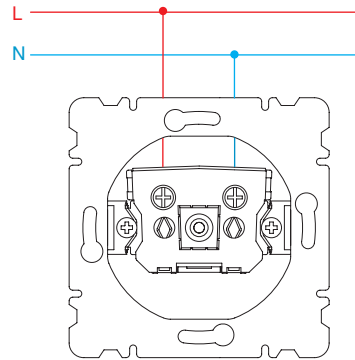
- While installing the Reading unit 12 V DC +/- terminals must be connected correctly. Otherwise, the power unit can not recognize and can not supply 220 V voltage and will not give dry contact signal.
- Green or red LED lights on the reading unit will turn on, when the Reading unit installed correctly.
- LED lights will turn off and 220 V voltage supply or dry contact signal will begin, when valid card placed into the reading unit. If the card is invalid, the LED lights will continue to flash and turn off supply of 220 V voltage or signal to outputs.



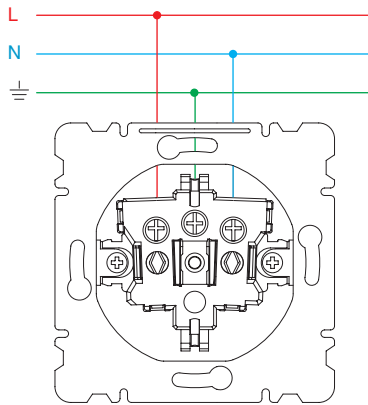
Dimmer / Remote Controlled Dimmer(IR) Coil Filtered



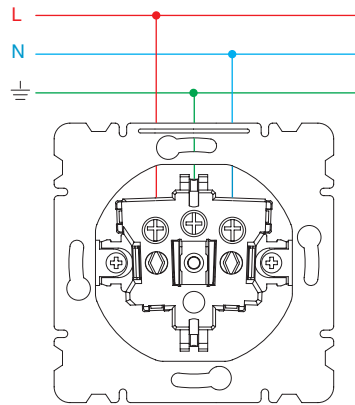
Socket Outlet



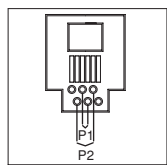
Schuko Socket Outlet



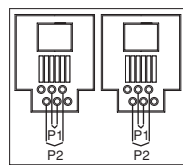
Socket Outlet with Earthing Pin



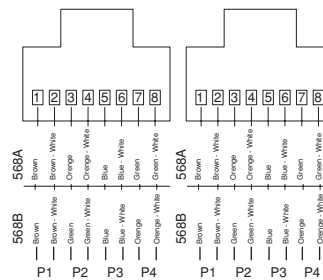
Telephone Socket



Double Telephone Socket

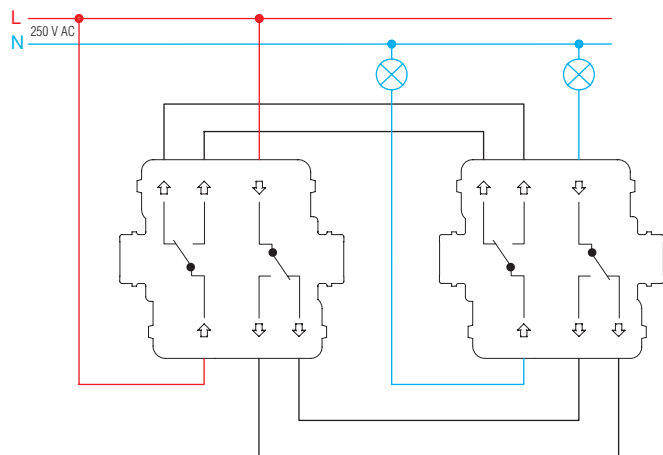


Double Data Socket Outlet

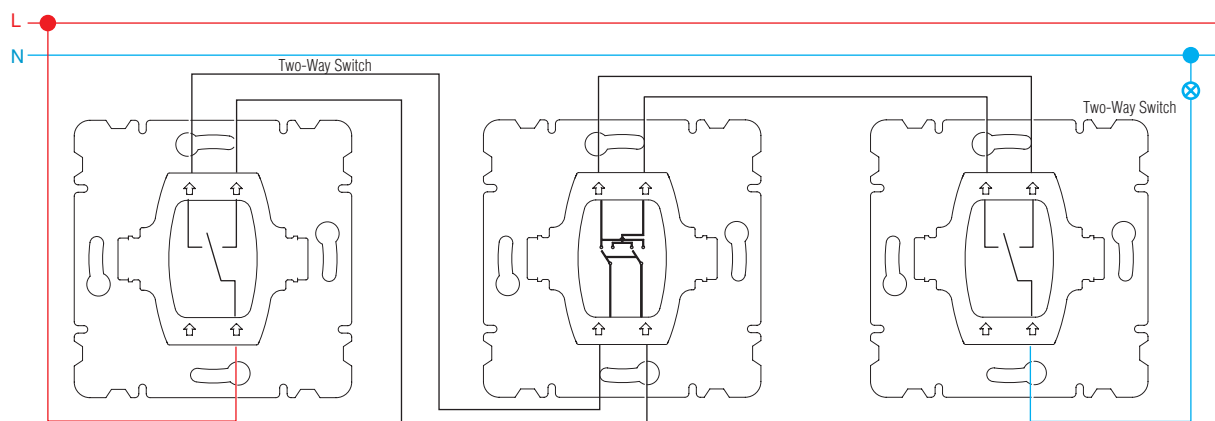


# Switch and Socket Outlet Connection Diagrams

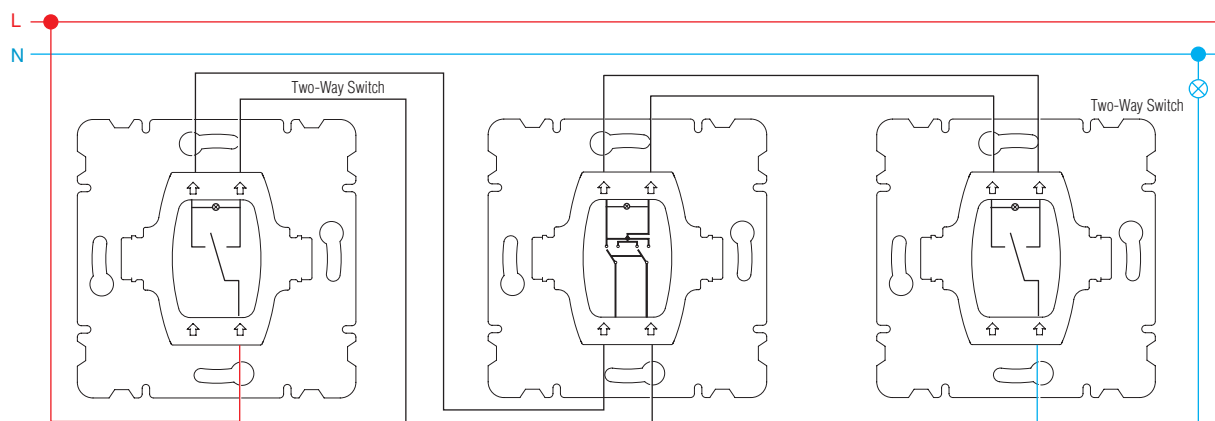
## Double Two-Way Switch



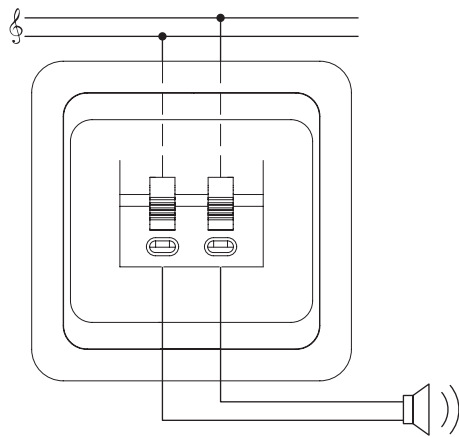
## Intermediate Switch



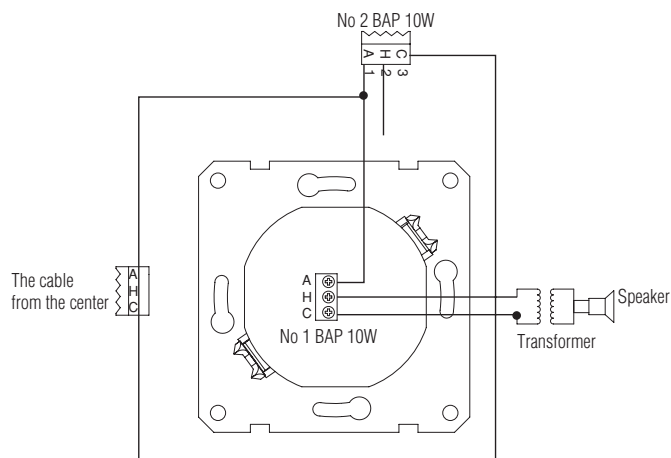
## Intermediate Switch Illuminated



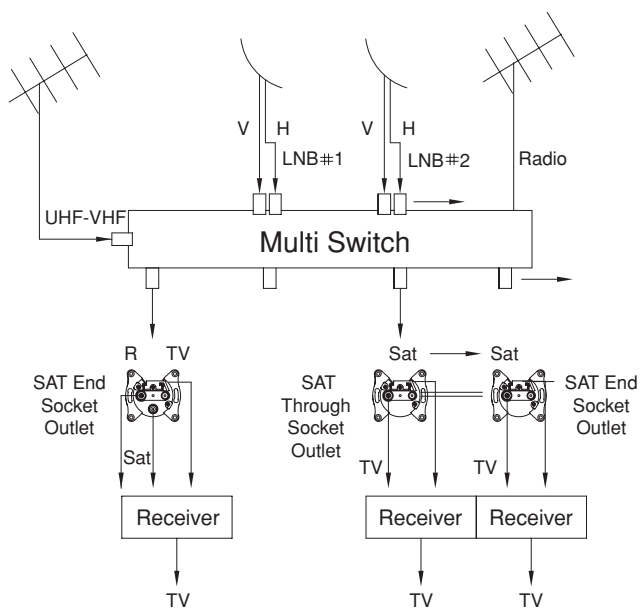
Loudspeaker - connection, 1 gang



Audio Switch

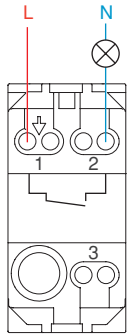


TV-SAT Antenna Socket / SAT Socket Outlet / Antenna Socket Through Female

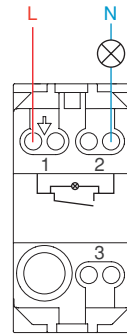


## Modular Series

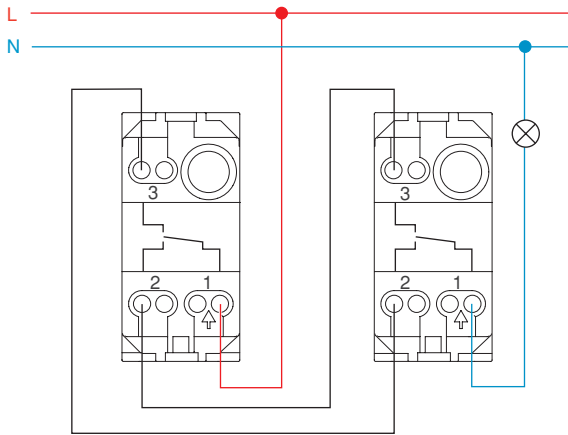
One Way Switch



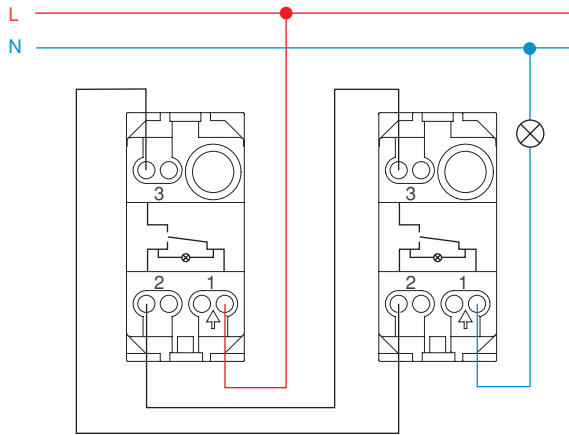
One Way Switch Illuminated



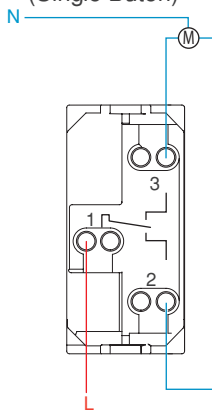
Two-Way Switch



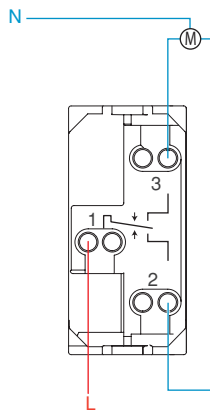
Two-Way Switch Illuminated



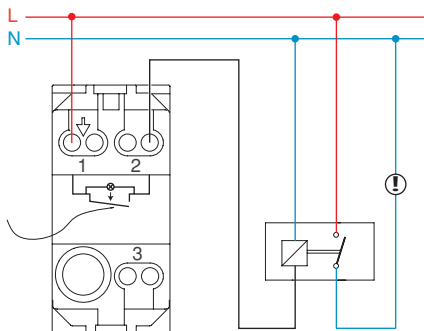
One-Touch Venetian Blind Switch  
(Single Buton)



Shutter Push-Button

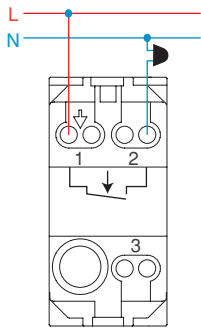


Emergency Switch With String

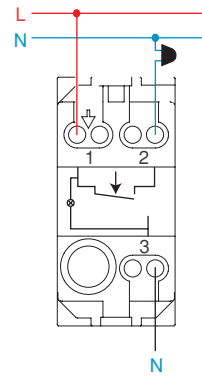




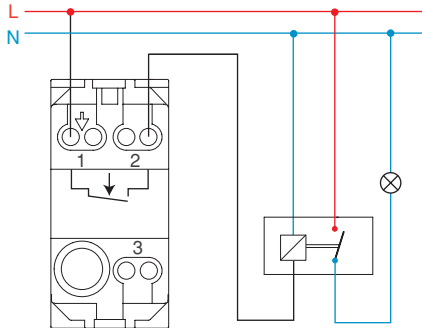
Bell



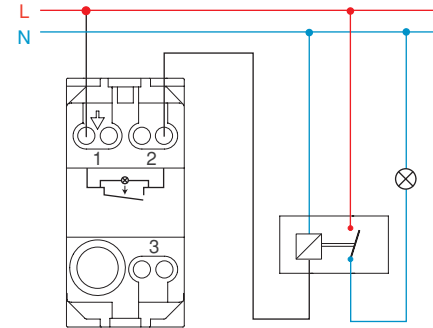
Bell Switch Illuminated 12V / 250V



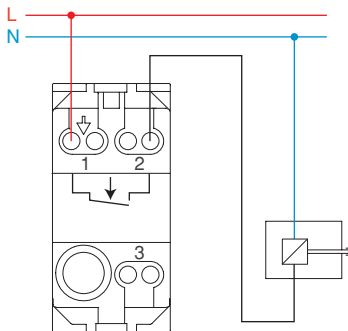
Light Switch



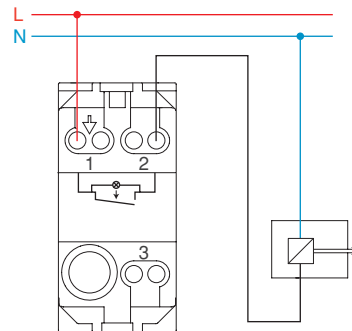
Light Switch Illuminated / Energy Saver



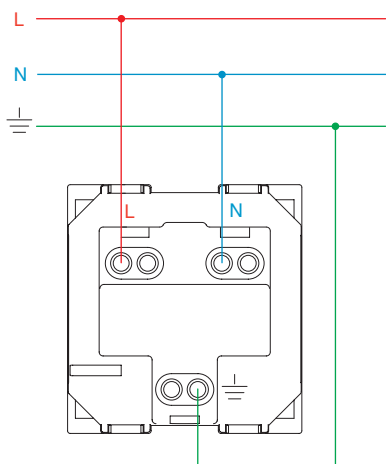
Door Switch



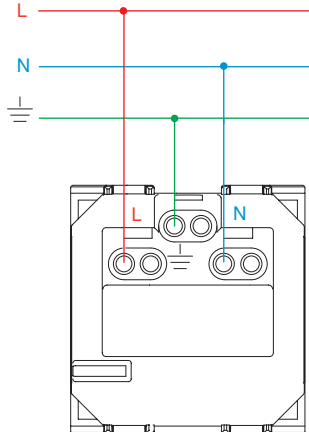
Door Switch Illuminated



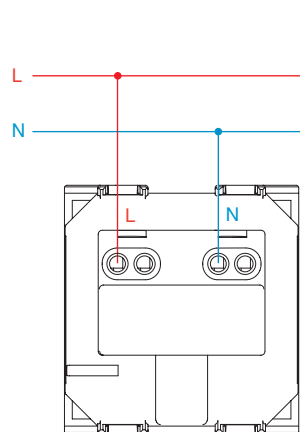
Schuko Socket Outlet



Socket Outlet with Earthing Pin

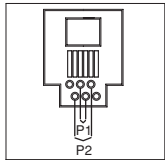


Socket Outlet



## Modular Series

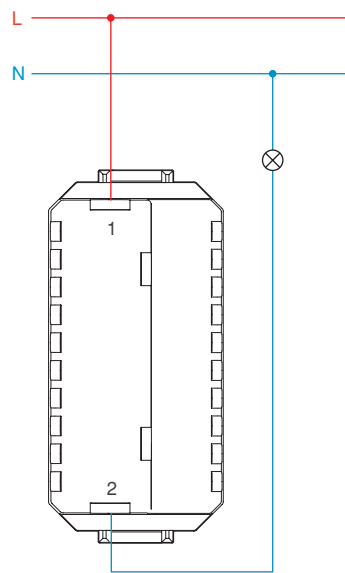
Telephone Socket



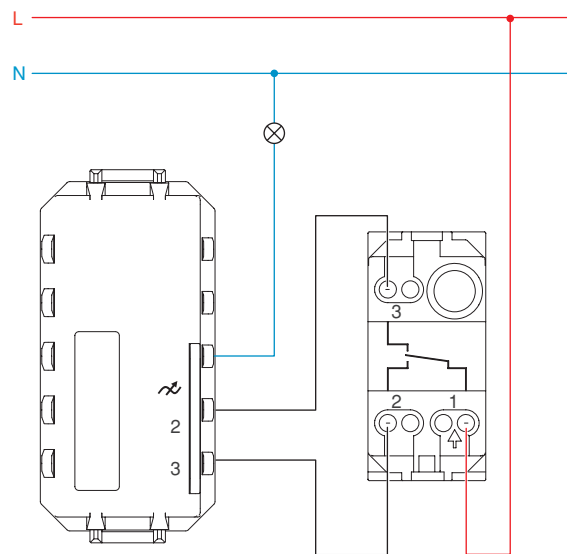
Data Socket Outlet



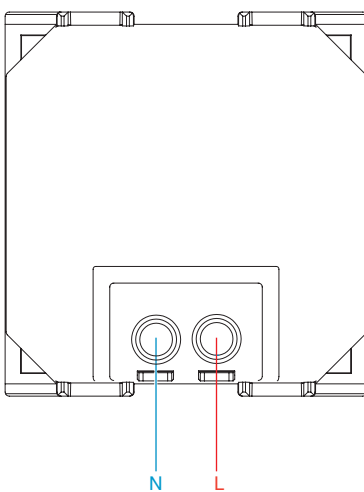
Dimmer

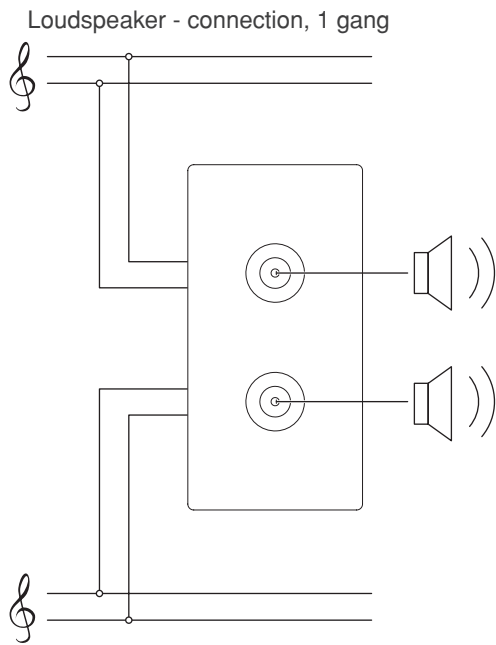


Vavien Dimmer

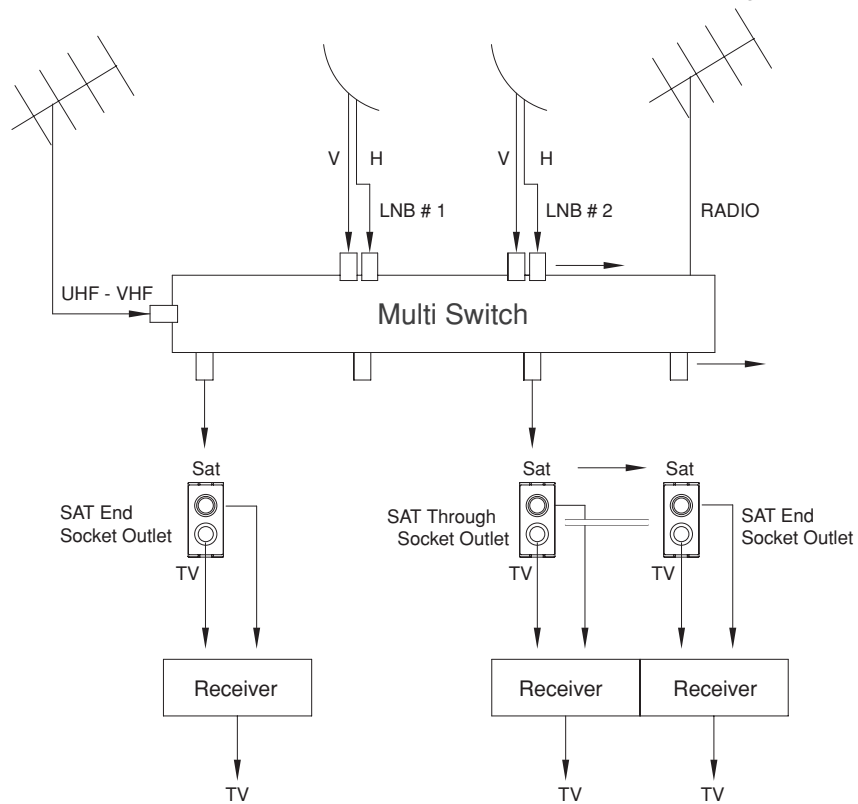


Emergency-Light





TV-SAT Antenna Socket / SAT Socket Outlet / Antenna Socket Through Female





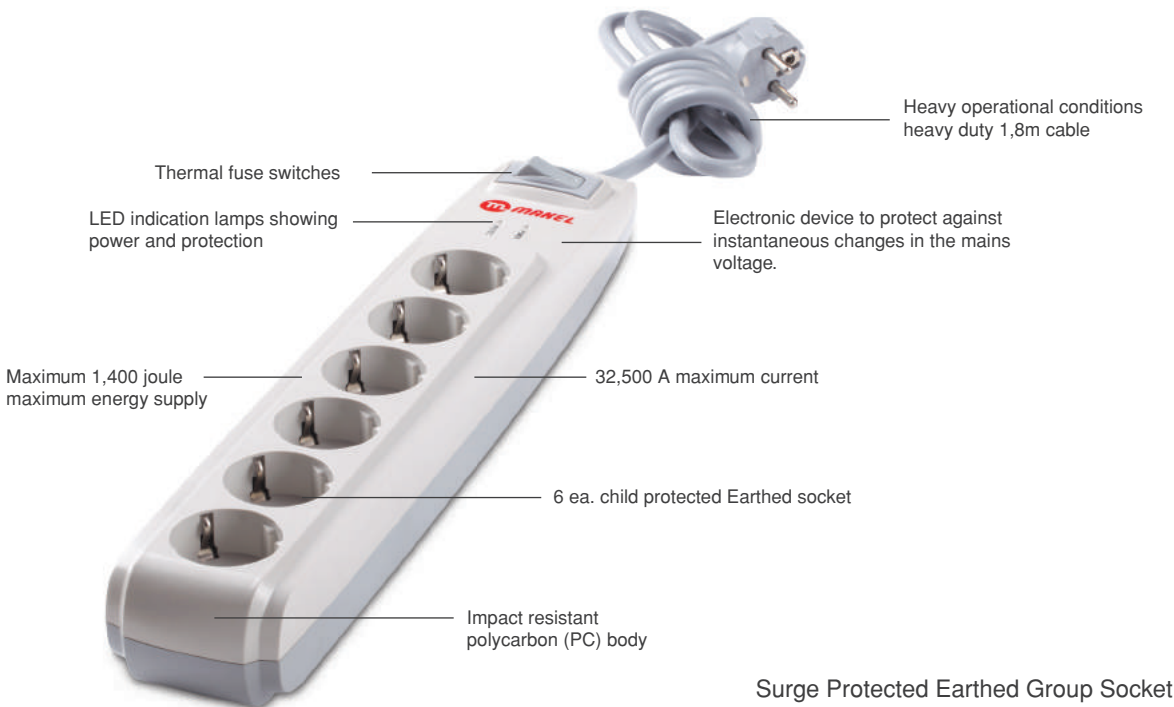
# Group Sockets





## Secure protection against instant impacts from mains voltage in your house and office...

The electric-electronic devices can be damaged from instantaneous shocks in the mains voltage (for lightning strike, short term increases in the mains voltage, etc.). Makel shock protected outlets protects electric/electronic devices such as refrigerators, washing machines, ovens, LCD plasma TV, computers, music systems, movie players and similar devices.



Thermal fuse switches

LED indication lamps showing power and protection

Maximum 1,400 joule maximum energy supply

32,500 A maximum current

6 ea. child protected Earthed socket

Impact resistant polycarbon (PC) body

Heavy operational conditions heavy duty 1,8m cable

Electronic device to protect against instantaneous changes in the mains voltage.

Surge Protected Earthed Group Socket

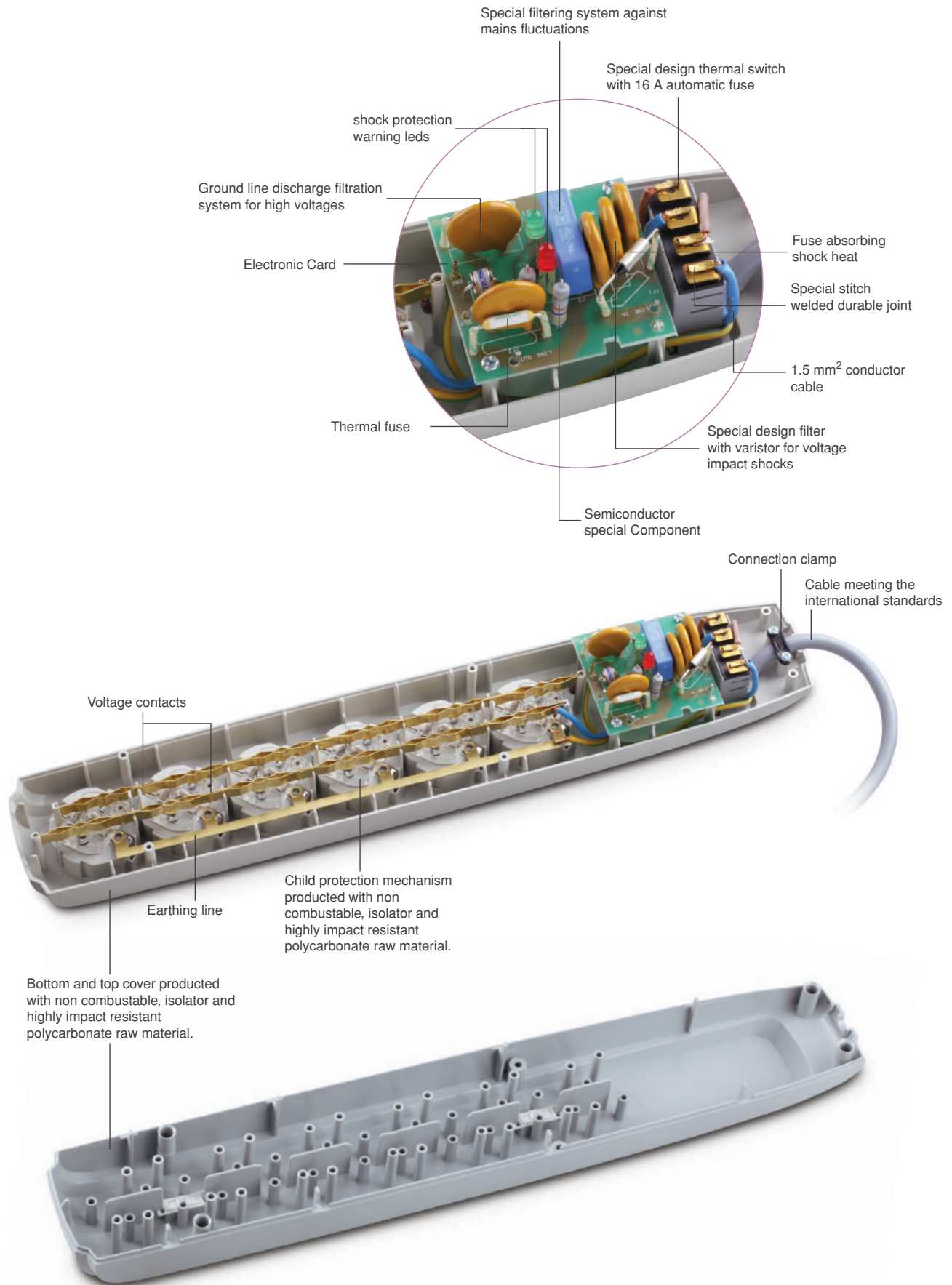
25064200

16 A, 250 V~

TS EN 61643 - 11

Piece in Box / Package - 1 / 6

## Dismantled Product



## Whether you wish to fix it to a surface or hang it, guide energy freely however you wish

With the special hanger apparatus designed for use in any setting you wish, you can use this apparatus as fixed on surfaces or in hanging form. You can use the Makel New Generation Sockets, which provide solutions for your needs with practical uses and options to use freely, in any area you wish.



- A secure electrical terminal cap that can be easily opened and closed for cable installation,
- A specially designed body compatible with Rohs,
- Nonflammability guarantee,
- Antistatic dust-free material,
- Production in compliance with International standards,
- 3 paneled security screws that cannot be removed thanks to its special structure,
- UV protection material,
- Capable of being fixed to all surfaces,
- Use in hanging form when fixing to surface is not necessary,
- Standard child protection feature in all products,
- Option of product with or without switch,
- Secure and practical use with blue led light visible in the dark and push-release buttons

## Product Options



2 Gang Multiple Earthed Socket without Cable



3 Gang Multiple Earthed Socket with Switch & Cable



3 Gang Multiple Earthed Socket with Switch, without Cable

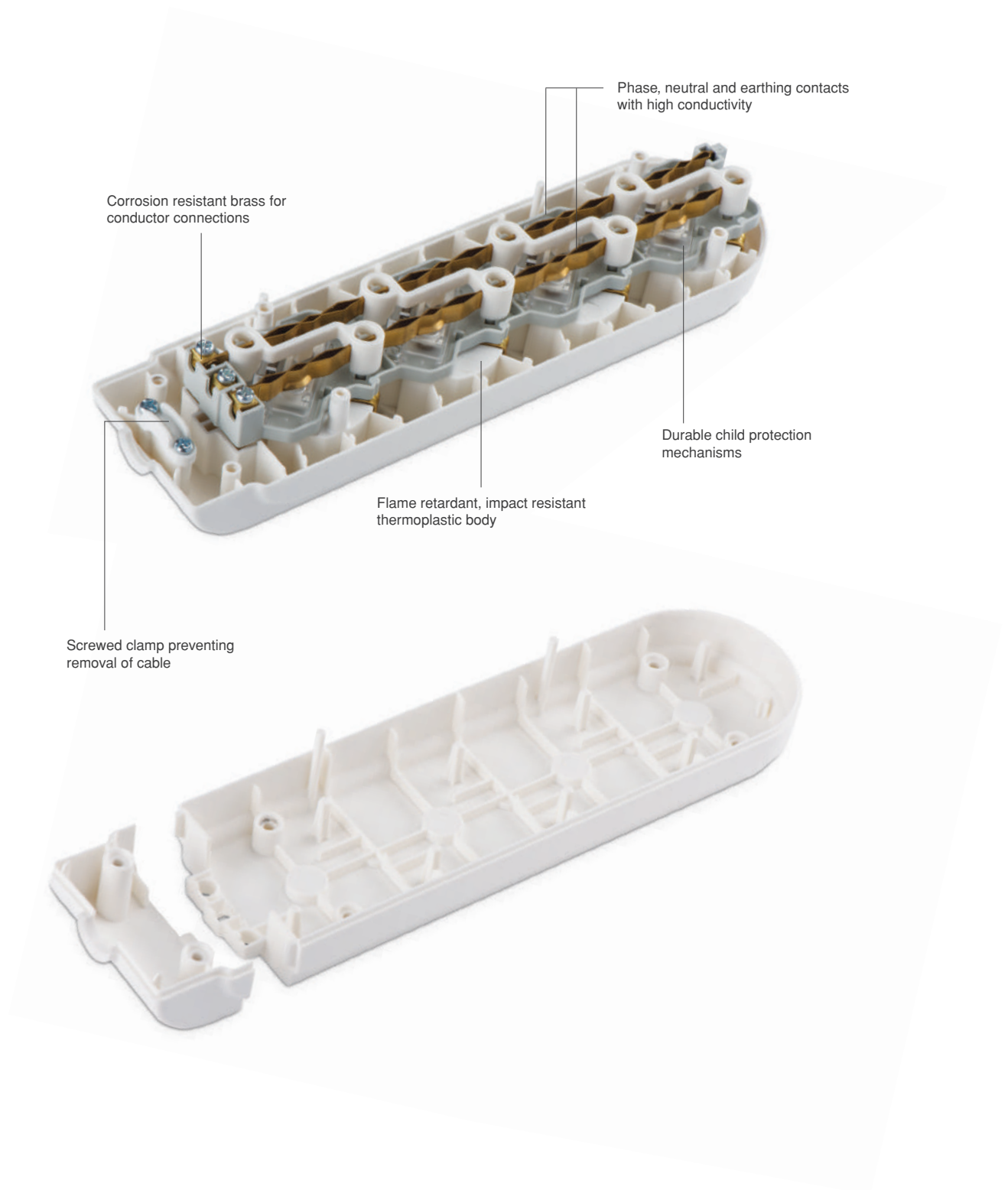


4 Gang Multiple Earthed Socket with Switch, without Cable



5 Gang Multiple Earthed Socket without Cable

## Dismantled Product





## Group sockets provide, high quality and easy solutions for use of your electrical and electronic products at the same time.

In group outlets, quality, safety, functionality and hardware abundance are merged. Schuko, not Schuko and eco models as well as switched, ups, corded and clamped options will ease your life. In corded models, cord options of 2, 3, 5, 7, 10, 15 meters are available.



- Wide range of products with cord and cordless
- The internal contact case made of flame retardent thermoplastic material
- Nonflammable plastic contact safe
- Impact resistant reinforced body
- Halogen free feature

## Product Options



3 Gang Multiple Earthed Socket with Switch & Cable



3 Gang Multiple Earthed Socket with Cable



3 Gang Multiple Pin Earthed Socket with Switch & Cable



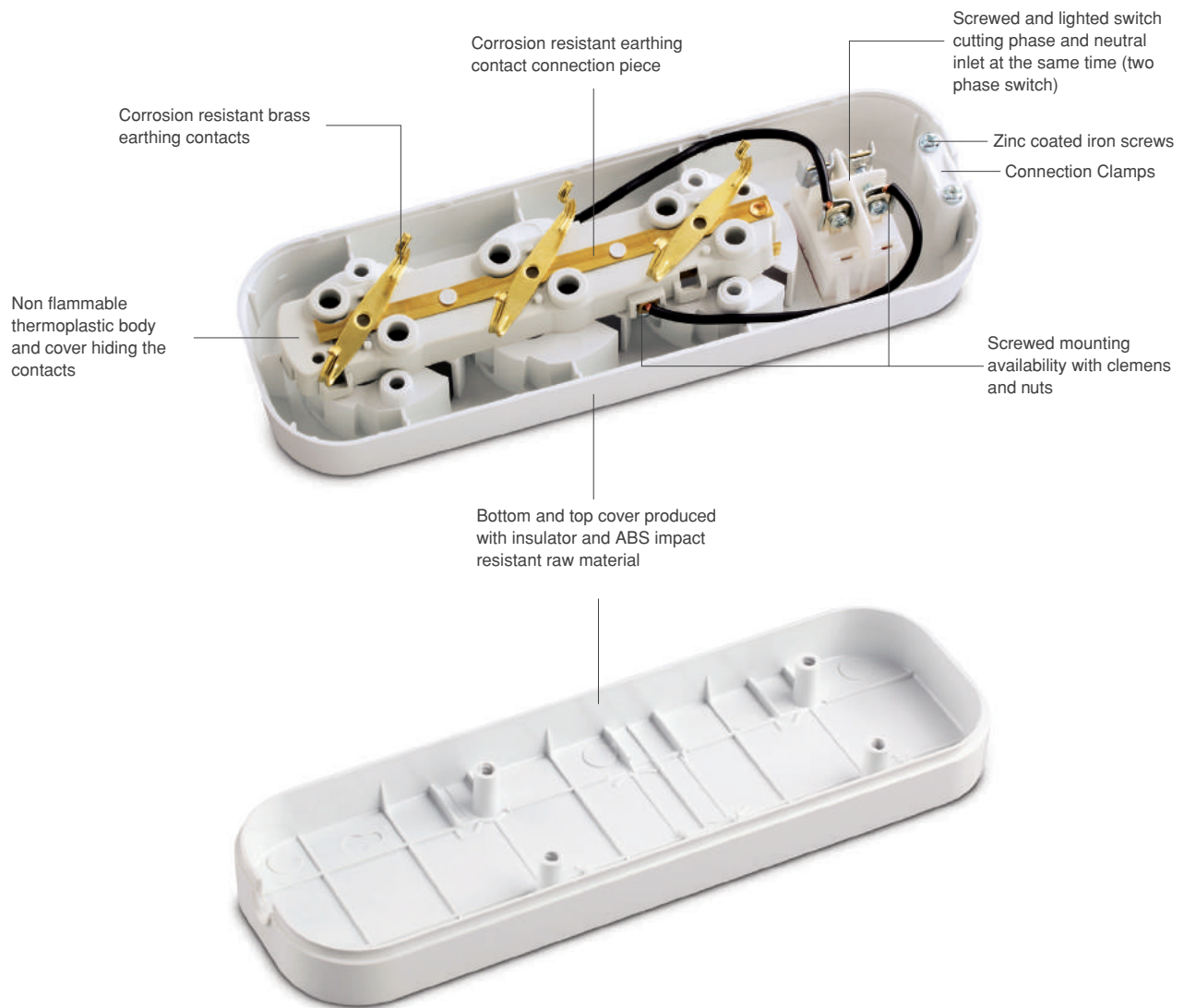
4 Gang Multiple Earthed Socket with Cable



4 Gang Multiple Earthed Socket without Cable



## Dismantled Product



## New Generation Group Socket



### 2 Gang Multiple Earthed Socket without Cable

N2201000 / N2211000 \*

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 20 / 80

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### 2 Gang Multiple Earthed Socket with Switch, without Cable

N2301000 / N2311000 \*

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 15 / 60

---



### 2 Gang Multiple Earthed Socket with Cable

N2201033 / N2211033 \* - 2m - Piece in Box / Package - 12 / 48

N2201043 / N2211043 \* - 3m - Piece in Box / Package - 12 / 48

N2201063 / N2211063 \* - 5m - Piece in Box / Package - 12 / 24

16 A, 250 V~  
IEC 60884-1

---



### 2 Gang Multiple Earthed Socket with Switch & Cable

N2301033 / N2311033 \* - 2m - Piece in Box / Package - 12 / 48

N2301043 / N2311043 \* - 3m - Piece in Box / Package - 12 / 48

N2301063 / N2311063 \* - 5m - Piece in Box / Package - 12 / 24

16 A, 250 V~  
IEC 60884-1

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### 3 Gang Multiple Earthed Socket without Cable

N3201000 / N3211000 \*

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 15 / 60

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\* Childproof



### 3 Gang Multiple Earthed Socket with Switch, without Cable

N3301000 / N3311000 \*

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 20 / 80

---



### 3 Gang Multiple Earthed Socket with Cable

N3201033 / N3211033 \* - 2m - Piece in Box / Package - 12 / 48

N3201043 / N3211043 \* - 3m - Piece in Box / Package - 12 / 48

N3201063 / N3211063 \* - 5m - Piece in Box / Package - 12 / 24

16 A, 250 V~  
IEC 60884-1

---



### 3 Gang Multiple Earthed Socket with Switch & Cable

N3301033 / N3311033 \* - 2m - Piece in Box / Package - 12 / 48

N3301043 / N3311043 \* - 3m - Piece in Box / Package - 12 / 48

N3301063 / N3311063 \* - 5m - Piece in Box / Package - 12 / 24

16 A, 250 V~  
IEC 60884-1

---



### 4 Gang Multiple Earthed Socket without Cable

N4200000 / N4211000 \*

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 20 / 80

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### 4 Gang Multiple Earthed Socket with Switch, without Cable

N4301000 / N4311000 \*

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 30 / 60

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## New Generation Group Socket



### 4 Gang Multiple Earthed Socket with Cable

N4200033 / N4211043\* - 2m - Piece in Box / Package - 12 / 48

N4200043 / N4211053\* - 3m - Piece in Box / Package - 12 / 48

N4200063 / N4211063\* - 5m - Piece in Box / Package - 12 / 24

16 A, 250 V~

IEC 60884-1

---



### 4 Gang Multiple Earthed Socket with Switch & Cable

N4301033 / N4311043\* - 2m - Piece in Box / Package - 12 / 24

N4301043 / N4311053\* - 3m - Piece in Box / Package - 10 / 20

N4301063 / N4311063\* - 5m - Piece in Box / Package - 12 / 24

16 A, 250 V~

IEC 60884-1

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### 5 Gang Multiple Earthed Socket without Cable

N5201000 / N5211000\*

16 A, 250 V~

IEC 60884-1

Piece in Box / Package - 30 / 60

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### 5 Gang Multiple Earthed Socket with Switch, without Cable

N5301000 / N5311000\*

16 A, 250 V~

IEC 60884-1

Piece in Box / Package - 12 / 48

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\* Childproof



#### 5 Gang Multiple Earthed Socket with Cable

N5201033 / N5211043\* - 2m - Piece in Box / Package - 12 / 24

N5201043 / N5211053\* - 3m - Piece in Box / Package - 12 / 24

N5201063 / N5211063\* - 5m - Piece in Box / Package - 12 / 24

16 A, 250 V~  
IEC 60884-1

---



#### 5 Gang Multiple Earthed Socket with Switch & Cable

N5301033 / N5311043\* - 2m - Piece in Box / Package - 12 / 24

N5301043 / N5311053\* - 3m - Piece in Box / Package - 12 / 24

N5301063 / N5311063\* - 5m - Piece in Box / Package - 12 / 24

16 A, 250 V~  
IEC 60884-1

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#### 6 Gang Multiple Earthed Socket without Cable

N6201000 / N6211000\*

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 9 / 36

---



#### 6 Gang Multiple Earthed Socket with Switch, without Cable

N6301000 / N6311000\*

16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 9 / 36

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## New Generation Group Socket



### 6 Gang Multiple Earthed Socket with Cable

N6201033 / N6211043\* - 2m - Piece in Box / Package - 12 / 24

N6201043 / N6211053\* - 3m - Piece in Box / Package - 12 / 24

N6201063 / N6211063\* - 5m - Piece in Box / Package - 12 / 24

16 A, 250 V~  
IEC 60884-1

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### 6 Gang Multiple Earthed Socket with Switch & Cable

N6301033 / N6311043\* - 2m - Piece in Box / Package - 12 / 24

N6301043 / N6311053\* - 3m - Piece in Box / Package - 12 / 24

N6301063 / N6311063\* - 5m - Piece in Box / Package - 12 / 24

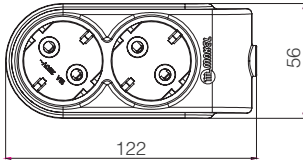
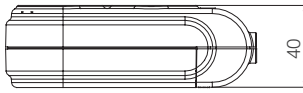
16 A, 250 V~  
IEC 60884-1

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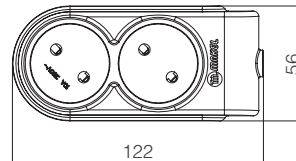
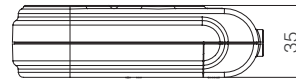
\* Childproof



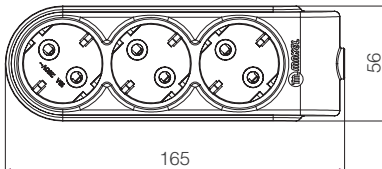
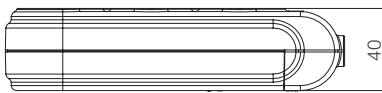
## Technical Drawings



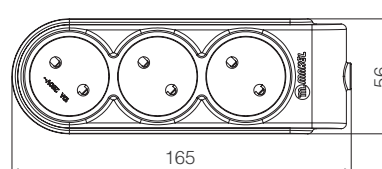
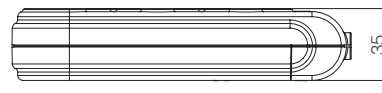
2 Gang Earthed Socket



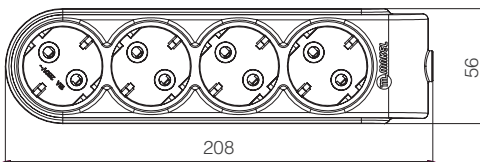
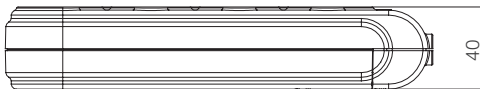
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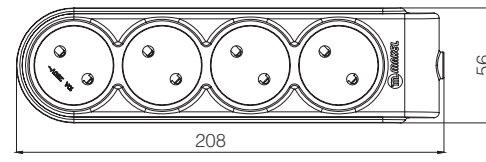
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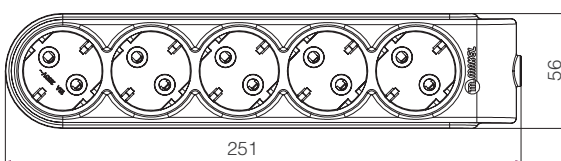
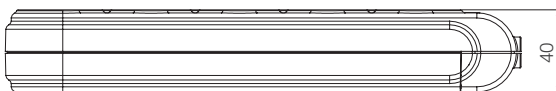
3 Gang Socket without Earthed



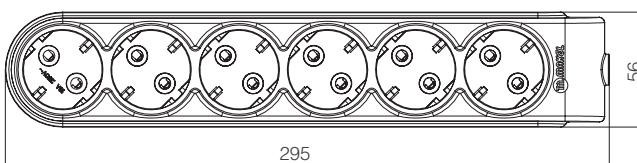
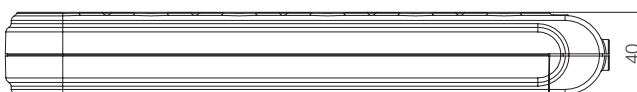
4 Gang Earthed Socket



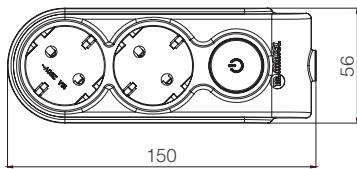
4 Gang Socket without Earthed



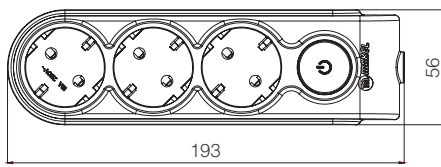
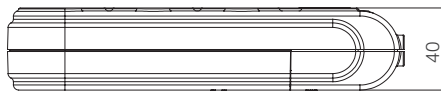
5 Gang Earthed Socket



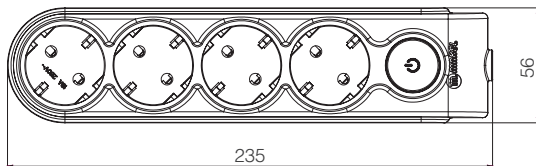
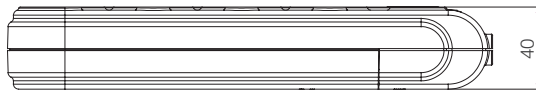
6 Gang Earthed Socket



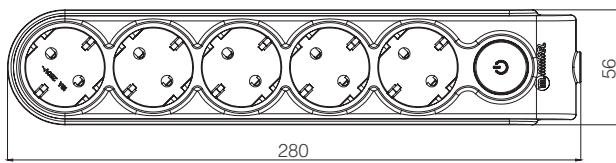
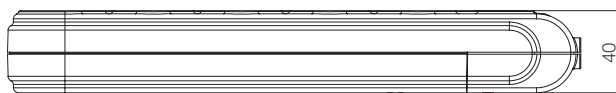
2 Gang Earthed Socket with Switch



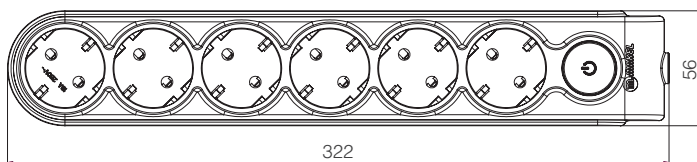
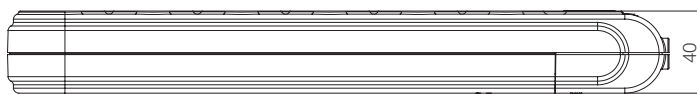
3 Gang Earthed Socket with Switch



4 Gang Earthed Socket with Switch



5 Gang Earthed Socket with Switch



6 Gang Earthed Socket with Switch

## Earthed Group Sockets

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**2 Gang Multiple Earthed Socket  
without Cable**

MGP111

16 A, 250 V~

IEC 60884-1

Piece in Box / Package - 20 / 80

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**2 Gang Multiple Earthed Socket with Cable**

MGP112 - 2m - Piece in Box / Package - 12 / 48

MGP512 - 2m 3\*1.5 - Piece in Box / Package - 12 / 48

MGP113 - 3m - Piece in Box / Package - 12 / 48

MGP513 - 3m 3\*1.5 - Piece in Box / Package - 12 / 48

MGP114 - 5m - Piece in Box / Package - 12 / 24

MGP514 - 5m 3\*1.5 - Piece in Box / Package - 12 / 24

MGP117 - 7m - Piece in Box / Package - 12 / 24

MGP118 - 10m - Piece in Box / Package - 12 / 24

MGP119 - 15m - Piece in Box / Package - 10 / 20

16 A, 250 V~

IEC 60884-1

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**3 Gang Multiple Earthed Socket without Cable**

MGP131

16 A, 250 V~

IEC 60884-1

Piece in Box / Package - 15 / 60

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**3 Gang Multiple Pin Earthed Socket  
without Cable**

MGP135

16 A, 250 V~

Piece in Box / Package - 15 / 60

---





### 3 Gang Multiple Earthed Socket with Cable

MGP132 - 2m - Piece in Box / Package - 12 / 48

MGP532 - 2m 3\*1.5 - Piece in Box / Package - 12 / 48

MGP133 - 3m - Piece in Box / Package - 12 / 48

MGP533 - 3m 3\*1.5 - Piece in Box / Package - 12 / 36

MGP134 - 5m - Piece in Box / Package - 12 / 24

MGP534 - 5m 3\*1.5 - Piece in Box / Package - 12 / 24

MGP137 - 7m - Piece in Box / Package - 12 / 24

MGP138 - 10m - Piece in Box / Package - 12 / 24

MGP538 - 10m 3\*1.5 - Piece in Box / Package - 12 / 24

MGP139 - 15m - Piece in Box / Package - 10 / 20

16 A, 250 V~

IEC 60884-1

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### 3 Gang Multiple Pin Earthed Socket with Cable

MGP136 - 2m

16 A, 250 V~

Piece in Box / Package - 12 / 48

---



### 4 Gang Multiple Earthed Socket without Cable

MGP151

16 A, 250 V~

IEC 60884-1

Piece in Box / Package - 20 / 80

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### 4 Gang Multiple Pin Earthed Socket without Cable

MGP155

16 A, 250 V~

Piece in Box / Package - 20 / 80

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### 4 Gang Multiple Earthed Socket with Cable

MGP152 - 2m - Piece in Box / Package - 12 / 48  
MGP552 - 2m 3\*1.5 - Piece in Box / Package - 12 / 24  
MGP153 - 3m - Piece in Box / Package - 12 / 48  
MGP553 - 3m 3\*1.5 - Piece in Box / Package - 18 / 36  
MGP154 - 5m - Piece in Box / Package - 12 / 24  
MGP554 - 5m 3\*1.5 - Piece in Box / Package - 12 / 24  
MGP157 - 7m - Piece in Box / Package - 12 / 24  
MGP158 - 10m - Piece in Box / Package - 12 / 24  
MGP558 - 10m 31.5 - Piece in Box / Package - 12 / 24  
MGP159 - 15m - Piece in Box / Package - 10 / 20  
16 A, 250 V~  
IEC 60884-1

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### 4 Gang Multiple Pin Earthed Socket with Cable

MGP156 - 2m  
16 A, 250 V~  
Piece in Box / Package - 12 / 48

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### 6 Gang Multiple Earthed Socket without Cable

MGP181  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 15 / 60

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### 6 Gang Multiple Pin Earthed Socket without Cable

MGP185  
16 A, 250 V~  
Piece in Box / Package - 15 / 60

---



#### 6 Gang Multiple Earthed Socket with Cable

MGP182 - 2m - Piece in Box / Package - 12 / 24

MGP582 - 2m 3\*1.5 - Piece in Box / Package - 12 / 24

MGP183 - 3m - Piece in Box / Package - 12 / 24

MGP583 - 3m 3\*1.5 - Piece in Box / Package - 12 / 24

MGP184 - 5m - Piece in Box / Package - 12 / 24

MGP584 - 5m 3\*1.5 - Piece in Box / Package - 12 / 24

MGP187 - 7m - Piece in Box / Package - 12 / 24

MGP188 - 10m - Piece in Box / Package - 10 / 20

MGP588 - 10m 3\*1.5 - Piece in Box / Package - 10 / 20

MGP189 - 15m - Piece in Box / Package - 10 / 20

16 A, 250 V~

IEC 60884-1

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#### 6 Gang Multiple Pin Earthed Socket with Cable

MGP186 - 2m

16 A, 250 V~

Piece in Box / Package - 12 / 24

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#### 3 Gang Multiple Earthed Socket with Switch, without Cable

MGP211

16 A, 250 V~

IEC 60884-1

Piece in Box / Package - 20 / 80

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#### 3 Gang Multiple Pin Earthed Socket with Switch, without Cable

MGP215

16 A, 250 V~

Piece in Box / Package - 20 / 80

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### 3 Gang Multiple Earthed Socket with Switch & Cable

MGP212 - 2m - Piece in Box / Package - 12 / 48  
MGP612 - 2m 3\*1.5 - Piece in Box / Package - 12 / 48  
MGP213 - 3m - Piece in Box / Package - 12 / 48  
MGP613 - 3m 3\*1.5 - Piece in Box / Package - 18 / 36  
MGP214 - 5m - Piece in Box / Package - 12 / 24  
MGP614 - 5m 3\*1.5 - Piece in Box / Package - 12 / 24  
MGP217 - 7m - Piece in Box / Package - 12 / 24  
MGP218 - 10m - Piece in Box / Package - 12 / 24  
MGP219 - 15m - Piece in Box / Package - 10 / 20  
16 A, 250 V~  
IEC 60884-1

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### 3 Gang Multiple Pin Earthed Socket with Switch & Cable

MGP216 - 2m  
16 A, 250 V~  
Piece in Box / Package - 12 / 48

---



### 6 Gang Multiple Earthed Socket with Switch, without Cable

MGP231  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 48

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### 6 Gang Multiple Pin Earthed Socket with Switch, without Cable

MGP235  
16 A, 250 V~  
Piece in Box / Package - 12 / 48

---



#### 6 Gang Multiple Earthed Socket with Switch & Cable

MGP232 - 2m - Piece in Box / Package - 12 / 24  
MGP632 - 2m 3\*1.5 - Piece in Box / Package - 12 / 24  
MGP233 - 3m - Piece in Box / Package - 12 / 24  
MGP633 - 3m 3\*1.5 - Piece in Box / Package - 12 / 24  
MGP234 - 5m - Piece in Box / Package - 12 / 24  
MGP634 - 5m 3\*1.5 - Piece in Box / Package - 12 / 24  
MGP237 - 7m - Piece in Box / Package - 12 / 24  
MGP238 - 10m - Piece in Box / Package - 10 / 20  
MGP239 - 15m - Piece in Box / Package - 10 / 20  
16 A, 250 V~  
IEC 60884-1

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#### 6 Gang Multiple Pin Earthed Socket with Switch & Cable

MGP236 - 2m  
16 A, 250 V~  
Piece in Box / Package - 12 / 24

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## Group Sockets

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#### 2 Gang Multiple Socket without Cable

MGP101  
10 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 25 / 100

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#### 2 Gang Multiple Socket with Cable

MGP102 - 2m - Piece in Box / Package - 12 / 48  
MGP103 - 3m - Piece in Box / Package - 12 / 48  
MGP104 - 5m - Piece in Box / Package - 12 / 48  
MGP107 - 7m - Piece in Box / Package - 12 / 24  
MGP108 - 10m - Piece in Box / Package - 12 / 24  
MGP109 - 15m - Piece in Box / Package - 10 / 20  
10 A, 250 V~  
IEC 60884-1

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### 3 Gang Multiple Socket without Cable

MGP121

10 A, 250 V~

IEC 60884-1

Piece in Box / Package - 20 / 80

---



### 3 Gang Multiple Socket with Cable

MGP122 - 2m - Piece in Box / Package - 12 / 48

MGP123 - 3m - Piece in Box / Package - 12 / 48

MGP124 - 5m - Piece in Box / Package - 12 / 48

MGP127 - 7m - Piece in Box / Package - 12 / 24

MGP128 - 10m - Piece in Box / Package - 12 / 24

MGP129 - 15m - Piece in Box / Package - 10 / 20

10 A, 250 V~

IEC 60884-1

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### 4 Gang Multiple Socket without Cable

MGP141

10 A, 250 V~

IEC 60884-1

Piece in Box / Package - 20 / 120

---



### 4 Gang Multiple Socket with Cable

MGP142 - 2m - Piece in Box / Package - 12 / 48

MGP143 - 3m - Piece in Box / Package - 12 / 48

MGP144 - 5m - Piece in Box / Package - 12 / 48

MGP147 - 7m - Piece in Box / Package - 12 / 24

MGP148 - 10m - Piece in Box / Package - 12 / 24

MGP149 - 15m - Piece in Box / Package - 10 / 20

10 A, 250 V~

IEC 60884-1

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## Eco Earthed Group Sockets

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**Eco 2 Gang Multiple Earthed Socket  
without Cable**

MGP311  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 20 / 80

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**Eco 2 Gang Multiple Earthed Socket with Cable**

MGP312 - 2m - Piece in Box / Package - 12 / 48  
MGP313 - 3m - Piece in Box / Package - 12 / 48  
MGP314 - 5m - Piece in Box / Package - 12 / 24  
MGP317 - 7m - Piece in Box / Package - 12 / 24  
MGP318 - 10m - Piece in Box / Package - 12 / 24  
16 A, 250 V~  
IEC 60884-1

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**Eco 3 Gang Multiple Earthed Socket  
without Cable**

MGP331  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 15 / 60

---



**Eco 3 Gang Multiple Earthed Socket with Cable**

MGP332 - 2m - Piece in Box / Package - 12 / 48  
MGP333 - 3m - Piece in Box / Package - 12 / 48  
MGP334 - 5m - Piece in Box / Package - 12 / 24  
MGP338 - 10m - Piece in Box / Package - 12 / 24  
16 A, 250 V~  
IEC 60884-1

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**Eco 4 Gang Multiple Earthed Socket  
without Cable**

MGP351  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 20 / 80

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## Group Sockets



### Eco 4 Gang Multiple Earthed Socket with Cable

MGP352 - 2m Piece in Box / Package - 12 / 48

MGP353 - 3m Piece in Box / Package - 12 / 48

MGP354 - 5m Piece in Box / Package - 12 / 24

16 A, 250 V~

IEC 60884-1

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### Eco 6 Gang Multiple Earthed Socket without Cable

MGP381

16 A, 250 V~

IEC 60884-1

Piece in Box / Package - 15 / 60

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### Eco 6 Gang Multiple Earthed Socket with Cable

MGP382 - 2m - Piece in Box / Package - 12 / 24

MGP383 - 3m - Piece in Box / Package - 12 / 24

MGP384 - 5m - Piece in Box / Package - 12 / 24

16 A, 250 V~

IEC 60884-1

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## Eco Group Sockets

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### Eco 2 Gang Multiple Socket without Cable

MGP301

10 A, 250 V~

IEC 60884-1

Piece in Box / Package - 25 / 100

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#### Eco 2 Gang Multiple Socket with Cable

MGP302 - 2m - Piece in Box / Package - 12 / 48  
MGP303 - 3m - Piece in Box / Package - 12 / 48  
MGP304 - 5m - Piece in Box / Package - 12 / 48  
MGP307 - 7m - Piece in Box / Package - 12 / 24  
MGP308 - 10m - Piece in Box / Package - 12 / 24  
10 A, 250 V~  
IEC 60884-1

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#### Eco 3 Gang Multiple Socket without Cable

MGP321  
10 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 20 / 80

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#### Eco 3 Gang Multiple Socket with Cable

MGP322 - 2m - Piece in Box / Package - 12 / 48  
MGP323 - 3m - Piece in Box / Package - 12 / 48  
MGP324 - 5m - Piece in Box / Package - 12 / 48  
MGP327 - 7m - Piece in Box / Package - 12 / 24  
MGP328 - 10m - Piece in Box / Package - 12 / 24  
10 A, 250 V~  
IEC 60884-1

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#### Eco 4 Gang Multiple Socket without Cable

MGP341  
10 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 20 / 120

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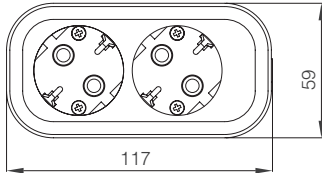
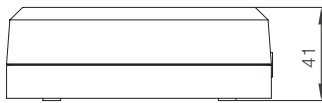


#### Eco 4 Gang Multiple Socket with Cable

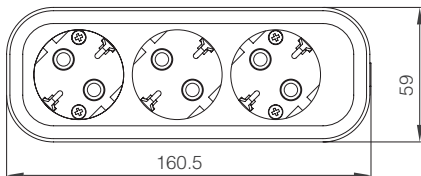
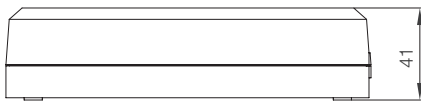
MGP342 - 2m - Piece in Box / Package - 12 / 48  
MGP343 - 3m - Piece in Box / Package - 12 / 48  
MGP344 - 5m - Piece in Box / Package - 12 / 48  
10 A, 250 V~  
IEC 60884-1

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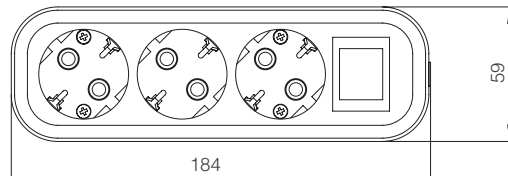
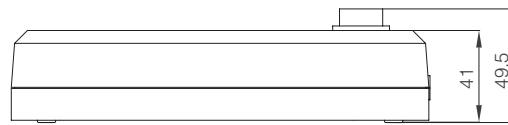
## Technical Drawings



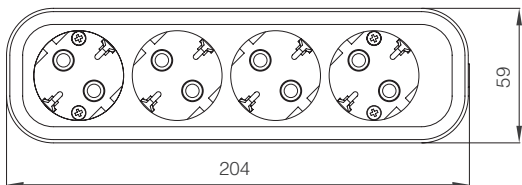
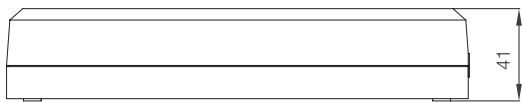
2 Gang Earthed Socket



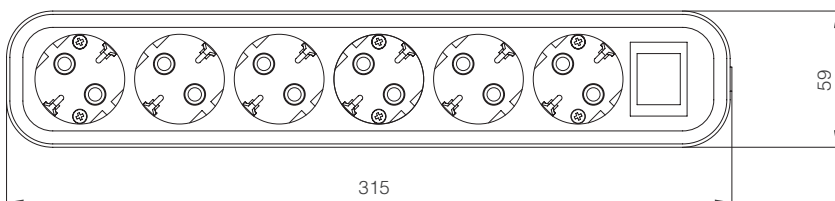
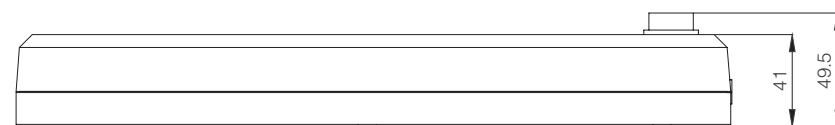
3 Gang Earthed Socket



3 Gang Earthed Socket with Switch

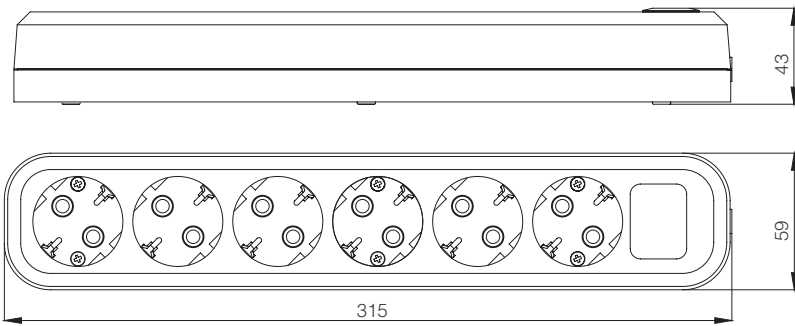


4 Gang Earthed Socket

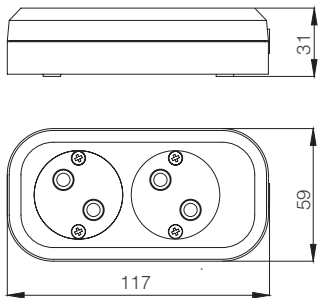


6 Gang Earthed Socket with Switch

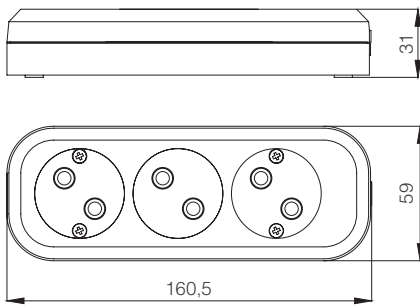




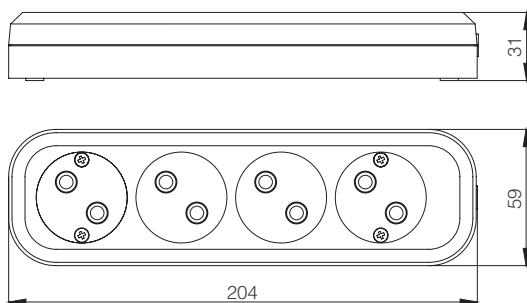
6 Gang Earthed Socket



2 Gang Socket without Earthed



3 Gang Socket without Earthed



4 Gang Socket without Earthed

# New Generation Group Socket

## New Generation Earthed Group Socket

Product Name	Code No.	Childproof Code No	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
2 Gang without Cable	N2201000	N2211000	20	80	8,95	330 x 380 x 300
2 Gang with Cable 2 metres	N2201033	N2211033	12	48	15,74	360 x 445 x 405
2 Gang with Cable 3 metres	N2201043	N2211043	12	48	20,06	360 x 445 x 405
2 Gang with Cable 5 metres	N2201063	N2211063	12	24	14,16	365 x 490 x 220
2 Gang with switch, without Cable	N2301000	N2311000	15	60	8,31	330 x 380 x 300
2 Gang with switch & cable 2 metres	N2301033	N2311033	12	48	16,83	360 x 445 x 405
2 Gang with switch & cable 3 metres	N2301043	N2311043	12	48	16,83	360 x 445 x 405
2 Gang with switch & cable 5 metres	N2301063	N2311063	12	24	14,70	365 x 490 x 220
3 Gang without Cable	N3201000	N3211000	15	60	8,71	330 x 380 x 300
3 Gang with Cable 2 metres	N3201033	N3211033	12	48	17,15	360 x 445 x 405
3 Gang with Cable 3 metres	N3201043	N3211043	12	48	21,47	360 x 445 x 405
3 Gang with Cable 5 metres	N3201063	N3211063	12	24	14,86	365 x 490 x 220
3 Gang with switch, without cable	N3301000	N3311000	20	80	13,23	325 x 440 x 380
3 Gang with switch & cable 2 metres	N3301033	N3311033	12	48	18,16	360 x 445 x 405
3 Gang with switch & cable 3 metres	N3301043	N3311043	12	48	22,48	360 x 445 x 405
3 Gang with switch & cable 5 metres	N3301063	N3311063	12	24	15,37	365 x 490 x 220
USB Switch Triple Corded 2 meters	N3701033	N3911043	12	24	10,49	290 x 505 x 260
4 Gang without Cable	N4200000	N4211000	20	80	13,69	325 x 440 x 380
4 Gang with Cable 2 metres	N4200033	N4211043	12	48	18,44	360 x 445 x 405
4 Gang with Cable 3 metres	N4200043	N4211053	12	48	22,89	364 x 495 x 385
4 Gang with Cable 5 metres	N4200063	N4211063	12	24	15,51	365 x 490 x 220
4 Gang with switch, without cable	N4301000	N4311000	30	60	11,61	290 x 500 x 255
4 Gang with switch & cable 2 metres	N4301033	N4311043	12	24	9,96	365 x 490 x 220
4 Gang with switch & cable 3 metres	N4301043	N4311053	10	20	23,91	364 x 495 x 385
4 Gang with switch & cable 5 metres	N4301063	N4311063	12	24	16,01	365 x 490 x 220
5 Gang without Cable	N5201000	N5211000	30	60	11,70	290 x 500 x 255
5 Gang with Cable 2 metres	N5201033	N5211043	12	24	10,00	365 x 490 x 220
5 Gang with Cable 3 metres	N5201043	N5211053	12	24	12,49	360 x 500 x 325
5 Gang with Cable 5 metres	N5201063	N5211063	12	24	16,37	360 x 500 x 325
5 Gang with switch, without cable	N5301000	N5311000	12	48	11,34	360 x 445 x 405
5 Gang with switch & cable 2 metres	N5301033	N5311043	12	24	9,13	355 x 515 x 295
5 Gang with switch & cable 3 metres	N5301043	N5311053	12	24	13,20	360 x 500 x 325
5 Gang with switch & cable 5 metres	N5301063	N5311063	12	24	17,08	360 x 500 x 325
6 Gang without Cable	N6201000	N6211000	9	36	11,76	360 x 445 x 405
6 Gang with Cable 2 metres	N6201033	N6211043	12	24	9,40	355 x 515 x 295
6 Gang with Cable 3 metres	N6201043	N6211053	12	24	13,40	360 x 500 x 325
6 Gang with Cable 5 metres	N6201063	N6211063	12	24	17,29	360 x 500 x 325
6 Gang with switch, without cable	N6301000	N6311000	9	36	12,82	360 x 445 x 405
6 Gang with switch & cable 2 metres	N6301033	N6311043	12	24	11,60	355 x 515 x 295
6 Gang with switch & cable 3 metres	N6301043	N6311053	12	24	13,93	360 x 500 x 325
6 Gang with switch & cable 5 metres	N6301063	N6311063	12	24	17,82	360 x 500 x 325

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Hanger Bracket	10000A69	25	100	2,13	330 x 380 x 300
Grond Socket Hanger Bracket	10000A70	25	100	2,13	330 x 380 x 300

# Group Sockets

## Earthed Group Sockets

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
2 Gang without Cable	MGP111	20	80	8,05	330 x 380 x 300
2 Gang with Cable 2 metres	MGP112	12	48	15,90	360 x 445 x 410
2 Gang with Cable 2 metres 3*1.5	MGP512	12	48	17,16	360 x 445 x 410
2 Gang with Cable 3 metres	MGP113	12	48	19,80	360 x 445 x 410
2 Gang with Cable 3 metres 3*1.5	MGP513	12	48	21,38	360 x 445 x 410
2 Gang with Cable 5 metres	MGP114	12	24	14,55	365 x 490 x 220
2 Gang with Cable 5 metres 3*1.5	MGP514	12	24	15,38	365 x 490 x 220
2 Gang with Cable 7 metres	MGP117	12	24	17,62	305 x 505 x 320
2 Gang with Cable 10 metres	MGP118	12	24	24,85	360 x 500 x 325
2 Gang with Cable 15 metres	MGP119	10	20	26,52	360 x 500 x 325
3 Gang without Cable	MGP131	15	60	8,30	330 x 380 x 300
3 Gang Pin Earthed, without Cable	MGP135	15	60	8,36	330 x 380 x 300
3 Gang with Cable 2 metres	MGP132	12	48	17,25	360 x 445 x 410
3 Gang with Cable 2 metres 3*1.5	MGP532	12	48	18,55	360 x 445 x 410
3 Gang Pin Earthed, with Cable 2 metres	MGP136	12	48	17,55	360 x 445 x 410
3 Gang with Cable 3 metres	MGP133	12	48	21,65	360 x 445 x 410
3 Gang with Cable 3 metres 3*1.5	MGP533	18	36	16,32	360 x 500 x 325
3 Gang with Cable 5 metres	MGP134	12	24	15,35	365 x 490 x 220
3 Gang with Cable 5 metres 3*1.5	MGP534	12	24	16,32	390 x 535 x 230
3 Gang with Cable 7 metres	MGP137	12	24	18,19	305 x 505 x 320
3 Gang with Cable 10 metres	MGP138	12	24	23,72	360 x 500 x 325
3 Gang with Cable 10 metres 3*1.5	MGP538	12	24	29,50	360 x 495 x 325
3 Gang with Cable 15 metres	MGP139	10	20	27,38	320 x 580 x 310
4 Gang without Cable	MGP151	20	80	13,40	325 x 440 x 380
4 Gang Pin Earthed, without Cable	MGP155	20	80	14,27	325 x 440 x 380
4 Gang with Cable 2 metres	MGP152	12	48	18,61	360 x 445 x 410
4 Gang with Cable 2 metres 3*1.5	MGP552	12	24	10,59	365 x 490 x 220
4 Gang Pin Earthed, with Cable 2 metres	MGP156	12	48	20,19	360 x 445 x 410
4 Gang with Cable 3 metres	MGP153	12	48	23,20	364 x 495 x 385
4 Gang with Cable 3 metres 3*1.5	MGP553	18	36	18,13	360 x 500 x 325
4 Gang with Cable 5 metres	MGP154	12	24	15,81	365 x 490 x 220
4 Gang with Cable 5 metres 3*1.5	MGP554	12	24	17,20	390 x 535 x 230
4 Gang with Cable 7 metres	MGP157	12	24	18,97	360 x 500 x 325
4 Gang with Cable 10 metres	MGP158	12	24	24,30	360 x 500 x 325
4 Gang with Cable 10 metre 3*1.5	MGP558	12	24	30,53	365 x 490 x 220
4 Gang with Cable 15 metres	MGP159	10	20	28,20	360 x 500 x 325
6 Gang without Cable	MGP181	15	60	12,30	360 x 445 x 410
6 Gang Pin Earthed, without Cable	MGP185	15	60	15,52	360 x 445 x 410
6 Gang with Cable 2 metres	MGP182	12	24	11,21	355 x 515 x 295
6 Gang with Cable 2 metres 3*1.5	MGP582	12	24	6,68	385 x 335 x 185
6 Gang Pin Earthed, with Cable 2 metres	MGP186	12	24	11,57	355 x 515 x 295
6 Gang with Cable 3 metres	MGP183	12	24	13,37	355 x 515 x 295
6 Gang with Cable 3 metres 3*1.5	MGP583	12	24	14,70	360 x 500 x 325
6 Gang with Cable 5 metres	MGP184	12	24	17,19	360 x 500 x 325
6 Gang with Cable 5 metres 3*1.5	MGP584	12	24	19,10	360 x 500 x 325
6 Gang with Cable 7 metres	MGP187	12	24	20,69	360 x 500 x 325
6 Gang with Cable 10 metres	MGP188	10	20	21,81	360 x 500 x 325
6 Gang with Cable 10 metres 3*1.5	MGP588	10	20	28,10	360 x 500 x 325
6 Gang with Cable 15 metres	MGP189	10	20	28,98	360 x 500 x 325

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
3 Gang witch switch, without cable	MGP211	20	80	12,44	325 x 440 x 380
3 Gang Pin Earthed, wtih Switch, without Cable	MGP215	20	80	13,16	325 x 440 x 380
3 Gang with switch & cable 2 metres	MGP212	12	48	17,60	360 x 445 x 410
3 Gang with switch & cable 2 metres 3*1.5	MGP612	12	48	19,52	360 x 445 x 410
3 Gang Pin Earthed, wtih Switch & Cable 2 metres	MGP216	12	48	17,99	360 x 445 x 410
3 Gang with switch & cable 3 metres	MGP213	12	48	22,65	360 x 445 x 410
3 Gang with switch & cable 3 metres 3*1.5	MGP613	18	36	17,79	360 x 500 x 325
3 Gang with switch & cable 5 metres	MGP214	12	24	15,75	365 x 490 x 220
3 Gang with switch & cable 5 metres 3*1.5	MGP614	12	24	16,80	365 x 490 x 220
3 Gang with switch & cable 7 metres	MGP217	12	24	18,77	315 x 490 x 322
3 Gang with switch & cable 10 metres	MGP218	12	24	23,84	360 x 500 x 325
3 Gang with switch & cable 15 metres	MGP219	10	20	29,18	360 x 500 x 325
6 Gang witch switch, without cable	MGP231	12	48	13,35	360 x 445 x 410
6 Gang Pin Earthed, wtih Switch, without Cable	MGP235	12	48	14,00	360 x 445 x 410
6 Gang with switch & cable 2 metres	MGP232	12	24	11,69	355 x 515 x 295
6 Gang with switch & cable 2 metres 3*1.5	MGP632	12	24	10,64	365 x 490 x 220
6 Gang Pin Earthed, wtih Switch & Cable 2 metres	MGP236	12	24	12,03	355 x 515 x 295
6 Gang with switch & cable 3 metres	MGP233	12	24	14,90	365 x 515 x 290
6 Gang with switch & cable 3 metres 3*1.5	MGP633	12	24	15,19	365 x 515 x 290
6 Gang with switch & cable 5 metres	MGP234	12	24	17,50	365 x 515 x 290
6 Gang with switch & cable 5 metres 3*1.5	MGP634	12	24	19,73	360 x 500 x 325
6 Gang with switch & cable 7 metres	MGP237	12	24	21,26	360 x 500 x 325
6 Gang with switch & cable 10 metres	MGP238	10	20	22,15	360 x 500 x 325
6 Gang with switch & cable 15 metres	MGP239	10	20	19,08	360 x 495 x 325



# Group Sockets

## Group Sockets

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
2 Gang without Cable	MGP101	25	100	8,10	330 x 380 x 300
2 Gang with Cable 2 metres	MGP102	12	48	11,90	325 x 440 x 380
2 Gang with Cable 3 metres	MGP103	12	48	14,95	325 x 440 x 380
2 Gang with Cable 5 metres	MGP104	12	48	21,00	355 x 495 x 330
2 Gang with Cable 7 metres	MGP107	12	24	13,86	290 x 490 x 250
2 Gang with Cable 10 metres	MGP108	12	24	18,95	310 x 500 x 270
2 Gang with Cable 15 metres	MGP109	10	20	21,53	360 x 500 x 325
3 Gang without Cable	MGP121	20	80	8,31	330 x 380 x 300
3 Gang with Cable 2 metres	MGP122	12	48	12,95	350 x 505 x 310
3 Gang with Cable 3 metres	MGP123	12	48	16,10	350 x 505 x 310
3 Gang with Cable 5 metres	MGP124	12	48	21,95	364 x 495 x 385
3 Gang with Cable 7 metres	MGP127	12	24	14,65	290 x 490 x 250
3 Gang with Cable 10 metres	MGP128	12	24	19,26	305 x 520 x 320
3 Gang with Cable 15 metres	MGP129	10	20	22,19	360 x 500 x 325
4 Gang without Cable	MGP141	20	120	15,80	335 x 470 x 455
4 Gang with Cable 2 metres	MGP142	12	48	14,35	350 x 505 x 310
4 Gang with Cable 3 metres	MGP143	12	48	17,10	360 x 445 x 410
4 Gang with Cable 5 metres	MGP144	12	48	23,25	364 x 495 x 385
4 Gang with Cable 7 metres	MGP147	12	24	15,22	360 x 500 x 325
4 Gang with Cable 10 metres	MGP148	12	24	19,64	360 x 500 x 325
4 Gang with Cable 15 metres	MGP149	10	20	22,91	322 x 545 x 265

## Eco Earthed Group Sockets

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Eco 2 Gang without Cable	MGP311	20	80	7,37	330 x 380 x 300
Eco 2 Gang with Cable 2 metres	MGP312	12	48	14,96	360 x 445 x 410
Eco 2 Gang with Cable 3 metres	MGP313	12	48	18,59	360 x 445 x 410
Eco 2 Gang with Cable 5 metres	MGP314	12	24	13,20	365 x 490 x 220
Eco 2 Gang with Cable 7 metres	MGP317	12	24	18,14	305 x 505 x 320
Eco 2 Gang with Cable 10 metres	MGP318	12	24	23,31	360 x 500 x 325
Eco 3 Gang without Cable	MGP331	15	60	7,45	330 x 380 x 300
Eco 3 Gang with Cable 2 metres	MGP332	12	48	16,36	360 x 445 x 410
Eco 3 Gang with Cable 3 metres	MGP333	12	48	19,77	360 x 445 x 410
Eco 3 Gang with Cable 3 metres 3*1.5	MGP733	12	48	23,89	360 x 445 x 410
Eco 3 Gang with Cable 5 metres	MGP334	12	24	13,95	365 x 490 x 220
Eco 3 Gang with Cable 5 metres 3*1.5	MGP734	12	24	16,93	365 x 490 x 220
Eco 3 Gang with Cable 10 metres	MGP338	12	24	24,42	360 x 500 x 325
Eco 4 Gang without Cable	MGP351	20	80	11,87	325 x 440 x 380
Eco 4 Gang with Cable 2 metres	MGP352	12	48	17,15	360 x 445 x 410
Eco 4 Gang with Cable 3 metres	MGP353	12	48	20,65	364 x 495 x 385
Eco 4 Gang with Cable 5 metres	MGP354	12	24	14,36	365 x 490 x 220
Eco 6 Gang without Cable	MGP381	15	60	13,42	360 x 445 x 410
Eco 6 Gang with Cable 2 metres	MGP382	12	24	11,05	360 x 500 x 325
Eco 6 Gang with Cable 3 metres	MGP383	12	24	12,87	355 x 515 x 295
Eco 6 Gang with Cable 5 metres	MGP384	12	24	16,61	360 x 500 x 325

## Eco Group Sockets

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Eco 2 Gang without Cable	MGP301	25	100	7,75	330 x 380 x 300
Eco 2 Gang with Cable 2 metres	MGP302	12	48	11,92	325 x 440 x 380
Eco 2 Gang with Cable 3 metres	MGP303	12	48	14,98	325 x 440 x 380
Eco 2 Gang with Cable 5 metres	MGP304	12	48	21,21	355 x 495 x 330
Eco 2 Gang with Cable 7 metres	MGP307	12	24	14,50	290 x 490 x 250
Eco 2 Gang with Cable 10 metres	MGP308	12	24	18,92	310 x 500 x 270
Eco 3 Gang without Cable	MGP321	20	80	8,31	330 x 380 x 300
Eco 3 Gang with Cable 2 metres	MGP322	12	48	12,77	350 x 505 x 310
Eco 3 Gang with Cable 3 metres	MGP323	12	48	16,19	350 x 505 x 310
Eco 3 Gang with Cable 5 metres	MGP324	12	48	22,78	364 x 495 x 385
Eco 3 Gang with Cable 7metres	MGP327	12	24	14,34	290 x 490 x 250
Eco 3 Gang with Cable 10 metres	MGP328	12	24	19,16	305 x 520 x 320
Eco 4 Gang without Cable	MGP341	20	120	15,53	335 x 470 x 455
Eco 4 Gang with Cable 2 metres	MGP342	12	48	14,17	350 x 505 x 310
Eco 4 Gang with Cable 3 metres	MGP343	12	48	17,19	360 x 445 x 410
Eco 4 Gang with Cable 5 metres	MGP344	12	48	23,46	364 x 495 x 385

## Surge Protected Group Socket

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Shock protected Sixtet Earthed group outlet corded 1.8 meters	25064200	1	6	4,85	265 x 425 x 175





# Accessories



## Accessories



**Male Plug**  
10001  
6 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 50 / 500



**Schuko Male Plug**  
10002  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 100 / 400



**Schuko Male Plug Black**  
10052  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 100 / 400



**Schuko Female Plug**  
10003  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 50 / 200



**Female Plug**  
10004  
10 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 50 / 200



**Schuko Female Plug Black**  
10053  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 50 / 200



**Female Plug Black**  
10054  
10 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 50 / 200



**L Type Schuko Plug Monoblock**  
10027  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 125 / 500



**Extension Cord**  
10007 - 3m Piece in Box / Package - 14 / 56  
10008 - 5m Piece in Box / Package - 18 / 36  
10019 - 7m Piece in Box / Package - 12 / 24  
10020 - 10m Piece in Box / Package - 15 / 30  
10021 - 15m Piece in Box / Package - 10 / 20  
10 A, 250 V~  
IEC 60884-1



**Schuko Extension Cord**  
10005 - 3m Piece in Box / Package - 14 / 56  
10022 - 3m x 1.5 Piece in Box / Package - 12 / 72  
10006 - 5m Piece in Box / Package - 17 / 34  
10023 - 5m x 1.5 Piece in Box / Package - 20 / 40  
10016 - 7m Piece in Box / Package - 12 / 24  
10017 - 10m Piece in Box / Package - 10 / 20  
10018 - 15m Piece in Box / Package - 10 / 20  
16 A, 250 V~  
IEC 60884-1



**Socket Adapter**  
10009  
6 A, 250 V~  
Piece in Box / Package - 125 / 500





**Intermediate Switch (White)**  
10014  
6 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 60 / 600

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**Intermediate Switch (Black)**  
10064  
6 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 60 / 600

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**Intermediate Switch (White - Red Button)**  
10080  
6 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 60 / 600

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**Intermediate Switch (Black - Red Button)**  
10081  
6 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 60 / 600

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**Cable with Intermediate Switch (White)**  
10035  
6 A, 250 V~  
EN 60669-1  
Piece in Box / Package - 20 / 200

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**Goliath**  
10015  
16 A, 250 V~  
Piece in Box / Package - 1 / 20

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**Goliath I Type Double Outlet**  
10030  
10 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 20 / 120

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**Goliath I Type Schuko Outlet**  
10031  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 20 / 120

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**Goliath I Type Triple Outlet**  
10032  
10 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 20 / 80

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**Goliath I Type Triple Schuko Outlet**  
10033  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 20 / 80

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## Accessories



**Goliath Triangle Type Triple Schuko Outlet**

10001204K  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 1 / 20



**Goliath Triangle Type Triple Schuko Outlet**

10001234  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 12 / 72



**Goliath Square Type Quartet Schuko outlet**

10001205K  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 1 / 20



**Flush Mounted Embedded Double Outlet**

16014  
10 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 10 / 100



**Double Surface-Mounted Embedded Schuko Outlet- Beige**

16011  
16 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 30 / 300



**Double Surface-Mounted Embedded Beige**

16012  
10 A, 250 V~  
IEC 60884-1  
Piece in Box / Package - 25 / 250

## Boxes

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**Square Surface Mountage**  
Box10028  
EN 60670-1  
Piece in Box / Package - 12 / 120

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**Circle Surface Montage Box**  
10029  
EN 60670-1  
Piece in Box / Package - 12 / 120

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**Plug-In Case for Under The Plaster**  
10011  
EN 60670-1  
Piece in Package - 300

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**Plug-In Deep Case for Under The Plaster**  
10012  
EN 60670-1  
Piece in Package - 200

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**Case with Claw For Under The Plaster - White**  
10013  
EN 60670-1  
Piece in Package - 200

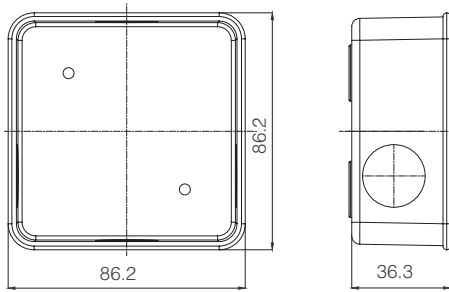
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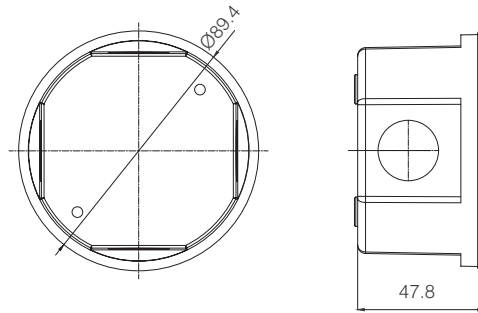
**Surface Mount Case for Mimoza**  
10010 - White Piece in Box / Package - 40 / 160  
10060 - Beige Piece in Box / Package - 40 / 160  
10055 - Fume Piece in Box / Package - 40 / 160  
10056 - Gray Piece in Box / Package - 40 / 160  
10057 - Champagne Piece in Box / Package - 40 / 160  
10058 - Green Piece in Box / Package - 40 / 160  
10095 - Yellow Piece in Box / Package - 40 / 160  
10096 - Anthracite Black Piece in Box / Package - 40 / 160  
10097 - Metallic Silver Piece in Box / Package - 40 / 160  
EN 60670-1

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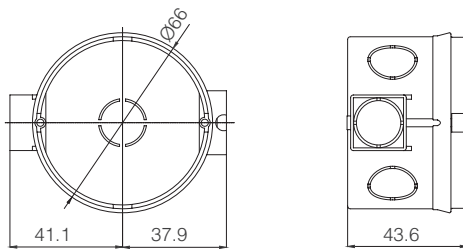
Technical Drawings



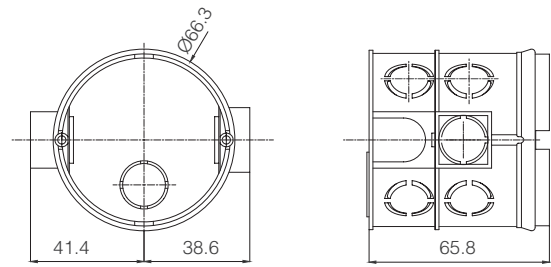
Square Surface Mountage Box



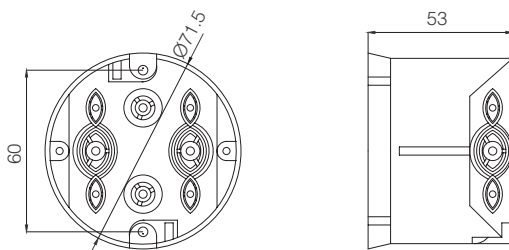
Circle Surface Montage Box



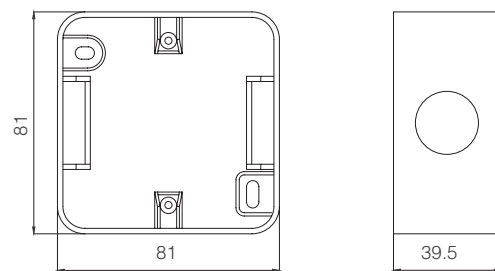
Plug-In Case for Under the Plaster



Plug-In Deep Case for Under the Plaster



Case With Claw For Under The Plaster



Surface Mount Case for Mimoza

## Plugs

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Male Plug	10001	50	500	12,37	410 x 485 x 310
Schuko Male Plug	10002	100	400	15,56	364 x 495 x 385
Male Decept Black Cordless 6 A	10051	50	500	12,37	410 x 485 x 310
Schuko Male Plug Black	10052	100	400	15,56	364 x 495 x 385
Schuko Female Plug	10003	50	200	8,05	325 x 440 x 380
Portable Socket Outlet	10004	50	200	7,37	325 x 440 x 380
Schuko Female Black Cordless	10053	50	200	8,05	325 x 440 x 380
Female Plug Black	10054	50	200	7,37	325 x 440 x 380
Schuko Extension Cord 3 meter	10005	14	56	18,97	325 x 440 x 380
Schuko Extension Cord 3 meter x 1.5	10022	12	72	31,00	400 x 595 x 300
Schuko Extension Cord 5 meter	10006	17	34	18,15	365 x 490 x 220
Schuko Extension Cord 5 meter x 1.5	10023	20	40	25,17	360 x 500 x 330
Schuko Extension Cord 7 meter	10016	12	24	15,84	365 x 490 x 220
Schuko Extension Cord 10 meter - White	10017	10	20	18,29	285 x 475 x 280
Schuko Extension Cord 10 meter - Black	10078	10	20	19,36	285 x 475 x 280
Schuko Extension Cord 15 meter	10018	10	20	25,97	360 x 495 x 325
Extension Cord 3 meter	10007	14	56	15,50	355 x 495 x 330
Extension Cord 5 meter	10008	18	36	14,68	365 x 490 x 220
Extension Cord 7 meter	10019	12	24	13,00	365 x 490 x 220
Extension Cord 10 meter	10020	15	30	21,75	360 x 495 x 325
Extension Cord 15 meter	10021	10	20	21,35	360 x 495 x 325
Socket Adapter	10009	125	500	13,53	417 x 455 x 290
L Type Schuko Plug Monoblock	10027	125	500	15,67	380 x 505 x 390
Telephone Plug	16010	40	-	13,62	370 x 370 x 500
Corded Interval White Puare	10026	20	200	22,14	400 x 600 x 345
Cable with Intermediate Switch	10035	20	200	22,14	400 x 600 x 345
Intermediate Switch (White)	10014	60	600	9,44	335 x 475 x 300
Intermediate Switch (Black)	10064	60	600	9,44	335 x 475 x 300
Intermediate Switch (White - Red Button)	10080	60	600	9,40	335 x 475 x 300
Intermediate Switch (Black - Red Button)	10081	60	600	9,40	335 x 475 x 300

## Cases

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Square Surface Mountage Box	10028	12	120	8,58	335 x 500 x 310
Circle Surface Mountge Box	10029	12	120	8,86	507 x 380 x 335
Plug-In Case for Under The Plaster - Black	10061	-	300	8,82	400 x 600 x 345
Plug-In Case for Under The Plaster - White	10011	-	300	8,82	400 x 600 x 345
Deep Case For Under The Plaster	10062	-	200	8,82	400 x 600 x 345
Plug-In Deep Case for Under The Plaster	10012	-	200	8,76	400 x 600 x 345
Case With Claw For Under The Plaster - White	10013	-	200	8,11	417 x 455 x 290
Case With Claw For Under The Plaster - Black	10063	20	200	8,30	417 x 455 x 290
Mimoza Cordless Fume	10055	40	160	9,65	360 x 445 x 410
Mimoza Case White-Beige Surface Mounted	100xx	40	160	9,60	360 x 445 x 410
Mimoza Case Colourful Surface Mounted	100xx	40	160	9,60	360 x 445 x 410
Surface Mounted Bay Chassis (White-Cream)	42 xxx 457	40	160	9,60	360 x 445 x 410
Surface Mounted Lillium Natural Square Chassis (White-Cream)	32 xxx 457	40	160	9,60	360 x 445 x 410
Surface Mounted Bay Chassis (Colourful)	42 xxx 457	40	160	9,60	360 x 445 x 410
Surface Mounted Lillium Natural Square Chassis (Colourful)	32 xxx 457	40	160	9,60	360 x 445 x 410

## Outlets Flush Mounted - Surface mounted

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Goliath	10015	1	20	2,32	295 x 200 x 200
Goliath I Type Double	10030	20	120	10,60	325 x 457 x 455
Goliath I Type Double Schuko	10031	20	120	12,80	325 x 457 x 455
Goliath I Type Triple	10032	20	80	9,52	360 x 445 x 410
Goliath I Type Triple Schuko	10033	20	80	11,44	360 x 445 x 410
Goliath Triangle Type Triple Schuko	10001204	12	48	5,26	330 x 380 x 300
Goliath Square Type Quartet Schuko Outlet	10001205	12	48	3,30	200 x 420 x 200
Triple Flush Mounted, Schuko Outlet	10001234	12	72	7,50	280 x 370 x 310
Surface Mounted Schuko Outlet	16011	30	300	30,62	410 x 545 x 315
Surface Mounted Outlet	16012	25	250	20,79	365 x 385 x 320
Flush Mounted Embedded Double Schuko Outlet	16013	10	100	9,84	335 x 475 x 300
Flush Mounted Embedded Double Outlet	16014	10	100	9,00	335 x 375 x 300

Add the color codes from the below table into the areas 'xx' and 'xxx' for the cases.

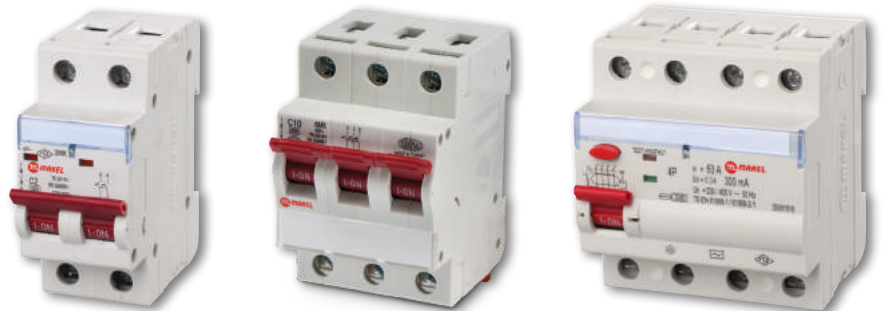
	Code No	Code No
<b>Colors</b>	<b>xxx</b>	<b>xxx</b>
White	001	10
Beige	010	60
Fume	050	56
Green	052	58
Antrasit	086	96
Metalic Silver	065	97
Champagne	-	57
Yellow	-	95







# Low Voltage Switchgear and Industrial Automation Product



## Miniature Circuit Breakers (MCBs)

Makel miniature circuit breakers used in homes and similar places are the circuit breakers to connect or disconnect an electrical device and cut the supply automatically when the current level exceeds a certain level. Makel miniature circuit breakers protects their corresponding electrical devices in cases of excessive current and short circuit while it makes it easy to turn the device on and off easily.

Makel miniature circuit breakers are produced to work in a temperature range of  $-5^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$  and the connection terminals have IP20 protection level.

With 4 different poles and 3kA, 6kA and 10kA short circuit cutting capacity, Makel miniature circuit breakers provides safe protection with easy mounting and rich product choices availability.

Mounting of Makel miniature circuit breakers can be done with 35mm EN 50022 DIN rail easily with availability to connect  $25\text{ mm}^2$  cables.

With joint automation bus connection availability, the maximum moment applicable to screws is 2Nm.

The miniature circuit breakers opens the circuit in case of a failure. By moving the crown upwards, set the fuses again. The thermal and magnetic forcings of the short circuit is limited with the circuit rapidly opened by the automatic fuse. There are B and C types of these fuses produced compatible with TS 5018-1 and EN 60898-1 standards.

"B" MCB fuses are generally used in houses, offices and villas in distribution boxes, line protection, household lighting, electrical heaters, outlets and control circuits. The magnetic protection range of the "B" type fuses is 3 to 5 of the nominal current level.

"C" type MCB are generally used in production facilities, constructions, conductor isolation, panel mounting, inductive loads, transformer, in electric machines such as air conditioners, refrigerators, engines. In "C" type fuses, magnetic protection range is 5 to 10 times the nominal current level.

## Miniature Circuit Breakers (MCBs)

- ▶ Provide ideal protection with the latest technology in electricity distribution systems
- ▶ Provide magnetic and thermal protection for electric lines
- ▶ Automatically disconnect energy from the network in case of overcurrent and short circuit
- ▶ Used in control circuits of automatic asynchronous motors
- ▶ Terminals are protected against finger touch, suitable for TN and IT grounding systems
- ▶ Provide protection about vibration in case of natural disasters (earthquake, lightning, etc.)
- ▶ All products contain 100% electronic copper (Cu) and argentine (Ag) contacts
- ▶ MCBs are used in residential and commercial areas

## General Specifications

- ▶ Ergonomic design provides easy assembly
- ▶ Reinforced body structure resistant to external impacts
- ▶ Resistant to heat and flame up to  $960^{\circ}\text{C}$
- ▶ PA 66, V0 non-flammable thermoplastic body and cover
- ▶ Halogen free
- ▶ 100% domestic production, Made in Turkey
- ▶ 100% Quality Control during production
- ▶ Product range of 456 items



## Fields of Application

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Houses, workplaces, shopping malls, industrial facilities and all other living spaces.

## 3 kA Technical Specifications

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Assembling Method	: Attaching to 35 mm rail complying with DIN EN 50022
Rated Voltage Un (V)	: 230/400 V AC 1P, 1P+N, 400 V AC 2P, 3P, 3P+N, 4P
Rated Current In (A)	: 1 A, 2 A, 3 A, 4 A, 5 A, 6 A, 10 A, 16 A, 20 A, 25 A, 32 A, 40 A, 50 A, 63 A, 80 A, 100 A, 125 A
Protection Class	: IP 20
Number of Poles	: 1P, 1P+N, 2P, 3P, 3P+N, 4P
Opening Curve	: Type B and C
Conductor cross-section	: 0.5 - 25mm <sup>2</sup>
Mechanical endurance	: 40,000 Periods
Electric endurance	: 20,000 Periods
Working Frequency	: 50/60 Hz
Cutting Capacity Inc (kA)	: 3 kA
Applicable Standard	: TS 5018-1 EN 60898-1
Environment Temperature	: -5°C to +40°C

## 6 kA - 10 kA Technical Specifications

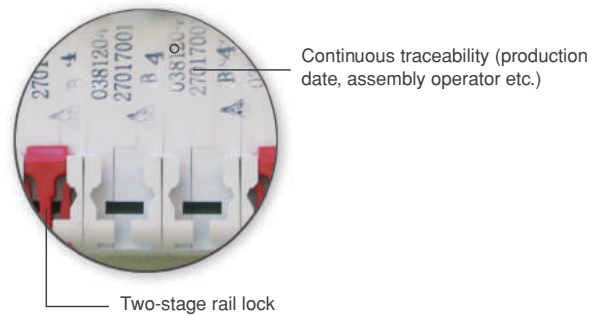
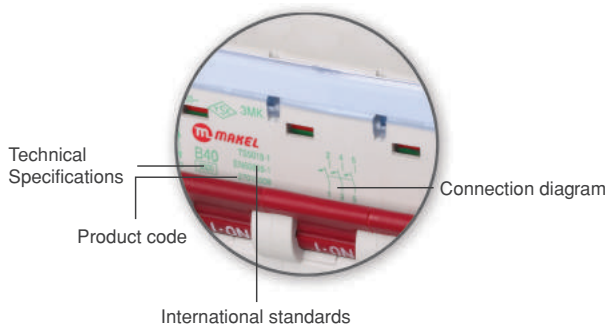
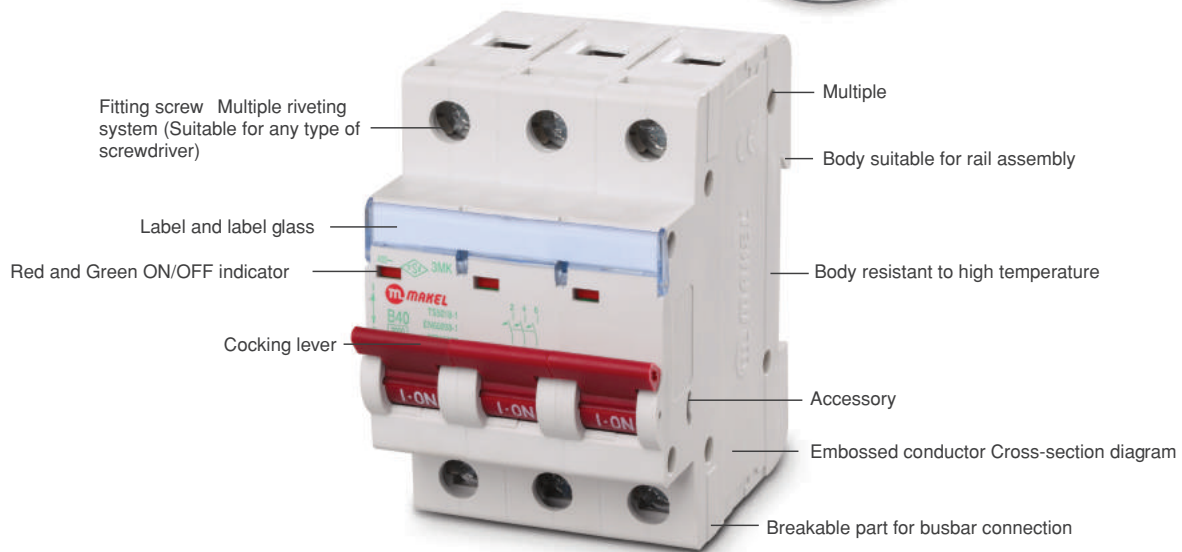
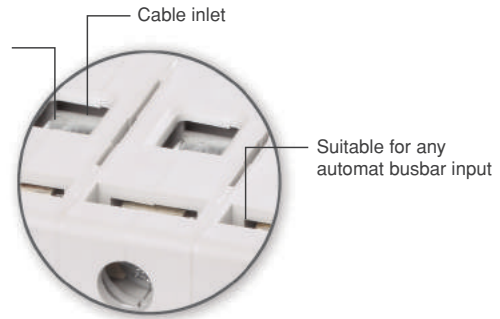
---

Rated Current In (A)	: 6 kA Automatic Fuses 1 A, 2 A, 3 A, 4 A, 5 A, 6 A, 10 A, 16 A, 20 A, 25 A, 32 A, 40 A, 50 A, 63 A, 80 A, 100 A, 125 A
	: 10 kA Automatic Fuses 6 A, 10 A, 16 A, 20 A, 25 A, 32 A, 40 A, 50 A, 63 A, 80 A, 100 A, 125 A
Environment Temperature	: -5°C to +40°C
Rated Voltage Un (V)	: 230/400 V AC 1P, 1P+N, 400 V AC 2P, 3P, 3P+N, 4P
Characteristic	: Type B and C
Protection Class	: IP 20
Conductor cross-section	: 0.5 - 25 mm <sup>2</sup>
Assembling Method	: Attaching to 35 mm rail complying with DIN EN 50022
Mechanical Endurance	: 40.000 periods
Electric Endurance	: 20.000 periods
Working Frequency	: 50/60 Hz
Cutting Capacity Inc (kA)	: 6 kA and 10 kA
Applicable Standard	: TS 5018-1 EN 60898-1

# Miniature Circuit Breakers (MCBs)

## 3 kA Product Specifications

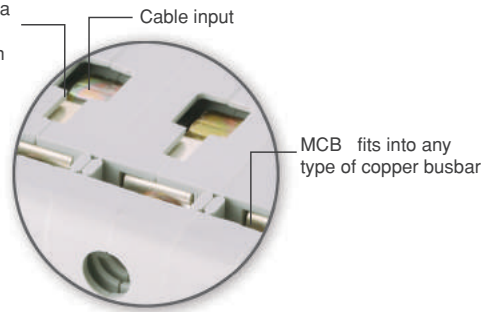
When completely open, constituting a 25mm<sup>2</sup> cross-section, preventing cables to slid through, special design electric terminal slots.





## 6 kA - 10 kA Product Specifications

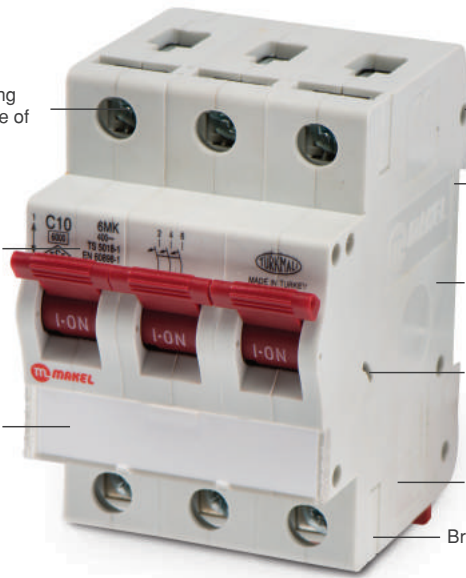
When completely open, constituting a 25 mm<sup>2</sup> cross-section, preventing cables to slid through, special design electric terminal slots.



Fitting screw Multiple riveting system (Suitable for any type of screwdriver)

Cocking lever

Label and label glass



Multiple

Body suitable for rail assembly

Body resistant to high temperature

Accessory

Embossed conductor Cross-section diagram

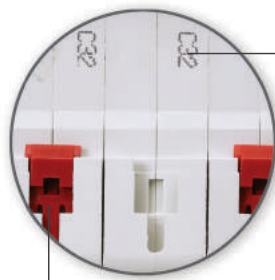
Breakable part for busbar connection

Technical Specifications



International standards

Connection diagram  
Product code

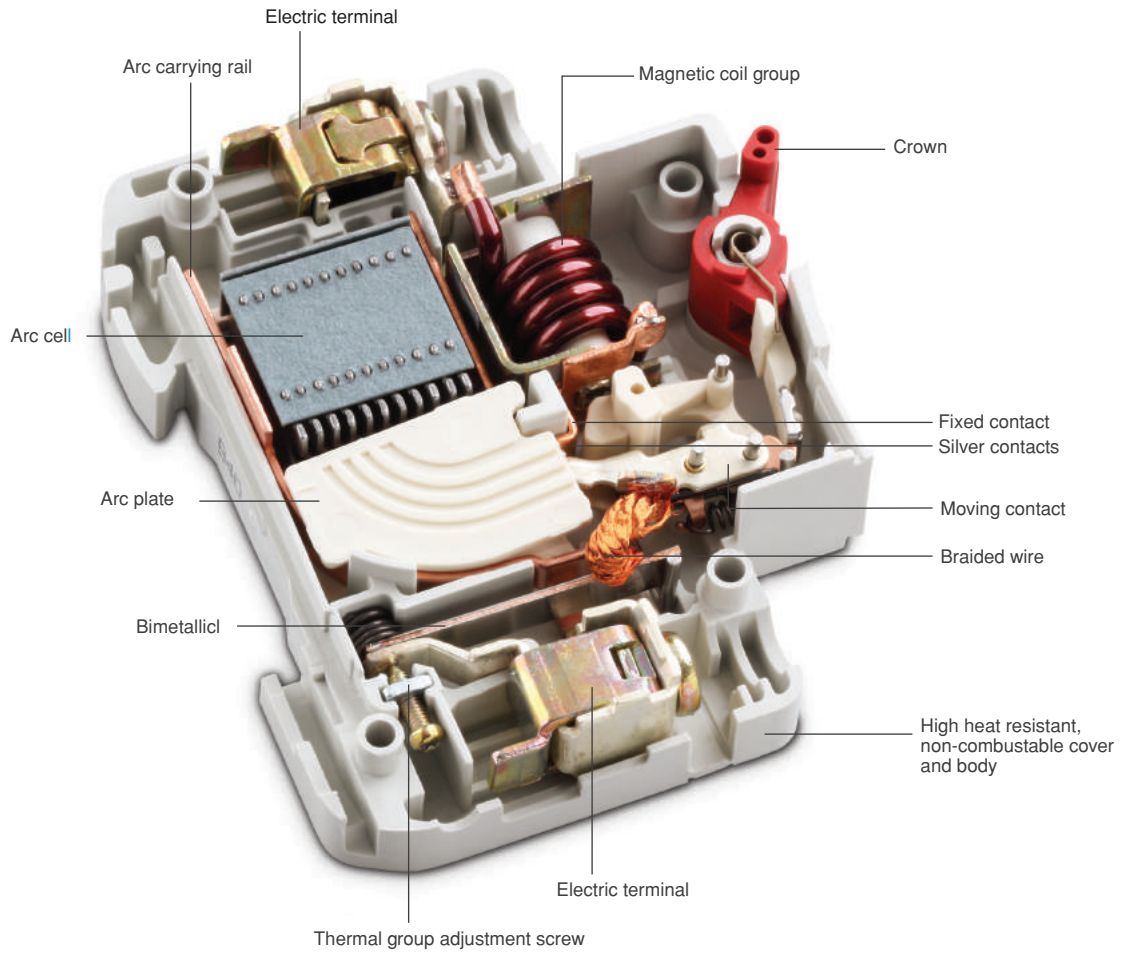


Continuous traceability (production date, assembly operator etc.)

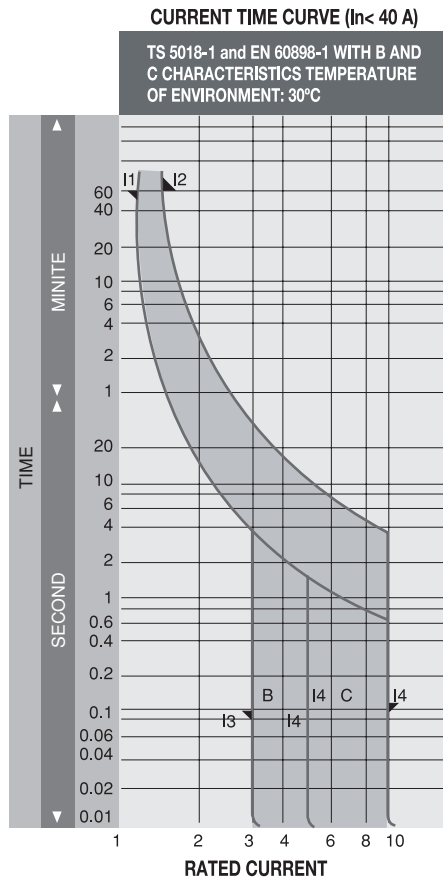
Two-stage rail lock

# Miniature Circuit Breakers (MCBs)

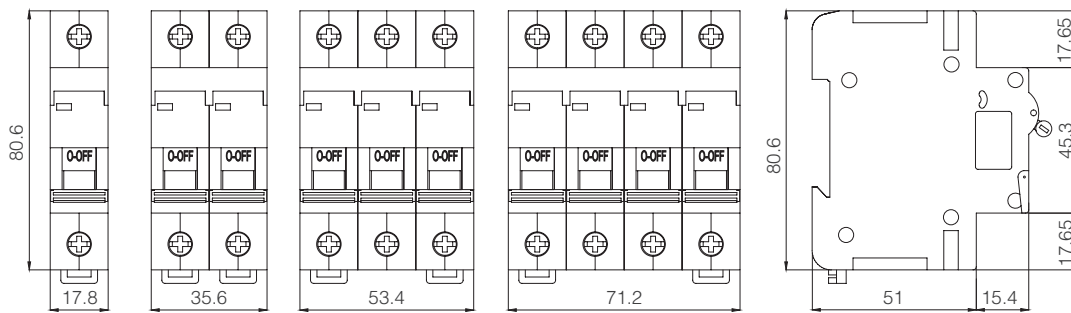
## 3 kA, 6kA, 10kA Dismantled Product



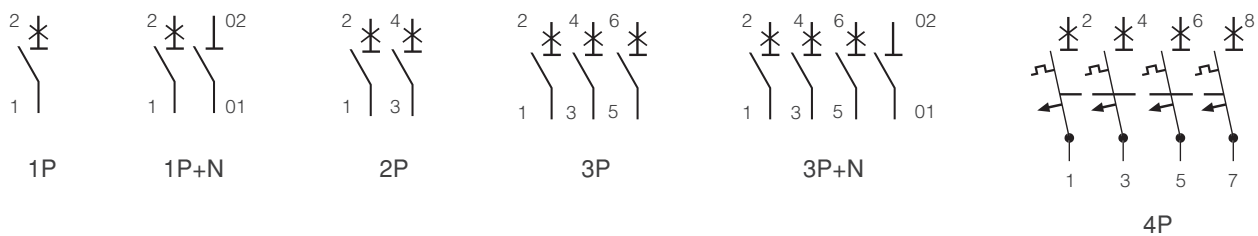
## Current Time Curve



## Technical Drawings



## Wiring Diagrams



# Surge Arrestor

It is the low voltage unit with simple and strong working mechanism that allows protection of electrical/electronic devices against lightning strikes in all industrial and commercial buildings. Provides effective protection from 5 kA to 60 kA in B, C, D types.

Surge arrestors are used for protecting electrical systems against overvoltage pulses. Surge arrester are protection elements that are connected in parallel to the system, normally in passive state and that protect electrical systems against sudden overvoltage pulses. These sudden overvoltage pulses may be lightning or internal overvoltages, and these voltages are in microseconds level.

Surge arresters are insulator in case of normal operation, but when they receive a pulse, they start transmission and send pulse to ground. Therefore, business is protected against pulses without any interruptions. Surge arresters have 3 basic duties;

- 1- They protect against lightning pulses. (10/350 microseconds curve)
- 2- They protect against internal overvoltages (8/20 microseconds curve)
- 3- Protecting Sensitive devices

## Fields of Application

In regions where lightnings occur intensively or less intensively, 10kA or 5kA level surge arresters should be used. If surge arrester is used in low voltage network, a surge arrester with 1.5kA pulse rated current value should be used. If surge arrester is used in medium voltage transformation substation, surge arresters having 2.5kA or 5kA pulse rated current values should be used. If surge arresters are used in power plants and substations, surge arresters with 10kA pulse rated current value should be used.

- ▶ Transformer inputs
- ▶ Main transformers
- ▶ Auxiliary panels
- ▶ LED lighting systems
- ▶ CCTV, camera, fire alarm systems
- ▶ Renewable energy systems
- ▶ Used in automation and communication lines.



## Selection of Panels

---

Surge selection is very important. Surge Arresters should be selected by considering three important points including voltage value, shock rated current and short circuit.

Surge arresters conduct shutting of system and prevent damage to device and systems. For surge arresters to conduct shutdown, working voltage should be lower than voltage determined over the portion with the weakest insulation point on the system. If voltage value is high, Surge Arrester will not be able to shutdown, and prevent damage to the system under protection.

Surge Arresters should be used by considering pulse rated currents to use in various load intervals. Surge Arresters are produced by considering this property, and they are presented in the market according to pulse rated current values and short-circuit current values.

## Role of Surge Arresters in Protecting Against High Voltage

---

High voltage causes failures in devices connected to transmission and distribution lines. Because of high voltage occurring in the system, insulators used to protect devices against voltage are damaged. As a result, short circuit occurs in device or transmission line, and system can be damaged. High voltages are divided into 2 parts based on their occurrence ways such as internal (occurring within system) and external (occurring due to natural causes) high voltages. Internal high-voltages occur in electrical networks. Network sourced problems may emerge including contact with ground, contact of two phases, neutral and ground contact. External high voltages stem from natural events and they occur due to reasons such as potential rise of soil as a result of lightning, lightning strike on phase or ground lines, magnetic field occurring as a result of lightning strike. Circuit designs can be made for protection purposes against internal high voltages that may occur in electrical devices originating from network. However, surge arresters should be used to protect system from external high voltages.

## Surge Arrester Usage According to Short Circuit Current

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Surge arrester should have short circuit current value level similar to cutter in closest vicinity. If short circuit resistance is selected low, surge arrester may be fragmented and result in great damages to its place. Surge arresters are usually produced at 20, 40 and 60kA short-circuit current level. It is very important to determine location of surge arresters, and to place them in suitable locations in the system due to lightning discharges.

If surge arrester is not suitable for its place, it may create damage rather than benefit and turn into a source failure. Surge arresters are connected to phase-ground in parallel with electrical systems to be protected. Surge arresters should be close to electrical systems as much as possible.



# Surge Arrestor

## **B Class (Class 1)**

This is protective surge arrester class for low voltage protection. They are used before electricity meter.

## **C Class (Class 2)**

These are overvoltage limiter for low voltage. They are used after electricity meter.

## **D Class (Class 3)**

These are overvoltage limiter surge arresters for low voltage. They are used for protecting electronic devices.

## **Panel Type B+C Class Surge Arresters**

Due to their electrical specifications, these are mostly used surge arresters in electrical panels Its type is called Type 1+2 according to 100kA B+C IEC norms. This is the most powerful type in market conditions. Since it has 60kA protection capacity passing through, this type is widely used.

## Its Connection and Cutter Usage

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Before connecting to system, a serial cutter is connected before surge arrester and it should be connected between phase and ground in parallel with phases of electrical energy.

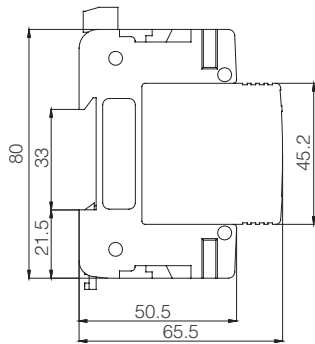
Due to different reasons in electricity panels, surge arresters may be damaged by short-circuits occurring between phases. Cutters are used to prevent these damages. Cutters should be preferred to make changes to surge arresters with finished usage life.

## Technical Specifications

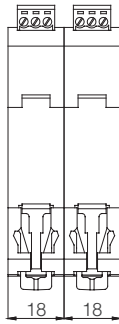
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Type	: 3, 2, 1+2, 1
Number of Poles	: 1P, 2P, 3P, 4P
Class	: D, C, B+C, B
Rated Working Voltage Un (V)	: 275V, 385V, 420V
Maximum Voltage	: 1,2 - 1,4 - 1,5 - 1,6 - 1,8 - 1,9 - 2 - 2,1
Nominal Current In/Polar (8/20)	: 10, 20, 30
Max. Short Circuit Current I <sub>sc</sub> (I <sub>sc</sub> cr)	: I <sub>MAX</sub> (kA) 20, I <sub>MAX</sub> (kA) 40, I <sub>MAX</sub> (kA) 60

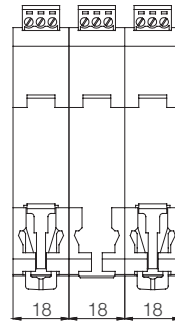
## Technical Drawings



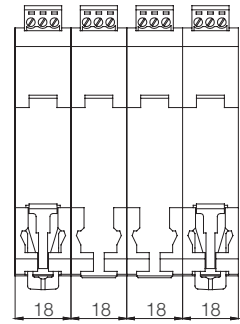
1-Pole  
KNY1-20-40-60  
Type 1-2-3  
B-C-D Class  
With Alarm Contact



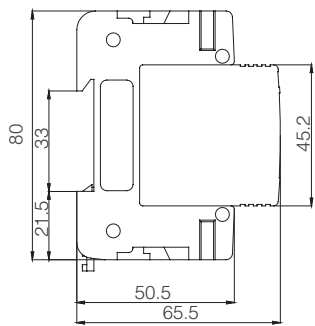
2-pole  
KNY1-20-40-40/60-60  
Type 1-1+2-2-3  
B-C-D-B+C Class  
With Alarm Contact



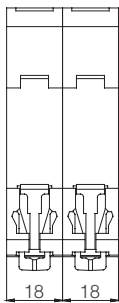
3-pole  
KNY1-20-40-60  
Type 1-2-3  
B-C-D Class  
With Alarm Contact



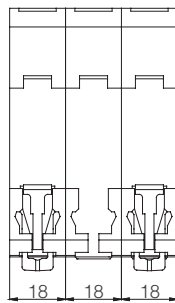
4-pole  
KNY1-20-40-40/60-60  
Type 1-1+2-2-3  
B-C-D-B+C Class  
With Alarm Contact



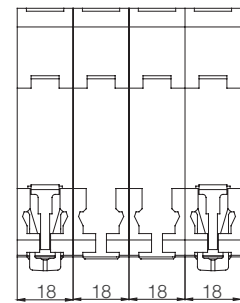
1-pole  
KNY1-20-40-60  
Type 1-2-3  
B-C-D Class



2-pole  
KNY1-20-40-40/60-60  
Type 1-1+2-2-3  
B-C-D-B+C Class



3-pole  
KNY1-20-40-60  
Type 1-2-3  
B-C-D Class



4-pole  
KNY1-20-40-40/60-60  
Type 1-1+2-2-3  
B-C-D-B+C Class

# Residual Current Circuit Breakers (RCCBs)

Leakage current protection switches become activated in case of a leakage current in your connected mains and protects you and your environment from possible electric shock and fire dangers.

Makel Leakage Current Protection Switches are produced in accordance with TS EN 61008-1 standard, it comes with 3 kA, 6 kA and 10 kA short circuit cutting capacity, provided with 2 and 4 pole product choices, it presents easy mounting and safe protection with 92 different product types.

## **Life protection leakage current protection switches;**

Within international standards, a current level over 30mA passing through human body is the lethal threshold for life. Life protection leakage current protection switches cuts the current in case it exceed this level and provides a secure safety.

## **Leak Current Protection Switches With Fire Protection;**

In the same time, 300mA leakage current is the threshold for the nominal cable installation materials to melt, burn or set flames. With the heat level achieved in 300mA current level, fire hazard becomes the issue. The leakage current protection with 300mA threshold value for fire protection cuts the energy of the current and provides secure protection.

## General Specifications

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- ▶ Ergonomic design provides easy assembly
- ▶ Reinforced body structure resistant to external impacts
- ▶ Resistant to heat and flame up to 960 °C
- ▶ PA 66, V0 non-flammable thermoplastic body and cover
- ▶ Halogen free
- ▶ 100% domestic production, Made in Turkey
- ▶ 100% Quality Control during production
- ▶ 220 different product types (25 A - 125 A)
- ▶ 3 kA, 6 kA, 10 kA RCCBs with cutting capacity
- ▶ 2P, 4P, human protective 30 mA and fire protective 300 mA product options
- ▶ IEC 61008-1, EN 61008-2-1, TURKISH TS EN 61008-1 / 61008-2-1 Standard Certificates

## Fields of Application

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Houses, workplaces, shopping malls, industrial facilities and all other living spaces.

## Technical Specifications

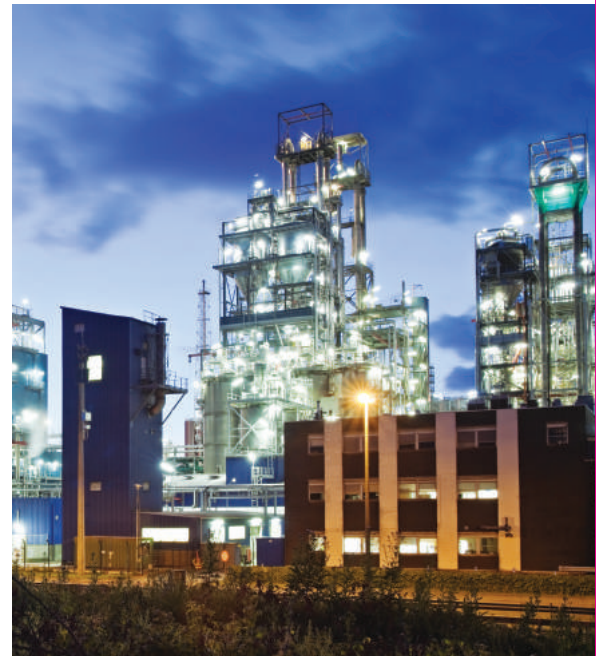
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Rated Current In (A)	: 25 A, 32 A, 40 A, 50 A, 63 A, 80 A, 100 A, 125 A
Rated Voltage Un (V)	: 230/400V AC
Rated Residual Current I $\Delta$ (mA)	: 30 mA - Life Protective, 300 mA Fire Protective
Rated Working Frequency (Hz)	: 50/60 Hz
Cutting Capacity Inc (kA)	: 3kA, 6kA, 10 kA
Number of Poles	: 2P, 4P
Working Air Temperature (°C)	: - 25°C to + 40°C
IP Protection Level	: IP 20
Assembly Method	: DIN EN 50 022 35mm
RCCB Type	: Electromechanical, AC, A, S
Conductor Cross-section (mm <sup>2</sup> )	: 0.5 - 25mm <sup>2</sup>
Applicable Standard	: TSE EN 61008-1/61008-2-1
Protection Method	: Residual Current Protection

## General Information About Using Switch

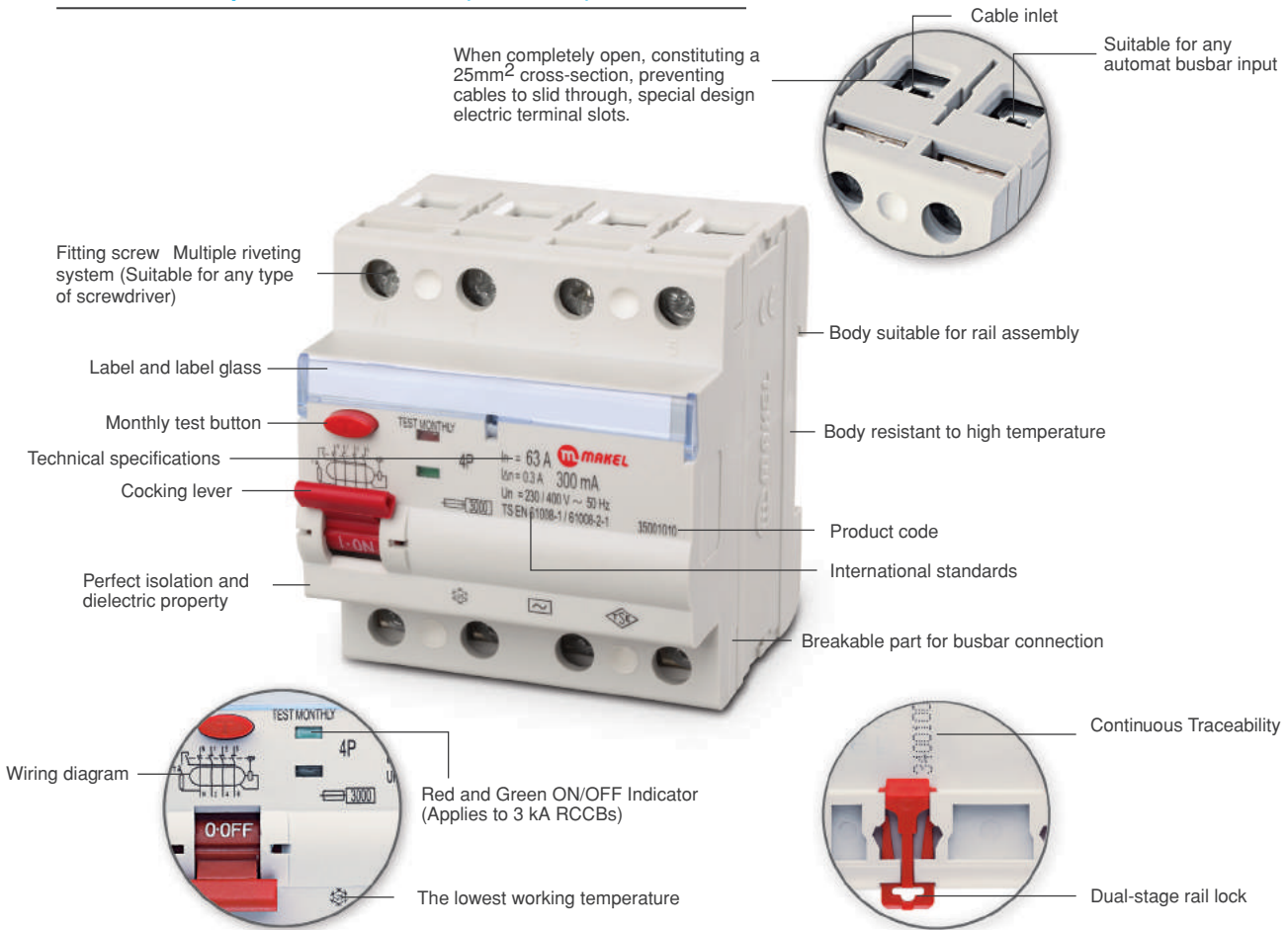
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1. A 30mA value current protection switch for human life protection and a 300mA value current protection switch for fire protection shall be used.
2. Fire protection leakage current protection switches shall be mounted to the terminal box and human life protection switch with appropriate current threshold shall be mounted to the counter colon circuit.
3. The neutral line of the system with leakage current protection shall be isolated and it shall not be earthed in between the switch and load.
4. Because the leakage current protection switches do not provide protection for short circuit or thermic-magnetic current, there shall be automatic fuses or similar device(s) for short circuits and overload.
5. Because a short circuit in the leakage current protection switch output may harm the application systems and products, it shall not be tried.
6. After connecting the leakage current protection switch to the installation, in order to test its performance, press "Test Button".
7. In order to prevent the device from overheating, the nominal current value of the leakage current protection switch shall be bigger than the current value passing through the circuit.
8. The neutral line must pass through residual current circuit breakers with phase and phases.
9. The phase and neutral line shall pass through the protection switch. The capacitive leaks of the cable and isolation faults shall be also taken into account.
10. In single phase mains, a 2 pole and in 3 phase mains, 4 pole leak current protection switch shall be used.

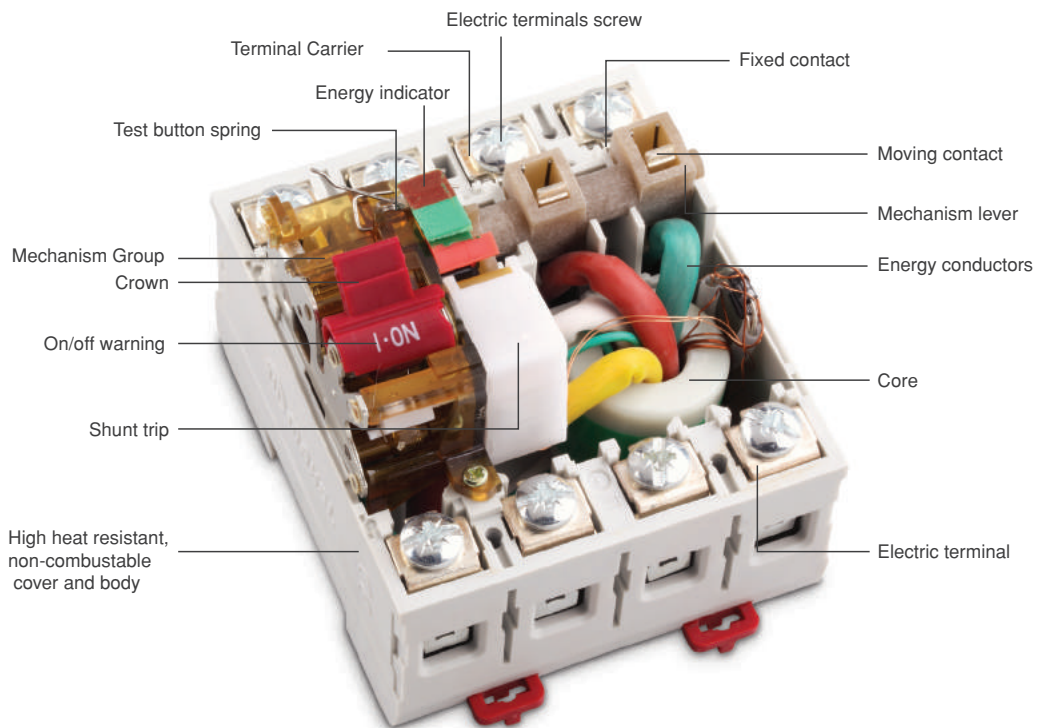


# Residual Current Circuit Breakers (RCCBs)

## Product Specifications (RCCB)



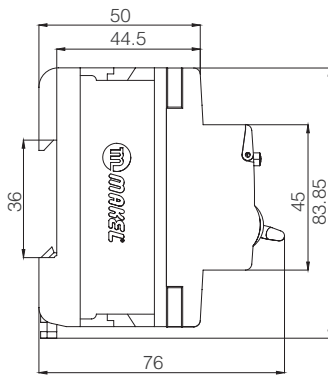
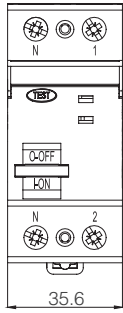
## Dismantled Product (RCCB)



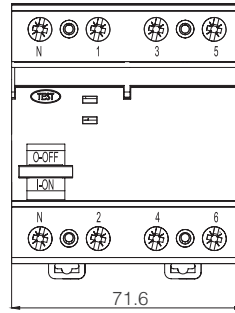


# Technical Drawings

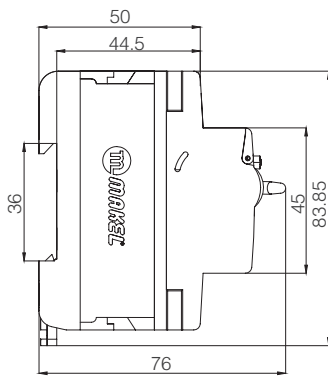
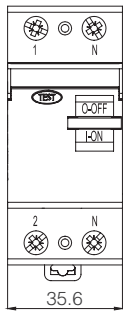
2 Poles  
(RCCB) 3kA



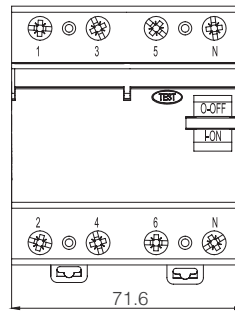
4 Poles  
(RCCB) 3kA



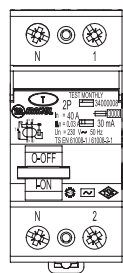
2 Poles  
(RCCB) 6kA



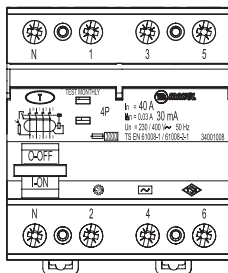
4 Poles  
(RCCB) 6kA



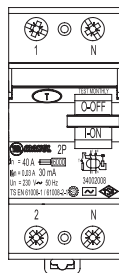
2 Poles  
(RCCB) 3kA



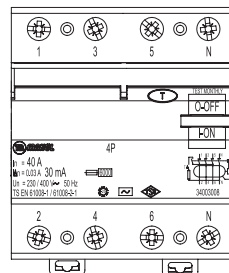
4 Poles  
(RCCB) 3kA



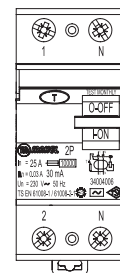
2 Poles  
(RCCB) 6kA



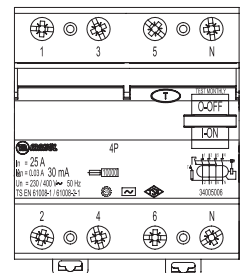
4 Poles  
(RCCB) 6kA



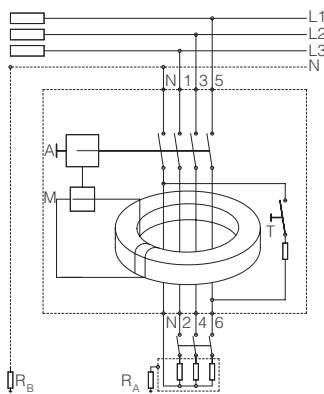
2 Poles  
(RCCB) 10kA



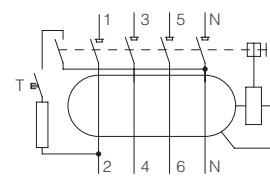
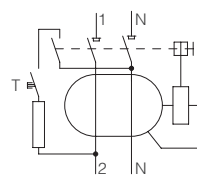
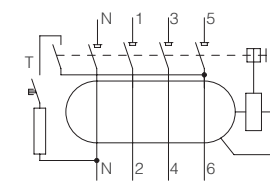
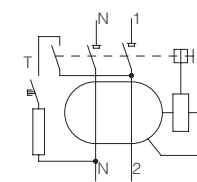
4 Poles  
(RCCB) 10kA



# Wiring Diagrams



- A : Shunt relay
- M : Shunt trip
- RA : Protection grounding
- RB : Facility Grounding
- T : Test Button



# Pulse Current Switch

It is used to control lights from two or more points. The most important advantage of pulse current switches is to provide infinite number of lighting control points.

Such type of pulse current switch in the market is called impulse relay or teleruptor. They are used for control of lighting circuit in personal building and small-scaled industrial buildings. Pulse Current Switch begins to work when it receives voltage signal, and this signal can be transmitted through a button or light switch. First stimulation passes relay to set (reverse) status and the next stimulation returns it back to reset (original) status. Makel Pulse Current Switches provide many advantages together with its structure as per TS EN 60669-2-2 standard, all quality certificates in its field and wide product range.

## General Specifications

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- ▶ Product portfolio with 230V AC coil voltage
- ▶ 1-pole, advantage of controlling more than one lines with single pulse current switch
- ▶ Full compliance with EN 60669-2-2 standard valid for relevant product
- ▶ Provides full compliance with conduit boxes (panels) due to possibility of mounting of automated rail with its modular structure
- ▶ Manual control property
- ▶ Covers less place with extra thin dimensions (1 module occupies place)
- ▶ Suitable for 230V - 50Hz values
- ▶ Suitable for horizontal, vertical, plain use

## Fields of Application

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With pulse current switches used to control lighting over two or more points, you can carry out on-off actions from multiple points. These are preferred especially in public living areas (schools, hospitals, hotels, housing, etc.).

## Technical Specifications

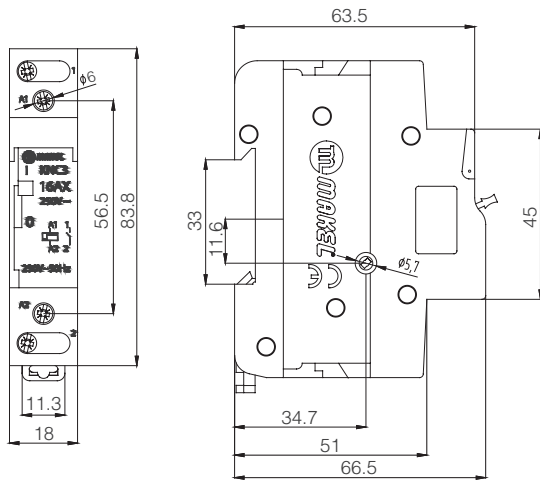
---

Insulation Voltage	: 4000V
Electrical Shock Resistance Withstand Voltage Uimp	: 4 kV
Dielectric Withstand Voltage	: 2000V
Max. Operation Rated Current	: 16 A
Max. Operating Rated Voltage	: 230V AC
Working Power	: 16VA
Operating Temperature	: Between - 5°C + 40°C
Stocking Temperature	: Between - 40°C + 80°C
Body Structure with Non-Conducting Fire	: Heat-resistant up to 960°C
Protection Class	: IP 20
Connection Capacity	: 10 mm <sup>2</sup> Rigid Cable, 6 mm <sup>2</sup> Flexible Cable

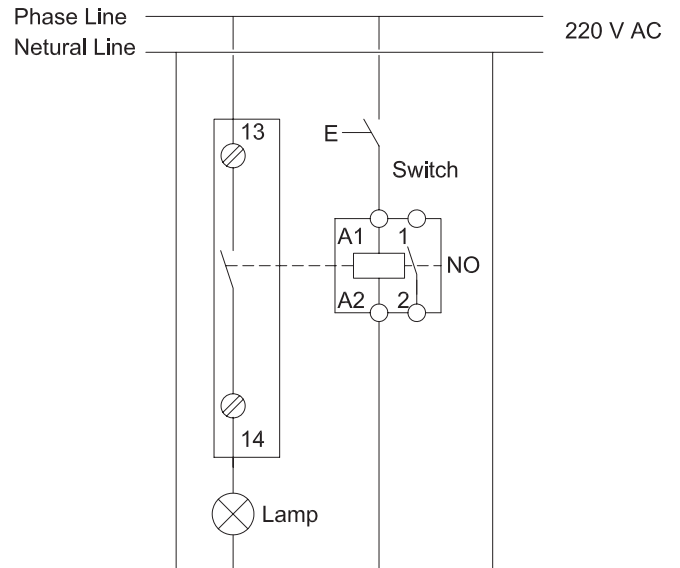
## Pulse Current Switch Product Specifications



## Technical Drawings



## Wiring Diagrams



# Moulded Case Circuit Breakers (MCCBs)

The circuit breakers are mechanical assemblies for turning the circuit on and off in normal operational conditions while cutting the circuit in abnormal conditions (short circuit and overcurrent). Compact switches are in low voltage circuit breaker class with thermal and magnetic protection.

Makel Compact Switches are produced in accordance with IEC 60947-2 standards and they are used in energy distribution tables and their transmission lines for safe protection against overcurrents and instantaneous short circuits. Putting safety as a priority, Makel isolates all the contacts carrying voltage.

Provided with a product range from 25 A to 1600 A, Makel Compact Switches comes with magnetic and thermal opening mechanisms thus providing high safety and quality together.

Makel Compact Switches provided with mechanic opening buttons (trips) carries sticker glass in front of it for naming while it carries technical information regarding to the product.

Makel Compact Switches provides easy usage with different accessories. Low voltage coil, shunt trip coil, adaptors for cable shoes, control arm, connection terminals, auxiliary contact, bus connection accessories, plug in and withdrawable type pedestals, manual full automatic mains - generator switching systems provide more effective protection.

Leak current protection blocks can be integrated to the Makel Compact Switches providing thermal and magnetic protection. This way, the product will also have fire protection and life protection properties.

The working condition of Makel Compact switches can be controlled with electronic test device in detail. It is easily controlled to see how many times the product is opened and for what reasons in this method.

## Structure and Working Principles

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Makel Compact Switches protect the circuit in thermal and magnetic means.

### **Thermal protection (overload protection):**

Thermal protection is to protect the circuit against overload. This protection process uses bimetal material which has two metals with different temperature coefficients. When the bimetal is heated, it bends towards the metal side with smaller thermal coefficient.

When overload happens, the current value exceeds the nominal current value and with current increase, the bimetal temperature and the temperature of contacts increase. This way, the bending bimetal helps a cutting mechanism and opens the current with this movement in this mechanism. The switch protects the circuit from overload and over current with this method.

### **Magnetic protection (short circuit protection):**

When two conductor touches with each other or when one of them touches to the ground connection, this causes short circuit. In short-circuit, the resistance is near to zero. For this reason, the short circuit current may reach thousands of times of the normal operational current values. If not prevented, short circuit is very harmful and destructive. For this reason, the circuits shall be cut in very short times. A big magnetic field is inducted on the magnetic protection mechanism of the switch in short circuit conditions and the force created by this magnetic field pulls the moving core to the stable core quickly and the moving core hits the opening mechanism with its rapid hitting.

Apart from the magnetic and thermal protection, limiter feature is the most important protection system. This current limitation feature named limiter provides the currents in each contact to pass in opposite directions with U shaped stable contact. During shortcut, the reverse magnetic field created in between stationary and moving contacts produce a pushing force and the moving 75 % of its value thus preventing devices connected to the circuit from getting harmed seriously.

There are three positions showing the position of the Compact switch.

**ON / I:** Shows that the contacts of the switches are closed. In this case, the crown of the switch is at top position.

**TRIP:** It shows that the switch is open for a failure reason (overload or short circuit). In this case, the switch crown is in between ON and OFF positions.

**OFF / 0:** Shows that the contacts of the switches are open. In this case, the crown of the switch is at bottom position.

In order to take the switch in Trip position to ON position;

Press the switch arm towards the OFF label. The switch will be set with the “Click” sound (reset position). In order to turn the switch off, press on the arm towards ON direction.

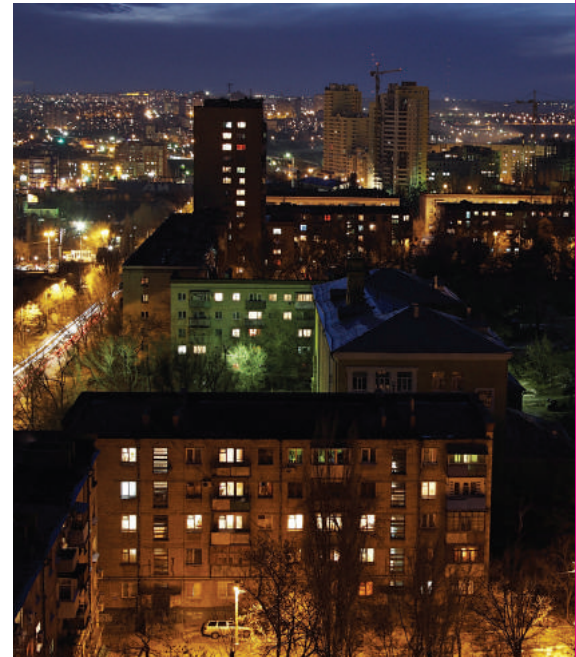
**NOTE:** If the switch is equipped with low voltage coil, shutting the switch off is only possible when the low voltage coil voltage is energised with nominal value.

**Trip butonu:** This is the red button on the cover controlling opening mechanism. When this button is pressed, the mechanism starts working and the contacts of the switch opens rapidly.

**Mechanic operation control (test):** The switch is closed and opened 5 times. The arm shall be able to move easily and it shall be able to stay in between I and 0 positions in a stable way.

## General Specifications

- ▶ MCCBs; 160 A, 250 A, 400 A, 500 A, 630 A, 800 A and 1600 A rated current
- ▶ A wide product range with 50 different types
- ▶ Provides easy installation the custom-made ergonomic design
- ▶ Body structure resistant to external impacts
- ▶ Compliance with 950 °C glow wire test against heat and flame
- ▶ 100% domestic production, Made in Turkey
- ▶ Body resistant to abnormal heat and flame
- ▶ BMC nonflammable, VO thermoplastic raw materials, Halogen free
- ▶ Adjustable current and magnetic range
- ▶ Products resistant to mechanical and electrical impacts
- ▶ Products with aesthetic, transparent polycarbonate cover
- ▶ Products passing 5000 V dielectric and isolation tests
- ▶ Products passing short circuit tests with 25 kA, 35 kA, 50 kA, 65 kA options
- ▶ Wide product ranges from 25 A to 800 A
- ▶ Protection IP20
- ▶ 100% Quality Control during production



## Fields of Application

Houses, workplaces, shopping malls, mass housing sites, industrial facilities and all other living spaces.

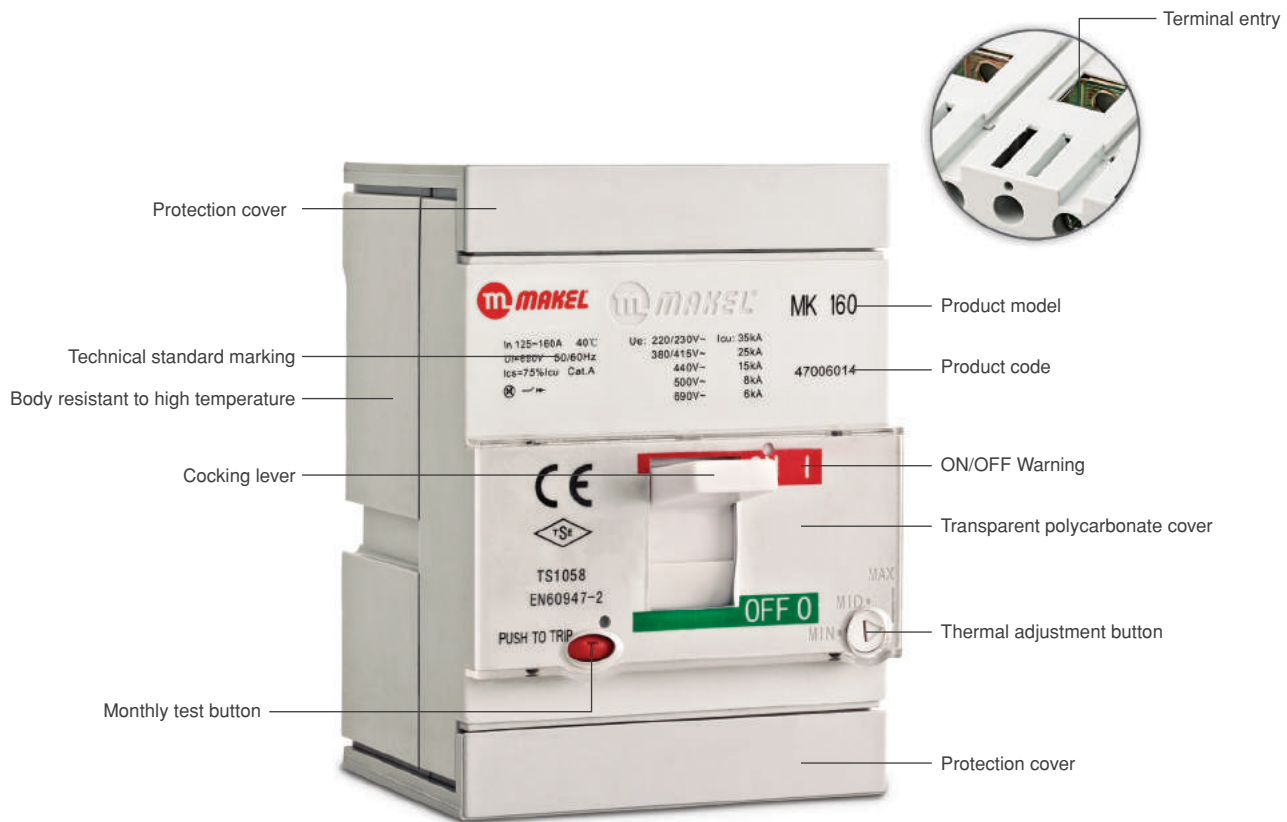
## Technical Specifications

Rated Current In (A)	: 25 A, 32 A, 40 A, 50 A, 63 A, 80 A, 100 A, 125 A, 160 A, 200 A, 225 A, 250 A, 315 A, 400 A, 500 A, 630 A, 800 A, 1000 A, 1250 A, 1600 A
Rated Voltage Un (V)	: 380/415 V AC
Protection Method	: Thermal/Magnetic Fixed, Magnetic/Thermal Adjustable
Rated Working Frequency (Hz)	: 50/60 Hz
Cutting Capacity Inc (kA)	: 25 kA, 35 kA, 50 kA, 65 kA
Number of Poles	: 3P, 4P
Environment Air Temperature (°C)	: -5 / +40 °C
IP Protection Level	: IP 20
Assembly Method	: DIN EN 50 022 35mm, 70 mm rail and board assembly
MCCB Type	: Electromechanical, AC
Conductor Cross-section (mm <sup>2</sup> )	: 1mm <sup>2</sup> -100mm <sup>2</sup>
Applicable Standard	: TSE EN 60947-2

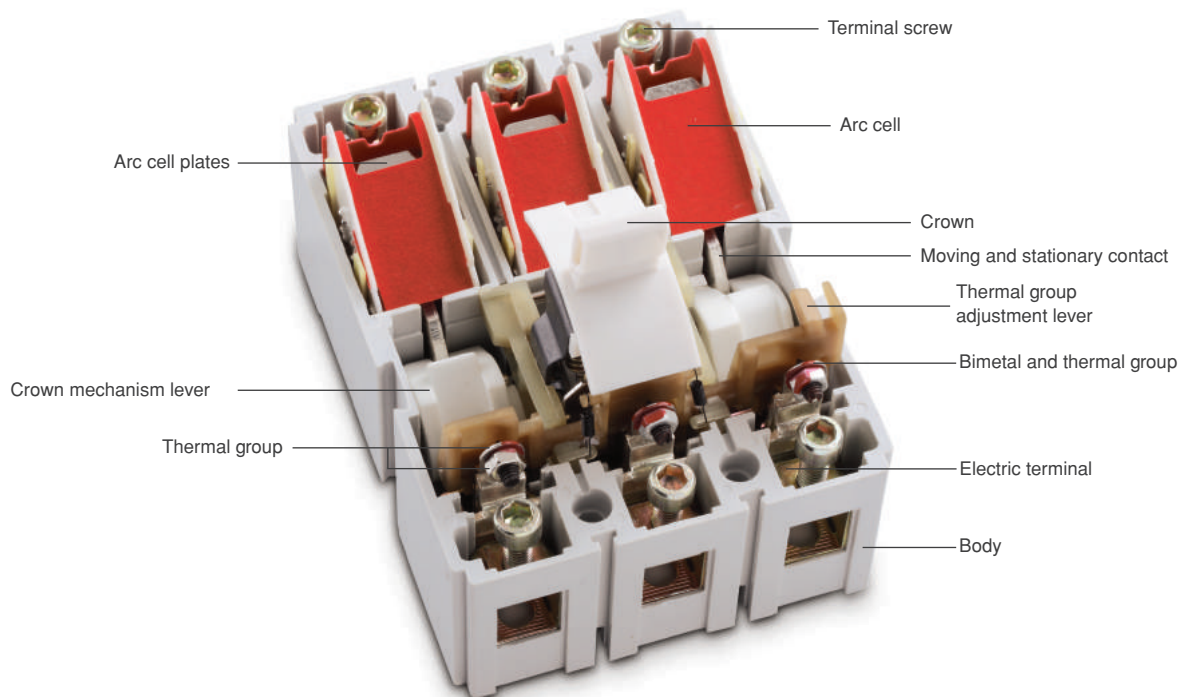


# Moulded Case Circuit Breakers (MCCBs)

## Moulded Case Circuit Breakers (MCCBs) Product Specifications

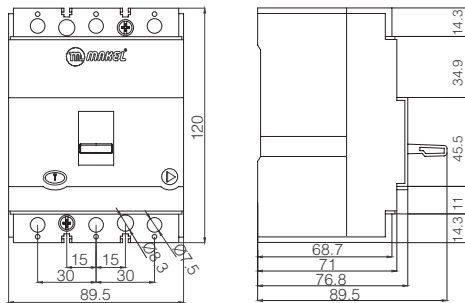


## Compact Switch Dismantled Product

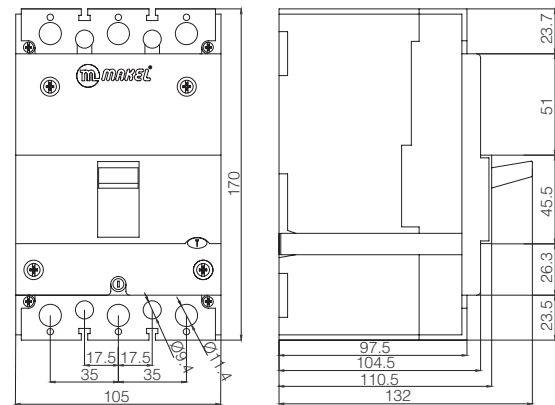


## Technical Drawings

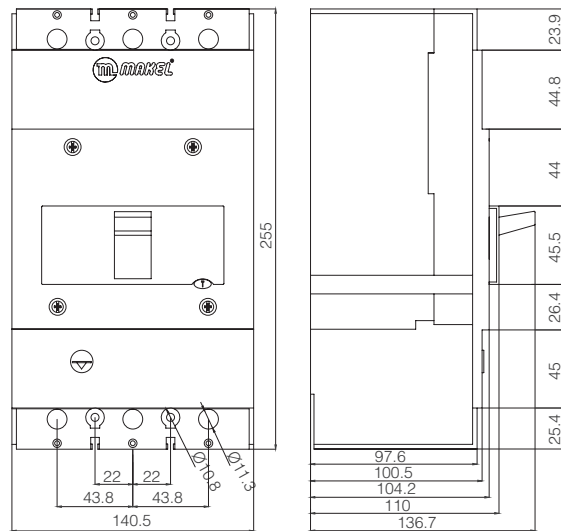
160 A Moulded Case Circuit Breakers (MCCBs)



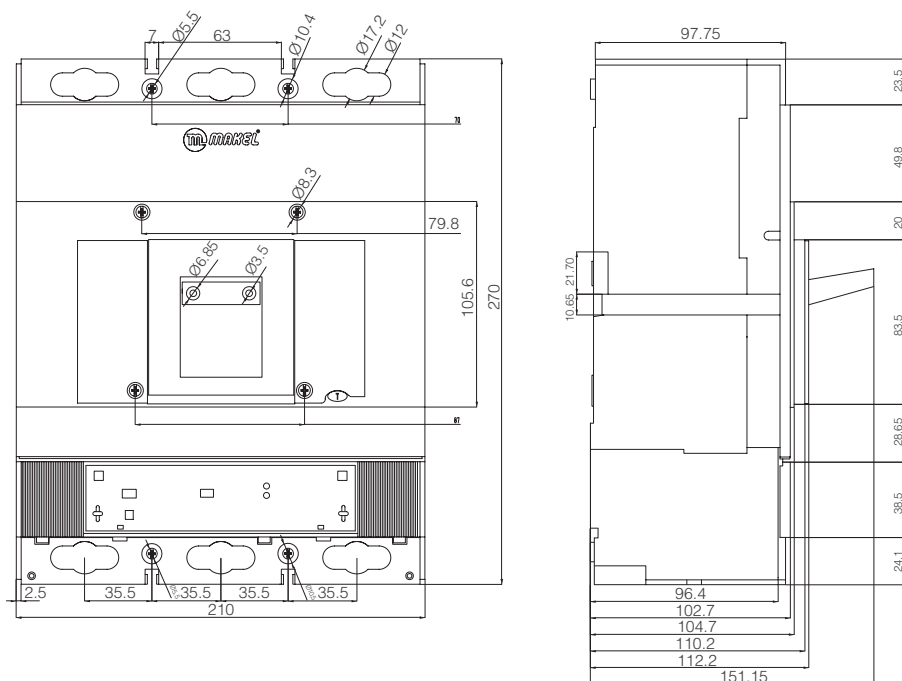
250 A Moulded Case Circuit Breakers (MCCBs)



400 A Moulded Case Circuit Breakers (MCCBs)



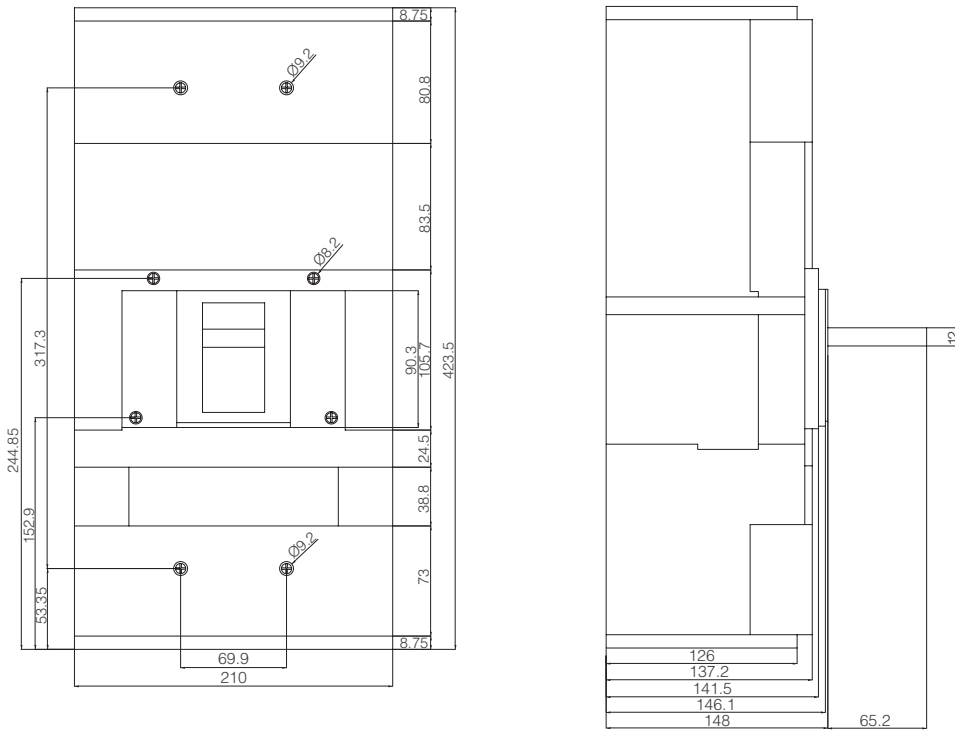
500 A, 630 A, 800 A Moulded Case Circuit Breakers (MCCBs)



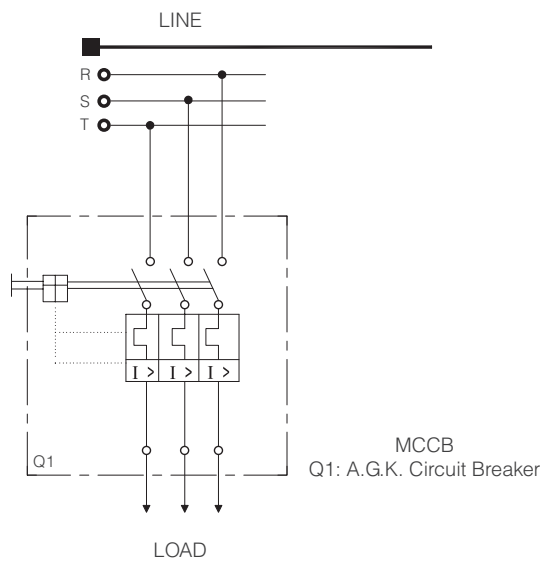
# Moulded Case Circuit Breakers (MCCBs)

## Technical Drawings

1000 A, 1250 A, 1600 A Compact Circuit Breaker (MCCB) (Electronic Type)



## Wiring Diagrams



# Moulded Case Circuit Breakers with Residual Current Circuit Breaker (LCCB)

The circuit breakers are mechanical assemblies for turning the circuit on and off in normal operational conditions while cutting the circuit in abnormal conditions (short circuit and over circuit). Compact switches are in low voltage circuit breaker class with thermal and magnetic protection.

Makel Compact Switches are produced in accordance with IEC 60947-2 standards and they are used in energy distribution tables and their transmission lines for safe protection against over currents and instantaneous short circuits. Putting safety as a priority, Makel isolates all the contacts carrying voltage.

Provided with a product range from 40 A to 800 A, Makel Compact Switches comes with magnetic and thermal opening mechanisms thus providing high safety and quality together.

In the electric circuits the arisen ground leakage current including very small values (30mA) is quite dangerous in terms of safety and fire. Additional protection must be done against small ground leakage currents because normal circuit breakers cannot feel these small leakages. To electronic circuit breakers the ground leakage protection system may be added externally without an additional mechanism. Protection in this system are made with sensitivity  $(0,1-1) \times I_n$ . In non-electronic breakers and in electronic breakers which need protection lower than above value, system is protected with Makel LCCB with leakage protection to trip off in the case of ground leakage currents, before LCCB must be installed with together or one of the remote shunt release or auxiliary contact blocks.

30 mA value current protection switch for human life protection and a (100-300-500-1000)mA value current protection switch for fire protection shall be used.

## Points of Caution During Installation

- ▶ The fixture that is to be connected must be grounded
- ▶ The neutral line of the fixture that is to be connected must be insulated.
- ▶ The Residual Current Protected Compact Breakers must be attached according to the panel electrical inlets. The power entry must be installed from the network entrance of the compact breaker. In panels with power inlets from the bottom the product must be connected from the network entrance. If a connection is made from the load section the residual current unit and trip coil may be damaged.



## General Specifications

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- ▶ 100% domestic production, Made in Turkey
- ▶ 29 different leakage current protected compact switch product types
- ▶ Abnormal heat and flame resistant body
- ▶ 960 °C hot wire test resistant products
- ▶ BMC nonflammable, VO thermoplastic raw materials, Halogen free
- ▶ Stylish and ergonomic design
- ▶ Adjustable leak current and time span
- ▶ Products resistant to mechanical and electrical impacts
- ▶ Products with aesthetic, transparent polycarbonate cover
- ▶ Products passing 5000 V dielectric and isolation tests
- ▶ Products passing short circuit tests with 35 kA, 50 kA, 65 kA options
- ▶ Wide product ranges from 40 A to 800 A
- ▶ Protection IP40

## Fields of Application

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Production facilities, heavy duty industrial facilities, transformer, mains electricity distribution centers, buildings, sites, household and similar environments

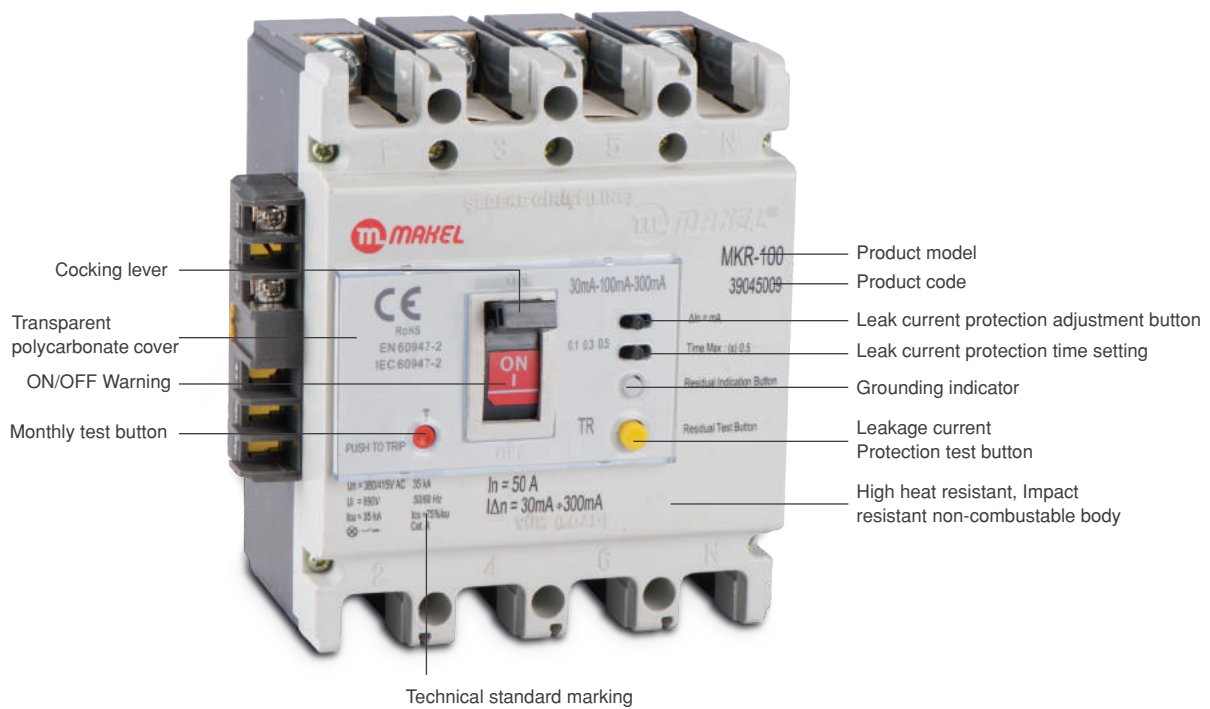
## Technical Specifications

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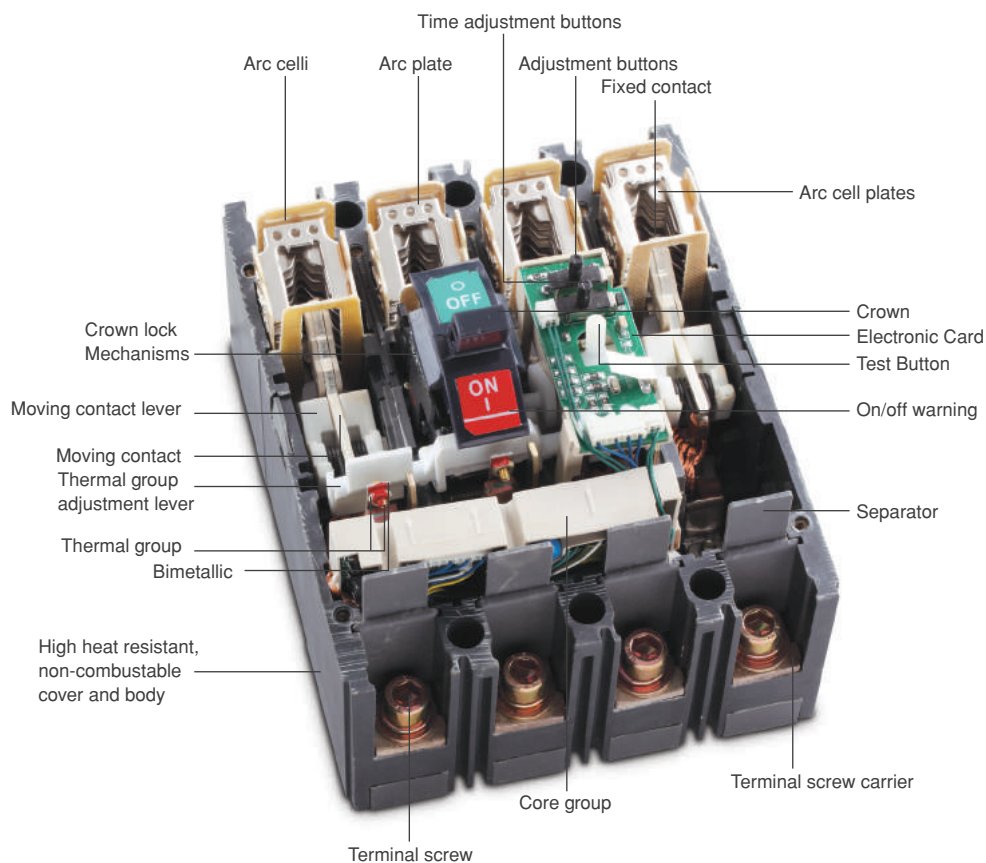
Rated Current In (A)	: 40 A, 50 A, 63 A, 80 A, 100 A, 125 A, 160 A, 225 A, 250 A, 400 A, 500 A, 630 A, 800 A
Rated Voltage Un (V)	: 380/415 V AC
Protection Method	: Thermal/Magnetic, Leakage Current
Rated Working Frequency (Hz)	: 50/60 Hz
Cutting Capacity Inc (kA)	: 35 kA, 50 kA, 65 kA
Number of Poles	: 4P
Environment Air Temperature (°C)	: -5 / +40 °C
IP Protection Level	: IP 40
Assembly Method	: fixed
MCCB Type	: Electromechanical, AC
Conductor Cross-section (mm <sup>2</sup> )	: 1mm <sup>2</sup> -100mm <sup>2</sup>
Applicable Standard	: TSE EN 60947-2



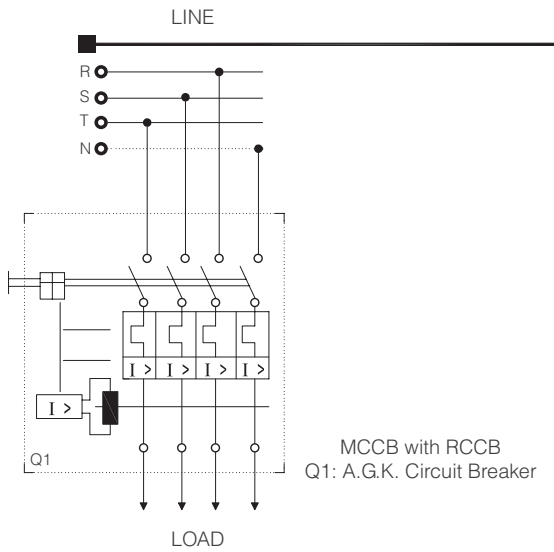
## Leakage Current Protected Compact Switch Product Features



## Leakage Current Protected Compact Switch Dismantled Product

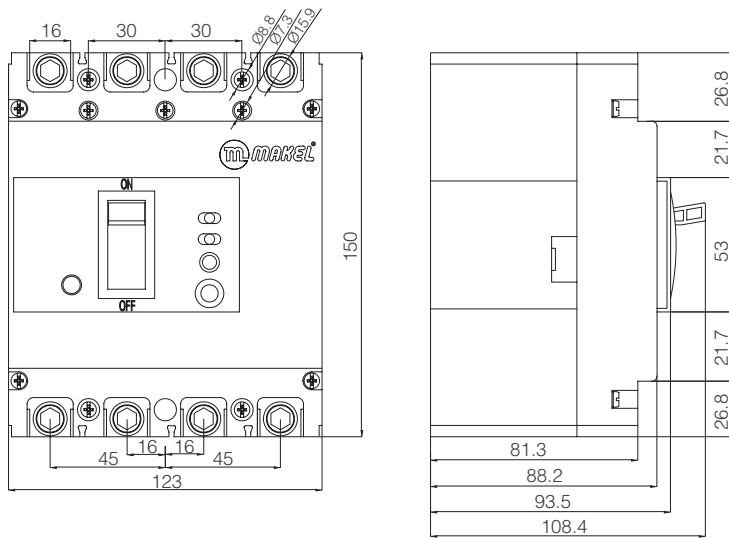


## Wiring Diagrams

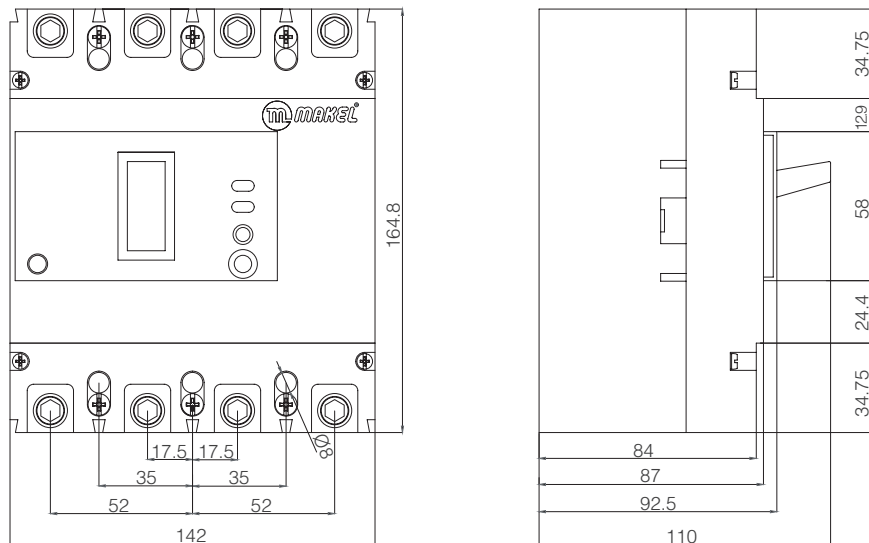


## Technical Drawings

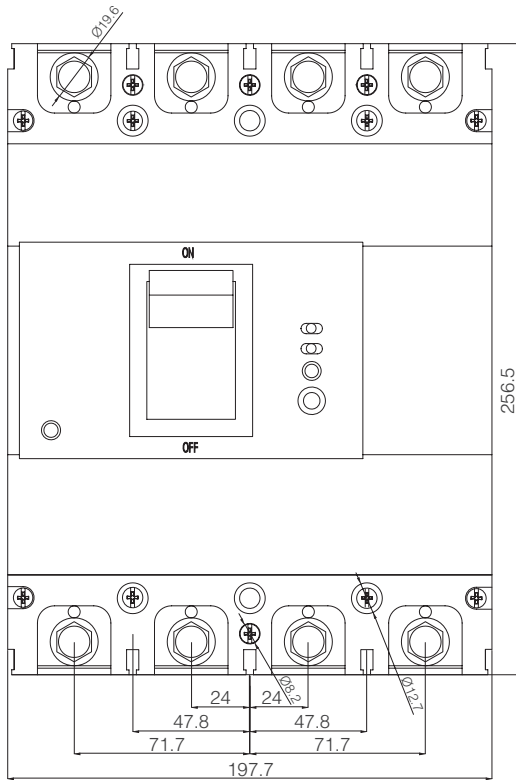
100 A Leakage Current Protected Compact Switch



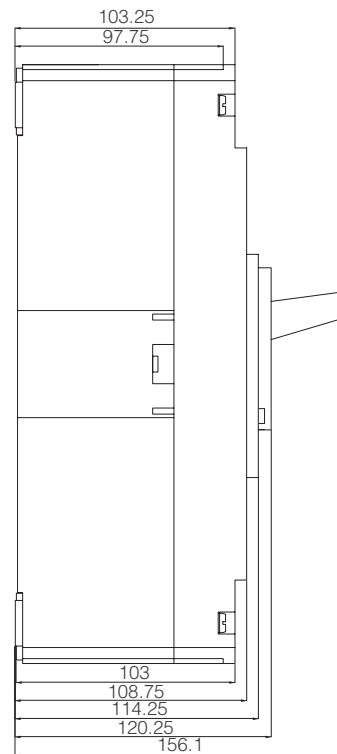
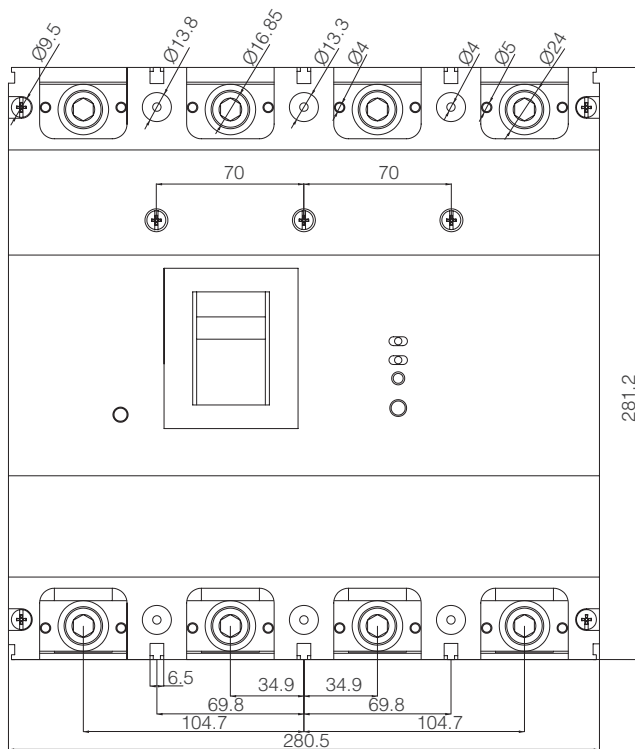
225 A Leakage Current Protected Compact Switch



400 A Leakage Current Protected Compact Switch



500 A, 630 A, 800 A Leakage Current Protected Compact Switch



## Low Voltage Contactors

---

Makel Contactors are connection devices that enable the opening and closing of an electrical circuit which have a normal position of on. The most important feature that distinguishes Makel Contactors from other switch types in terms of operation and type of use is that it can open and close the circuit more frequently and by remote control.

Contactors are generally comprised of a main conductor component and a switch triggering mechanism. The main current conductor components, main and auxiliary contacts are the separator (arc extinguishing cells) and connection ends that are used on the high amperage contactors. The triggering system components are comprised of iron core, bobbin and spring.

Contactors are produced and tested according to IEC 60947-4-1, TS EN60947-4-1 standards.

The contactors cannot be used on their own as circuit protection elements but when used together with thermal relays they protect the circuit against excessive current loads.

## Fields of Application

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Especially used in turning over electrical motors, compensation, activating and inactivating heating and cooling systems, being processed in overload, in the passing of current from a normal electrical circuit, closing and transmitting circuits. Contactors have a remote control feature.

Contactors are produced in accordance with the IEC 60947-4-1, TS EN60947-4-1 standards and CE and RoHS directives.

The main and auxiliary contact blocks of Makel Contactors are easily attached and removed. Also since Makel contactors have three end bobbins they are easy to assemble and provide connection flexibility.

The contactor bobbins are specially designed so that the nominal bobbin voltage can be safely controlled between 0.8 to 1.1 fold (176 V-240 V AC). Since our contactors are double bobbin insulated, sound, heat, noise, contact vibration and shifting does not occur.

The contactors work efficiently between -5°C and 55°C ambient temperature and are mounted on panels with screws or standard 35 mm DIN rails. The AC Contactors are resistant to voltage up to 1000 V with the raw material that is used.

## The Main Tasks of Contactors

---

Contactors must carry high current values without any kind of deterioration or fusion.

This feature is dependent on the quality of contactors (contact surface technology and fusion technology).

Contactor selection is especially important in AC-3 class and condenser commands.

When the contactor is off the current that flows over the contactors causes them to get heated. This heating has been classified in international standards. According to the international IEC 60947-4-1 and TS EN60947-4-1 standards when constant thermal current (I<sub>th</sub>) is passed through the main contactors for 8 hours the maximum increase in heat on the contactor terminals should not exceed 65 K.

When the contactor is cutting of the current an electrical arc is formed between the separating contacts. An arc is a flow of electrons and ions that disconnect from the material due to thermal effect.

Arc temperature can reach thousands of degrees which are far beyond the temperature that the cutting cells and metals and insulators used in the production of contactors can withstand.

Therefore the arc that takes place during the opening and closing of contactors must end as quickly as possible

This is why arc cells are used in contactors just like in circuit breakers for high voltages.

## The Selection and Categories of Use for Contactors

---

On one of the most important points in contactor selection is to analyze the load that will be used well and determine the characteristic sizes of sudden loads.

The categories of use for contactors are determined by the opening current, cutting off current and power factors of the contactor and the AC class under the categories of use means contactors operating under alternative current while the DC class means working under the direct current.

According to the international IEC 60947-4-1, TS EN60947-4-1 standards the categories are AC1, AC2, AC3, AC4, AC5, AC6, AC7, AC8.

**AC1 - Use Category:** Alternative current loads that draw active loads and have a power factor between 0.95 and 1 like heaters are in this class.

**AC2 - Use Category:** Used in the commanding of asynchronous ringed motors. Throughout the progress of the motor 2.5 times the nominal current is drawn, the main contacts of the contactor are designed to handle this current.

**AC3 - Use Category:** Used in the commanding of asynchronous caged motors. The most common among the use categories. They are used by many instruments like elevators, conveyors, escalators, coolers and pumps.

**AC4 - Use Category:** Commands the braking in reverse currents and intermittent operation of asynchronous ringed motors and asynchronous caged motors. At the moment of start up the motors draw 6-7 times the nominal current. AC4 class contactors have been designed to be able to go on and off at this current value.

**AC5 - Use Category:** Used in the switches of control arrangements for electrical discharge and incandescent filament lamps.

AC-5a AC current switches of discharge lamps

AC-5b AC current switches of incandescent filament lamps

**AC7 - Use Category:** Used in home appliances, similar applications and low inductive load systems.

**AC8 - Use Category:** Used in the control of impermeable cooling compressor motors with manually set excessive load releasers and automatically returning to start position.

AC-8a AC current control of hermetic type compressor motors equipped with manual reset thermal relays

AC-8b AC current control of hermetic type compressor motors equipped with automatic reset thermal relays





# Three Poles Power Contactors

## Technical Specifications

### AC Contactor

	<b>M06 -6A</b>	<b>M06 -9A</b>	<b>K09-9A-1</b>	<b>K09 12A</b>	<b>KNC1 -0911</b>	<b>KNC1 -1211</b>	<b>KNC1 -1811</b>
Use Category	AC 3	AC 3	AC 3	AC 3	AC 3	AC 3	AC 3
Nominal Current (A)	6	9	9	12	9	12	18
Nominal Insulation Voltage (V)	690	690	690	690	690	690	690
Nominal Resistance to Impact Voltage Uimp (kV)	6	6	6	6	6	6	6
Thermal Current I <sub>th</sub> ( A)	20	20	20	20	20	20	32
Motor Control 3 ph AC A/K (kW)	220 V/1,5	1,5	2,2	2,2	2,2	3	4
	380 V/2,2	2,2	4	4	4	5,5	7,5
	660 V/3	3	4	4	5,5	7,5	9
Mechanical Life (A/K/A/K (Hour))	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000
Electrical Life (A/K/A/K (Hour))	100 000	100 000	100 000	100 000	100 000	100 000	100 000
Number of Auxiliary Contacts	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK
Conductor Section (mm <sup>2</sup> )	1	1	1	1	1,5	1,5	2,5
Metric Bolt (M)	M3	M3	M3	M3	M3,5	M3,5	M3,5
Max. tightening torque (Nm)	0,6N	0,6N	0,6N	0,6N	0,8N	0,8N	0,8N
Operation Frequency (Hz)	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Protection Class	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Weight (Kg)	0,355	0,355	0,355	0,355	0,355	0,355	0,355

	<b>KNC1 -2511</b>	<b>KNC1 -3211</b>	<b>KNC1 -4011</b>	<b>KNC1-5011</b>	<b>KNC1-6511</b>	<b>KNC1-8011</b>	<b>KNC1-9511</b>
Use Category	AC 3	AC 3	AC 3	AC 3	AC 3	AC 3	AC 3
Nominal Current (A)	25	32	40	50	65	80	95
Nominal Insulation Voltage (V)	690	690	690	690	690	690	690
Nominal Resistance to Impact Voltage Uimp (kV)	8	8	8	8	18,5	22	25
Thermal Current I <sub>th</sub> ( A)	50	50	60	80	80	125	125
Motor Control 3 ph AC A/K (kW)	5,5	7,5	11	15	18,5	22	25
	11	15	18,5	22	30	37	45
	15	18,5	30	33	37	45	45
Mechanical Life (A/K/A/K (Hour))	1 000 000	800 000	800 000	800 000	800 000	600 000	600 000
Electrical Life (A/K/A/K (Hour))	100 000	80 000	80 000	80 000	80 000	60 000	60 000
Number of Auxiliary Contacts	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK
Conductor Section (mm <sup>2</sup> )	4	6	10	10	16	25	35
Metric Bolt (M)	M4	M4	M4	M8	M8	M8	M10
Max. tightening torque (Nm)	1,2N	1,2N	1,2N	3,5N	3,5N	3,5N	4N
Operation Frequency (Hz)	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Protection Class	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Weight (Kg)	0,549	0,553	1,125	1,128	1,130	1,375	1,375

## Technical Specifications

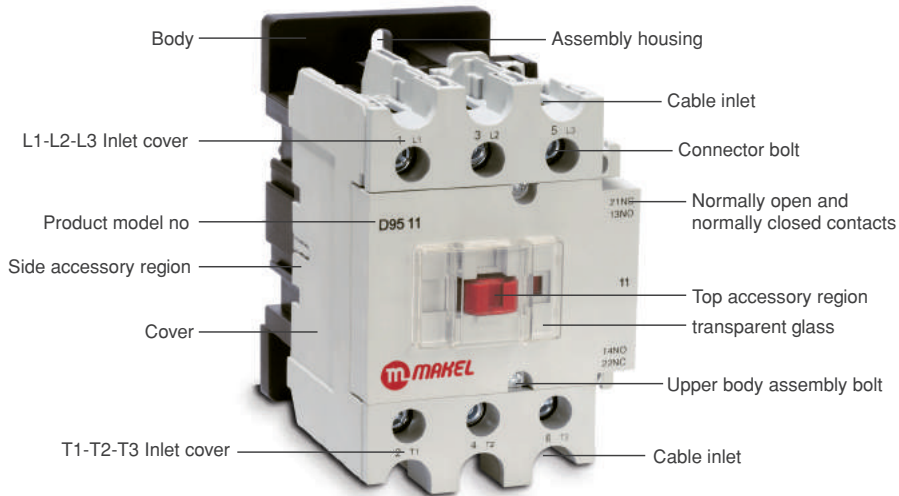
### AC Capacitive Contactor

	<b>KNC19 -09</b>	<b>KNC19 -12</b>	<b>KNC19 -18</b>	<b>KNC19 -25</b>	<b>KNC19 -32</b>
Use Category	AC - 6b	AC - 6b	AC - 6b	AC - 6b	AC - 6b
Nominal Current (A)	9	12	18	25	32
Nominal Insulation Voltage (V)	660	660	660	660	660
Nominal Resistance to Impact Voltage Uimp (kV)	6	6	6	8	8
Thermal Current I <sub>th</sub> ( A)	20	20	32	50	50
3 ph AC A/K 400/440 V (kVAr)	4	6	9	12	18
Mechanical Life (A/K/A/K (Hour))	1 000 000	1 000 000	1 000 000	1 000 000	800 000
Electrical Life (A/K/A/K (Hour))	100 000	100 000	100 000	100 000	80 000
Number of Auxiliary Contacts	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK
Conductor Section (mm <sup>2</sup> )	1,5	1,5	2,5	4	6
Metric Bolt (M)	M3,5	M3,5	M3,5	M4	M4
Max. tightening torque (Nm)	0,8N	0,8N	0,8N	1,2N	1,2N
Operation Frequency (Hz)	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Protection Class	IP 20	IP 20	IP 20	IP 20	IP 20
Weight (Kg)	0,432	0,437	0,437	0,622	0,633

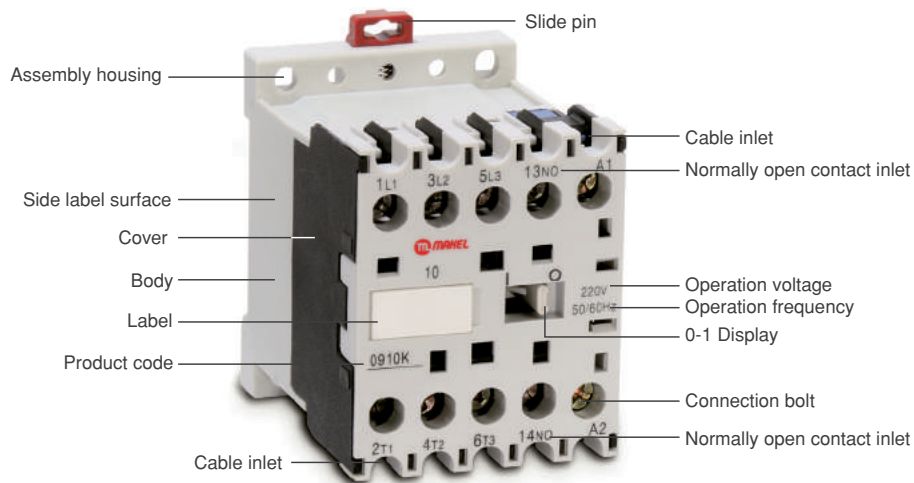
	<b>KNC19 -40</b>	<b>KNC19 -50</b>	<b>KNC19 -65</b>	<b>KNC19 -80</b>	<b>KNC19 -95</b>
Use Category	AC - 6b	AC - 6b	AC - 6b	AC - 6b	AC - 6b
Nominal Current (A)	40	50	65	80	95
Nominal Insulation Voltage (V)	660	660	660	660	660
Nominal Resistance to Impact Voltage Uimp (kV)	8	8	18,5	22	25
Thermal Current I <sub>th</sub> ( A)	60	80	80	125	125
3 ph AC A/K 400/440 V (kVAr)	20	25	30	36	45
Mechanical Life (A/K/A/K (Hour))	800 000	800 000	800 000	600 000	600 000
Electrical Life (A/K/A/K (Hour))	80 000	80 000	80 000	60 000	60 000
Number of Auxiliary Contacts	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK	1NA or 1NK
Conductor Section (mm <sup>2</sup> )	10	10	16	25	35
Metric Bolt (M)	M4	M8	M8	M8	M10
Max. tightening torque (Nm)	1,2N	3,5N	3,5N	3,5N	4N
Operation Frequency (Hz)	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Protection Class	IP 20	IP 20	IP 20	IP 20	IP 20
Weight (Kg)	1,204	1,209	1,209	1,451	1,451

# Three Poles Power Contactors

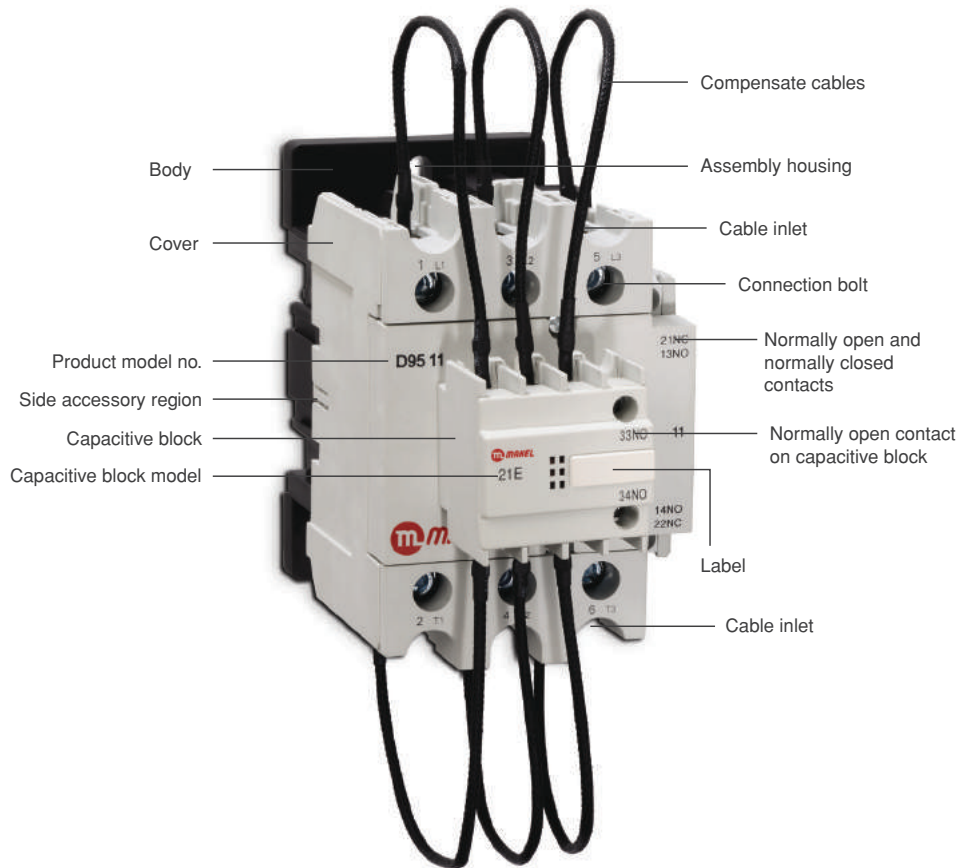
## AC Contactor Product Features



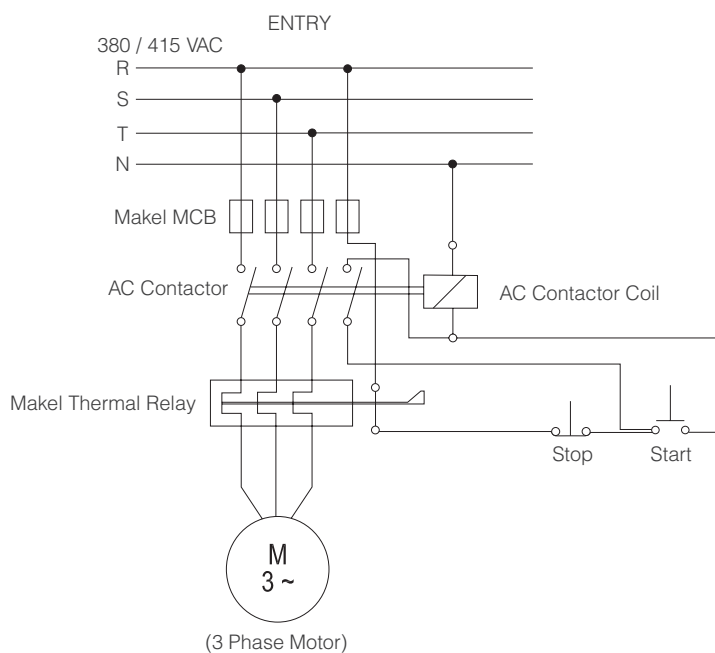
## Mini Contactor Product Features



## Product Features of AC Capacitive Contactors



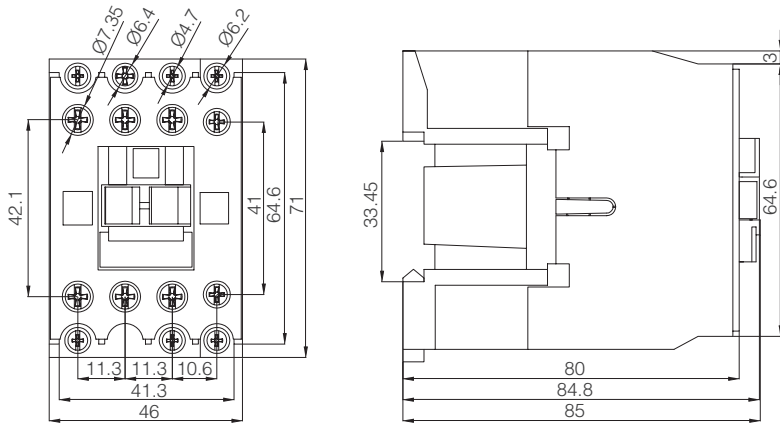
## Wiring Diagrams



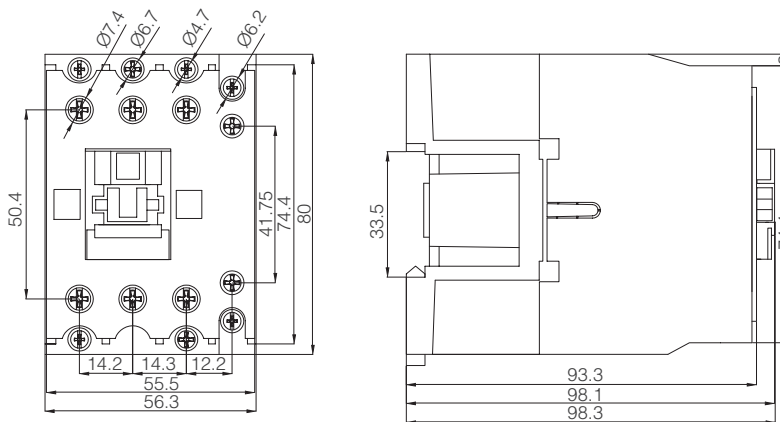
# Three Poles Power Contactors

## Technical Drawings

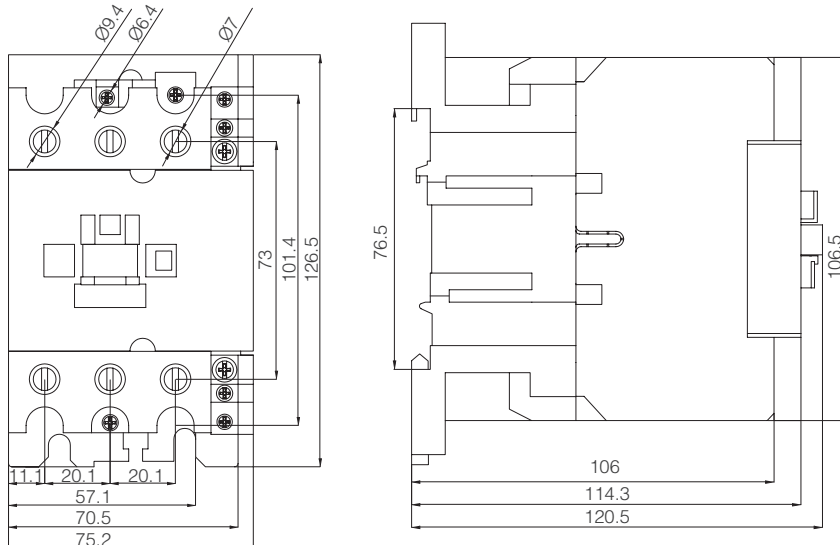
AC Contactor 18A



AC Contactor 32A

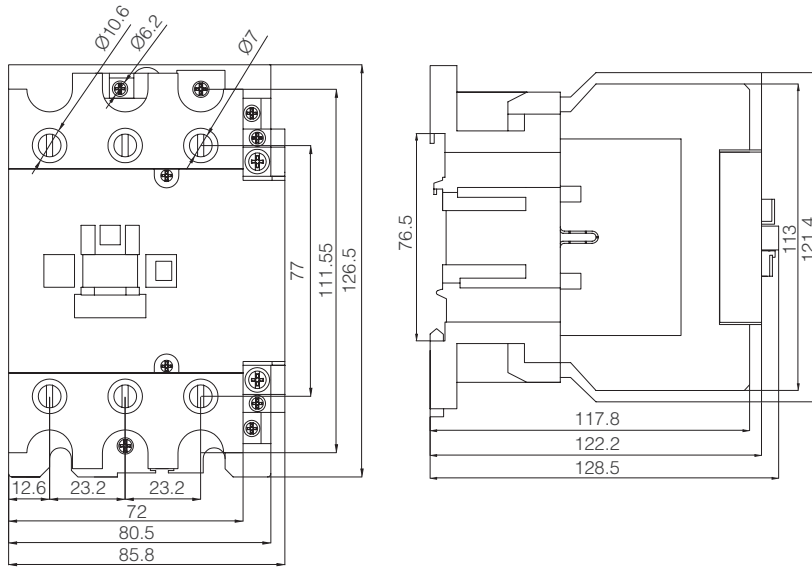


AC Contactor 65A

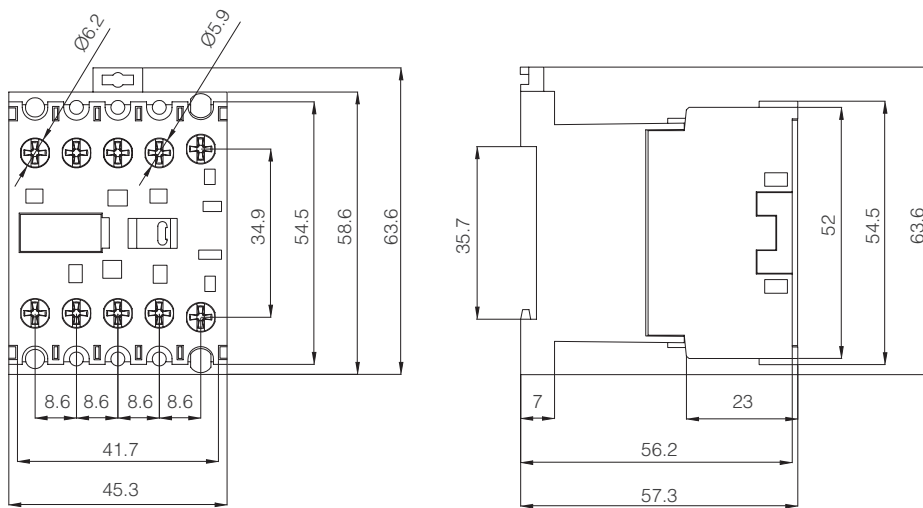




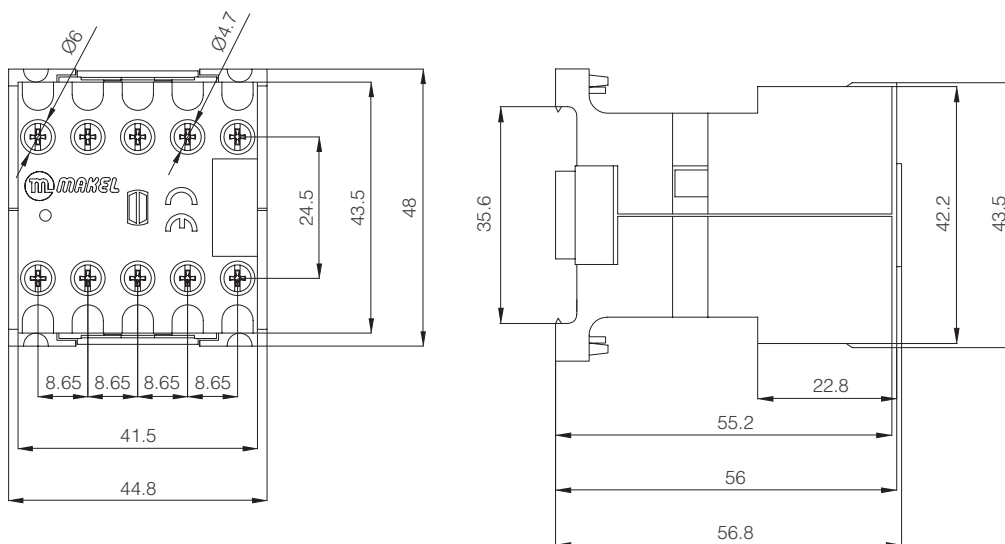
AC Contactor 95A



Mini Contactor K09



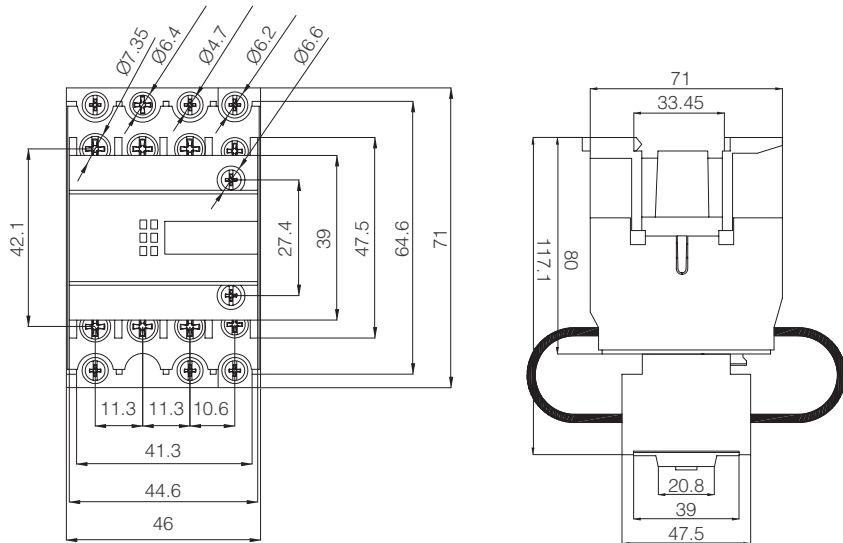
Mini Contactor M06



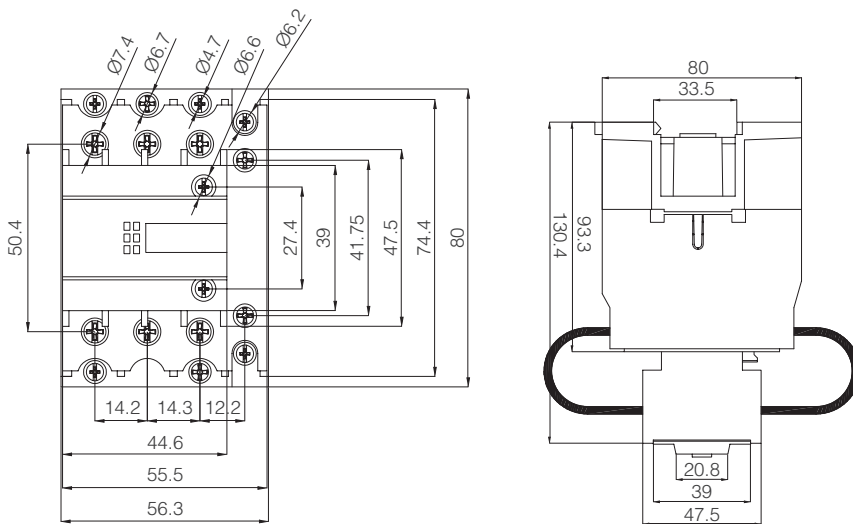
# Three Poles Power Contactors

## Technical Drawings

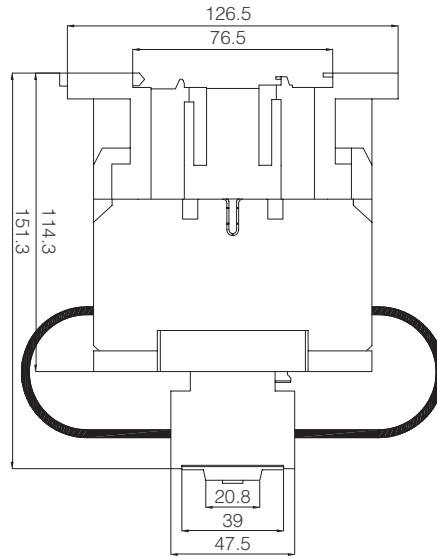
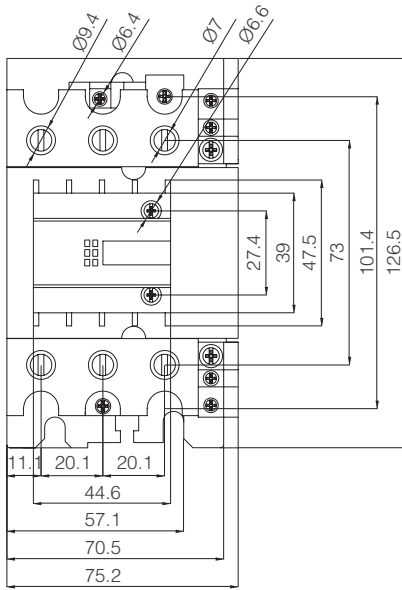
Capacitive Contactor 18A



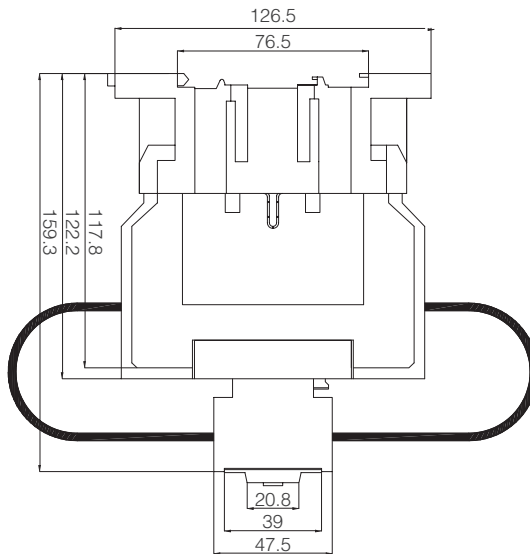
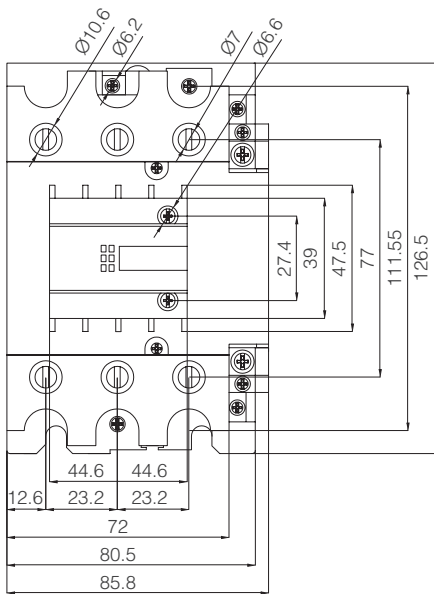
Capacitive Contactor 32A



Capacitive Contactor 65A



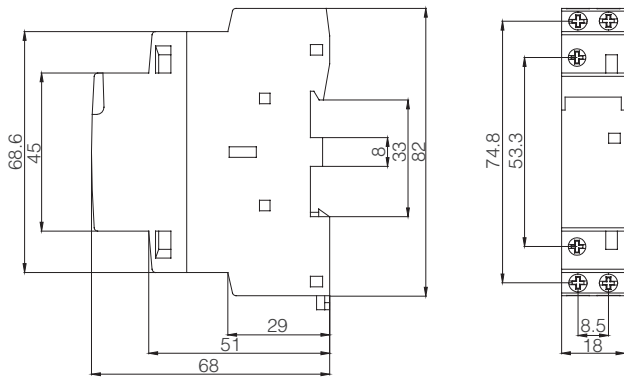
Capacitive Contactor 95A



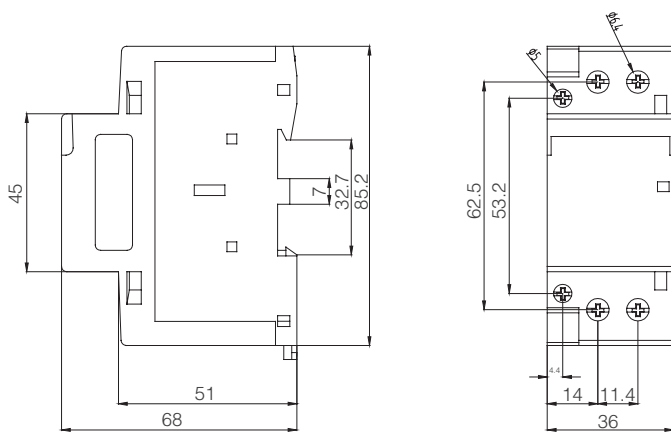
# Three Poles Power Contactors

## Technical Drawings

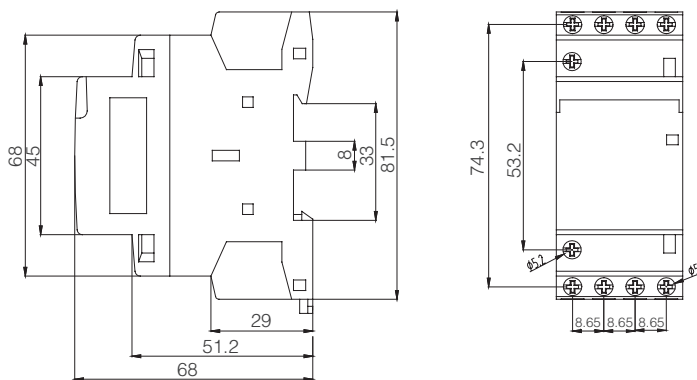
KNHC-16-20-25 Modular Contactor 16-20-25A 230V AC 2-pole 2NO-1NO+1NC-2NC



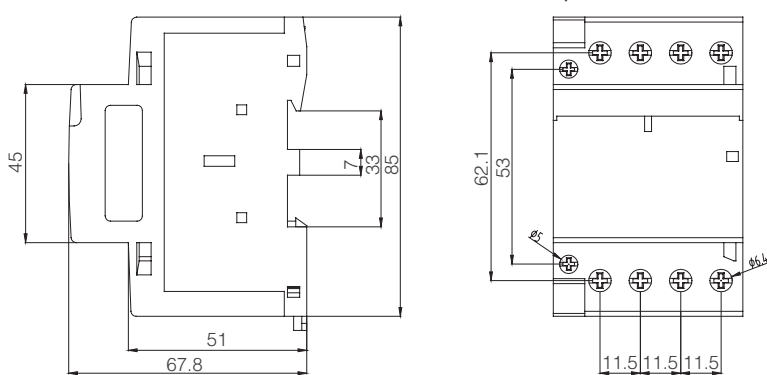
KNHC-40-63 Modular Contactor 40-63A 230V AC-pole 2NO-1NC+1NC-2NC



KNHC-16-20-25 Modular Contactor 16-20-25A 230V AC 4-pole 4NO-2NO+2NC-4NC-3NO+1NC-3NC+1NO



KNHC-40-63 Modular Contactor 40-63A 230V AC 4-pole 4NO-2NO+2NC-4NC-3NO+1NC-3NC+1NO



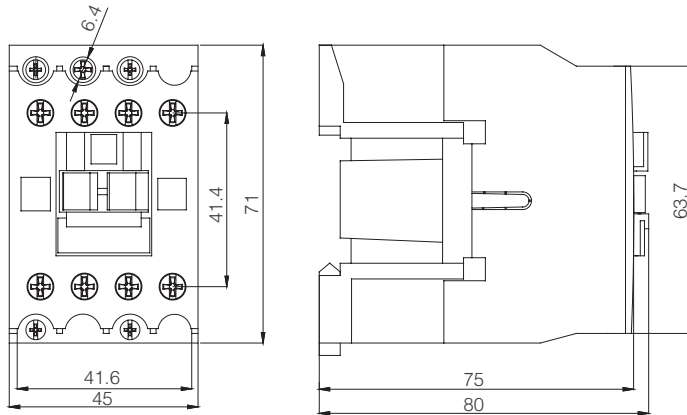
# 4-Pole Power Contactors

## Technical Specifications

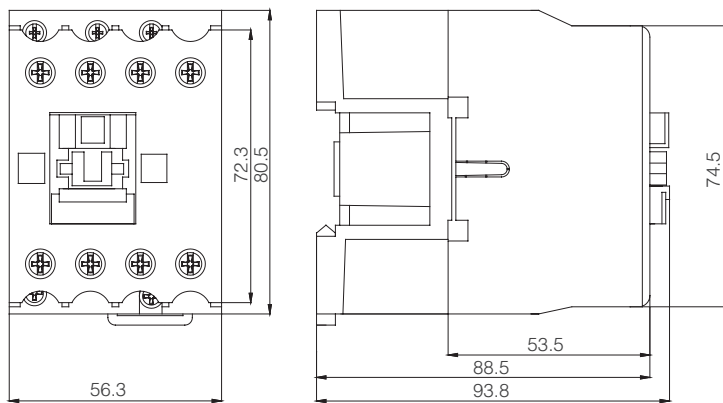
Nominal Power kW (380V/415V) 50 HZ	: 4, - 5,5 - 7,5 - 11 - 15 - 18 - 22 - 30 - 37 - 45
AC3 Nominal Current (A)	: 9, 12, 18, 25, 32, 40, 50, 65, 80, 95
ACI (I <sub>th</sub> ) Thermic Current (A)	: 20, 32, 50, 60, 80, 125
Coil Voltage (V AC)	: 220V
Auxiliary Contact Count	: 1NA+1NK

## Technical Drawings

AC Contactor KNC1 12A 4-pole NC (220V AC)



AC Contactor KNC1 25 A 4-pole NC (220V AC)

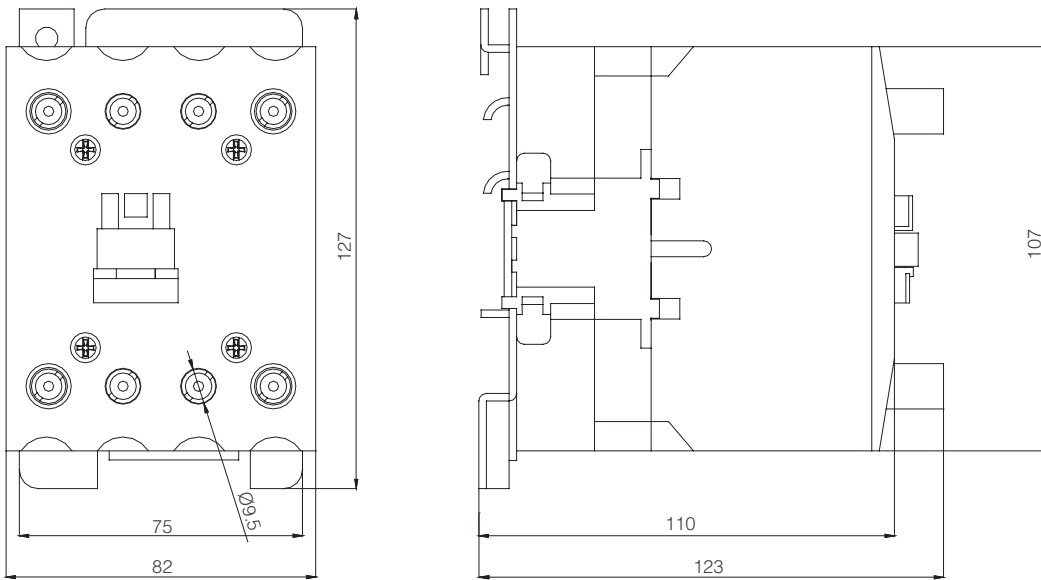




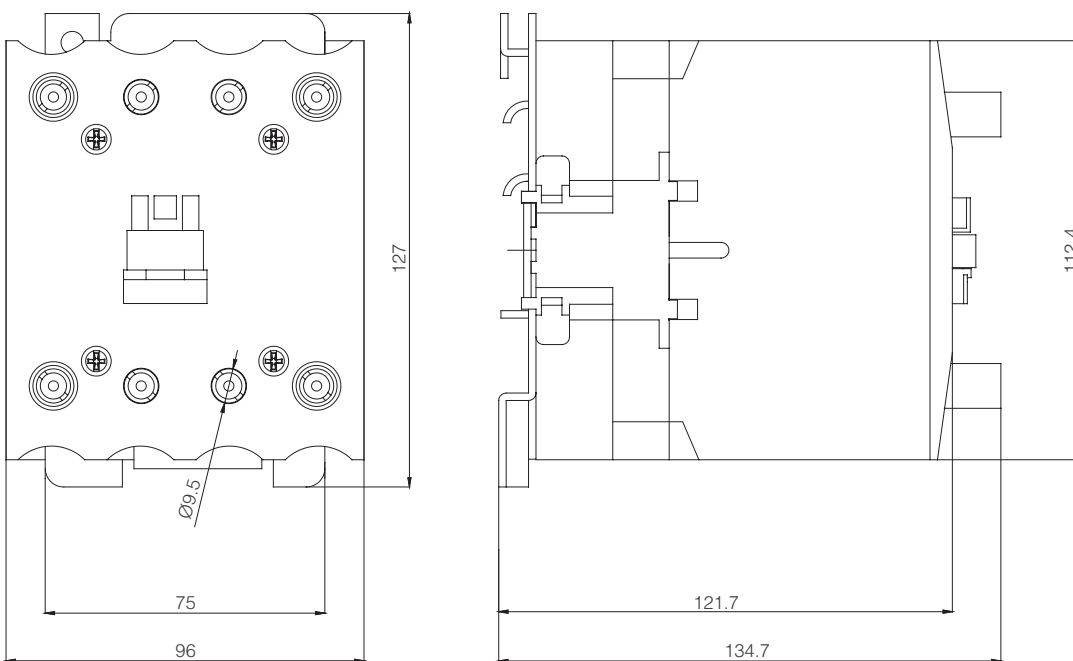
# 4-Pole Power Contactors

## Technical Drawings

AC Contactor KNC1 40-50-65A 4-pole NC (220V AC)



AC Contactor KNC1 95 A 4-pole NC (220V AC )

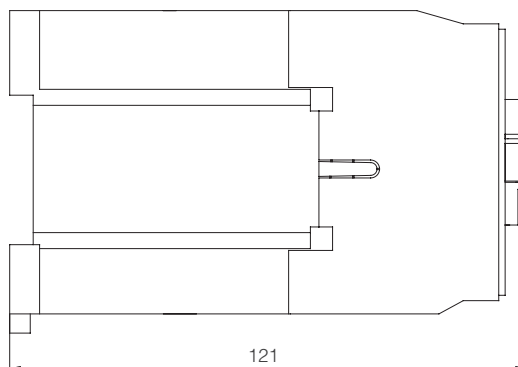
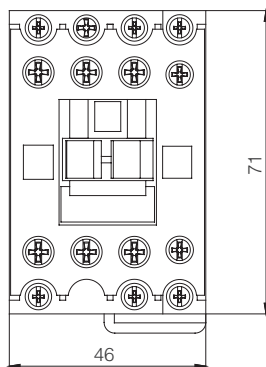


## Technical Specifications

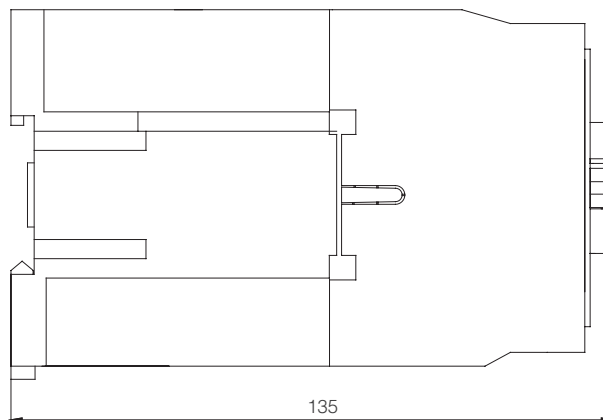
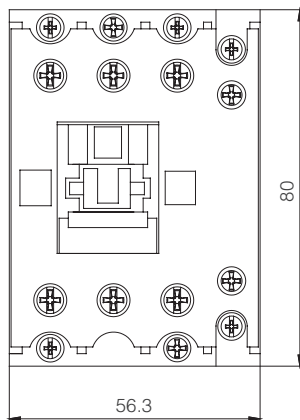
Nominal Power kW (380V/415V) 50 HZ	: 4, - 5,5 - 7,5 - 11 - 15 - 18 - 22 - 30 - 37 - 45
AC3 Nominal Current (A)	: 9, 12, 18, 25, 32, 40, 50, 65, 80, 95
ACI (Ith) Thermic Current (A)	: 20, 32, 50, 60, 80, 125
Coil Voltage (V AC)	: 24V
Auxiliary Contact Count	: NA+NK

## Technical Drawings

DC 24V Contactor 18A

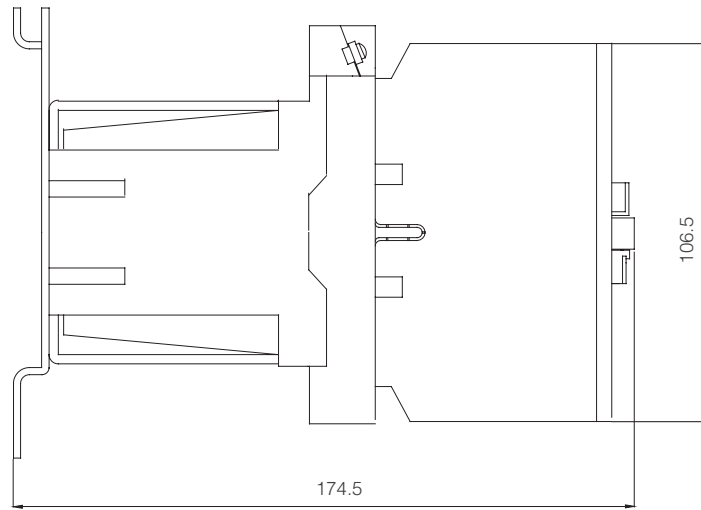
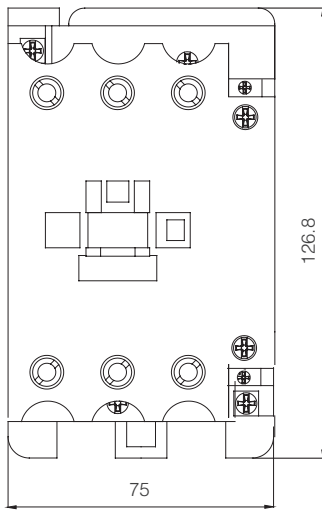


DC 24V Contactor 32A

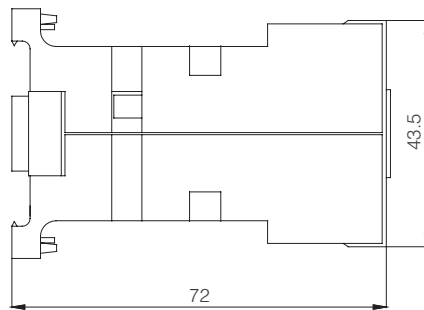
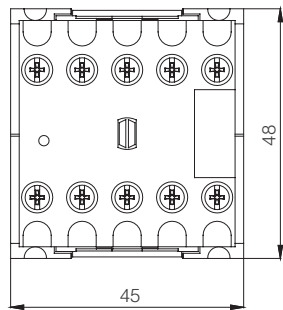


## Technical Drawings

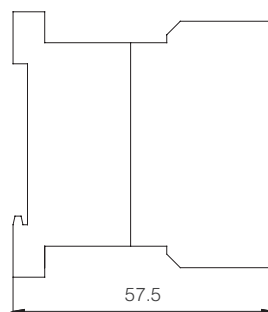
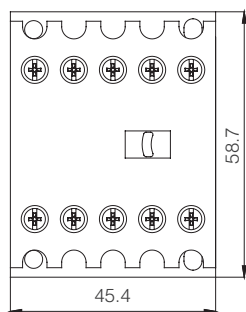
DC 24V Contactor 65A



DC Mini Contactor M06



DC Mini Contactor K09



# Motor Protection Starters

The Makel Motor Protection Breakers are electrical switch products that thermal-magnetically protect the motor in situations that don't require the remote control of electrical motors, from start phase loss, overload and short circuits.

They are produced in accordance with TS EN 60947-4-1 standards, in 3kA short circuit breaker capacity in various nominal currents from 0.1A up to 32 A and CE and RoHS certified in compliance with the ISO 9001:2000 management system.

The Makel Motor Protection Breakers are equipped with two opening elements which are thermal-overload and magnetic short circuit current. The most important features that set the Makel Motor Protection Breakers apart from circuit breakers and automatic fuses are:

- By breaking all the phases at the same time when overload or short circuit occurs, it protects the motor and system.
- By turning off the motor in a very short time (millisecond) when a short circuit occurs it prevents possible damage.

The Makel KNS 12 type breakers have been designed especially for motor protection. They are stabilized using TS EN 60947-4-1. KNS 12 type breakers are used in the protection of electrical motors up to 15kW (380/400). Any user needs can be accommodated with a variety of accessories.

## General Specifications

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Makel Motor Protection Breakers (low voltage motor starters) are produced from 0.1A to 32 A in accordance with the TS EN 60947-4-1 standard. Motor protection breakers are AC motor starters that start motors in order to get them to the right speed, make sure they operate continuously, protect them against heat loads in operation and enable the protection of relevant circuits and motors by cutting off the motor's supply voltage. They protect the motor circuits they are attached to both thermally and magnetically. The Motor Protection Breakers are used in protection against overload and short circuits in motors up to 15kW (380V).

## Features of the Motor Protection Breakers

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- ▶ Motor protection is achieved with the thermal magnetic protection instruments within the motor protection breakers.
- ▶ The opening threshold of magnetic elements (short circuit protection) is equal to 13 times the value of the maximum motor protection breaker used for thermal opening currents and cannot be set to another value.
- ▶ The thermal elements (overload protection) have automatic protection against changes in ambient temperature.
- ▶ The nominal operation current of the motor is shown with a button that has different levels. Personnel protection has also been provided.
- ▶ All electrical parts are protected against direct contact.
- ▶ By adding a low voltage opening unit the power can be cut off when the voltage of the motor protection breaker gets low. Since the user needs to push the "I" start button to restart the motor the machine is protected against suddenly moving forward when normal voltage is provided.
- ▶ By adding a shunt opener the device power can be cut off remotely.
- ▶ Both the open and closed motor protection breaker operators can be locked with up to 3 locks on the "O" stop position. Since they are suitable for insulation these motor protection breakers in open position provide sufficient insulation and show the actual location of the operators and moving contacts.

## Fields of Application

The fields of application for the Makel Motor Protection Breakers are varied. Mainly they are used in starting electrical motors, compensation, activation and deactivation of heating and cooling systems, function under excessive loads, passage of current through a normal electrical circuit and in closing and transmit circuits and systems. Motor protection breakers are able to be operated remotely.

With a wide range of accessories and product diversity all user needs are fulfilled. If the Makel Motor Protection Relays (with PTC) are used with the Motor Protection Breakers the motor's temperature is maintained under control as well.

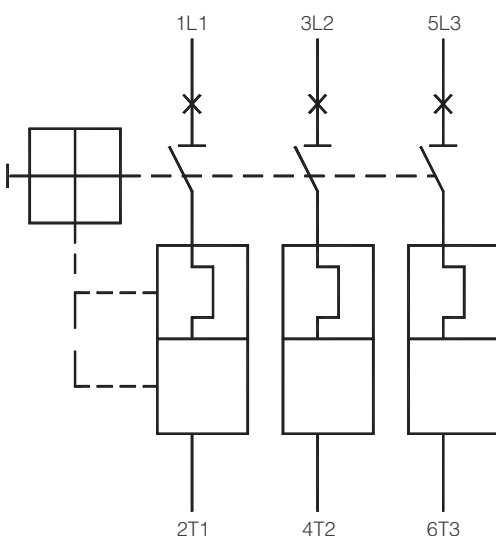
The accessory blocks of motor protection breakers are easily attached and detached. Also the motor protection breakers have a storage box for wet situations. Easy assembly and connection flexibility has been provided.

The motor protection breakers work with full efficiency in ambient temperatures between -5°C and 55°C and are mounted on panels using bolts or standard 35 mm DIN rails. The motor protection breakers are resistant to 1000 V voltage with the raw materials that are used.

## Technical Specifications

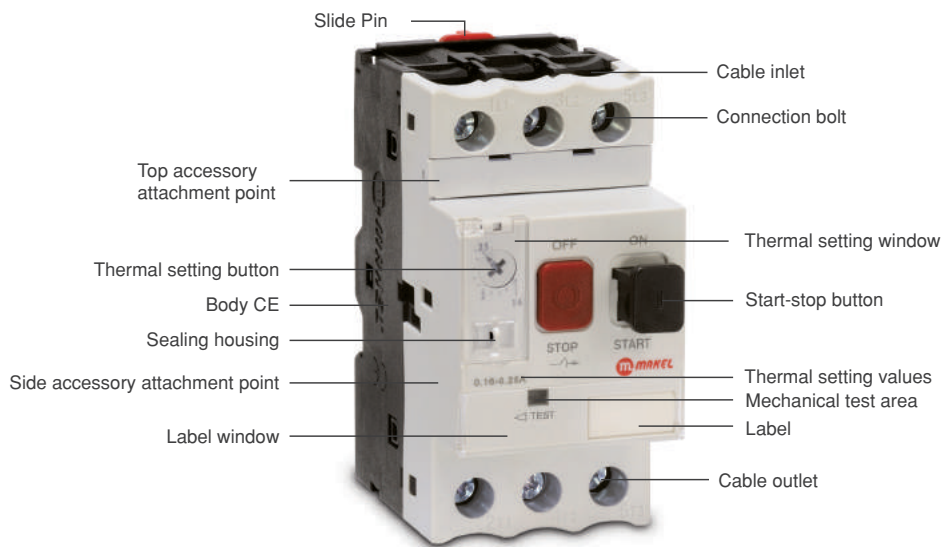
Features	KNS 12
Use Class	AC 3
Number of Poles	3 Poles
Nominal Voltage (V) AC	380V/415 V
Nominal Current (A) AC	from 0.1 A to 32 A
Nominal Insulation Voltage (V)	690
Nominal Impact Resistance Voltage Uimp (kV)	6
Thermal Current I <sub>th</sub> max. = I <sub>n</sub> max. (A)	32
Mechanical Life (operation)	1 000 000
Electrical Life (according to AC 3 class)	100 000 operation
Short Circuit Breaking Capacity (I <sub>cu</sub> ) 400 V	3 kA
Operation Short Circuit Breakage Capacity (I <sub>cs</sub> )400V	> (8-12) *I <sub>n</sub>
Min. – max. conductor section (mm)	0.75...4
Min. – max. tightening torque(Nm)	2—3
Operation Frequency (Hz)	50/60 Hz
Protection Class	IP 20
Useful Life	10 Years
Weight (Kg)	0.260

## Wiring Diagrams

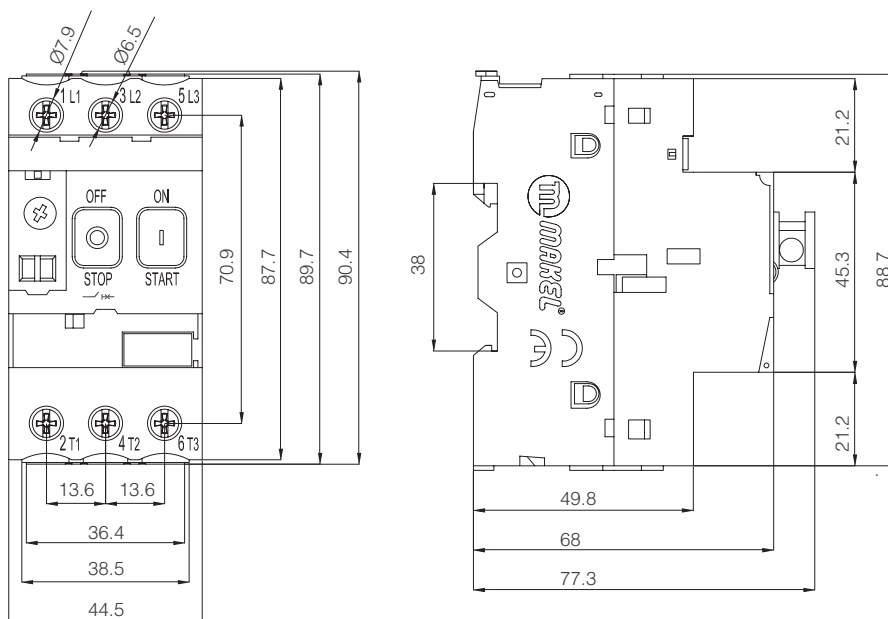




## Motor Protection Breaker Features



## Technical Drawings



# Thermal Relays

The Makel Thermal Relays protect the motor by inactivating the motor through the contactor when there is an overload or one of the phases is cut off.

Thermal relays are produced in accordance with TS EN 60947-4-1 standards, in 3kA short circuit breaker capacity in various nominal currents from 9A up to 95 A and CE and RoHS certified in compliance with the ISO 9001:2000 management system.

Thermal relays are produced in compensation against ambient temperatures and sensitive to phase loss. Compensated against ambient temperatures, thermal relays operate within limits without being affected by ambient temperatures (the thermal relays specified in the standard).

In the event of one of the phase conductors detaching the motors are left to 2 phases and may draw more voltage than normal causing them to burn. To prevent this the thermal relays, which are sensitive to phase loss, open faster than usual when one of the phases is cut off to protect the motor.

**Auxiliary Contacts:** The opener activates two contacts, one that closes and one that cuts off. The cut off contact inactivates the motor contact to cut off the power going to the motor whereas the closing contact is used for other purposes.

**Reset Button:** Used in automatic and manual setting. In (A) automatic setting after the bimetals have cooled down the thermal relay automatically makes the contactor activated. In (M) manual setting the reset button must be pressed after the bimetals have cooled in order to reactivate the contactor.

**Test Button:** Whether or not the motor contactor has been inactivated is checked by pressing the test button.

**Stop Button:** Used to inactivate the motor contactor in emergency situations.

## General Specifications

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- ▶ 1NO +1NC auxiliary contact
- ▶ Easy assembly
- ▶ Bimetal opening feature
- ▶ Phase line protection
- ▶ Release display
- ▶ Current setting
- ▶ Automatic and manual reset button
- ▶ Test and stop button
- ▶ Unaffected by motor starting
- ▶ Mountable on DIN rail with the help of an electrical terminal block
- ▶ Useful Life: 10 years



## Fields of Application

Makel Thermal Relays have many varied fields of application.

Thermal relays are electrical switch products which protect the electrical circuit they are attached to from excessive currents. They are produced in compliance with the international IEC 60947-4-1 and TS EN 60947-4-1 standards and the ISO 9001:2000 management system and are CE and RoHS certified.

The bimetal material in thermal relays heats up and shows mechanical change when the electrical equipment the relays are attached to are exposed to excessive currents, one of the phases breaks away and the equipment malfunctions. As a result of this change the thermal relays cut off conduction. Through auxiliary contact exits the relays ensure that the circuit of the control contactor they are attached to is cut off as well.

The thermal relays are manufactured in various nominal currents from 0.16 A to 50 A.

Makel Thermal Relays are easily attached and detached with DIN rail accessories. Also easy assembly and connection flexibility is provided with the DIN rail accessories for the thermal relays.

The thermal relays work with full efficiency in ambient temperatures between -5°C and 55°C and are mounted on panels using bolts or standard 35 mm DIN rails. The thermal relays are resistant to 1000 V voltage with the raw materials that are used.

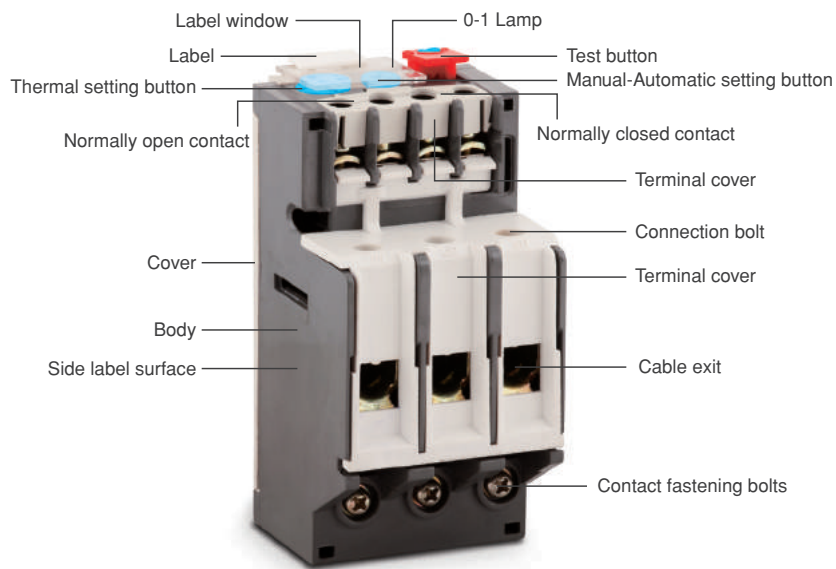
Thermal relays are produced in a variety of nominal currents from 0.16 to 95 A.

## Technical Specifications

### Thermal Relay

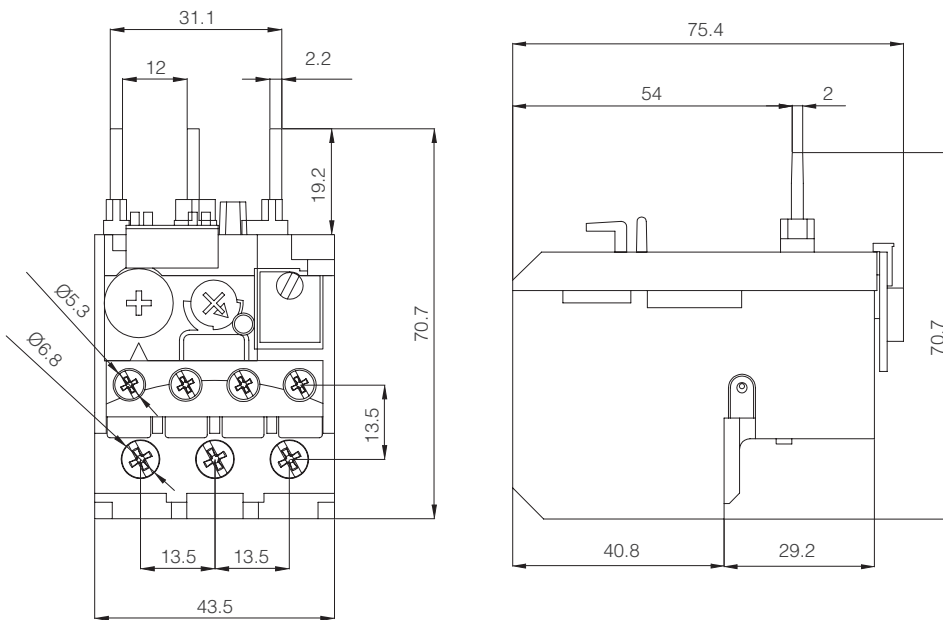
	<b>KNR 25</b>	<b>KNR 32</b>	<b>KNR 65</b>	<b>KNR 95</b>
Use Class	AC 3	AC 3	AC 3	AC 3
Number of Poles	3 poles	3 poles	3 poles	3 poles
Nominal Voltage (V) AC	380V /415 V	380V /415 V	380V /415 V	380V /415 V
Nominal Current (A) AC	0.1 ... 25 A	25 ... 32 A	45 ... 65 A	65 A ... 95 A
Nominal Insulation Voltage (V)	690	690	690	690
Nominal Impact Resistance Voltage Uimp (kV)	6	6	6	6
Current Setting Field (A)	From 0.1 A to 25 A	From 25A to 32 A	From 32 A to 65 A	From 65 A to 95 A
Opening Class (A)	10	10	10	10
Maximum Operation Height (m)	2000	2000	2000	2000
Heat Compensation (°C)	25 ... + 55 degrees	25 ... + 55 degrees	25 ... + 55 degrees	25 ... + 55 degrees
Auxiliary Contactor 1Na + 1NK	230 V (Ie)/95-95 (NC)/3A /97-98 (NO)/2A 400 V (Ie) /95-95 (NC)/1,5 A /97-98 (NO)/1A	3A 2A 1,5 A 1A	3A 2A 1,5 A 1A	3A 2A 1,5 A 1A
Types of Contactors Can be Used With	(KNC1-0911-1211 1811-2511), (KNC19-09-12-18-25)	(KNC1-2511-3211), KNC19-25-32)	(KNC1-4011-5011-6511), (KNC19-40-50-65)	(KNC1 - 8011-9511), (KNC19-80-95)
Mechanical Life (operation)	100 000	100 000	100 000	100 000
Electrical Life (according to AC 3 class)	10 000 operation	10 000 operation	10 000 operation	10 000 operation
Min.-max. conductor section (mm)	0,75 ... 4	0,75 ... 4	0,75 ... 16	0,75 ... 25
Min.-max. tightening torque (Nm)	2,5 -- 4,5	2,5 -- 4,5	2,5 --4,5	2,5 -- 4,5
Operation Frequency (Hz)	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Protection Class	IP 20	IP 20	IP 20	IP 20
Useful Life	10 Years	10 Years	10 Years	10 Years
Weight (Kg)	0,131	0,145	0,325	0,346

## Thermal Relay Product Features

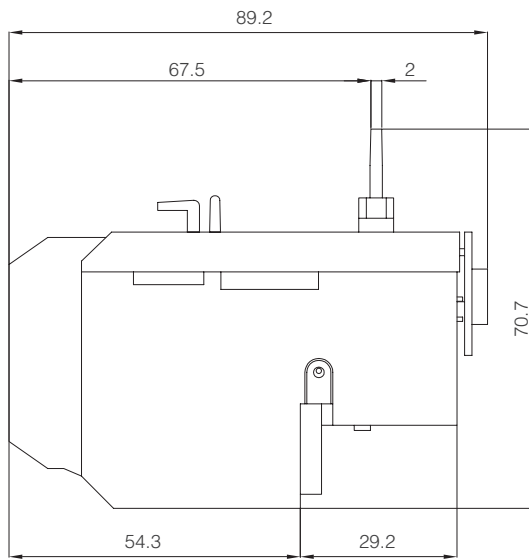
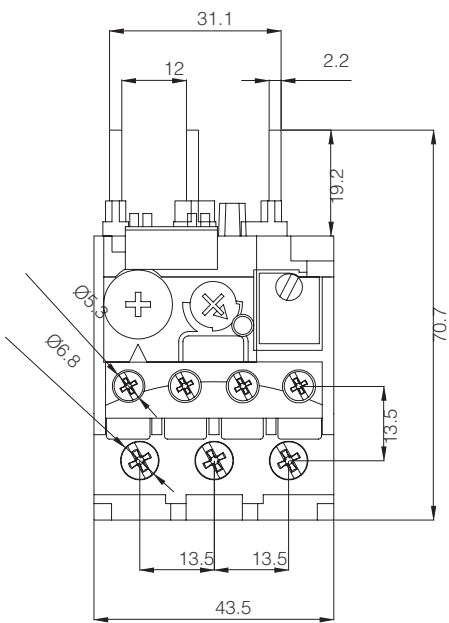


## Technical Drawings

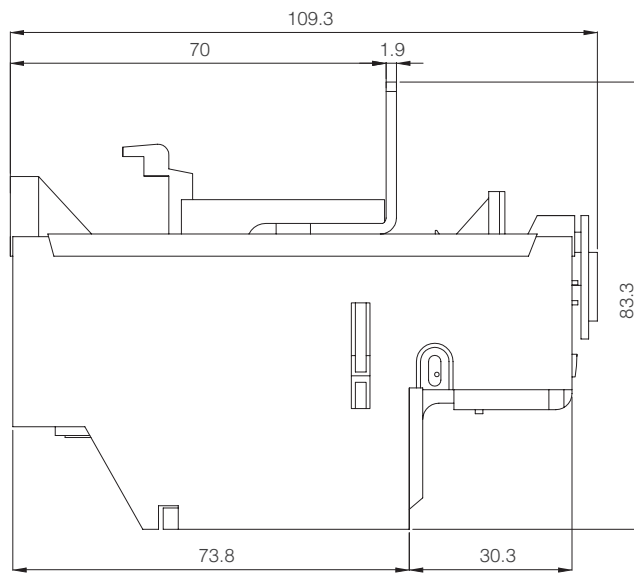
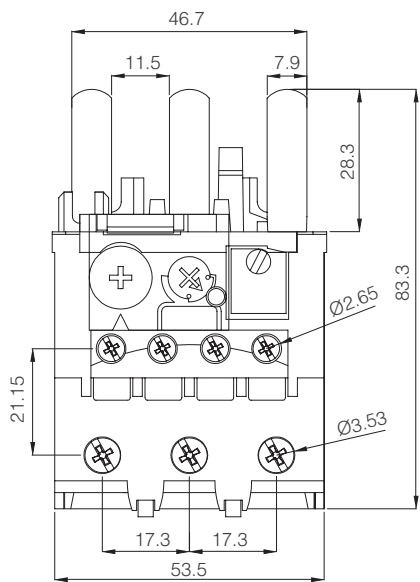
Thermal Relay 18A



Thermal Relay 32A



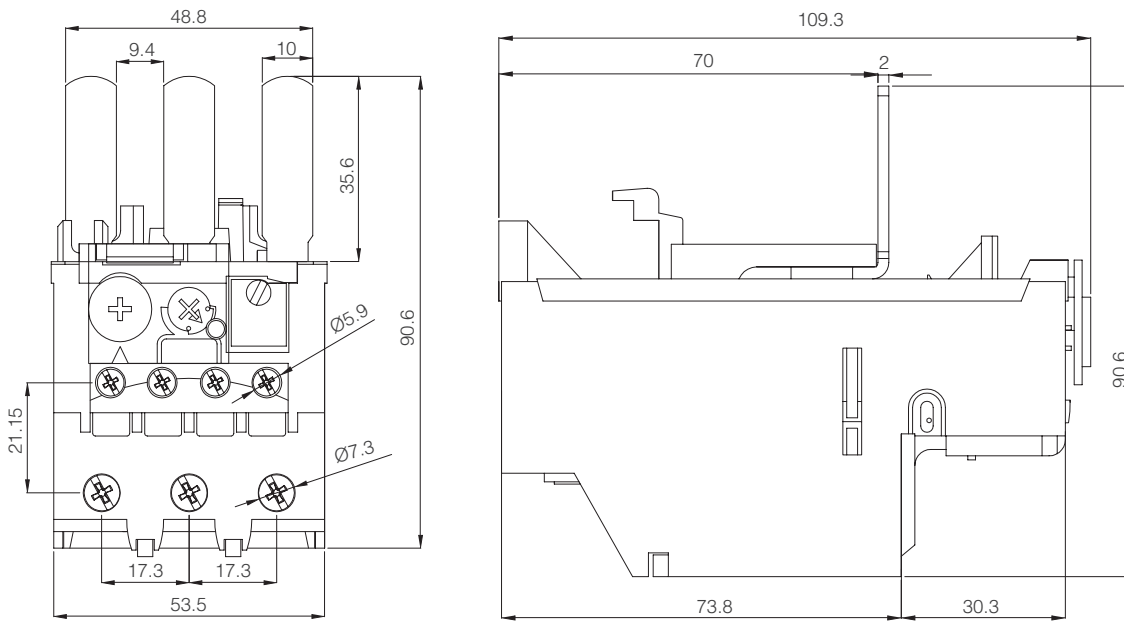
Thermal Relay 65A



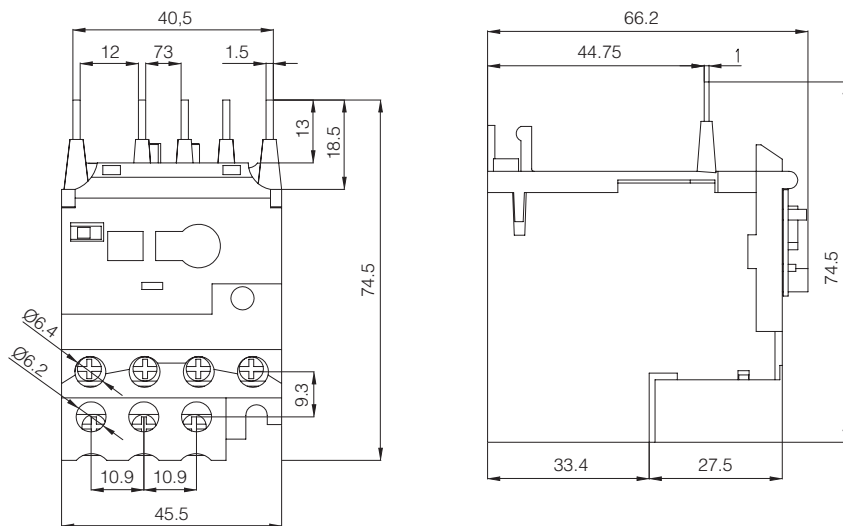


## Technical Drawings

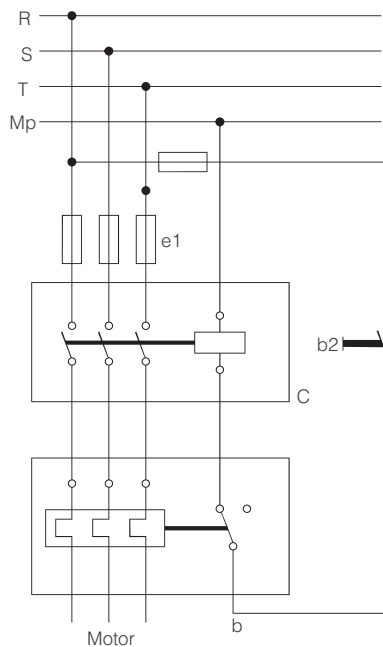
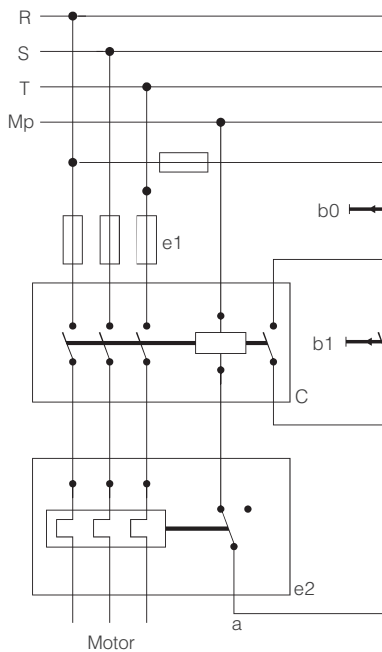
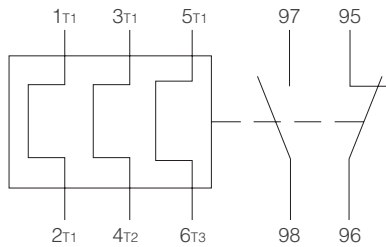
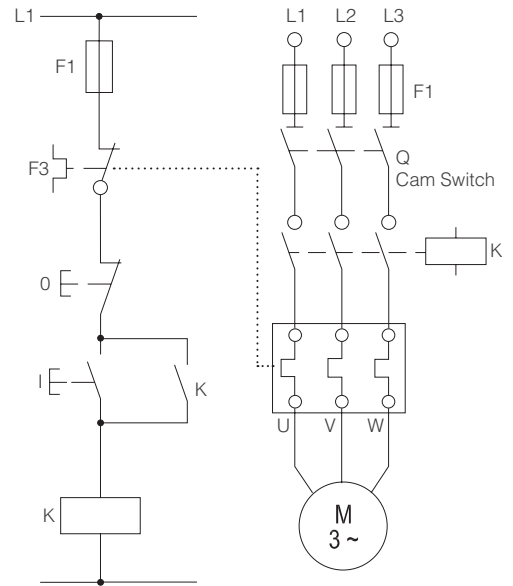
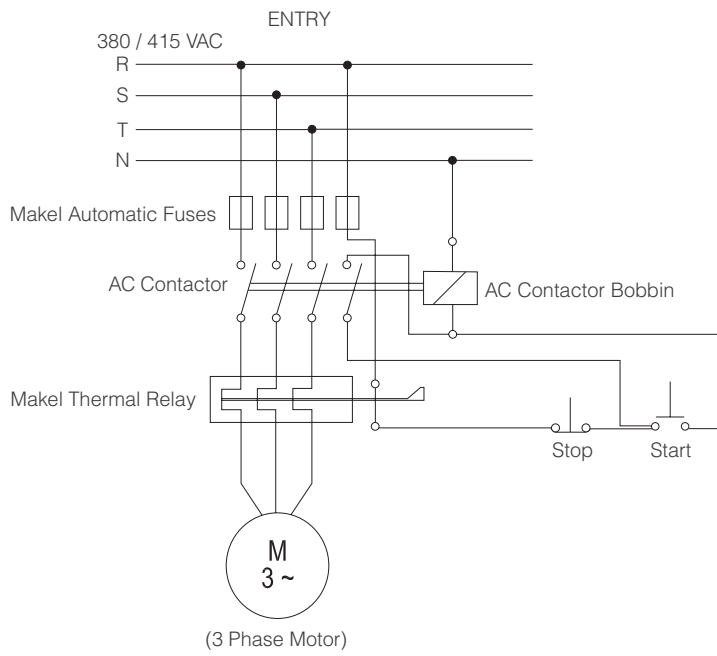
Thermal Relay 95A



Mini-Thermal Overload Relay



# Wiring Diagrams



- a:** The opening and closing of the contactor with the command button; no re-closing prevention on the relay.
- b:** Command with constant contact; relayed equipped with re-closing prevention.
- c:** Contactor
- e1:** Fuses
- e2:** Thermal Relay
- b0:** Open Button
- b1:** Operation Button
- b2:** Constant Contact
- b3:** Button to turn on reclosing prevention

## Miniature Circuit Breakers (MCBs) 3 kA, B type

Product Name	Rated current	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 1 Poled, B Type



1	27009026	12	120	12,52	447 x 245 x 184
2	27009000	12	120	12,52	447 x 245 x 184
3	27009027	12	120	12,58	447 x 245 x 184
4	27009001	12	120	12,58	447 x 245 x 184
5	27009028	12	120	12,06	447 x 245 x 184
6	27009002	12	120	12,06	447 x 245 x 184
10	27009003	12	120	12,01	447 x 245 x 184
16	27009004	12	120	12,01	447 x 245 x 184
20	27009005	12	120	12,12	447 x 245 x 184
25	27009006	12	120	12,19	447 x 245 x 184
32	27009007	12	120	12,28	447 x 245 x 184
40	27009008	12	120	12,18	447 x 245 x 184
50	27009009	12	120	12,92	447 x 245 x 184
63	27009010	12	120	12,79	447 x 245 x 184
80	27009011	12	120	18,30	470 x 350 x 194
100	27009012	12	120	18,54	470 x 350 x 194
125	27009013	12	120	18,42	470 x 350 x 194

### 1 P+N Poled, B Type



1	27011026	6	60	11,81	447 x 245 x 184
2	27011000	6	60	11,81	447 x 245 x 184
3	27011027	6	60	11,77	447 x 245 x 184
4	27011001	6	60	11,77	447 x 245 x 184
5	27011028	6	60	11,74	447 x 245 x 184
6	27011002	6	60	11,74	447 x 245 x 184
10	27011003	6	60	11,35	447 x 245 x 184
16	27011004	6	60	11,38	447 x 245 x 184
20	27011005	6	60	11,38	447 x 245 x 184
25	27011006	6	60	11,40	447 x 245 x 184
32	27011007	6	60	11,63	447 x 245 x 184
40	27011008	6	60	11,84	447 x 245 x 184
50	27011009	6	60	12,01	447 x 245 x 184
63	27011010	6	60	11,97	447 x 245 x 184
80	27011011	6	60	18,15	470 x 350 x 194
100	27011012	6	60	18,24	470 x 350 x 194
125	27011013	6	60	18,09	470 x 350 x 194

### 2 Poled, B Type



1	27013026	6	60	12,71	447 x 245 x 184
2	27013000	6	60	12,71	447 x 245 x 184
3	27013027	6	60	12,66	447 x 245 x 184
4	27013001	6	60	12,66	447 x 245 x 184
5	27013028	6	60	12,61	447 x 245 x 184
6	27013002	6	60	12,61	447 x 245 x 184
10	27013003	6	60	12,02	447 x 245 x 184
16	27013004	6	60	12,05	447 x 245 x 184
20	27013005	6	60	12,27	447 x 245 x 184
25	27013006	6	60	12,42	447 x 245 x 184
32	27013007	6	60	12,34	447 x 245 x 184
40	27013008	6	60	12,66	447 x 245 x 184
50	27013009	6	60	13,00	447 x 245 x 184
63	27013010	6	60	12,91	447 x 245 x 184
80	27013011	6	60	18,51	470 x 350 x 194
100	27013012	6	60	18,66	470 x 350 x 194
125	27013013	6	60	18,45	470 x 350 x 194

## Miniature Circuit Breakers (MCBs) 3 kA, B type

Product Name	Rated current	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 3 Poled, B type



1	27015026	4	40	12,72	447 x 245 x 184
2	27015000	4	40	12,72	447 x 245 x 184
3	27015027	4	40	12,60	447 x 245 x 184
4	27015001	4	40	12,60	447 x 245 x 184
5	27015028	4	40	12,10	447 x 245 x 184
6	27015002	4	40	12,10	447 x 245 x 184
10	27015003	4	40	11,85	447 x 245 x 184
16	27015004	4	40	11,96	447 x 245 x 184
20	27015005	4	40	12,05	447 x 245 x 184
25	27015006	4	40	12,19	447 x 245 x 184
32	27015007	4	40	12,20	447 x 245 x 184
40	27015008	4	40	12,24	447 x 245 x 184
50	27015009	4	40	12,85	447 x 245 x 184
63	27015010	4	40	12,84	447 x 245 x 184
80	27015011	4	40	18,44	470 x 350 x 194
100	27015012	4	40	18,66	470 x 350 x 194
125	27015013	4	40	18,46	470 x 350 x 194

### 3 P+N Poled, B Type



1	27017026	3	30	12,22	447 x 245 x 184
2	27017000	3	30	12,22	447 x 245 x 184
3	27017027	3	30	12,15	447 x 245 x 184
4	27017001	3	30	12,15	447 x 245 x 184
5	27017028	3	30	12,14	447 x 245 x 184
6	27017002	3	30	12,14	447 x 245 x 184
10	27017003	3	30	11,81	447 x 245 x 184
16	27017004	3	30	11,83	447 x 245 x 184
20	27017005	3	30	11,84	447 x 245 x 184
25	27017006	3	30	11,85	447 x 245 x 184
32	27017007	3	30	11,99	447 x 245 x 184
40	27017008	3	30	12,16	447 x 245 x 184
50	27017009	3	30	12,56	447 x 245 x 184
63	27017010	3	30	12,46	447 x 245 x 184
80	27017011	3	30	18,27	470 x 350 x 194
100	27017012	3	30	18,45	470 x 350 x 194
125	27017013	3	30	18,30	470 x 350 x 194

### 4 Poled, B Type



1	27019026	3	30	12,74	447 x 245 x 184
2	27019000	3	30	12,74	447 x 245 x 184
3	27019027	3	30	12,58	447 x 245 x 184
4	27019001	3	30	12,58	447 x 245 x 184
5	27019028	3	30	12,60	447 x 245 x 184
6	27019002	3	30	12,60	447 x 245 x 184
10	27019003	3	30	12,61	447 x 245 x 184
16	27019004	3	30	12,62	447 x 245 x 184
20	27019005	3	30	12,64	447 x 245 x 184
25	27019006	3	30	12,66	447 x 245 x 184
32	27019007	3	30	12,70	447 x 245 x 184
40	27019008	3	30	12,68	447 x 245 x 184
50	27019009	3	30	12,94	447 x 245 x 184
63	27019010	3	30	12,94	447 x 245 x 184
80	27019011	3	30	18,41	470 x 350 x 194
100	27019012	3	30	18,66	470 x 350 x 194
125	27019013	3	30	18,50	470 x 350 x 194

## Miniature Circuit Breakers (MCBs) 3 kA, C Type

Product Name	Rated current	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 1 Poled, C Type



1	27010026	12	120	12,73	447 x 245 x 184
2	27010000	12	120	12,73	447 x 245 x 184
3	27010027	12	120	12,56	447 x 245 x 184
4	27010001	12	120	12,56	447 x 245 x 184
5	27010028	12	120	12,15	447 x 245 x 184
6	27010002	12	120	12,15	447 x 245 x 184
10	27010003	12	120	11,95	447 x 245 x 184
16	27010004	12	120	12,04	447 x 245 x 184
20	27010005	12	120	12,14	447 x 245 x 184
25	27010006	12	120	12,18	447 x 245 x 184
32	27010007	12	120	12,34	447 x 245 x 184
40	27010008	12	120	12,30	447 x 245 x 184
50	27010009	12	120	12,81	447 x 245 x 184
63	27010010	12	120	12,82	447 x 245 x 184
80	27010011	12	120	18,30	470 x 350 x 194
100	27010012	12	120	18,60	470 x 350 x 194
125	27010013	12	120	18,42	470 x 350 x 194

### 1 P+N Poled, C type



1	27012026	6	60	11,94	447 x 245 x 184
2	27012000	6	60	11,94	447 x 245 x 184
3	27012027	6	60	11,92	447 x 245 x 184
4	27012001	6	60	11,92	447 x 245 x 184
5	27012028	6	60	11,74	447 x 245 x 184
6	27012002	6	60	11,74	447 x 245 x 184
10	27012003	6	60	11,35	447 x 245 x 184
16	27012004	6	60	11,38	447 x 245 x 184
20	27012005	6	60	11,38	447 x 245 x 184
25	27012006	6	60	11,40	447 x 245 x 184
32	27012007	6	60	11,63	447 x 245 x 184
40	27012008	6	60	11,82	447 x 245 x 184
50	27012009	6	60	12,10	447 x 245 x 184
63	27012010	6	60	12,09	447 x 245 x 184
80	27012011	6	60	17,88	470 x 350 x 194
100	27012012	6	60	18,30	470 x 350 x 194
125	27012013	6	60	18,15	470 x 350 x 194

### 2 Poled, C Type



1	27014026	6	60	12,87	447 x 245 x 184
2	27014000	6	60	12,87	447 x 245 x 184
3	27014027	6	60	12,73	447 x 245 x 184
4	27014001	6	60	12,73	447 x 245 x 184
5	27014028	6	60	12,61	447 x 245 x 184
6	27014002	6	60	12,61	447 x 245 x 184
10	27014003	6	60	12,02	447 x 245 x 184
16	27014004	6	60	12,05	447 x 245 x 184
20	27014005	6	60	12,27	447 x 245 x 184
25	27014006	6	60	12,42	447 x 245 x 184
32	27014007	6	60	12,34	447 x 245 x 184
40	27014008	6	60	12,71	447 x 245 x 184
50	27014009	6	60	12,87	447 x 245 x 184
63	27014010	6	60	12,93	447 x 245 x 184
80	27014011	6	60	18,42	470 x 350 x 194
100	27014012	6	60	18,75	470 x 350 x 194
125	27014013	6	60	18,51	470 x 350 x 194



## Miniature Circuit Breakers (MCBs) 3 kA, C Type

Product Name	Rated current	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 3 Poled, C Type



1	27016026	4	40	12,75	447 x 245 x 184
2	27016000	4	40	12,75	447 x 245 x 184
3	27016027	4	40	12,68	447 x 245 x 184
4	27016001	4	40	12,68	447 x 245 x 184
5	27016028	4	40	12,10	447 x 245 x 184
6	27016002	4	40	12,10	447 x 245 x 184
10	27016003	4	40	12,85	447 x 245 x 184
16	27016004	4	40	11,96	447 x 245 x 184
20	27016005	4	40	12,05	447 x 245 x 184
25	27016006	4	40	12,19	447 x 245 x 184
32	27016007	4	40	12,20	447 x 245 x 184
40	27016008	4	40	12,26	447 x 245 x 184
50	27016009	4	40	12,96	447 x 245 x 184
63	27016010	4	40	12,92	447 x 245 x 184
80	27016011	4	40	18,42	470 x 350 x 194
100	27016012	4	40	18,74	470 x 350 x 194
125	27016013	4	40	18,56	470 x 350 x 194

### 3 P+N Poled, C Type



1	27018026	3	30	12,26	447 x 245 x 184
2	27018000	3	30	12,26	447 x 245 x 184
3	27018027	3	30	12,16	447 x 245 x 184
4	27018001	3	30	12,16	447 x 245 x 184
5	27018028	3	30	12,14	447 x 245 x 184
6	27018002	3	30	12,14	447 x 245 x 184
10	27018003	3	30	11,82	447 x 245 x 184
16	27018004	3	30	11,83	447 x 245 x 184
20	27018005	3	30	11,84	447 x 245 x 184
25	27018006	3	30	11,85	447 x 245 x 184
32	27018007	3	30	11,99	447 x 245 x 184
40	27018008	3	30	12,31	447 x 245 x 184
50	27018009	3	30	12,62	447 x 245 x 184
63	27018010	3	30	12,49	447 x 245 x 184
80	27018011	3	30	18,15	470 x 350 x 194
100	27018012	3	30	18,51	470 x 350 x 194
125	27018013	3	30	18,33	470 x 350 x 194

### 4 Poled, C Type



1	27020026	3	30	12,68	447 x 245 x 184
2	27020000	3	30	12,68	447 x 245 x 184
3	27020027	3	30	12,61	447 x 245 x 184
4	27020001	3	30	12,61	447 x 245 x 184
5	27020028	3	30	12,60	447 x 245 x 184
6	27020002	3	30	12,60	447 x 245 x 184
10	27020003	3	30	12,61	447 x 245 x 184
16	27020004	3	30	12,62	447 x 245 x 184
20	27020005	3	30	12,64	447 x 245 x 184
25	27020006	3	30	12,66	447 x 245 x 184
32	27020007	3	30	12,70	447 x 245 x 184
40	27020008	3	30	12,65	447 x 245 x 184
50	27020009	3	30	13,03	447 x 245 x 184
63	27020010	3	30	12,88	447 x 245 x 184
80	27020011	3	30	18,44	470 x 350 x 194
100	27020012	3	30	18,74	470 x 350 x 194
125	27020013	3	30	18,53	470 x 350 x 194

## Miniature Circuit Breakers (MCBs) 6 kA, B type

Product Name	Rated current	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 1 poled, B Type



1	60002	12	120	14,96	477 x 242 x 184
2	60004	12	120	14,96	477 x 242 x 184
3	60003	12	120	14,98	477 x 242 x 184
4	60006	12	120	14,98	477 x 242 x 184
5	60005	12	120	14,67	477 x 242 x 184
6	60007	12	120	14,67	477 x 242 x 184
10	60009	12	120	14,46	477 x 242 x 184
16	60011	12	120	14,54	477 x 242 x 184
20	60012	12	120	14,66	477 x 242 x 184
25	60013	12	120	14,78	477 x 242 x 184
32	60014	12	120	14,92	477 x 242 x 184
40	60015	12	120	15,04	477 x 242 x 184
50	60016	12	120	15,58	477 x 242 x 184
63	60017	12	120	15,58	477 x 242 x 184
80	60018	8	80	17,97	520 x 235 x 194
100	60010	8	80	18,44	520 x 235 x 194
125	60019	8	80	18,25	520 x 235 x 194

### 1 P+N poled, B Type



6	60027	6	60	14,19	477 x 242 x 184
10	60029	6	60	14,04	477 x 242 x 184
16	60031	6	60	14,12	477 x 242 x 184
20	60032	6	60	14,15	477 x 242 x 184
25	60033	6	60	14,35	477 x 242 x 184
32	60034	6	60	14,33	477 x 242 x 184
40	60035	6	60	14,48	477 x 242 x 184
50	60036	6	60	14,72	477 x 242 x 184
63	60037	6	60	14,72	477 x 242 x 184
80	60038	4	40	17,55	520 x 235 x 194
100	60030	4	40	18,15	520 x 235 x 194
125	60039	4	40	18,21	520 x 235 x 194

### 2 Poled, B Type



6	60047	6	60	14,74	477 x 242 x 184
10	60049	6	60	14,52	477 x 242 x 184
16	60051	6	60	14,64	477 x 242 x 184
20	60052	6	60	14,72	477 x 242 x 184
25	60053	6	60	14,79	477 x 242 x 184
32	60054	6	60	14,96	477 x 242 x 184
40	60055	6	60	15,14	477 x 242 x 184
50	60056	6	60	15,48	477 x 242 x 184
63	60057	6	60	15,57	477 x 242 x 184
80	60058	4	40	17,81	520 x 235 x 194
100	60050	4	40	17,92	520 x 235 x 194
125	60059	4	40	17,73	520 x 235 x 194

## Miniature Circuit Breakers (MCBs) 6 kA, B type

Product Name	Rated current	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 3 Poled, B Type



6	60067	4	40	14,82	477 x 242 x 184
10	60069	4	40	14,51	477 x 242 x 184
16	60071	4	40	14,63	477 x 242 x 184
20	60072	4	40	14,70	477 x 242 x 184
25	60073	4	40	14,85	477 x 242 x 184
32	60074	4	40	14,92	477 x 242 x 184
40	60075	4	40	15,12	477 x 242 x 184
50	60076	4	40	15,55	477 x 242 x 184
63	60077	4	40	15,55	477 x 242 x 184
80	60078	3	30	20,33	520 x 255 x 195
100	60070	3	30	20,16	520 x 255 x 195
125	60079	3	30	19,98	520 x 255 x 195

### 3 P+N Poled, B Type



6	60087	3	30	14,53	477 x 242 x 184
10	60089	3	30	14,30	477 x 242 x 184
16	60091	3	30	14,37	477 x 242 x 184
20	60092	3	30	14,44	477 x 242 x 184
25	60093	3	30	14,63	477 x 242 x 184
32	60094	3	30	14,68	477 x 242 x 184
40	60095	3	30	14,81	477 x 242 x 184
50	60096	3	30	15,23	477 x 242 x 184
63	60097	3	30	15,22	477 x 242 x 184
80	60098	2	20	17,55	520 x 235 x 194
100	60090	2	20	18,05	520 x 235 x 194
125	60099	2	20	17,85	520 x 235 x 194

### 4 Poled, B Type



6	60207	3	30	14,83	477 x 242 x 184
10	60209	3	30	14,60	477 x 242 x 184
16	60211	3	30	14,66	477 x 242 x 184
20	60212	3	30	14,77	477 x 242 x 184
25	60213	3	30	14,97	477 x 242 x 184
32	60214	3	30	15,12	477 x 242 x 184
40	60215	3	30	15,33	477 x 242 x 184
50	60216	3	30	15,79	477 x 242 x 184
63	60217	3	30	15,69	477 x 242 x 184
80	60218	2	20	17,84	520 x 235 x 194
100	60210	2	20	18,23	520 x 235 x 194
125	60219	2	20	18,05	520 x 235 x 194

## Miniature Circuit Breakers (MCBs) 6 kA, C Type

Product Name	Rated current	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 1 Poled, C Type



1	60102	12	120	14,96	477 x 242 x 184
2	60104	12	120	14,96	477 x 242 x 184
3	60103	12	120	14,98	477 x 242 x 184
4	60106	12	120	14,98	477 x 242 x 184
5	60105	12	120	14,75	477 x 242 x 184
6	60107	12	120	14,75	477 x 242 x 184
10	60109	12	120	14,48	477 x 242 x 184
16	60111	12	120	14,48	477 x 242 x 184
20	60112	12	120	14,63	477 x 242 x 184
25	60113	12	120	14,93	477 x 242 x 184
32	60114	12	120	14,90	477 x 242 x 184
40	60115	12	120	15,11	477 x 242 x 184
50	60116	12	120	15,57	477 x 242 x 184
63	60117	12	120	15,56	477 x 242 x 184
80	60118	8	80	17,77	520 x 235 x 194
100	60110	8	80	18,24	520 x 235 x 194
125	60119	8	80	18,15	520 x 235 x 194

### 1 P+N Poled, C Type



6	60127	6	60	14,24	477 x 242 x 184
10	60129	6	60	14,12	477 x 242 x 184
16	60131	6	60	14,12	477 x 242 x 184
20	60132	6	60	14,21	477 x 242 x 184
25	60133	6	60	14,35	477 x 242 x 184
32	60134	6	60	14,35	477 x 242 x 184
40	60135	6	60	14,48	477 x 242 x 184
50	60136	6	60	14,66	477 x 242 x 184
63	60137	6	60	14,72	477 x 242 x 184
80	60138	4	40	17,35	520 x 235 x 194
100	60130	4	40	18,05	520 x 235 x 194
125	60139	4	40	18,19	520 x 235 x 194

### 2 Poled, C Type



6	60147	6	60	14,75	477 x 242 x 184
10	60149	6	60	14,52	477 x 242 x 184
16	60151	6	60	14,52	477 x 242 x 184
20	60152	6	60	14,72	477 x 242 x 184
25	60153	6	60	14,93	477 x 242 x 184
32	60154	6	60	14,85	477 x 242 x 184
40	60155	6	60	15,24	477 x 242 x 184
50	60156	6	60	15,40	477 x 242 x 184
63	60157	6	60	15,51	477 x 242 x 184
80	60158	4	40	17,61	520 x 235 x 194
100	60150	4	40	17,72	520 x 235 x 194
125	60159	4	40	17,53	520 x 235 x 194

## Miniature Circuit Breakers (MCBs) 6 kA, C Type

Product Name	Rated current	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 3 Poled, C Type



6	60167	4	40	14,75	477 x 242 x 184
10	60169	4	40	14,56	477 x 242 x 184
16	60171	4	40	14,50	477 x 242 x 184
20	60172	4	40	14,64	477 x 242 x 184
25	60173	4	40	14,85	477 x 242 x 184
32	60174	4	40	14,91	477 x 242 x 184
40	60175	4	40	15,22	477 x 242 x 184
50	60176	4	40	15,52	477 x 242 x 184
63	60177	4	40	15,57	477 x 242 x 184
80	60178	3	30	20,13	520 x 255 x 194
100	60170	3	30	20,16	520 x 255 x 194
125	60179	3	30	19,78	520 x 255 x 194

### 3 P+N Poled, C Type



6	60187	3	30	14,54	477 x 242 x 184
10	60189	3	30	14,35	477 x 242 x 184
16	60191	3	30	14,37	477 x 242 x 184
20	60192	3	30	14,39	477 x 242 x 184
25	60193	3	30	14,65	477 x 242 x 184
32	60194	3	30	14,68	477 x 242 x 184
40	60195	3	30	14,83	477 x 242 x 184
50	60196	3	30	15,21	477 x 242 x 184
63	60197	3	30	15,25	477 x 242 x 184
80	60198	2	20	17,45	520 x 235 x 194
100	60190	2	20	18,05	520 x 235 x 194
125	60199	2	20	17,65	520 x 235 x 194


### 4 Poled, C Type



6	60407	3	30	14,84	477 x 242 x 184
10	60409	3	30	14,65	477 x 242 x 184
16	60411	3	30	14,66	477 x 242 x 184
20	60412	3	30	14,77	477 x 242 x 184
25	60413	3	30	14,97	477 x 242 x 184
32	60414	3	30	15,12	477 x 242 x 184
40	60415	3	30	15,33	477 x 242 x 184
50	60416	3	30	15,79	477 x 242 x 184
63	60417	3	30	15,69	477 x 242 x 184
80	60418	2	20	17,54	520 x 235 x 194
100	60410	2	20	18,13	520 x 235 x 194
125	60419	2	20	18,05	520 x 235 x 194



## Miniature Circuit Breakers (MCBs) 10 kA, B Type


Product Name	Rated current	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>1 Poled, B Type</b>						
	6	60707	12	120	14,75	477 x 242 x 184
	10	60709	12	120	14,48	477 x 242 x 184
	16	60711	12	120	14,48	477 x 242 x 184
	20	60712	12	120	14,63	477 x 242 x 184
	25	60713	12	120	14,93	477 x 242 x 184
	32	60714	12	120	14,90	477 x 242 x 184
	40	60715	12	120	15,11	477 x 242 x 184
	50	60716	12	120	16,49	477 x 242 x 184
	63	60717	12	120	16,49	477 x 242 x 184
	80	60718	8	80	17,97	520 x 235 x 194
	100	60710	8	80	18,44	520 x 235 x 194
	125	60719	8	80	18,25	520 x 235 x 194

## 3 Poled, B Type



6	60767	4	40	14,75	477 x 242 x 184
10	60769	4	40	14,56	477 x 242 x 184
16	60771	4	40	14,50	477 x 242 x 184
20	60772	4	40	14,64	477 x 242 x 184
25	60773	4	40	14,85	477 x 242 x 184
32	60774	4	40	14,91	477 x 242 x 184
40	60775	4	40	15,22	477 x 242 x 184
50	60776	4	40	16,53	477 x 242 x 184
63	60777	4	40	16,53	477 x 242 x 184
80	60778	3	30	20,33	520 x 255 x 194
100	60770	3	30	20,16	520 x 255 x 194
125	60779	3	30	19,98	520 x 255 x 194

## Miniature Circuit Breakers (MCBs) 10 kA, C Type

Product Name	Rated current	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>1 Poled, C Type</b>						
	6	60307	12	120	14,75	477 x 242 x 184
	10	60309	12	120	14,48	477 x 242 x 184
	16	60311	12	120	14,48	477 x 242 x 184
	20	60312	12	120	14,63	477 x 242 x 184
	25	60313	12	120	14,93	477 x 242 x 184
	32	60314	12	120	14,90	477 x 242 x 184
	40	60315	12	120	15,11	477 x 242 x 184
	50	60316	12	120	16,49	477 x 242 x 184
	63	60317	12	120	16,49	477 x 242 x 184
	80	60318	8	80	17,97	520 x 235 x 194
	100	60310	8	80	18,44	520 x 235 x 194
	125	60319	8	80	18,25	520 x 235 x 194

## 1 P+N Poled, C Type



6	60327	6	60	14,24	477 x 242 x 184
10	60329	6	60	14,12	477 x 242 x 184
16	60331	6	60	14,12	477 x 242 x 184
20	60332	6	60	14,21	477 x 242 x 184
25	60333	6	60	14,35	477 x 242 x 184
32	60334	6	60	14,35	477 x 242 x 184
40	60335	6	60	14,48	477 x 242 x 184
50	60336	6	60	15,77	477 x 242 x 184
63	60337	6	60	15,79	477 x 242 x 184
80	60338	4	40	17,55	520 x 235 x 194
100	60330	4	40	18,15	520 x 235 x 194
125	60339	4	40	18,21	520 x 235 x 194

## Miniature Circuit Breakers (MCBs) 10 kA, C Type

Product Name	Rated current	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 2 Poled, C Type



6	60347	6	60	14,75	477 x 242 x 184
10	60349	6	60	14,52	477 x 242 x 184
16	60351	6	60	14,52	477 x 242 x 184
20	60352	6	60	14,72	477 x 242 x 184
25	60353	6	60	14,93	477 x 242 x 184
32	60354	6	60	14,85	477 x 242 x 184
40	60355	6	60	15,24	477 x 242 x 184
50	60356	6	60	16,50	477 x 242 x 184
63	60357	6	60	16,58	477 x 242 x 184
80	60358	4	40	17,81	520 x 235 x 194
100	60350	4	40	17,92	520 x 235 x 194
125	60359	4	40	17,73	520 x 235 x 194

### 3 Poled, C Type



6	60367	4	40	14,75	477 x 242 x 184
10	60369	4	40	14,56	477 x 242 x 184
16	60371	4	40	14,50	477 x 242 x 184
20	60372	4	40	14,64	477 x 242 x 184
25	60373	4	40	14,85	477 x 242 x 184
32	60374	4	40	14,91	477 x 242 x 184
40	60375	4	40	15,22	477 x 242 x 184
50	60376	4	40	16,53	477 x 242 x 184
63	60377	4	40	16,53	477 x 242 x 184
80	60378	3	30	20,33	520 x 255 x 194
100	60370	3	30	20,16	520 x 255 x 194
125	60379	3	30	19,98	520 x 255 x 194

### 3 P+N Poled, C Type



6	60387	3	30	14,54	477 x 242 x 184
10	60389	3	30	14,35	477 x 242 x 184
16	60391	3	30	14,37	477 x 242 x 184
20	60392	3	30	14,39	477 x 242 x 184
25	60393	3	30	14,65	477 x 242 x 184
32	60394	3	30	14,68	477 x 242 x 184
40	60395	3	30	14,83	477 x 242 x 184
50	60396	3	30	15,97	477 x 242 x 184
63	60397	3	30	15,97	477 x 242 x 184
80	60398	2	20	17,55	520 x 235 x 194
100	60390	2	20	18,05	520 x 235 x 194
125	60399	2	20	17,85	520 x 235 x 194

### 4 Poled, C Type



6	60507	3	30	14,84	477 x 242 x 184
10	60509	3	30	14,65	477 x 242 x 184
16	60511	3	30	14,66	477 x 242 x 184
20	60512	3	30	14,77	477 x 242 x 184
25	60513	3	30	14,97	477 x 242 x 184
32	60514	3	30	15,12	477 x 242 x 184
40	60515	3	30	15,33	477 x 242 x 184
50	60516	3	30	16,61	477 x 242 x 184
63	60517	3	30	16,61	477 x 242 x 184
80	60518	2	20	17,84	520 x 235 x 194
100	60510	2	20	18,23	520 x 235 x 194
125	60519	2	20	18,05	520 x 235 x 194

# Low Voltage Switchgear and Industrial Automation Product

## Surge Arrestor

Product Name	Code No.	Type	Number of Poles	Class	Rated Working Voltage Un (V)	Max. Voltage	Nominal Current In/Pole (8/20)	Max. Short Circuit Current (Iscsr)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
KNY1-20	77000065	3	1P	D	275	1,2	10	I MAX(kA) 20	12	120	13,05	470 x 165 x 225
KNY1-20	77000066	3	2P	D	275	1,2	10	I MAX(kA) 20	6	60	13,18	470 x 165 x 225
KNY1-20	77000067	3	3P	D	385	1,5	10	I MAX(kA) 20	4	40	13,11	470 x 165 x 225
KNY1-20	77000068	3	4P	D	420	1,6	10	I MAX(kA) 20	3	30	13,16	470 x 165 x 225
KNY1-20*	77000069	3	1P	D	275	1,2	10	I MAX(kA) 20	12	120	13,41	470 x 165 x 225
KNY1-20*	77000070	3	2P	D	275	1,2	10	I MAX(kA) 20	6	60	13,72	470 x 165 x 225
KNY1-20*	77000071	3	3P	D	385	1,5	10	I MAX(kA) 20	4	40	13,60	470 x 165 x 225
KNY1-20*	77000072	3	4P	D	420	1,6	10	I MAX(kA) 20	3	30	13,60	470 x 165 x 225
KNY1-40	77000073	2	1P	C	275	1,4	20	I MAX(kA) 40	12	120	14,11	470 x 165 x 225
KNY1-40	77000074	2	2P	C	275	1,4	20	I MAX(kA) 40	6	60	14,35	470 x 165 x 225
KNY1-40	77000075	2	3P	C	385	1,8	20	I MAX(kA) 40	4	40	13,60	470 x 165 x 225
KNY1-40	77000076	2	4P	C	420	1,9	20	I MAX(kA) 40	3	30	14,24	470 x 165 x 225
KNY1-40*	77000077	3	1P	C	275	1,4	20	I MAX(kA) 40	12	120	14,64	470 x 165 x 225
KNY1-40*	77000078	3	2P	C	275	1,4	20	I MAX(kA) 40	6	60	14,69	470 x 165 x 225
KNY1-40*	77000079	3	3P	C	385	1,8	20	I MAX(kA) 40	4	40	14,71	470 x 165 x 225
KNY1-40*	77000080	3	4P	C	420	1,9	20	I MAX(kA) 40	3	30	14,62	470 x 165 x 225
KNY1-40/60	77000081	1+2	2P	B+C	275	1,4	20	I MAX(kA) 40	6	60	13,83	470 x 165 x 225
KNY1-40/60	77000082	1+2	4P	B+C	275	1,4	20	I MAX(kA) 40	3	30	13,80	470 x 165 x 225
KNY1-40/60*	77000083	1+2	2P	B+C	385	1,8	20	I MAX(kA) 40	6	60	14,26	470 x 165 x 225
KNY1-40/60*	77000084	1+2	4P	B+C	420	1,9	20	I MAX(kA) 40	3	30	14,21	470 x 165 x 225
KNY1-60	77000057	1	1P	B	275	1,5	30	I MAX(kA) 60	12	120	15,87	470 x 165 x 225
KNY1-60	77000058	1	2P	B	275	1,5	30	I MAX(kA) 60	6	60	16,03	470 x 165 x 225
KNY1-60	77000059	1	3P	B	385	2	30	I MAX(kA) 60	4	40	15,86	470 x 165 x 225
KNY1-60	77000060	1	4P	B	420	2,1	30	I MAX(kA) 60	3	30	15,55	470 x 165 x 225
KNY1-60*	77000061	1	1P	B	275	1,5	30	I MAX(kA) 60	12	120	16,31	470 x 165 x 225
KNY1-60*	77000062	1	2P	B	275	1,5	30	I MAX(kA) 60	6	60	16,49	470 x 165 x 225
KNY1-60*	77000063	1	3P	B	385	2	30	I MAX(kA) 60	4	40	16,39	470 x 165 x 225
KNY1-60*	77000064	1	4P	B	420	2,1	30	I MAX(kA) 60	3	30	16,42	470 x 165 x 225

\*With Alarm Contact

## Pulse Current Switch

Product Name	Code No.	Number of Poles	Operation Frequency	Nominal Power	Nominal Current In (A)	Control Voltage (V AC)	Work Environment (°C)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
Pulse Current Switch	77000085	1P	50Hz	25 VA	16A	230V AC	5 °C / +40 °C	1	120	15,90	470 x 165 x 225



Surge Arrestor  
KNY1-20, 1P



Surge Arrestor  
KNY1-20, 2P



Surge Arrestor  
KNY1-20, 3P



Surge Arrestor  
KNY1-20, 4P



Pulse Current  
Switch

## Residual Current Circuit Breakers (RCCBs) 3 kA, AC Type

Product Name	Rated Current In (A)	Rated Voltage Un (V)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 2 Poled, 30 mA



25	230	34000006	1	100	21,85	485 x 436 x 191
32	230	34000007	1	100	21,75	485 x 436 x 191
40	230	34000008	1	100	21,71	485 x 436 x 191
50	230	34000009	1	100	22,49	485 x 436 x 191
63	230	34000010	1	100	22,49	485 x 436 x 191
80	230	34000011	1	50	15,08	525 x 412 x 195
100	230	34000012	1	50	15,08	525 x 412 x 195

### 2 Poled, 300 mA



25	230	35000006	1	100	20,45	485 x 436 x 191
32	230	35000007	1	100	20,93	485 x 436 x 191
40	230	35000008	1	100	20,83	485 x 436 x 191
50	230	35000009	1	100	21,21	485 x 436 x 191
63	230	35000010	1	100	21,37	485 x 436 x 191
80	230	35000011	1	50	14,53	525 x 412 x 195
100	230	35000012	1	50	14,53	525 x 412 x 195

### 4 Poled, 30 mA



25	230/400	34001006	1	50	17,78	485 x 410 x 191
32	230/400	34001007	1	50	17,68	485 x 410 x 191
40	230/400	34001008	1	50	17,73	485 x 410 x 191
50	230/400	34001009	1	50	18,20	485 x 410 x 191
63	230/400	34001010	1	50	18,20	485 x 410 x 191
80	230/400	34001011	1	50	18,75	525 x 412 x 195
100	230/400	34001012	1	50	18,75	525 x 412 x 195

### 4 Poled, 300 mA



25	230/400	35001006	1	50	17,20	485 x 410 x 191
32	230/400	35001007	1	50	16,20	485 x 410 x 191
40	230/400	35001008	1	50	17,00	485 x 410 x 191
50	230/400	35001009	1	50	17,61	485 x 410 x 191
63	230/400	35001010	1	50	17,67	485 x 410 x 191
80	230/400	35001011	1	50	18,05	525 x 412 x 195
100	230/400	35001012	1	50	18,05	525 x 412 x 195

## Residual Current Circuit Breakers (RCCBs) 6 kA, AC Type

Product Name	Rated Current In (A)	Rated Voltage Un (V)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 2 Poled, 30 mA



25	230	34002006	1	100	22,01	485 x 436 x 191
32	230	34002007	1	100	22,13	485 x 436 x 191
40	230	34002008	1	100	22,08	485 x 436 x 191
50	230	34002009	1	100	22,64	485 x 436 x 191
63	230	34002010	1	100	22,66	485 x 436 x 191
80	230	34002011	1	50	16,67	525 x 412 x 195
100	230	34002012	1	50	16,69	525 x 412 x 195
125	230	34002013	1	50	16,71	525 x 412 x 195

### 2 Poled, 300 mA



25	230	35002006	1	100	22,01	485 x 436 x 191
32	230	35002007	1	100	21,97	485 x 436 x 191
40	230	35002008	1	100	21,71	485 x 436 x 191
50	230	35002009	1	100	22,18	485 x 436 x 191
63	230	35002010	1	100	22,20	485 x 436 x 191
80	230	35002011	1	50	16,37	525 x 412 x 195
100	230	35002012	1	50	16,39	525 x 412 x 195
125	230	35002013	1	50	16,41	525 x 412 x 195

### 4 Poled, 30 mA



25	230/400	34003006	1	50	19,37	485 x 410 x 191
32	230/400	34003007	1	50	19,49	485 x 410 x 191
40	230/400	34003008	1	50	19,70	485 x 410 x 191
50	230/400	34003009	1	50	20,18	485 x 410 x 191
63	230/400	34003010	1	50	19,88	485 x 410 x 191
80	230/400	34003011	1	50	20,35	525 x 412 x 195
100	230/400	34003012	1	50	20,37	525 x 412 x 195
125	230/400	34003013	1	50	20,40	525 x 412 x 195

### 4 Poled, 300 mA



25	230/400	35003006	1	50	18,94	485 x 410 x 191
32	230/400	35003007	1	50	19,02	485 x 410 x 191
40	230/400	35003008	1	50	18,66	485 x 410 x 191
50	230/400	35003009	1	50	19,20	485 x 410 x 191
63	230/400	35003010	1	50	19,34	485 x 410 x 191
80	230/400	35003011	1	50	20,05	525 x 412 x 195
100	230/400	35003012	1	50	20,07	525 x 412 x 195
125	230/400	35003013	1	50	20,10	525 x 412 x 195



## Residual Current Circuit Breakers (RCCBs) 10 kA, AC Type

Product Name	Rated Current In (A)	Rated Voltage Un (V)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 2 Poled, 30 mA



25	230	34004006	1	100	22,12	485 x 436 x 191
32	230	34004007	1	100	22,27	485 x 436 x 191
40	230	34004008	1	100	22,16	485 x 436 x 191
50	230	34004009	1	100	22,72	485 x 436 x 191
63	230	34004010	1	100	22,56	485 x 436 x 191
80	230	34004011	1	50	16,67	525 x 412 x 195
100	230	34004012	1	50	16,69	525 x 412 x 195
125	230	34004013	1	50	16,71	525 x 412 x 195

### 2 Poled, 300 mA



25	230	35004006	1	100	21,81	485 x 436 x 191
32	230	35004007	1	100	21,85	485 x 436 x 191
40	230	35004008	1	100	21,76	485 x 436 x 191
50	230	35004009	1	100	22,33	485 x 436 x 191
63	230	35004010	1	100	22,20	485 x 436 x 191
80	230	35004011	1	50	16,37	525 x 412 x 195
100	230	35004012	1	50	16,39	525 x 412 x 195
125	230	35004013	1	50	16,41	525 x 412 x 195

### 4 Poled, 30 mA



25	230/400	34005006	1	50	19,74	485 x 410 x 191
32	230/400	34005007	1	50	19,74	485 x 410 x 191
40	230/400	34005008	1	50	19,53	485 x 410 x 191
50	230/400	34005009	1	50	20,00	485 x 410 x 191
63	230/400	34005010	1	50	20,05	485 x 410 x 191
80	230/400	34005011	1	50	20,35	525 x 412 x 195
100	230/400	34005012	1	50	20,37	525 x 412 x 195
125	230/400	34005013	1	50	20,40	525 x 412 x 195

### 4 Poled, 300 mA



25	230/400	35005006	1	50	18,78	485 x 410 x 191
32	230/400	35005007	1	50	18,79	485 x 410 x 191
40	230/400	35005008	1	50	18,53	485 x 410 x 191
50	230/400	35005009	1	50	19,47	485 x 410 x 191
63	230/400	35005010	1	50	19,17	485 x 410 x 191
80	230/400	35005011	1	50	20,05	525 x 412 x 195
100	230/400	35005012	1	50	20,07	525 x 412 x 195
125	230/400	35005013	1	50	20,10	525 x 412 x 195

## Residual Current Circuit Breakers (RCCBs) 3 kA, A Type

Product Name	Rated Current In (A)	Rated Voltage Un (V)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 2 Poled, 30 mA



25	230	34048006	1	100	22,55	485 x 436 x 191
32	230	34048007	1	100	22,45	485 x 436 x 191
40	230	34048008	1	100	22,40	485 x 436 x 191
50	230	34048009	1	100	23,20	485 x 436 x 191
63	230	34048010	1	100	23,20	485 x 436 x 191
80	230	34048011	1	100	23,20	485 x 436 x 191
100	230	34048012	1	100	23,20	485 x 436 x 191

### 2 Poled, 300 mA



25	230	35048006	1	100	21,15	485 x 436 x 191
32	230	35048007	1	100	21,60	485 x 436 x 191
40	230	35048008	1	100	21,50	485 x 436 x 191
50	230	35048009	1	100	21,90	485 x 436 x 191
63	230	35048010	1	100	22,10	485 x 436 x 191
80	230	35048011	1	100	22,10	485 x 436 x 191
100	230	35048012	1	100	22,10	485 x 436 x 191

### 4 Poled, 30 mA



25	230/400	34049006	1	50	18,30	485 x 410 x 191
32	230/400	34049007	1	50	18,20	485 x 410 x 191
40	230/400	34049008	1	50	18,25	485 x 410 x 191
50	230/400	34049009	1	50	18,70	485 x 410 x 191
63	230/400	34049010	1	50	18,70	485 x 410 x 191
80	230/400	34049011	1	50	18,70	485 x 410 x 191
100	230/400	34049012	1	50	18,70	485 x 410 x 191

### 4 Poled, 300 mA



25	230/400	35049006	1	50	17,70	485 x 410 x 191
32	230/400	35049007	1	50	17,40	485 x 410 x 191
40	230/400	35049008	1	50	17,50	485 x 410 x 191
50	230/400	35049009	1	50	18,10	485 x 410 x 191
63	230/400	35049010	1	50	18,15	485 x 410 x 191
80	230/400	35049011	1	50	18,15	485 x 410 x 191
100	230/400	35049012	1	50	18,15	485 x 410 x 191

## Residual Current Circuit Breakers (RCCBs) 6 kA, A Type

Product Name	Rated Current In (A)	Rated Voltage Un (V)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 2 Poled, 30 mA



25	230	34050006	1	100	22,70	485 x 436 x 191
32	230	34050007	1	100	22,80	485 x 436 x 191
40	230	34050008	1	100	22,75	485 x 436 x 191
50	230	34050009	1	100	23,35	485 x 436 x 191
63	230	34050010	1	100	23,35	485 x 436 x 191
80	230	34050011	1	100	23,35	485 x 436 x 191
100	230	34050012	1	100	23,35	485 x 436 x 191
120	230	34050013	1	100	23,35	485 x 436 x 191

### 2 Poled, 300 mA



25	230	35050006	1	100	22,70	485 x 436 x 191
32	230	35050007	1	100	22,65	485 x 436 x 191
40	230	35050008	1	100	22,40	485 x 436 x 191
50	230	35050009	1	100	22,90	485 x 436 x 191
63	230	35050010	1	100	22,90	485 x 436 x 191
80	230	35050011	1	100	22,90	485 x 436 x 191
100	230	35050012	1	100	22,90	485 x 436 x 191
125	230	35050013	1	100	22,90	485 x 436 x 191

### 4 Poled, 30 mA



25	230/400	34051006	1	50	19,85	485 x 410 x 191
32	230/400	34051007	1	50	20,00	485 x 410 x 191
40	230/400	34051008	1	50	20,20	485 x 410 x 191
50	230/400	34051009	1	50	20,65	485 x 410 x 191
63	230/400	34051010	1	50	20,35	485 x 410 x 191
80	230/400	34051011	1	50	20,35	485 x 410 x 191
100	230/400	34051012	1	50	20,35	485 x 410 x 191
125	230/400	34051013	1	50	20,35	485 x 410 x 191

### 4 Poled, 300 mA



25	230/400	35051006	1	50	19,85	485 x 410 x 191
32	230/400	35051007	1	50	19,95	485 x 410 x 191
40	230/400	35051008	1	50	20,20	485 x 410 x 191
50	230/400	35051009	1	50	20,65	485 x 410 x 191
63	230/400	35051010	1	50	20,35	485 x 410 x 191
80	230/400	35051011	1	50	20,35	485 x 410 x 191
100	230/400	35051012	1	50	20,35	485 x 410 x 191
125	230/400	35051013	1	50	20,35	485 x 410 x 191

## Residual Current Circuit Breakers (RCCBs) 10 kA, A Type

Product Name	Rated Current In (A)	Rated Voltage Un (V)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 2 Poled, 30 mA



25	230	34052006	1	100	22,80	485 x 436 x 191
32	230	34052007	1	100	22,95	485 x 436 x 191
40	230	34052008	1	100	22,85	485 x 436 x 191
50	230	34052009	1	100	23,40	485 x 436 x 191
63	230	34052010	1	100	23,25	485 x 436 x 191
80	230	34052011	1	100	23,25	485 x 436 x 191
100	230	34052012	1	100	23,25	485 x 436 x 191
125	230	34052013	1	100	23,25	485 x 436 x 191

### 2 Poled, 300 mA



25	230	35052006	1	100	22,50	485 x 436 x 191
32	230	35052007	1	100	22,55	485 x 436 x 191
40	230	35052008	1	100	22,45	485 x 436 x 191
50	230	35052009	1	100	23,00	485 x 436 x 191
63	230	35052010	1	100	22,90	485 x 436 x 191
80	230	35052011	1	100	22,90	485 x 436 x 191
100	230	35052012	1	100	22,90	485 x 436 x 191
125	230	35052013	1	100	22,90	485 x 436 x 191

### 4 Poled, 30 mA



25	230/400	34053006	1	50	20,25	485 x 410 x 191
32	230/400	34053007	1	50	20,25	485 x 410 x 191
40	230/400	34053008	1	50	20,05	485 x 410 x 191
50	230/400	34053009	1	50	20,50	485 x 410 x 191
63	230/400	34053010	1	50	20,55	485 x 410 x 191
80	230/400	34053011	1	50	20,55	485 x 410 x 191
100	230/400	34053012	1	50	20,55	485 x 410 x 191
125	230/400	34053013	1	50	20,55	485 x 410 x 191

### 4 Poled, 300 mA



25	230/400	35053006	1	50	19,30	485 x 410 x 191
32	230/400	35053007	1	50	19,30	485 x 410 x 191
40	230/400	35053008	1	50	19,05	485 x 410 x 191
50	230/400	35053009	1	50	19,95	485 x 410 x 191
63	230/400	35053010	1	50	19,65	485 x 410 x 191
80	230/400	35053011	1	50	19,65	485 x 410 x 191
100	230/400	35053012	1	50	19,65	485 x 410 x 191
125	230/400	35053013	1	50	19,65	485 x 410 x 191

## Residual Current Circuit Breakers (RCCBs) 3 kA, S Type

Product Name	Rated Current In (A)	Rated Voltage Un (V)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 2 Poled, 30 mA



25	230	34054006	1	100	22,05	485 x 436 x 191
32	230	34054007	1	100	21,95	485 x 436 x 191
40	230	34054008	1	100	21,90	485 x 436 x 191
50	230	34054009	1	100	22,70	485 x 436 x 191
63	230	34054010	1	100	22,70	485 x 436 x 191
80	230	34054011	1	100	22,70	485 x 436 x 191
100	230	34054012	1	100	22,70	485 x 436 x 191

### 2 Poled, 300 mA



25	230	35054006	1	100	20,65	485 x 436 x 191
32	230	35054007	1	100	21,10	485 x 436 x 191
40	230	35054008	1	100	21,00	485 x 436 x 191
50	230	35054009	1	100	21,40	485 x 436 x 191
63	230	35054010	1	100	21,60	485 x 436 x 191
80	230	35054011	1	100	21,60	485 x 436 x 191
100	230	35054012	1	100	21,60	485 x 436 x 191

### 4 Poled, 30 mA



25	230/400	34055006	1	50	18,30	485 x 410 x 191
32	230/400	34055007	1	50	18,20	485 x 410 x 191
40	230/400	34055008	1	50	18,25	485 x 410 x 191
50	230/400	34055009	1	50	18,70	485 x 410 x 191
63	230/400	34055010	1	50	18,70	485 x 410 x 191
80	230/400	34055011	1	50	18,70	485 x 410 x 191
100	230/400	34055012	1	50	18,70	485 x 410 x 191

### 4 Poled, 300 mA



25	230/400	35055006	1	50	17,70	485 x 410 x 191
32	230/400	35055007	1	50	17,40	485 x 410 x 191
40	230/400	35055008	1	50	17,50	485 x 410 x 191
50	230/400	35055009	1	50	18,10	485 x 410 x 191
63	230/400	35055010	1	50	18,15	485 x 410 x 191
80	230/400	35055011	1	50	18,15	485 x 410 x 191
100	230/400	35055012	1	50	18,15	485 x 410 x 191



## Residual Current Circuit Breakers (RCCBs) 6 kA, S Type

Product Name	Rated Current In (A)	Rated Voltage Un (V)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 2 Poled, 30 mA



25	230	34056006	1	100	22,20	485 x 436 x 191
32	230	34056007	1	100	22,30	485 x 436 x 191
40	230	34056008	1	100	22,25	485 x 436 x 191
50	230	34056009	1	100	22,85	485 x 436 x 191
63	230	34056010	1	100	22,85	485 x 436 x 191
80	230	34056011	1	100	22,85	485 x 436 x 191
100	230	34056012	1	100	22,85	485 x 436 x 191
125	230	34056013	1	100	22,85	485 x 436 x 191

### 2 Poled, 300 mA



25	230	35056006	1	100	22,20	485 x 436 x 191
32	230	35056007	1	100	22,15	485 x 436 x 191
40	230	35056008	1	100	21,90	485 x 436 x 191
50	230	35056009	1	100	22,40	485 x 436 x 191
63	230	35056010	1	100	22,40	485 x 436 x 191
80	230	35056011	1	100	22,40	485 x 436 x 191
100	230	35056012	1	100	22,40	485 x 436 x 191
125	230	35056013	1	100	22,40	485 x 436 x 191

### 4 Poled, 30 mA



25	230/400	34057006	1	50	19,85	485 x 410 x 191
32	230/400	34057007	1	50	20,00	485 x 410 x 191
40	230/400	34057008	1	50	20,20	485 x 410 x 191
50	230/400	34057009	1	50	20,65	485 x 410 x 191
63	230/400	34057010	1	50	20,35	485 x 410 x 191
80	230/400	34057011	1	50	20,35	485 x 410 x 191
100	230/400	34057012	1	50	20,35	485 x 410 x 191
125	230/400	34057013	1	50	20,35	485 x 410 x 191

### 4 Poled, 300 mA



25	230/400	35057006	1	50	19,85	485 x 410 x 191
32	230/400	35057007	1	50	19,95	485 x 410 x 191
40	230/400	35057008	1	50	20,20	485 x 410 x 191
50	230/400	35057009	1	50	20,65	485 x 410 x 191
63	230/400	35057010	1	50	20,35	485 x 410 x 191
80	230/400		1	50	20,35	485 x 410 x 191
100	230/400		1	50	20,35	485 x 410 x 191
125	230/400		1	50	20,35	485 x 410 x 191

## Residual Current Circuit Breakers (RCCBs) 10 kA, S Type

Product Name	Rated Current In (A)	Rated Voltage Un (V)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### 2 Poled, 30 mA



25	230	34058006	1	100	22,30	485 x 436 x 191
32	230	34058007	1	100	22,45	485 x 436 x 191
40	230	34058008	1	100	22,35	485 x 436 x 191
50	230	34058009	1	100	22,90	485 x 436 x 191
63	230	34058010	1	100	22,75	485 x 436 x 191
80	230	34058011	1	100	22,75	485 x 436 x 191
100	230	34058012	1	100	22,75	485 x 436 x 191
125	230	34058013	1	100	22,75	485 x 436 x 191

### 2 Poled, 300 mA



25	230	35058006	1	100	22,00	485 x 436 x 191
32	230	35058007	1	100	22,05	485 x 436 x 191
40	230	35058008	1	100	21,95	485 x 436 x 191
50	230	35058009	1	100	22,50	485 x 436 x 191
63	230	35058010	1	100	22,40	485 x 436 x 191
80	230	35058011	1	100	22,40	485 x 436 x 191
100	230	35058012	1	100	22,40	485 x 436 x 191
125	230	35058013	1	100	22,40	485 x 436 x 191

### 4 Poled, 30 mA



25	230/400	34059006	1	50	20,25	485 x 410 x 191
32	230/400	34059007	1	50	20,25	485 x 410 x 191
40	230/400	34059008	1	50	20,05	485 x 410 x 191
50	230/400	34059009	1	50	20,50	485 x 410 x 191
63	230/400	34059010	1	50	20,55	485 x 410 x 191
80	230/400	34059011	1	50	20,55	485 x 410 x 191
100	230/400	34059012	1	50	20,55	485 x 410 x 191
125	230/400	34059013	1	50	20,55	485 x 410 x 191

### 4 Poled, 300 mA



25	230/400	35059006	1	50	19,30	485 x 410 x 191
32	230/400	35059007	1	50	19,30	485 x 410 x 191
40	230/400	35059008	1	50	19,05	485 x 410 x 191
50	230/400	35059009	1	50	19,95	485 x 410 x 191
63	230/400	35059010	1	50	19,65	485 x 410 x 191
80	230/400	35059011	1	50	19,65	485 x 410 x 191
100	230/400	35059012	1	50	19,65	485 x 410 x 191
125	230/400	35059013	1	50	19,65	485 x 410 x 191

# Low Voltage Switchgear and Industrial Automation Product

## MCCB Thermal Magnetic Fixed

Product Name	Thermal setting current I <sub>r</sub> (A)	Breaking capacity I <sub>cu</sub> (kA)	Rated Current I <sub>n</sub> (A)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>3 Pole, 380 V AC</b>								
	Fix	25	25	46006006	1	10	11,89	505 x 260 x 105
	Fix	25	32	46006007	1	10	11,89	505 x 260 x 105
	Fix	25	40	46006008	1	10	11,89	505 x 260 x 105
	Fix	25	50	46006009	1	10	11,89	505 x 260 x 105
	Fix	25	63	46006010	1	10	11,89	505 x 260 x 105
	Fix	25	80	46006011	1	10	11,89	505 x 260 x 105
	Fix	25	100	46006012	1	10	11,89	505 x 260 x 105
	Fix	25	125	46006013	1	10	11,89	505 x 260 x 105
	Fix	25	160	46006014	1	10	11,87	505 x 260 x 105
<b>3 Pole, 380 V AC</b>								
	Fix	35	200	46007015	1	6	17,31	548 x 225 x 181
	Fix	35	225	46007016	1	6	17,32	548 x 225 x 181
	Fix	35	250	46007017	1	6	17,33	548 x 225 x 181
<b>3 Pole, 380 V AC</b>								
	Fix	35	315	46007018	1	4	21,11	610 x 300 x 150
	Fix	35	400	46007019	1	4	21,20	610 x 300 x 150

## MCCB Thermal Adjustable

Product Name	Thermal setting current I <sub>r</sub> (A)	Breaking capacity I <sub>cu</sub> (kA)	Rated Current I <sub>n</sub> (A)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>3 Pole, 380 V AC</b>								
	20-25	25	25	47006006	1	10	11,89	505 x 260 x 105
	25-32	25	32	47006007	1	10	11,89	505 x 260 x 105
	32-40	25	40	47006008	1	10	11,89	505 x 260 x 105
	40-50	25	50	47006009	1	10	11,89	505 x 260 x 105
	50-63	25	63	47006010	1	10	11,89	505 x 260 x 105
	63-80	25	80	47006011	1	10	11,89	505 x 260 x 105
	80-100	25	100	47006012	1	10	11,89	505 x 260 x 105
	100-125	25	125	47006013	1	10	11,89	505 x 260 x 105
	125-160	25	160	47006014	1	10	11,89	505 x 260 x 105
<b>3 Pole, 380 V AC</b>								
	160-200	35	200	47006015	1	6	17,32	548 x 225 x 181
	200-250	35	250	47007017	1	6	17,29	548 x 225 x 181
<b>3 Pole, 380 V AC</b>								
	250-315	35	315	47007018	1	4	21,07	610 x 300 x 150
	315-400	35	400	47007019	1	4	21,05	610 x 300 x 150



400 A Moulded Case Circuit Breakers (MCCBs)



250 A Moulded Case Circuit Breakers (MCCBs)



160 A Moulded Case Circuit Breakers (MCCBs)

## Thermo-Setting Fielded Compact Switch Electronic Type

Product Name	Thermal setting current I <sub>r</sub> (A)	Breaking capacity I <sub>cu</sub> (kA)	Rated Current I <sub>n</sub> (A)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Electronic Type</b>								
	160-400	50	400	48007019	1	4	10,52	610 x 300 x 150
	200-500	50	500	47008020	1	2	18,34	445 x 285 x 180
	250-630	50	630	47008021	1	2	18,67	445 x 285 x 180
	320-800	65	800	48007022	1	2	18,91	445 x 285 x 180
	400-1000	65	1000	48008023	1	1	20,00	458 x 295 x 265
	500-1250	65	1250	48008024	1	1	20,00	458 x 295 x 265
	600-1600	65	1600	48008025	1	1	20,00	458 x 295 x 265



1600 A Moulded Case Circuit Breakers (MCCBs)



630 A Moulded Case Circuit Breakers (MCCBs)



400 A Moulded Case Circuit Breakers (MCCBs)

## Accessories of MCCBs

Rated Current I <sub>n</sub> (A)	Code No.	Technical Specifications	Use Compact Switch	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Use Compact Switch</b>							
160	67000001	1N/A+1 N/K	46006006-14 / 47006006-14	1	120	4,69	510 x 375 x 290
250	67000002	1N/A+1 N/K	46007015-17 / 47006015-17	1	120	6,13	510 x 375 x 290
400	67000003	2N/A+2N/K	46007018-19 / 47007018-19	1	120	8,53	510 x 375 x 290
630	67000060	2N/A+2 N/K	47008020-21	1	100	6,32	530 x 390 x 180
800	67000107	2N/A+2 N/K	48007022	1	100	6,32	530 x 390 x 180

## Alarm Contacts

160	67000004	1 N/A+1 N/K	46006006-14 / 47006006-14	1	120	4,57	510 x 375 x 290
250	67000005	1 N/A+1 N/K	46007015-17 / 47006015-17	1	120	6,25	510 x 375 x 290
400	67000006	1 N/A+1 N/K	46007018-19 / 47007018-19	1	120	6,25	510 x 375 x 290
630	67000061	1 N/A+1 N/K	47008020-21	1	100	5,82	530 x 390 x 180
800	67000108	1 N/A+1 N/K	48007022	1	100	5,82	530 x 390 x 180

## Shunt releases

160	67000007	220/380 VAC	46006006-14 / 47006006-14	1	120	9,01	510 x 375 x 290
250	67000008	220/380 VAC	46007015-17 / 47006015-17	1	120	12,37	510 x 375 x 290
400	67000009	220/380 VAC	46007018-19 / 47007018-19	1	120	12,25	510 x 375 x 290
630	67000063	220/380 VAC	47008020-21	1	100	18,42	530 x 390 x 180
800	67000110	220/380 VAC	48007022	1	100	18,42	530 x 390 x 180

## Under voltage releases

160	67000010	220/380 VAC	46006006-14 / 47006006-14	1	120	12,49	510 x 375 x 290
250	67000011	220/380 VAC	46007015-17 / 47006015-17	1	120	12,13	510 x 375 x 290
400	67000012	220/380 VAC	46007018-19 / 47007018-19	1	120	12,25	510 x 375 x 290
630	67000064	220/380 VAC	47008020-21	1	100	19,52	530 x 390 x 180
800	67000111	220/380 VAC	48007022	1	100	19,52	530 x 390 x 180

# Low Voltage Switchgear and Industrial Automation Product

## Accessories of MCCBs

Rated Current In (A)	Code No.	Technical Specifications	Use Compact Switch	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Rail Installed parts</b>							
160	67000028	-	46006006-14 / 47006006-14	1	120	9,30	510 x 375 x 290
250	67000029	-	46007015-17 / 47006015-17	1	12	2,59	390 x 325 x 180
<b>Extension bars *</b>							
160	67000030	-	46006006-14 / 47006006-14	6	120	2,45	405 x 235 x 105
250	67000031	-	46007015-17 / 47006015-17	6	120	6,65	405 x 235 x 105
400	67000032	-	46007018-19 / 47007018-19	6	120	7,49	405 x 235 x 105
630	67000065	-	47008020-21	6	120	17,20	260 x 160 x 175
800	67000112	-	48007022	6	120	17,20	260 x 160 x 175
<b>Extended rotary handle</b>							
160	67000033	-	46006006-14 / 47006006-14	1	12	7,60	390 x 325 x 180
250	67000034	-	46007015-17 / 47006015-17	1	12	11,46	390 x 325 x 180
400	67000035	-	46007018-19 / 47007018-19	1	8	10,10	390 x 325 x 180
630	67000062	-	47008020-21	1	8	15,05	400 x 265 x 225
800	67000109	-	48007022	1	8	15,05	533 x 288 x 200
<b>Motor control mechanisms</b>							
160	67000047	230V AC	46006006-14 / 47006006-14	1	10	13,25	535 x 240 x 115
250	67000048	230V AC	46007015-17 47006015 / 47007017	1	6	9,02	365 x 320 x 120
400	67000049	230V AC	46007018-19 / 47007018-19 48007019	1	4	15,44	630 x 235 x 150
500	67000043	230V AC	47008020	1	4	15,70	642 x 270 x 164
630	67000044	230V AC	47008021	1	4	15,70	642 x 270 x 164

\* 6 pieces of extension busbars form 1 set.

## MCCB Thermal and Magnetic Fixed Type (3P+N)

Product Name	Thermal setting current Ir (A)	Breaking capacity Icu (kA)	Rated Current In (A)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>3P+N</b>								
	Fix	35	25	46060006	1	8	16,35	372 x 304 x 273
	Fix	35	32	46060007	1	8	16,30	372 x 304 x 273
	Fix	35	40	46060008	1	8	16,40	372 x 304 x 273
	Fix	35	50	46060009	1	8	16,30	372 x 304 x 273
	Fix	35	63	46060010	1	8	16,35	372 x 304 x 273
	Fix	35	80	46060011	1	8	16,35	372 x 304 x 273
	Fix	35	100	46060012	1	8	16,40	372 x 304 x 273
<b>3P+N</b>								
	Fix	35	125	46060013	1	8	25,35	390 x 340 x 313
	Fix	35	160	46060014	1	8	24,50	390 x 340 x 313
	Fix	35	200	46060015	1	8	24,50	390 x 340 x 313
	Fix	35	225	46060016	1	8	25,40	390 x 340 x 313
<b>3P+N</b>								
	Fix	50	250	46061017	1	2	15,10	350 x 285 x 385
	Fix	50	315	46061018	1	2	15,15	350 x 285 x 385
	Fix	50	400	46061019	1	2	15,15	350 x 285 x 385
<b>3P+N</b>								
	Fix	65	500	46062020	1	1	10,10	370 x 340 x 210
	Fix	65	630	46062021	1	1	10,12	370 x 340 x 210
	Fix	65	800	46062022	1	1	12,75	393 x 358 x 258



630 A Moulded Case Circuit Breakers



400 A Moulded Case Circuit Breakers



225 A Moulded Case Circuit Breakers



100 A Moulded Case Circuit Breakers



## Accessories of MCCB Thermal and Magnetic Fixed Type (3P+N)

Rated Current In (A)	Code No.	Use Compact Switch	Explanation	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Use Compact Switch</b>							
100	67000130	46060006.....,46060012	Operating Voltage 220V AC 1NO+QNC	1	120	6,61	510 x 375 x 290
225	67000131	46060013.....,46060016		1	120	6,61	510 x 375 x 290
400	67000132	46061017.....,46061019		1	120	10,69	510 x 375 x 290
630	67000133	46062020-46062021		1	100	14,72	530 x 390 x 180
<b>Alarm Contacts</b>							
100	67000143	46060006.....,46060012	Operating Voltage 220V AC	1	120	6,49	510 x 375 x 290
225	67000144	46060013.....,46060016		1	120	6,61	510 x 375 x 290
400	67000145	46061017.....,46061019		1	120	8,29	510 x 375 x 290
630	67000146	46062020-46062021		1	100	8,20	578 x 283 x 303
<b>Shunt releases</b>							
100	67000147	46060006.....,46060012	Operating Voltage 220V AC	1	120	9,73	510 x 375 x 290
225	67000148	46060013.....,46060016		1	120	9,85	510 x 375 x 290
400	67000149	46061017.....,46061019		1	120	3,15	405 x 235 x 105
630	67000150	46062020-46062021		1	100	17,00	578 x 283 x 303
<b>Under voltage releases</b>							
100	67000151	46060006.....,46060012	Operating Voltage 220V AC	1	120	2,55	405 x 235 x 105
225	67000152	46060013.....,46060016		1	120	2,55	405 x 235 x 105
400	67000153	46061017.....,46061019		1	120	3,81	405 x 235 x 105
630	67000154	46062020-46062021		1	100	18,60	578 x 283 x 303
<b>Extension bars *</b>							
100	67000134	46060006.....,46060012	Operating Voltage 220V AC	8	160	3,37	405 x 235 x 105
225	67000135	46060013.....,46060016		8	160	7,53	405 x 235 x 105
400	67000136	46061017.....,46061019		8	160	14,73	405 x 235 x 105
630	67000137	46062020-46062021		8	80	16,20	238 x 205 x 95
<b>Motor control mechanisms</b>							
100	67000138	46060006.....,46060012	Operating Voltage 220V AC	1	10	13,68	555 x 295 x 115
225	67000139	46060013.....,46060016		1	6	9,01	365 x 320 x 120
400	67000140	46061017.....,46061019		1	4	15,45	630 x 235 x 150
500	67000141	46062020		1	4	16,24	642 x 270 x 164
630	67000142	46062021		1	4	16,24	642 x 270 x 164

\* 8 pieces of extension busbars form 1 set.

# Low Voltage Switchgear and Industrial Automation Product

## Leakage Case Circuit Breakers (with Shunt Releases)

Product Name	Breaking Capacity Icu (kA)	Threshold Current (mA)	Threshold Time (s)	Rated Current In (A)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>4 Pole</b>									
	35	30-100-300	0,1-0,3-0,5	40	39045008	1	8	24,15	415 x 395 x 345
	35	30-100-300	0,1-0,3-0,5	50	39045009	1	8	24,16	415 x 395 x 345
	35	30-100-300	0,1-0,3-0,5	63	39045010	1	8	24,17	415 x 395 x 345
	35	30-100-300	0,1-0,3-0,5	80	39045011	1	8	24,14	415 x 395 x 345
	35	30-100-300	0,1-0,3-0,5	100	39045012	1	8	24,14	415 x 395 x 345

### 4 Pole

	35	30-100-300	0,1-0,3-0,5	125	39045013	1	8	30,15	455 x 420 x 340
	35	30-100-300	0,1-0,3-0,5	160	39045014	1	8	29,96	455 x 420 x 340
	35	30-100-300	0,1-0,3-0,5	225	39045016	1	8	30,04	455 x 420 x 340

### 4 Pole

	50	100-300-500	0,1-0,3-0,5	250	39046017	1	2	16,33	608 x 333 x 253
	50	300-500-1000	0,1-0,3-0,5	315	39046018	1	2	16,34	608 x 333 x 253
	50	300-500-1000	0,1-0,3-0,5	400	39046019	1	2	16,34	608 x 333 x 253

### 4 Pole

<b>New</b>	50	300-500-1000	0,1-0,3-0,5	500	39046020	1	1	12,68	385 x 350 x 255
<b>New</b>	50	300-500-1000	0,1-0,3-0,5	630	39046021	1	1	12,89	385 x 350 x 255
<b>New</b>	65	300-500-1000	0,1-0,3-0,5	800	39047022	1	1	13,14	385 x 350 x 255

## Leakage Case Circuit Breakers with (Shunt releases and mounted auxiliary contact blocks)

Product Name	Breaking Capacity Icu (kA)	Threshold Current (mA)	Threshold Time (s)	Rated Current In (A)	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>4 Pole</b>									
	35	30-100-300	0,1-0,3-0,5	40	39045008-Y	1	8	24,24	415 x 395 x 345
	35	30-100-300	0,1-0,3-0,5	50	39045009-Y	1	8	24,25	415 x 395 x 345
	35	30-100-300	0,1-0,3-0,5	63	39045010-Y	1	8	24,25	415 x 395 x 345
	35	30-100-300	0,1-0,3-0,5	80	39045011-Y	1	8	24,23	415 x 395 x 345
	35	30-100-300	0,1-0,3-0,5	100	39045012-Y	1	8	24,22	415 x 395 x 345

### 4 Pole

	35	30-100-300	0,1-0,3-0,5	125	39045013-Y	1	8	30,24	455 x 420 x 340
	35	30-100-300	0,1-0,3-0,5	160	39045014-Y	1	8	30,50	455 x 420 x 340
	35	30-100-300	0,1-0,3-0,5	225	39045016-Y	1	8	30,13	455 x 420 x 340

### 4 Pole

	50	100-300-500	0,1-0,3-0,5	250	39046017-Y	1	2	16,52	325 x 305 x 490
	50	300-500-1000	0,1-0,3-0,5	315	39046018-Y	1	2	16,53	325 x 305 x 490
	50	300-500-1000	0,1-0,3-0,5	400	39046019-Y	1	2	16,53	325 x 305 x 490

### 4 Pole

	50	300-500-1000	0,1-0,3-0,5	500	39046020-Y	1	1	12,95	385 x 350 x 255
	50	300-500-1000	0,1-0,3-0,5	630	39046021-Y	1	1	13,07	385 x 350 x 255
	65	300-500-1000	0,1-0,3-0,5	800	39047022-Y	1	1	13,38	385 x 350 x 255



630 A MCCB with RCCB



400 A MCCB with RCCB



225 A MCCB with RCCB



100 A MCCB with RCCB

## Accessories of Leakage Case Circuit Breakers

Rated Current In (A)	Code No.	Use Compact Switch	Explanation	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Alarm Contacts</b>							
100	67000013	39045008	Operating Voltage 220V AC	1	120	6,49	510 x 375 x 290
		39045009					
		39045010					
		39045011					
		39045012					
225	67000014	39045013	Operating Voltage 220V AC	1	120	6,61	510 x 375 x 290
		39045014					
		39045015					
		39045016					
400	67000015	39046017	Operating Voltage 220V AC	1	120	8,29	510 x 375 x 290
		39046018					
		39046019					
630	67000066	39046020 39046021	Operating Voltage 220V AC	1	100	8,20	578 x 283 x 303
800	67000092	39047022 39047022 - Y	Operating Voltage 220V AC	1	100	8,20	578 x 283 x 303
<b>Shunt Release</b>							
100	67000016	39045008	Operating Voltage 220V AC	1	120	9,73	510 x 375 x 290
		39045009					
		39045010					
		39045011					
		39045012					
225	67000017	39045013	Operating Voltage 220V AC	1	120	9,85	510 x 375 x 290
		39045014					
		39045015					
		39045016					
400	67000018	39046017	Operating Voltage 220V AC	1	20	3,15	405 x 235 x 105
		39046018					
		39046019					
630	67000067	39046020 39046021	Operating Voltage 220V AC	1	100	17,00	578 x 283 x 303
800	67000094	39047022 39047022 - Y	Operating Voltage 220V AC	1	100	17,00	578 x 283 x 303
<b>Undervoltage Releases</b>							
100	67000019	39045008	Operating Voltage 220V AC	1	20	2,55	405 x 235 x 105
		39045009					
		39045010					
		39045011					
		39045012					
225	67000020	39045013	Operating Voltage 220V AC	1	20	2,55	405 x 235 x 105
		39045014					
		39045015					
		39045016					
400	67000021	39046017	Operating Voltage 220V AC	1	20	3,81	405 x 235 x 105
		39046018					
		39046019					
630	67000068	39046020 39046021	Operating Voltage 220V AC	1	100	18,60	578 x 283 x 303
800	67000096	39047022 39047022 - Y	Operating Voltage 220V AC	1	100	18,60	578 x 283 x 303

# Low Voltage Switchgear and Industrial Automation Product

## Accessories of Leakage Case Circuit Breakers

Rated Current In (A)	Code No.	Use Compact Switch	Explanation	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Auxiliary Contact Blocks</b>							
100	67000022	39045008	Operating Voltage 220V AC, 1NA+1NK	1	120	6,61	510 x 375 x 290
		39045009					
		39045010					
		39045011					
		39045012					
225	67000023	39045013	Operating Voltage 220V AC, 1NA+1NK	1	120	6,61	510 x 375 x 290
		39045014					
		39045015					
		39045016					
400	67000024	39046017	Operating Voltage 220V AC, 1NA+1NK	1	120	10,69	510 x 375 x 290
		39046018					
		39046019					
630	67000069	39046020 39046021	Operating Voltage 220V AC, 1NA+1NK	1	100	14,72	530 x 390 x 180
800	67000098	39047022 39047022 - Y	Operating Voltage 220V AC, 1NA+1NK	1	100	14,72	530 x 390 x 180
<b>Extension Bars *</b>							
100	67000025	39045008	-	8	160	3,37	405 x 235 x 105
		39045009					
		39045010					
		39045011					
		39045012					
225	67000026	39045013	-	8	160	7,53	405 x 235 x 105
		39045014					
		39045015					
		39045016					
400	67000027	39046017	-	8	160	14,73	405 x 235 x 105
		39046018					
		39046019					
630	67000070	39046020 39046021	-	8	80	16,20	238 x 205 x 95
800	67000100	39047022 39047022 - Y	-	8	80	16,20	238 x 205 x 95
<b>Motor Control Mechanisms</b>							
100	67000050	39045008 - 12	-	1	10	13,68	555 x 295 x 115
225	67000051	39045013	-	1	6	9,01	365 x 320 x 120
		39045014					
		39045015					
		39045016					
400	67000052	39046017	-	1	4	15,45	630 x 235 x 150
		39046018					
		39046019					
500	67000045	39046020	-	1	4	16,24	642 x 270 x 164
630	67000046	39046021	-	1	4	16,24	642 x 270 x 164

\* 8 pieces of extension busbars form 1 set.

## Modular Contactor

Product Name	Code No.	Number of Poles	Number of Auxiliary Contacts	AC3 Nominal Current (A)	ACI (Ith) Thermal Current I (A)	Coil Voltage (V AC)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>AC Contactor 2-Poles 220 V</b>										
KNHC-16	68000139	2	2NO	16	25	230	12	120	14,95	477 x 242 x 185
KNHC-16	68000140	2	1NO+1NC	16	25	230	12	120	15,04	477 x 242 x 185
KNHC-16	68000141	2	2NC	16	25	230	12	120	15,04	477 x 242 x 185
KNHC-20	68000142	2	2NO	20	25	230	12	120	14,96	477 x 242 x 185
KNHC-20	68000143	2	1NO+1NC	20	25	230	12	120	15,03	477 x 242 x 185
KNHC-20	68000144	2	2NC	20	25	230	12	120	15,04	477 x 242 x 185
KNHC-25	68000145	2	2NO	25	25	230	12	120	14,98	477 x 242 x 185
KNHC-25	68000146	2	1NO+1NC	25	25	230	12	120	15,05	477 x 242 x 185
KNHC-25	68000147	2	2NC	25	25	230	12	120	15,04	477 x 242 x 185
KNHC-40	68000148	2	2NO	40	63	230	6	60	14,40	477 x 242 x 185
KNHC-40	68000149	2	1NO+1NC	40	63	230	6	60	14,48	477 x 242 x 185
KNHC-40	68000150	2	2NC	40	63	230	6	60	14,52	477 x 242 x 185
KNHC-63	68000151	2	2NO	63	63	230	6	60	14,40	477 x 242 x 185
KNHC-63	68000152	2	1NO+1NC	63	63	230	6	60	14,54	477 x 242 x 185
KNHC-63	68000153	2	2NC	63	63	230	6	60	14,50	477 x 242 x 185

## AC Contactor 4-Poles 220 V

KNHC-16	68000154	4	4NO	16	25	230	6	60	13,11	477 x 242 x 185
KNHC-16	68000155	4	2NO+2NC	16	25	230	6	60	13,10	477 x 242 x 185
KNHC-16	68000156	4	4NC	16	25	230	6	60	13,11	477 x 242 x 185
KNHC-16	68000157	4	3NO+1NC	16	25	230	6	60	13,09	477 x 242 x 185
KNHC-16	68000158	4	3NC+1NO	16	25	230	6	60	13,12	477 x 242 x 185
KNHC-20	68000159	4	4NO	20	25	230	6	60	13,07	477 x 242 x 185
KNHC-20	68000160	4	2NO+2NC	20	25	230	6	60	13,08	477 x 242 x 185
KNHC-20	68000161	4	4NO	20	25	230	6	60	13,12	477 x 242 x 185
KNHC-20	68000162	4	3NO+1NC	20	25	230	6	60	13,13	477 x 242 x 185
KNHC-20	68000163	4	3NC+1NO	20	25	230	6	60	13,13	477 x 242 x 185
KNHC-25	68000164	4	4NO	25	25	230	6	60	13,11	477 x 242 x 185
KNHC-25	68000165	4	2NO+2NC	25	25	230	6	60	13,12	477 x 242 x 185
KNHC-25	68000166	4	4NC	25	25	230	6	60	13,09	477 x 242 x 185
KNHC-25	68000167	4	3NO+1NC	25	25	230	6	60	13,08	477 x 242 x 185
KNHC-25	68000168	4	3NC+1NO	25	25	230	6	60	13,12	477 x 242 x 185
KNHC-40	68000169	4	4NO	40	63	230	4	40	13,77	477 x 242 x 185
KNHC-40	68000170	4	2NO+2NC	40	63	230	4	40	13,87	477 x 242 x 185
KNHC-40	68000171	4	4NC	40	63	230	4	40	13,91	477 x 242 x 185
KNHC-40	68000172	4	3NO+1NC	40	63	230	4	40	13,84	477 x 242 x 185
KNHC-40	68000173	4	3NC+1NO	40	63	230	4	40	13,85	477 x 242 x 185
KNHC-63	68000174	4	4NO	63	63	230	4	40	13,82	477 x 242 x 185
KNHC-63	68000175	4	2NO+2NC	63	63	230	4	40	14,02	477 x 242 x 185
KNHC-63	68000176	4	4NC	63	63	230	4	40	13,91	477 x 242 x 185
KNHC-63	68000177	4	3NO+1NC	63	63	230	4	40	13,85	477 x 242 x 185
KNHC-63	68000178	4	3NC+1NO	63	63	230	4	40	14,03	477 x 242 x 185



# Low Voltage Switchgear and Industrial Automation Product

## Modular Contactor

Product Name	Code No.	Number of Poles	Number of Auxiliary Contacts	AC3 Nominal Current (A)	ACI (Ith) Thermal Current I (A)	Coil Voltage (V AC)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>AC Contactor 2-Poles 24V</b>										
KNHC-16	68000099	2	2NO	16	25	24	12	120	14,72	477 x 242 x 185
KNHC-16	68000100	2	1NO+1NC	16	25	24	12	120	14,78	477 x 242 x 185
KNHC-16	68000101	2	2NC	16	25	24	12	120	14,80	477 x 242 x 185
KNHC-20	68000102	2	2NO	20	25	24	12	120	14,73	477 x 242 x 185
KNHC-20	68000103	2	1NO+1NC	20	25	24	12	120	14,78	477 x 242 x 185
KNHC-20	68000104	2	2NC	20	25	24	12	120	14,79	477 x 242 x 185
KNHC-25	68000105	2	2NO	25	25	24	12	120	14,72	477 x 242 x 185
KNHC-25	68000106	2	1NO+1NC	25	25	24	12	120	14,78	477 x 242 x 185
KNHC-25	68000107	2	2NC	25	25	24	12	120	14,79	477 x 242 x 185
KNHC-40	68000108	2	2NO	40	63	24	6	60	14,31	477 x 242 x 185
KNHC-40	68000109	2	1NO+1NC	40	63	24	6	60	14,42	477 x 242 x 185
KNHC-40	68000110	2	2NC	40	63	24	6	60	14,39	477 x 242 x 185
KNHC-63	68000111	2	2NO	63	63	24	6	60	14,31	477 x 242 x 185
KNHC-63	68000112	2	1NO+1NC	63	63	24	6	60	14,39	477 x 242 x 185
KNHC-63	68000113	2	2NC	63	63	24	6	60	14,42	477 x 242 x 185

## AC Contactor 4-Poles 24V

KNHC-16	68000114	4	4NO	16	25	24	6	60	12,94	477 x 242 x 185
KNHC-16	68000115	4	2NO+2NC	16	25	24	6	60	12,98	477 x 242 x 185
KNHC-16	68000116	4	4NC	16	25	24	6	60	12,97	477 x 242 x 185
KNHC-16	68000117	4	3NO+1NC	16	25	24	6	60	13,02	477 x 242 x 185
KNHC-16	68000118	4	3NC+1NO	16	25	24	6	60	12,99	477 x 242 x 185
KNHC-20	68000119	4	4NO	20	25	24	6	60	12,95	477 x 242 x 185
KNHC-20	68000120	4	2NA+2NC	20	25	24	6	60	13,02	477 x 242 x 185
KNHC-20	68000121	4	4NC	20	25	24	6	60	13,00	477 x 242 x 185
KNHC-20	68000122	4	3NO+1NC	20	25	24	6	60	13,00	477 x 242 x 185
KNHC-20	68000123	4	3NC+1NO	20	25	24	6	60	12,95	477 x 242 x 185
KNHC-25	68000124	4	4NO	25	25	24	6	60	12,95	477 x 242 x 185
KNHC-25	68000125	4	2NO+2NC	25	25	24	6	60	13,02	477 x 242 x 185
KNHC-25	68000126	4	4NC	25	25	24	6	60	13,01	477 x 242 x 185
KNHC-25	68000127	4	3NO+1NC	25	25	24	6	60	13,00	477 x 242 x 185
KNHC-25	68000128	4	3NC+1NO	25	25	24	6	60	13,00	477 x 242 x 185
KNHC-40	68000129	4	4NO	40	63	24	4	40	13,90	477 x 242 x 185
KNHC-40	68000130	4	2NO+2NC	40	63	24	4	40	14,02	477 x 242 x 185
KNHC-40	68000131	4	4NC	40	63	24	4	40	14,02	477 x 242 x 185
KNHC-40	68000132	4	3NO+1NC	40	63	24	4	40	14,01	477 x 242 x 185
KNHC-40	68000133	4	3NC+1NO	40	63	24	4	40	14,01	477 x 242 x 185
KNHC-63	68000134	4	4NO	63	63	24	4	40	13,91	477 x 242 x 185
KNHC-63	68000135	4	2NO+2NC	63	63	24	4	40	14,01	477 x 242 x 185
KNHC-63	68000136	4	4NC	63	63	24	4	40	14,01	477 x 242 x 185
KNHC-63	68000137	4	3NO+1NC	63	63	24	4	40	14,01	477 x 242 x 185
KNHC-63	68000138	4	3NC+1NO	63	63	24	4	40	14,00	477 x 242 x 185



AC Modular Contactor  
2-Poles



AC Modular Contactor  
2-Poles



AC Modular Contactor  
4-Poles



AC Modular Contactor  
4-Poles

## Three Poles Power Contactors (220V AC)

Product Name	Code No.	Nominal power kW (380V/415V) 50 HZ	AC3 Nominal current (A)	ACI (Ith) Thermal current (A)	Coil voltage (V AC)	Auxiliary contact	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>AC Contactor</b>										
KNC1-0911	68000001	4	9	20	220 VAC	1 NO+1NC	1	20	7,69	410 x 220 x 100
KNC1-1211	68000002	5,5	12	25	220 VAC	1 NO+1NC	1	20	7,69	410 x 220 x 100
KNC1-1811	68000003	7,5	18	30	220 VAC	1 NO+1NC	1	20	7,69	410 x 220 x 100
KNC1-2511	68000004	11	25	32	220 VAC	1 NO+1NC	1	20	11,76	478 x 273 x 123
KNC1-3211	68000005	15	32	45	220 VAC	1 NO+1NC	1	20	11,84	478 x 273 x 123
KNC1-4011	68000015	18,5	40	50	220 VAC	1 NO+1NC	1	10	12,12	435 x 280 x 135
KNC1-5011	68000016	22	50	70	220 VAC	1 NO+1NC	1	10	12,14	435 x 280 x 135
KNC1-6511	68000017	30	65	80	220 VAC	1 NO+1NC	1	10	12,16	435 x 280 x 135
KNC1-8011	68000018	37	80	100	220 VAC	1 NO+1NC	1	10	14,67	470 x 278 x 143
KNC1-9511	68000019	45	95	120	220 VAC	1 NO+1NC	1	10	14,67	470 x 278 x 143
KNC2-100	68000061	55	100	160	220 VAC	1 NC+1NO	1	8	24,42	470 x 460 x 215
KNC2-125	68000062	60	125	165	220 VAC	1 NC+1NO	1	8	24,49	470 x 460 x 215
KNC2-150	68000063	75	150	210	220 VAC	1 NC+1NO	1	6	21,42	460 x 415 x 215
KNC2-180	68000064	90	180	230	220 VAC	1 NC+1NO	1	6	34,51	570 x 520 x 270
KNC2-220	68000065	132	220	275	220 VAC	1 NC+1NO	1	6	34,63	570 x 520 x 270
KNC2-300	68000066	160	300	350	220 VAC	1 NC+1NO	1	2	19,56	410 x 320 x 290
KNC2-400	68000067	220	400	450	220 VAC	1 NC+1NO	1	2	19,51	410 x 320 x 290
KNC2-600	68000068	330	600	660	220 VAC	1 NC+1NO	1	1	23,66	385 x 375 x 325
KNC2-800	68000069	440	800	900	220 VAC	1 NC+1NO	1	1	23,68	385 x 375 x 325

### AC Mini contactor

M06	68000011	2,2	6	20	220 VAC	1NO	1	100	17,42	540 x 273 x 135
M06	68000012	4	9	20	220 VAC	1NO	1	100	17,42	540 x 273 x 135
K09	68000013	4	9	20	220 VAC	1NO	1	100	18,83	520 x 345 x 145
K09	68000014	4	12	20	220 VAC	1NO	1	100	18,83	520 x 345 x 145
M06	68000025	2,2	6	20	220 VAC	1NC	1	100	17,42	540 x 273 x 135
M06	68000026	4	9	20	220 VAC	1NC	1	100	17,42	540 x 273 x 135
K09	68000027	4	9	20	220 VAC	1NC	1	100	18,83	520 x 345 x 145
K09	68000028	4	12	20	220 VAC	1NC	1	100	18,83	520 x 345 x 145



AC Mini Contactor  
M06



AC Mini Contactor  
K09



AC Contactor  
KNC1-0911



AC Contactor  
KNC1-9511



AC Contactor  
KNC2-180

# Low Voltage Switchgear and Industrial Automation Product

## Three Poles Power Contactors (24V AC)

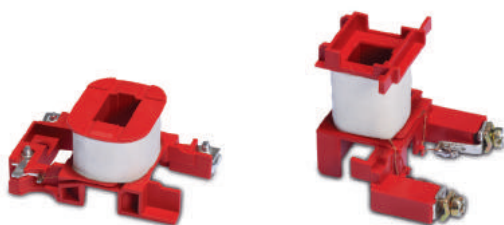
Product Name	Code No.	Nominal power kW (380V/415V) 50 HZ	AC3 Nominal current (A)	ACI (Ith) Thermal current (A)	Coil voltage (V AC)	Auxiliary contact	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>AC Contactor</b>										
KNC1-0911	68000033	4	9	20	24	1NC+1NO	1	20	7,69	418 x 228 x 108
KNC1-1211	68000034	5,5	12	25	24	1NC+1NO	1	20	7,69	418 x 228 x 108
KNC1-1811	68000035	7,5	18	30	24	1NC+1NO	1	20	7,69	418 x 228 x 108
KNC1-2511	68000036	11	25	32	24	1NC+1NO	1	20	11,76	478 x 273 x 123
KNC1-3211	68000037	15	32	45	24	1NC+1NO	1	20	11,84	478 x 273 x 123
KNC1-4011	68000038	18,5	40	50	24	1NC+1NO	1	10	12,12	443 x 288 x 143
KNC1-5011	68000039	22	50	70	24	1NC+1NO	1	10	12,14	443 x 288 x 143
KNC1-6511	68000040	30	65	80	24	1NC+1NO	1	10	12,16	443 x 288 x 143
KNC1-8011	68000041	37	80	100	24	1NC+1NO	1	10	14,67	478 x 286 x 151
KNC1-9511	68000042	45	95	120	24	1NC+1NO	1	10	14,67	478 x 286 x 151

## AC Mini contactor

Mini 6A	68000029	2,2	6	20	24	1NC+1NO	1	100	17,42	273 x 540 x 135
Mini 9A	68000030	4	9	20	24	1NC+1NO	1	100	17,42	273 x 540 x 135
Mini 9A-1	68000031	4	9-1	20	24	1NC+1NO	1	100	18,83	345 x 520 x 145
Mini 12A	68000032	4	12	20	24	1NC+1NO	1	100	18,83	345 x 520 x 145

## Auxiliary Coils (AC Contactor - AC Mini Contactor)

Coil Voltage (V AC)	Code No.	Contactor Type	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
220 VAC	67000071	KNC1-0911-1211-1811	4	200	15,50	435 x 258 x 246
220 VAC	67000072	KNC1-2511-3211	2	100	9,30	435 x 258 x 246
220 VAC	67000073	KNC1-4011-5011-6511-8011-9511	2	100	13,50	548 x 237 x 252
220 VAC	67000077	Mini 6A (M06)	6	300	10,40	435 x 258 x 246
220 VAC	67000078	Mini 9A (M06)	6	300	10,40	435 x 258 x 246
220 VAC	67000079	Mini 9A-1(K09)	4	200	7,70	435 x 258 x 246
220 VAC	67000080	Mini 12A (K09)	4	200	7,70	435 x 258 x 246
24 VAC	67000081	KNC1-0911-1211-1811	4	200	15,50	435 x 258 x 246
24 VAC	67000082	KNC1-2511-3211	2	100	9,30	435 x 258 x 246
24 VAC	67000083	KNC1-4011-5011-6511-8011-9511	2	100	13,50	548 x 237 x 252
24 VAC	67000087	Mini 6A (M06)	6	300	10,40	435 x 258 x 246
24 VAC	67000088	Mini 9A (M06)	6	300	10,40	435 x 258 x 246
24 VAC	67000089	Mini 9A-1(K09)	4	200	7,70	435 x 258 x 246
24 VAC	67000090	Mini 12A (K09)	4	200	7,70	435 x 258 x 246



Auxiliary Coils

## 4-Pole Power Contactors

Product Name	Code No.	Nominal power kW (380V/415V) 50 HZ	AC3 Nominal current (A)	ACI (Ith) Thermal current (A)	Coil voltage (V AC)	Auxiliary contact	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>AC Contactor</b>										
KNC1-004-D09	68000078	4	9	20	220	1NO+1NC	1	20	8,00	415 x 225 x 105
KNC1-004-D12	68000079	5,5	12	20	220	1NO+1NC	1	20	8,00	415 x 225 x 105
KNC1-004-D18	68000080	7,5	18	32	220	1NO+1NC	1	20	8,00	415 x 225 x 105
KNC1-004-D25	68000081	11	25	50	220	1NO+1NC	1	20	12,01	475 x 270 x 120
KNC1-004-D32	68000082	15	32	50	220	1NO+1NC	1	10	13,72	475 x 383 x 148
KNC1-004-D40	68000083	18	40	60	220	1NO+1NC	1	10	13,73	475 x 383 x 148
KNC1-004-D50	68000084	22	50	80	220	1NO+1NC	1	10	13,75	475 x 383 x 148
KNC1-004-D65	68000085	30	65	80	220	1NO+1NC	1	10	13,81	475 x 383 x 148
KNC1-004-D 80	68000086	37	80	125	220	1NO+1NC	1	10	16,66	535 x 283 x 150
KNC1-004-D 95	68000087	45	95	125	220	1NO+1NC	1	10	16,66	535 x 283 x 150
KNC1-008-D09	68000088	4	9	20	220	1NO+1NC	1	20	8,02	415 x 225 x 105
KNC1-008-D12	68000089	5,5	12	20	220	1NO+1NC	1	20	7,96	415 x 225 x 105
KNC1-008-D18	68000090	7,5	18	32	220	1NO+1NC	1	20	7,96	415 x 225 x 105
KNC1-008-D25	68000091	11	25	50	220	1NO+1NC	1	20	11,95	475 x 270 x 120
KNC1-008-D32	68000092	15	32	50	220	1NO+1NC	1	10	14,16	475 x 383 x 148
KNC1-008-D40	68000093	18	40	60	220	1NO+1NC	1	10	14,07	475 x 383 x 148
KNC1-008-D50	68000094	22	50	80	220	1NO+1NC	1	10	15,00	475 x 383 x 148
KNC1-008-D65	68000095	30	65	80	220	1NO+1NC	1	10	14,18	475 x 383 x 148
KNC1-008-D 80	68000096	37	80	125	220	1NO+1NC	1	10	17,27	535 x 283 x 150
KNC1-008-D 95	68000097	45	95	125	220	1NO+1NC	1	10	17,27	535 x 283 x 150

### AC Mini contactor

KNC-004 M06	68000070	2,2	6	12	220	1NO+1NC	1	100	17,00	545 x 278 x 140
KNC-008 M06	68000071	2,2	6	12	220	1NO+1NC	1	100	17,00	545 x 278 x 140
KNC-004 M09	68000072	2,2	9	12	220	1NO+1NC	1	100	17,00	545 x 278 x 140
KNC-008 M09	68000073	2,2	9	12	220	1NO+1NC	1	100	17,00	545 x 278 x 140
KNC-004 K09	68000074	4	9	20	220	1NO+1NC	1	100	18,77	525 x 350 x 150
KNC-008 K09	68000075	4	9	20	220	1NO+1NC	1	100	18,77	525 x 350 x 150
KNC-004 K12	68000076	4	12	20	220	1NO+1NC	1	100	18,77	525 x 350 x 150
KNC-008 K12	68000077	4	12	20	220	1NO+1NC	1	100	18,77	525 x 350 x 150



AC Mini Contactor  
KNC-008 K12



AC Contactor  
KNC1-008-D25



AC Contactor  
KNC1-004-D40

## DC Contactor (24V DC)

Product Name	Code No.	Nominal power kW (380V/415V) 50 HZ	AC3 Nominal current (A)	ACI (Ith) Thermal current (A)	Coil voltage (V AC)	Auxiliary contact	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>DC Contactor</b>										
KNC1-0911	68000058	4	9	20	24	NO+NC	1	20	12,98	420 x 225 x 140
KNC1-1211	68000059	5,5	12	20	24	NO+NC	1	20	13,04	420 x 225 x 140
KNC1-1811	68000060	7,5	18	32	24	NO+NC	1	20	13,08	420 x 225 x 140
KNC1-2511	68000043	11	25	50	24	NO+NC	1	20	18,33	475 x 260 x 155
KNC1-3211	68000044	15	32	50	24	NO+NC	1	20	18,51	475 x 260 x 155
KNC1-4011	68000045	18	40	60	24	NO+NC	1	10	21,66	440 x 285 x 195
KNC1-5011	68000046	22	50	80	24	NO+NC	1	10	21,65	440 x 285 x 195
KNC1-6511	68000047	30	65	80	24	NO+NC	1	10	21,67	440 x 285 x 195
KNC1-8011	68000048	37	80	125	24	NO+NC	1	10	23,75	475 x 283 x 200
KNC1-9511	68000049	45	95	125	24	NO+NC	1	10	23,82	475 x 283 x 200

## DC Mini Contactor

M06	68000050	2,2	6	12	24	NO	1	100	23,31	545 x 278 x 170
M06	68000051	2,2	6	12	24	NC	1	100	23,31	545 x 278 x 170
M06	68000052	2,2	9	12	24	NO	1	100	23,31	545 x 278 x 170
M06	68000053	2,2	9	12	24	NC	1	100	23,31	545 x 278 x 170
K09	68000054	4	9	20	24	NO	1	100	20,96	520 x 345 x 145
K09	68000055	4	9	20	24	NC	1	100	20,96	520 x 345 x 145
K09	68000056	4	12	20	24	NO	1	100	20,96	520 x 345 x 145
K09	68000057	4	12	20	24	NC	1	100	20,96	520 x 345 x 145



DC Mini Contactor  
M06



DC Contactor  
KNC1-1811



DC Contactor  
KNC1-6511



## Auxiliary Contact Blocks

Product Name	Code No.	Contacteur Type	Type of Mounting	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
2NA	67000036	KNC1-0911.....9511	Top	8	400	15,60	548 x 237 x 252
1NA+1NK	67000037	KNC1-0911.....9511	Top	8	400	15,60	548 x 237 x 252
2NA+2NK	67000038	KNC1-0911.....9511	Top	4	200	14,40	548 x 237 x 252
3NA+1NK	67000039	KNC1-0911.....9511	Top	4	200	14,40	548 x 237 x 252
1NA+3NK	67000040	KNC1-0911.....9511	Top	4	200	14,40	548 x 237 x 252
4NA	67000041	KNC1-0911.....9511	Top	4	200	14,40	548 x 237 x 252
4NK	67000042	KNC1-0911.....9511	Top	4	200	14,40	548 x 237 x 252

## Mini Auxiliary Contact Blocks

Product Name	Code No.	Contacteur Type	Type of Mounting	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
1NA+1NK	67000155	M06 ( 68000011, 68000012)	Laterally	8	400	9,33	435 x 258 x 246
1NA+1NK	67000156	K09 ( 68000013, 68000014)	Surface	6	300	10,96	435 x 258 x 246



Auxiliary Contact Blocks

## Capacitive Contactors

Product Name	Code No.	Rated Current (A)	Operating Power AC3 400/440V (kVAr)	Bobbin Voltage (V AC)	Auxiliary Contac Q-nty	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
KNC19-09	68000006	9	4	220 VAC	1 NO+1NC	1	20	9,98	535 x 298 x 140
KNC19-12	68000007	12	6	220 VAC	1 NO+1NC	1	20	10,08	535 x 298 x 140
KNC19-18	68000008	18	9	220 VAC	1 NO+1NC	1	20	10,02	535 x 298 x 140
KNC19-25	68000009	25	15	220 VAC	1 NO+1NC	1	20	13,86	630 x 295 x 145
KNC19-32	68000010	32	20	220 VAC	1 NO+1NC	1	20	14,06	630 x 295 x 145
KNC19-40	68000020	40	20	220 VAC	1 NO+1NC	1	10	13,12	408 x 330 x 173
KNC19-50	68000021	50	25	220 VAC	1 NO+1NC	1	10	13,17	408 x 330 x 173
KNC19-65	68000022	65	30	220 VAC	1 NO+1NC	1	10	13,16	408 x 330 x 173
KNC19-80	68000023	80	36	220 VAC	1 NO+1NC	1	10	15,95	468 x 420 x 180
KNC19-95	68000024	95	45	220 VAC	1 NO+1NC	1	10	15,95	468 x 420 x 180

### AC Compensation Contactor



AC Compensation Contactor

# Low Voltage Switchgear and Industrial Automation Product

## Thermal Relays

Product Name	Code No.	Thermic Setting Field	Contactor Type	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
KNR 25	70000018	0,1 - 0,16 A	KNC1-09 KNC1-12 KNC1-18 KNC1-25	1	100	16,172	530 x 390 x 180
	70000019	0,16 - 0,25 A		1	100	16,172	530 x 390 x 180
	70000001	0,25 - 0,40 A		1	100	16,172	530 x 390 x 180
	70000002	0,40 - 0,63 A		1	100	16,172	530 x 390 x 180
	70000003	0,63 - 1 A		1	100	16,172	530 x 390 x 180
	70000004	1,0 - 1,6 A		1	100	16,172	530 x 390 x 180
	70000020	1,3 - 1,8 A		1	100	16,172	530 x 390 x 180
	70000005	1,6 - 2,5 A		1	100	16,172	530 x 390 x 180
	70000021	2,2 - 3,1 A		1	100	16,172	530 x 390 x 180
	70000006	2,5 - 4 A		1	100	16,172	530 x 390 x 180
	70000022	3,5 - 5 A		1	100	16,172	530 x 390 x 180
	70000007	4,0 - 6,0 A		1	100	16,172	530 x 390 x 180
	70000008	5,5 - 8,0 A		1	100	16,172	530 x 390 x 180
	70000009	7,0 - 10 A		1	100	16,172	530 x 390 x 180
70000010	9 - 13 A	1	100	16,172	530 x 390 x 180		
70000011	12 - 18 A	1	100	16,172	530 x 390 x 180		
70000012	18 - 26 A	1	100	16,172	530 x 390 x 180		
KNR 32	70000023	23 - 32 A	KNC1-25	1	100	17,832	530 x 390 x 200
	70000013	28 - 36 A	KNC1-32	1	100	17,832	530 x 390 x 200
KNR 65	70000024	18 - 26 A	KNC1-40 KNC1-50 KNC1-65	1	50	18,432	490 x 315 x 245
	70000025	22 - 32 A		1	50	18,432	490 x 315 x 245
	70000026	28 - 40 A		1	50	18,432	490 x 315 x 245
	70000014	34 - 50 A		1	50	18,432	490 x 315 x 245
	70000015	45 - 65 A		1	50	18,432	490 x 315 x 245
KNR 95	70000016	63 - 85 A	KNC1-80	1	50	18,832	490 x 315 x 245
	70000017	80 - 100 A	KNC1-95	1	50	18,832	490 x 315 x 245

## Mini-Thermal Overload Relay

Product Name	Code No.	Thermic Setting Field	Contactor Type	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
KNRK-09	70000027	0,36 - 0,54 A	M06 - K09	1	100	14,95	530 x 390 x 180
	70000028	0,54 - 0,80 A		1	100	14,85	530 x 390 x 180
	70000029	0,80 - 1,20 A		1	100	14,95	530 x 390 x 180
	70000030	1,20 - 1,80 A		1	100	14,95	530 x 390 x 180
	70000031	1,80 - 2,60 A		1	100	15,00	530 x 390 x 180
	70000032	2,60 - 3,70 A		1	100	14,95	530 x 390 x 180
	70000033	3,70 - 5,50 A		1	100	14,95	530 x 390 x 180
	70000034	5,50 - 8 A		1	100	14,75	530 x 390 x 180
	70000035	8 - 11,50 A		1	100	15,00	530 x 390 x 180
	70000036	10 - 14 A		1	100	14,85	530 x 390 x 180
	70000037	12 - 16 A		1	100	14,90	530 x 390 x 180

Product Name	Code No.	Thermic Setting Field	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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## Accessories

DIN Rail Part For The Mini-Thermal Overload Relay	67000120	(18-32A)	1	100	7,55	530 x 415 x 195
DIN Rail Part For The Mini-Thermal Overload Relay	67000121	(65-95A)	1	50	6,62	505 x 328 x 258
DIN Rail Part For The Mini-Thermal Overload Relay(KNRK-09)	67000122	(0,36-16A)	1	100	5,90	530 x 390 x 180



Mini-Thermal Overload Relay



KNR 25



KNR 95



DIN Rail Part For The Mini-Thermal Overload Relay



## Thermal Magnetic Motor Protection Breakers (Starters)

Code No.	Nominal Power AC3 400V (kW), 50/60Hz	Thermal Setting Field [A] (40°)	Short Circuit Breaking Capacity (KA) 400V-415V	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
69000001	0,02	0,10-0,16	100 kA	1	50	14,21	480 x 255 x 180
69000002	0,06	0,16-0,25	100 kA	1	50	14,21	480 x 255 x 180
69000003	0,09	0,25-0,40	100 kA	1	50	14,21	480 x 255 x 180
69000004	0,12	0,40-0,63	100 kA	1	50	14,21	480 x 255 x 180
69000005	0,25	0,63-1,00	100 kA	1	50	14,21	480 x 255 x 180
69000006	0,37	1,00-1,60	100 kA	1	50	14,21	480 x 255 x 180
69000007	0,75	1,60-2,5	100 kA	1	50	14,21	480 x 255 x 180
69000008	1,5	2,5-4	100 kA	1	50	14,21	480 x 255 x 180
69000009	2,2	4-6,3	100 kA	1	50	14,21	480 x 255 x 180
69000010	4	6-10	100 kA	1	50	14,21	480 x 255 x 180
69000011	5,5	9-14	15 kA	1	50	14,21	480 x 255 x 180
69000012	7,5	13-18	15 kA	1	50	14,21	480 x 255 x 180
69000013	9	17-23	15 kA	1	50	14,21	480 x 255 x 180
69000014	11	20-25	15 kA	1	50	14,21	480 x 255 x 180
69000015	15	24-32	10 kA	1	50	14,21	480 x 255 x 180



Motor Protection  
Breakers

Product Name	Code No.	Technical Features	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
--------------	----------	--------------------	-----------------	---------------------	----------------------	-------------------------

### Accessories

Storage Box (Empty)	67000053	-	1	50	13,696	500 x 500 x 315
Auxiliary Contact (Mounted on Left)	67000054	1NO+1NC	1	100	5,59	467 x 200 x 157
Auxiliary Contact (Mounted on Front)	67000055	1NO+1NC	4	400	9,59	467 x 200 x 157
Shunt Release	67000057	220V AC	1	50	5,981	465 x 290 x 74
Under Voltage	67000058	220V AC	1	50	6,181	465 x 290 x 74
Alarm Outlet Contact Release	67000059	1NO+1NC	1	100	5,49	467 x 200 x 157



Storage Box



Under Voltage  
Release



Shunt Release



Alarm Outlet  
Contact



Auxiliary Contact  
(Mounted Left)



Auxiliary Contact  
(Mounted on Front)

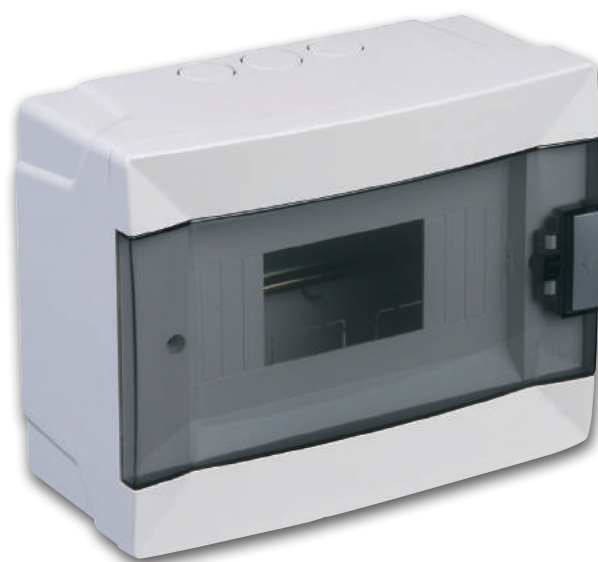






# Distribution Boxes

Flush Mount & Surface Mount





## Color Options



Natural Walnut



Natural Pine



Dore



Metallic Silver



Fume

## Difference on walls



Providing aesthetic solutions for eye distorting views on your walls, the Distribution Boxes Series provides secure insulation and with opaque cover and flush and surface mounted options, they are to take their places in your environments.



### Halogen free

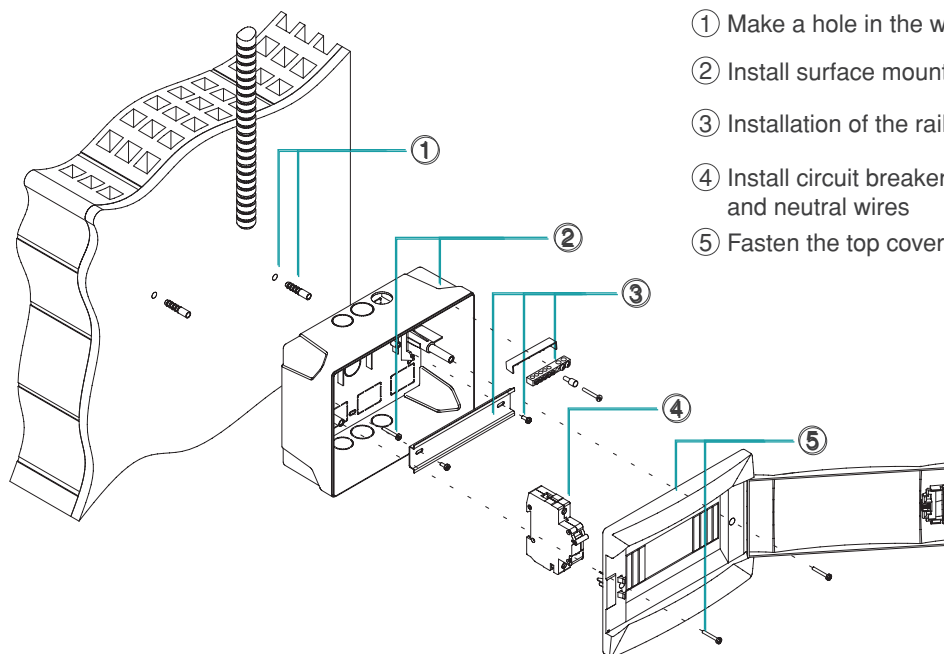
Makel Distribution Boxes produced from halogene free material does not contain halogene elements such as bromine, fluorine, iodine and chlorine thus they do not produce toxic gases in case of a fire and they can be used safely in public areas such as schools, hospitals, hotels, malls, cinemas etc.

### General Specifications

- Halogen free
- Body resistant to heat and impacts
- Body resistant to flames and burning up to 650°C
- Easy to mount inner volume
- Easy usage with cover mechanism with spring
- Cover usable dual sided
- 180° moving cover
- In conformity with international standards
- Transparent and opaque colored cover options
- 35 mm rail
- IP 40 Protection Class
- Isolated neutral electrical connection

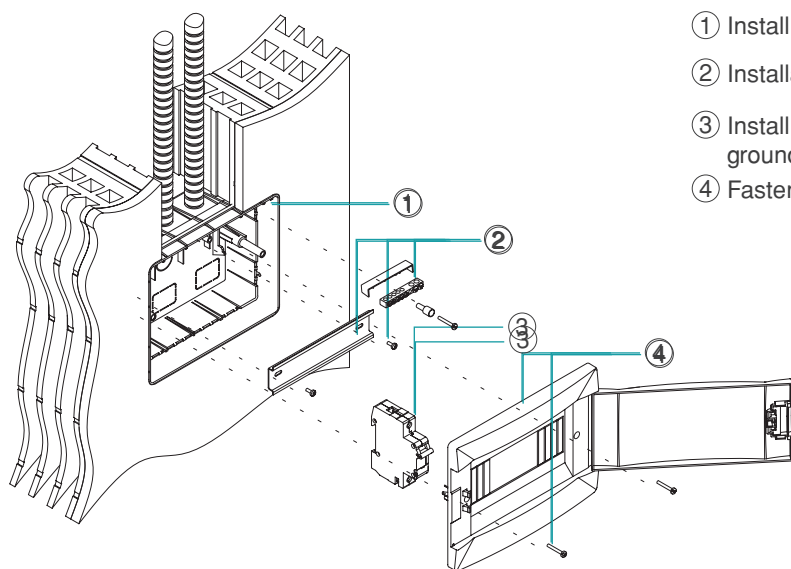
# Assembly

## Surface Mount Distribution Box



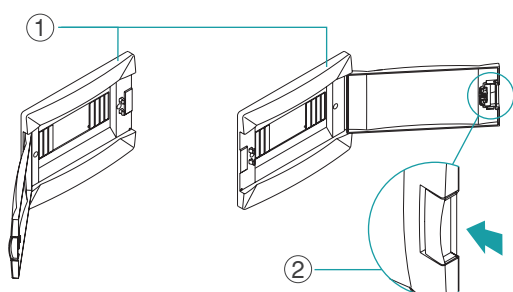
- ① Make a hole in the wall and install a peg into the hole
- ② Install surface mounted case to the wall and arrange wiring
- ③ Installation of the rail and the ground block with screws
- ④ Install circuit breakers and connect phase, ground and neutral wires
- ⑤ Fasten the top cover with screws included in packaging

## Flush Mount Distribution Box



- ① Install surface mounted case to the wall and arrange wiring
- ② Installation of the rail and the ground block with screws,
- ③ Install circuit breakers and connect phase, ground and neutral wires
- ④ Fasten the top cover with screws included in packaging

## Cover Assembly



- ① Upper frame can be mounted according to the direction of door opening
- ② Push the mechanism in the direction of the arrow to open the cover and pull it toward you.

## Flush Mount Distribution Box



**Flush Mount Distribution Box  
with Terminal Module 2**  
63002  
Color - White  
IEC 60670-24  
Size of Package (mm) - 330x603x315  
Gross Weight (kg) - 10,54  
Piece in Box / Package - 1 / 36



**Flush Mount Distribution Box  
with Terminal Module 4**  
63004  
Color - White  
IEC 60670-24  
Size of Package (mm) - 445x600x210  
Gross Weight (kg) - 8,84  
Piece in Box / Package - 1 / 24



**Flush Mount Distribution Box  
with Terminal Module 6**  
63006  
Color - White  
IEC 60670-24  
Size of Package (mm) - 375x505x310  
Gross Weight (kg) - 9,08  
Piece in Box / Package - 1 / 20



**Flush Mount Distribution Box  
with Terminal Module 8**  
63008  
Color - White  
IEC 60670-24  
Size of Package (mm) - 450x757x220  
Gross Weight (kg) - 9,62  
Piece in Box / Package - 1 / 16



**Flush Mount Distribution Box  
with Terminal Module 12**  
63012  
Color - White  
IEC 60670-24  
Size of Package (mm) - 475x595x215  
Gross Weight (kg) - 7,35  
Piece in Box / Package - 1 / 8

## Surface Mount Distribution Box



**Surface Mount Distribution Box  
with Terminal Module 2**  
63102  
Color - White  
IEC 60670-24  
Size of Package (mm) - 330x603x315  
Gross Weight (kg) - 10,55  
Piece in Box / Package - 1 / 36



**Surface Mount Distribution Box  
with Terminal Module 4**  
63104  
Color - White  
IEC 60670-24  
Size of Package (mm) - 445x600x210  
Gross Weight (kg) - 9,25  
Piece in Box / Package - 1 / 24



**Surface Mount Distribution Box  
with Terminal Module 6**  
63106  
Color - White  
IEC 60670-24  
Size of Package (mm) - 375x505x310  
Gross Weight (kg) - 9,02  
Piece in Box / Package - 1 / 20



**Surface Mount Distribution Box  
with Terminal Module 8**  
63108  
Color - White  
IEC 60670-24  
Size of Package (mm) - 450x680x212  
Gross Weight (kg) - 9,45  
Piece in Box / Package - 1 / 16



**Surface Mount Distribution Box  
with Terminal Module 12**  
63112  
Color - White  
IEC 60670-24  
Size of Package (mm) - 445x600x210  
Gross Weight (kg) - 7,3  
Piece in Box / Package - 1 / 8

## Flush Mount Distribution Box



**Flush Mount Distribution Box with Terminal Module 16**  
63016  
Color - White  
IEC 60670-24  
Size of Package (mm) - 475x735x220  
Gross Weight (kg) - 8,8  
Piece in Box / Package - 1 / 8



**Flush Mount Distribution Box with Terminal Module 16 Double Decker**  
28001426  
Color - White  
IEC 60670-24  
Size of Package (mm) - 455x470x355  
Gross Weight (kg) - 11,76  
Piece in Box / Package - 1 / 8



**Flush Mount Distribution Box with Terminal Module 24 Double Decker**  
63024  
Color - White  
IEC 60670-24  
Size of Package (mm) - 320x455x368  
Gross Weight (kg) - 6,7  
Piece in Box / Package - 1 / 4



**Flush Mount Distribution Box with Terminal Module 36 Threefold**  
63036  
Color - White  
IEC 60670-24  
Size of Package (mm) - 450x475x330  
Gross Weight (kg) - 9,62  
Piece in Box / Package - 1 / 4

## Surface Mount Distribution Box



**Surface Mount Distribution Box with Terminal Module 16**  
63116  
Color - White  
IEC 60670-24  
Size of Package (mm) - 475x735x220  
Gross Weight (kg) - 8,8  
Piece in Box / Package - 1 / 8



**Surface Mount Distribution Box with Terminal Module 16 Double Decker**  
28001427  
Color - White  
IEC 60670-24  
Size of Package (mm) - 455x470x355  
Gross Weight (kg) - 11,44  
Piece in Box / Package - 1 / 8



**Surface Mount Distribution Box with Terminal Module 24 Double Decker**  
63124  
Color - White  
IEC 60670-24  
Size of Package (mm) - 312x460x350  
Gross Weight (kg) - 6,55  
Piece in Box / Package - 1 / 4



**Surface Mount Distribution Box with Terminal Module 36 Threefold**  
63136  
Color - White  
IEC 60670-24  
Size of Package (mm) - 450x475x330  
Gross Weight (kg) - 9,7  
Piece in Box / Package - 1 / 4

## Sealed Distribution Box



**Dual Surface Mounted Sealed Distribution Box**  
63140  
Color - White  
IEC 60670-24  
Size of Package (mm) - 51x136x65  
Gross Weight (kg) - 13,86  
Piece in Box / Package - 1 / 240



**Quadrapole Surface Mounted Sealed Distribution Box**  
63141  
Color - White  
IEC 60670-24  
Size of Package (mm) - 87x136x65  
Gross Weight (kg) - 12,5  
Piece in Box / Package - 1 / 120

## Opaque Flush Mount Distribution Box



**Flush Mount Distribution Box with Terminal Module**  
**2 - Opaque**  
 28001218  
 Color - White  
 IEC 60670-24  
 Size of Package (mm) - 330x603x315  
 Gross Weight (kg) - 10,54  
 Piece in Box / Package - 1 / 36



**Flush Mount Distribution Box with Terminal Module**  
**4 - Opaque**  
 28001219  
 Color - White  
 IEC 60670-24  
 Size of Package (mm) - 445x600x210  
 Gross Weight (kg) - 8,84  
 Piece in Box / Package - 1 / 24



**Flush Mount Distribution Box with Terminal Module**  
**6 - Opaque**  
 28001220  
 Color - White  
 IEC 60670-24  
 Size of Package (mm) - 375x505x310  
 Gross Weight (kg) - 9,08  
 Piece in Box / Package - 1 / 20



**Flush Mount Distribution Box with Terminal Module**  
**8 - Opaque**  
 28001221  
 Color - White  
 IEC 60670-24  
 Size of Package (mm) - 450x757x220  
 Gross Weight (kg) - 9,62  
 Piece in Box / Package - 1 / 16



**Flush Mount Distribution Box with Terminal Module**  
**12 - Opaque**  
 28001222  
 Color - White  
 IEC 60670-24  
 Size of Package (mm) - 475x595x215  
 Gross Weight (kg) - 7,35  
 Piece in Box / Package - 1 / 8

## Opaque Surface Mount Distribution Box



**Surface Mount Distribution Box with Terminal Module**  
**2 - Opaque**  
 28001226  
 Color - White  
 IEC 60670-24  
 Size of Package (mm) - 330x603x315  
 Gross Weight (kg) - 10,55  
 Piece in Box / Package - 1 / 36



**Surface Mount Distribution Box with Terminal Module**  
**4 - Opaque**  
 28001227  
 Color - White  
 IEC 60670-24  
 Size of Package (mm) - 445x600x210  
 Gross Weight (kg) - 9,25  
 Piece in Box / Package - 1 / 24



**Surface Mount Distribution Box with Terminal Module**  
**6 - Opaque**  
 28001228  
 Color - White  
 IEC 60670-24  
 Size of Package (mm) - 375x505x310  
 Gross Weight (kg) - 9,2  
 Piece in Box / Package - 1 / 20



**Surface Mount Distribution Box with Terminal Module**  
**8 - Opaque**  
 28001229  
 Color - White  
 IEC 60670-24  
 Size of Package (mm) - 450x680x212  
 Gross Weight (kg) - 9,45  
 Piece in Box / Package - 1 / 16



**Surface Mount Distribution Box with Terminal Module**  
**12 - Opaque**  
 28001230  
 Color - White  
 IEC 60670-24  
 Size of Package (mm) - 445x600x210  
 Gross Weight (kg) - 7,3  
 Piece in Box / Package - 1 / 8



## Opaque Flush Mount Distribution Box



**Flush Mount Distribution Box with Terminal Module**  
**16 - Opaque**  
28001225  
Color - White  
IEC 60670-24  
Size of Package (mm) - 475x735x220  
Gross Weight (kg) - 8,8  
Piece in Box / Package - 1 / 8



**Flush Mount Distribution Box with Terminal Module**  
**16 Double Decker - Opaque**  
28001475  
Color - White  
IEC 60670-24  
Size of Package (mm) - 455x470x355  
Gross Weight (kg) - 7,04  
Piece in Box / Package - 1 / 8



**Flush Mount Distribution Box with Terminal Module**  
**24 Double Decker - Opaque**  
28001223  
Color - White  
IEC 60670-24  
Size of Package (mm) - 320x455x368  
Gross Weight (kg) - 6,7  
Piece in Box / Package - 1 / 4



**Flush Mount Distribution Box with Terminal Module**  
**36 Threefold - Opaque**  
28001224  
Color - White  
IEC 60670-24  
Size of Package (mm) - 450x475x330  
Gross Weight (kg) - 9,62  
Piece in Box / Package - 1 / 4

## Opaque Surface Mount Distribution Box



**Surface Mount Distribution Box with Terminal Module**  
**16 - Opaque**  
28001233  
Color - White  
IEC 60670-24  
Size of Package (mm) - 475x735x220  
Gross Weight (kg) - 8,8  
Piece in Box / Package - 1 / 8



**Surface Mount Distribution Box with Terminal Module**  
**16 Double Decker - Opaque**  
28001476  
Color - White  
IEC 60670-24  
Size of Package (mm) - 455x470x355  
Gross Weight (kg) - 6,21  
Piece in Box / Package - 1 / 8



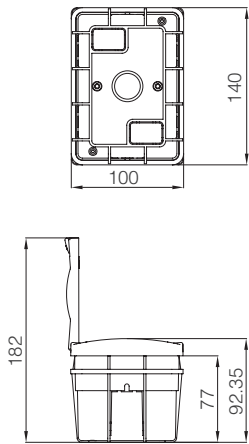
**Surface Mount Distribution Box with Terminal Module**  
**24 Double Decker - Opaque**  
28001231  
Color - White  
IEC 60670-24  
Size of Package (mm) - 312x460x350  
Gross Weight (kg) - 6,55  
Piece in Box / Package - 1 / 4



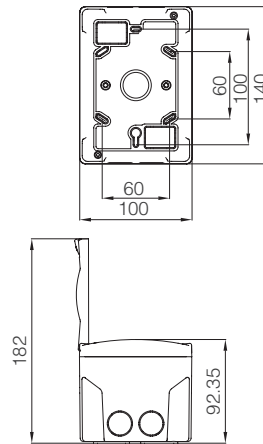
**Surface Mount Distribution Box with Terminal Module**  
**36 Threefold - Opaque**  
28001232  
Color - White  
IEC 60670-24  
Size of Package (mm) - 450x475x330  
Gross Weight (kg) - 9,7  
Piece in Box / Package - 1 / 4

## Technical Drawings

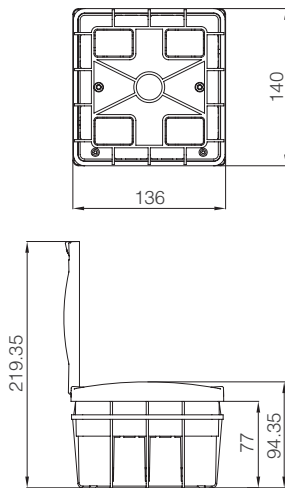
Flush Mount Distribution Box with Terminal Module 2



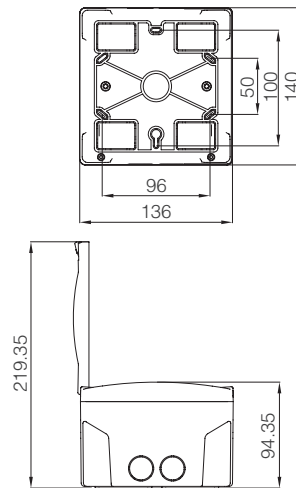
Surface Mount Distribution Box with Terminal Module 2



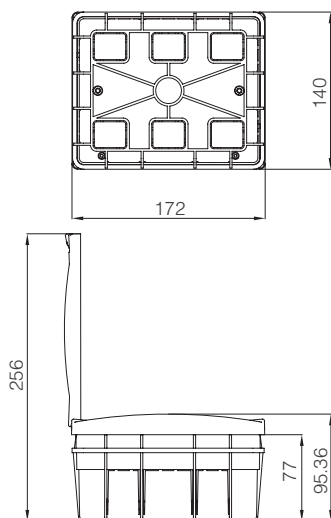
Flush Mount Distribution Box with Terminal Module 4



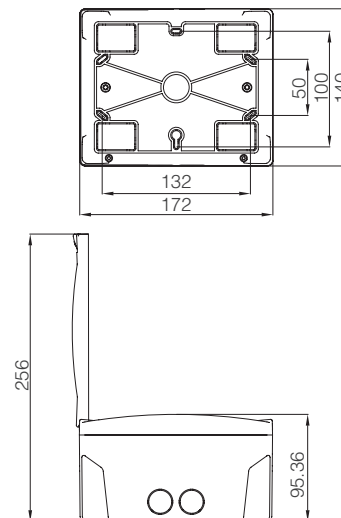
Surface Mount Distribution Box with Terminal Module 4



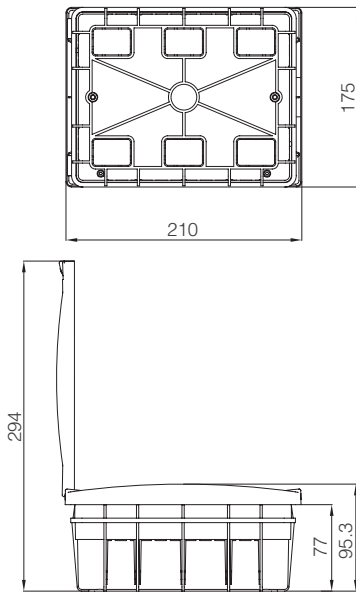
Flush Mount Distribution Box with Terminal Module 6



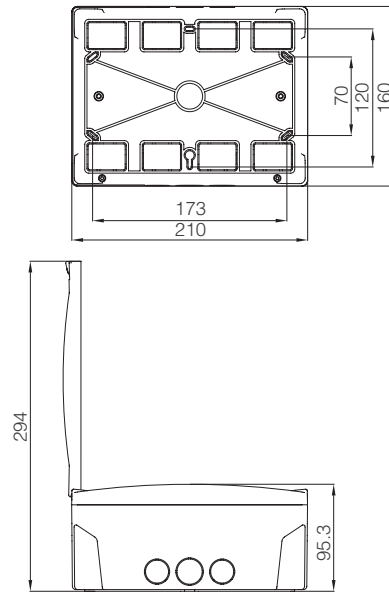
Surface Mount Distribution Box with Terminal Module 6



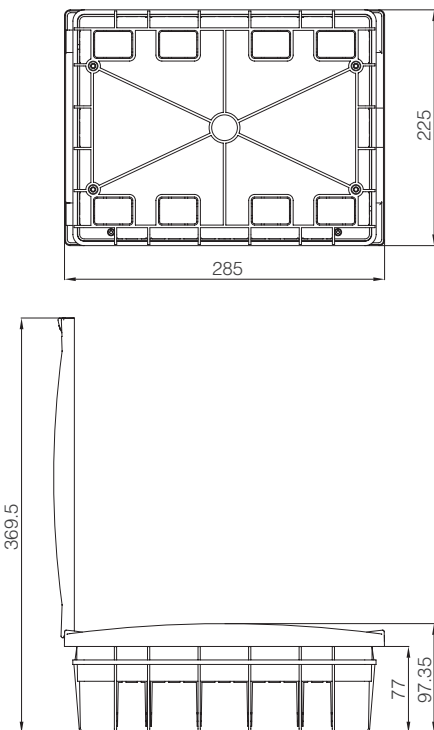
Flush Mount Distribution Box with Terminal Module 8



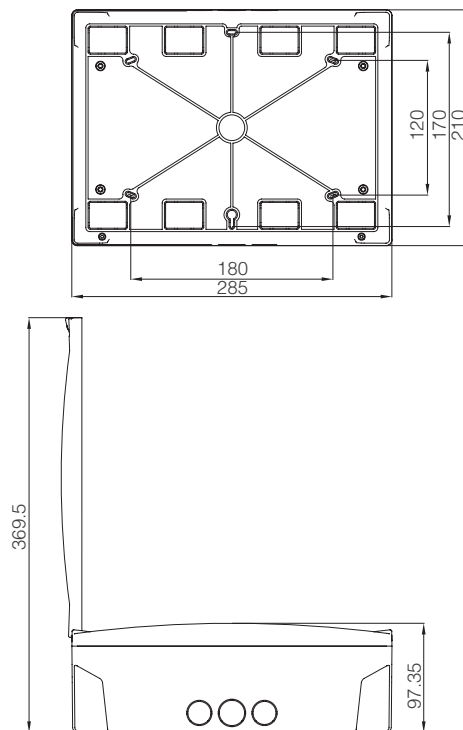
Surface Mount Distribution Box with Terminal Module 8



Flush Mount Distribution Box with Terminal Module 12

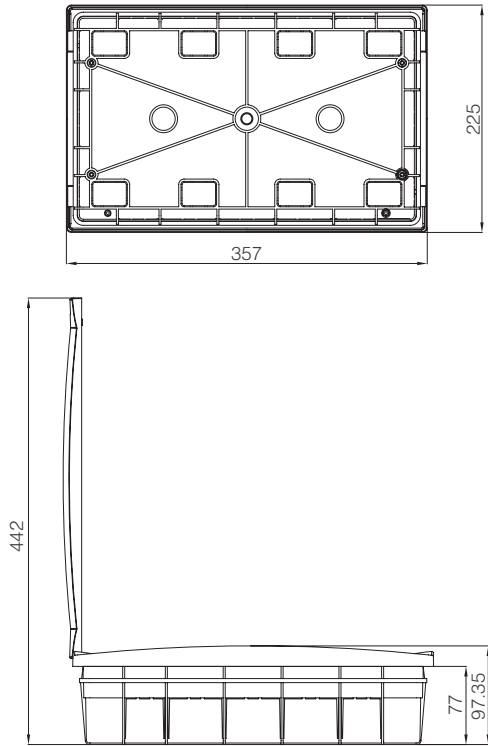


Surface Mount Distribution Box with Terminal Module 12

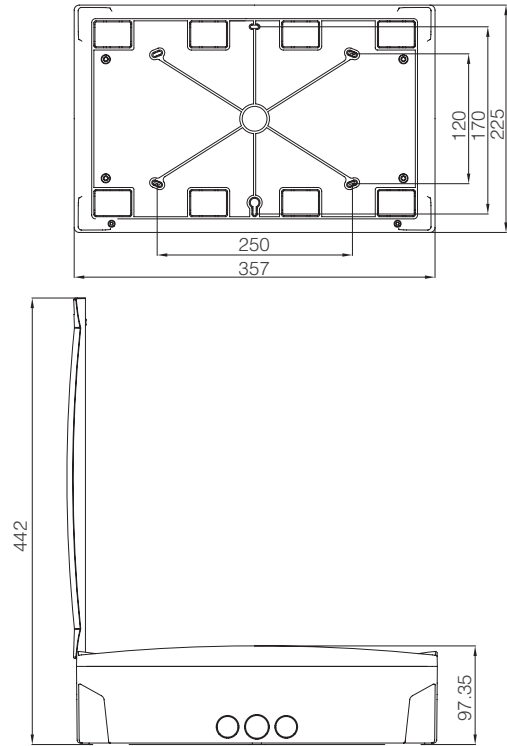


## Technical Drawings

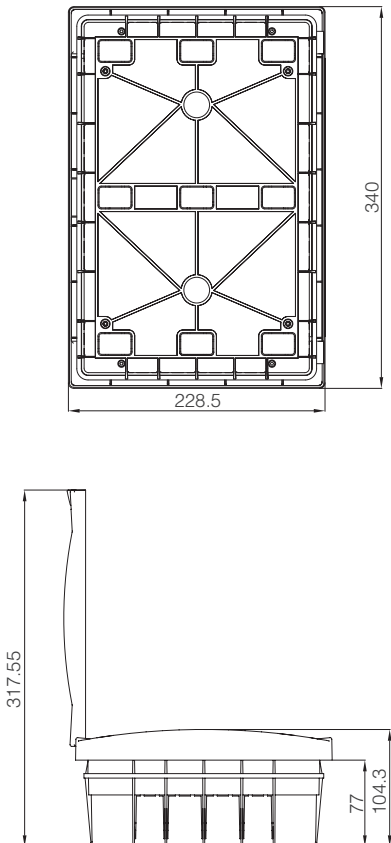
Flush Mount Distribution Box with Terminal Module 16



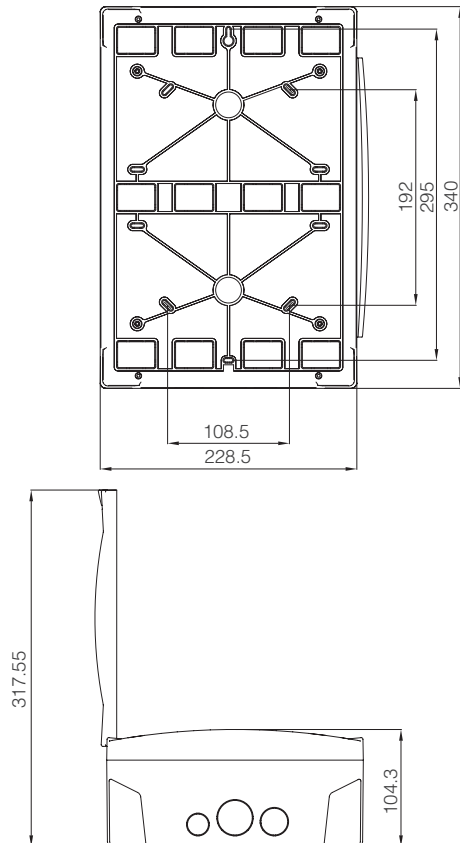
Surface Mount Distribution Box with Terminal Module 16



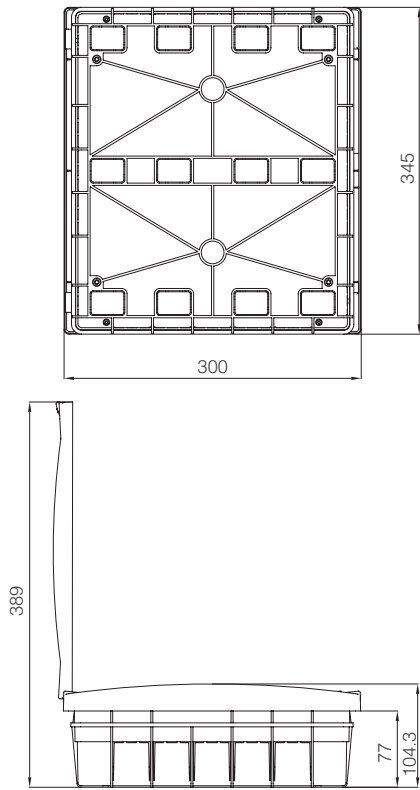
Flush Mount Distribution Box with Terminal Module 16 Double Decker



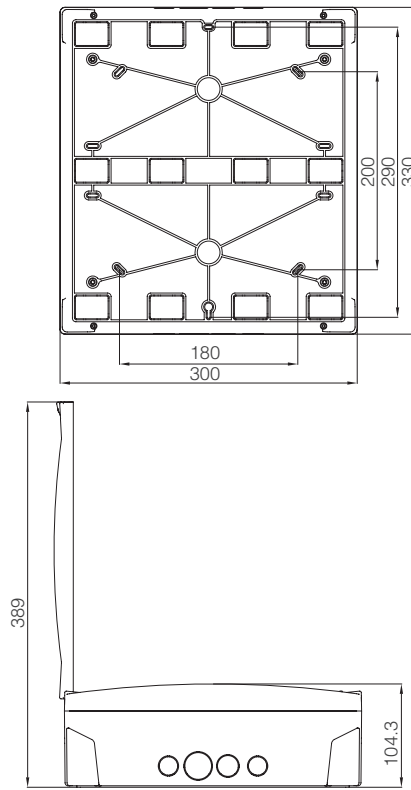
Surface Mount Distribution Box with Terminal Module 16 Double Decker



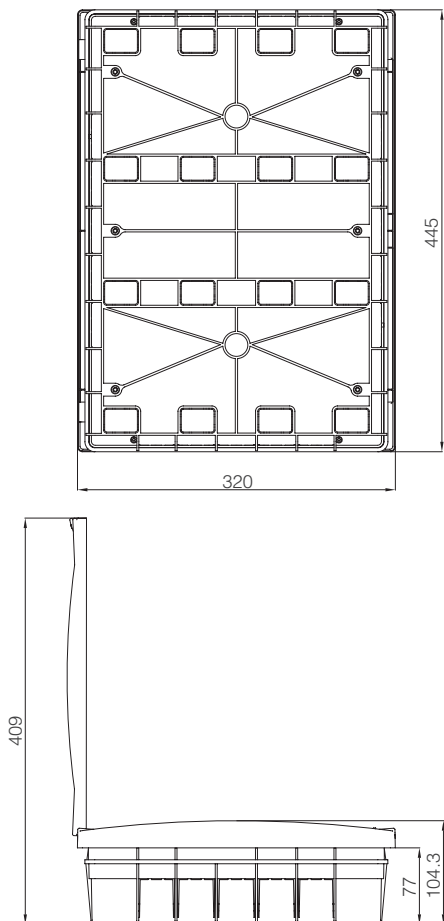
Flush Mount Distribution Box with Terminal Module  
24 Double Decker



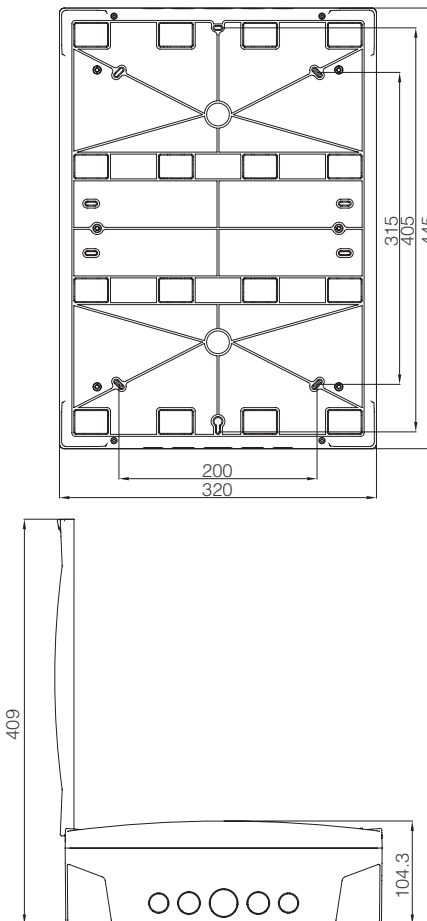
Surface Mount Distribution Box with Terminal Module  
24 Double Decker



Flush Mount Distribution Box with Terminal  
Module 36 Threefold



Surface Mount Distribution Box with Terminal  
Module 36 Threefold





# Distribution Boxes

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Flush Mount Distribution Box - Halogen Free</b>					
2'pcs.	63002	1	36	10,54	330 x 603 x 315
4'pcs.	63004	1	24	8,84	445 x 600 x 210
6'pcs.	63006	1	20	9,08	375 x 505 x 310
8'pcs.	63008	1	16	9,62	450 x 757 x 220
12'pcs.	63012	1	8	7,35	475 x 595 x 215
16'pcs.	63016	1	8	8,80	475 x 735 x 220
16'pcs. Double layer	28001426	1	8	11,76	455 x 470 x 355
24'pcs. Double layer	63024	1	4	6,70	320 x 455 x 368
36'pcs. Threefold	63036	1	4	9,62	450 x 475 x 330

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Surface Mount Distribution Box - Halogen Free</b>					
2'pcs.	63102	1	36	10,55	330 x 603 x 315
4'pcs.	63104	1	24	9,25	445 x 600 x 210
6'pcs.	63106	1	20	9,20	375 x 505 x 310
8'pcs.	63108	1	16	9,45	450 x 680 x 212
12'pcs.	63112	1	8	7,30	445 x 600 x 210
16'pcs.	63116	1	8	8,80	475 x 735 x 220
16'pcs. Double layer	28001427	1	8	11,44	455 x 470 x 355
24'pcs. Double layer	63124	1	4	6,55	312 x 460 x 350
36'pcs. Threefold	63136	1	4	9,70	450 x 475 x 330
2'pcs. Sealed	63140	1	40	3,30	283 x 266 x 272
4'pcs. Sealed	63141	1	30	3,55	335 x 283 x 275

## Special Color Options

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Flush Mount Distribution Box - Halogen Free</b>					
2'pcs	28 xxx 284	1	36	10,54	330 x 603 x 315
4'pcs	28 xxx 285	1	24	8,84	445 x 600 x 210
6'pcs	28 xxx 286	1	20	9,08	375 x 505 x 310
8'pcs	28 xxx 287	1	16	9,62	450 x 757 x 220
12'pcs	28 xxx 288	1	8	7,35	475 x 595 x 215
16'pcs	28 xxx 291	1	8	8,80	475 x 735 x 220
16'pcs. Double layer	28 xxx 474	1	8	11,76	455 x 470 x 355
24'pcs. Double layer	28 xxx 289	1	4	6,70	320 x 455 x 368
36'pcs. Threefold	28 xxx 290	1	4	9,62	450 x 475 x 330

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Surface Mount Distribution Box - Halogen Free</b>					
2'pcs	28 xxx 292	1	36	10,55	330 x 603 x 315
4'pcs	28 xxx 293	1	24	9,25	445 x 600 x 210
6'pcs	28 xxx 294	1	20	9,20	375 x 505 x 310
8'pcs	28 xxx 295	1	16	9,45	450 x 680 x 212
12'pcs	28 xxx 296	1	8	7,30	445 x 600 x 210
16'pcs	28 xxx 299	1	8	8,80	475 x 735 x 220
16'pcs. Double layer	28 xxx 476	1	8	11,44	455 x 470 x 355
24'pcs. Double layer	28 xxx 297	1	4	6,55	312 x 460 x 350
36'pcs. Threefold	28 xxx 298	1	4	9,70	450 x 475 x 330

Please specify your choice of color by applying below color codes into the 'xxx' marked space.

	Code No.		Code No.
<b>Colors</b>	<b>xxx</b>	<b>Colors</b>	<b>xxx</b>
Dore	057	Natural Pine	105
Metallic Silver	065	Natural Walnut	102
Fume	050		

*Note: Additional electric terminal orders can be placed.*

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Opaque Flush Mount Distribution Box - Halogen Free</b>					
2'pcs	28001218	1	36	10,54	330 x 603 x 315
4'pcs.	28001219	1	24	8,84	445 x 600 x 210
6'pcs.	28001220	1	20	9,08	375 x 505 x 310
8'pcs.	28001221	1	16	9,62	450 x 757 x 220
12'pcs.	28001222	1	8	7,35	475 x 595 x 215
16'pcs	28001225	1	8	8,80	475 x 735 x 220
16'pcs. Double layer	28001475	1	8	7,04	455 x 470 x 355
24'pcs. Double layer	28001223	1	4	6,70	320 x 455 x 368
36'pcs. Threefold	28001224	1	4	9,62	450 x 475 x 330

#### Opaque Surface Mount Distribution Box - Halogen Free

2'pcs	28001226	1	36	10,55	330 x 603 x 315
4'pcs.	28001227	1	24	9,25	445 x 600 x 210
6'pcs.	28001228	1	20	9,20	375 x 505 x 310
8'pcs.	28001229	1	16	9,45	450 x 680 x 212
12'pcs.	28001230	1	8	7,30	445 x 600 x 210
16'pcs.	28001233	1	8	8,80	475 x 735 x 220
16'pcs. Double layer	28001476	1	8	6,21	455 x 470 x 355
24'pcs. Double layer	28001231	1	4	6,55	312 x 460 x 350
36'pcs. Threefold	28001232	1	4	9,70	450 x 475 x 330





# Electricity Measurement, Compensation, Power Control and Tracking Systems



Makel has the broadest portfolio in the field of electronic electricity meter in Turkey. With its lowest return rates, high quality products, innovative unique rich features, superior customer service, Makel is the leader of the Turkish market in the field of electronic electricity meter.

## **Broad product portfolio**

- ▶ Monophase meters for residential and low consuming users,
- ▶ Threephase, direct and current transformer connected meters for medium-power commercial companies, offices, street lightings, big apartments and skyscrapers and such consumers
- ▶ Single or Bidirectional, class 0.5 or class 1, direct connected or current transformer and/or voltage transformer connected active and reactive industrial meters for high consuming industries, hotels, Shopping malls, electricity production plants, Medium Voltage subscribers

## **100% test and verification**

- ▶ All our products, from production to packaging are tested and verified 100% in 0.01 accuracy zera test system.

## **Compatibility to MID**

- ▶ All Makel meters conform European Union Measurement Instruments Directive (MID). Conformity of our meters are certified by notified bodies.

## **Wide LCD Screen with backlight**

- ▶ All our meters have large LCD screens. With backlight feature, even in dark environments our meters can easily be read from long distances.

## **Excess operating conditions**

- ▶ All our meters has protections over conformed standards. As an example, although surge tests defined as 4 kV in EN 50470-1 standards, Makel meters are applied to surge tests at 4.4 kV. Our meters are tested in 8 kV instead of 6 kV for isolation test. In regarding to EMI, Our meters are also tested under 30V/m EM field with current flowing through them. All our meters have IP54 protection class. Our meters also work between 40 and 60 Hz and operating voltage are far more than the ranges specified in standards.
- ▶ All makel meters can accurately measure between -40 and 85 degree Celsius. With this feature, they are unique in the market

## **Low time drift**

- ▶ Our meters are calibrated to compensate crystal frequency ppm error in production and continuously make temperature compensation while they are running.

## **Wide Load Profile**

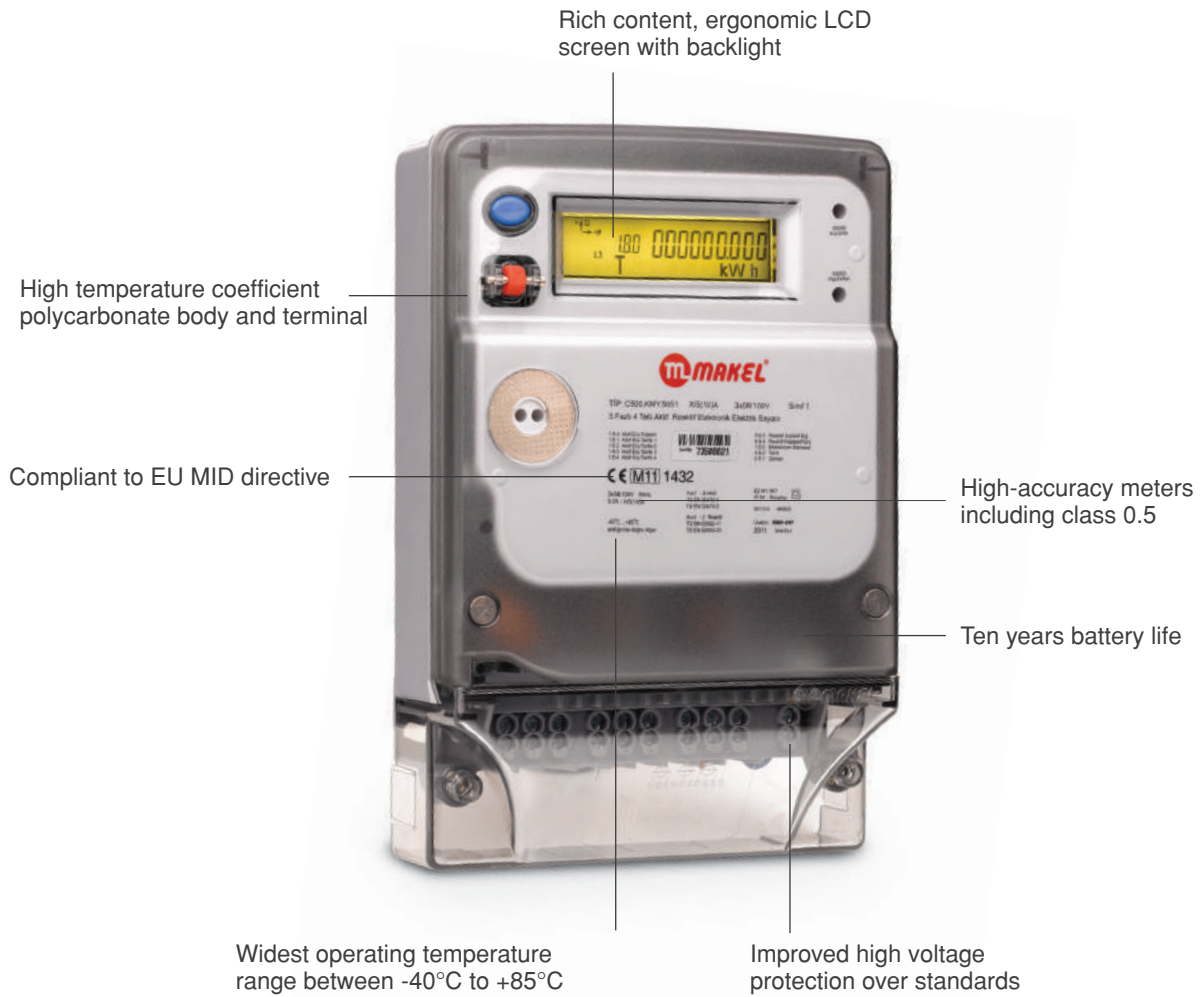
- ▶ 720 records in monophase meters (30 days in 1 hour intervals, optional 15 minutes in M600 90 days) for Threephase meters 4000 - 8000 records (with variable intervals, 90- 180 days for 30 minutes interval) and for industrial meters 4300 - 8730 records with five channels (with variable intervals, 90- 180 days for 30 minutes interval) can be stored and retrieved.

## **Ready for AMI/AMR systems**

- ▶ All meters equipped with RS232 or RS485 interfaces which provide necessary communication interfaces for AMI/AMR applications. Using Makel Wport GSM/GPRS modems, meters can be easily integrated to MAKEL USOBIM AMR system.



## General View



# Monophase Electronic Electricity Meters

You are one step ahead, with its backlighted wide screen, load profile capability, very low time drift by temperature and crystal calibration



M550 / M560



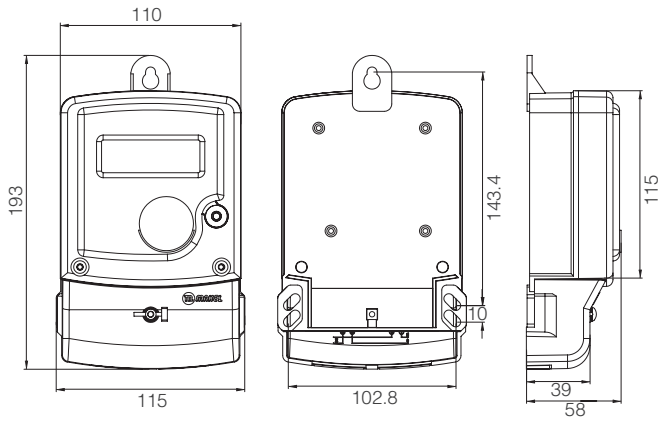
M600



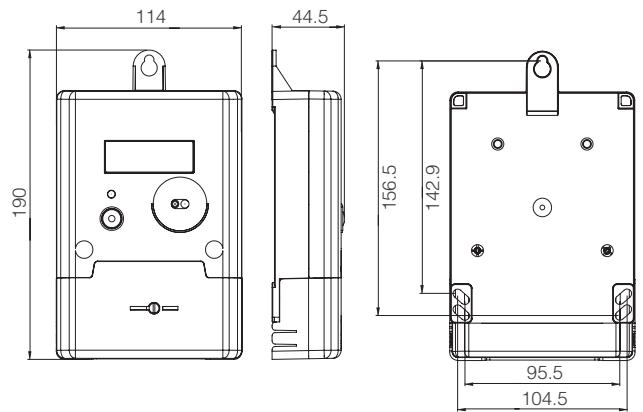
## General Specifications

- ▶ Class B (1%) accuracy (TS EN 50470-1, TS EN 50470-3) when measuring active energy.
- ▶ Splits day into 8 time slices; measuring consumed energy in 4 different tariffs; weekdays, Saturday and Sunday can be programmed separately.
- ▶ Keeps information on permanent memory without the need for energy.
- ▶ Wide LCD screen showing consumed energy according to tariffs and error notices.
- ▶ Battery weakening, real time clock corruption, main cover and terminal cover intervention can be seen on LCD as flashing symbols and with their code numbers.
- ▶ 10 year lifetime lithium battery protects clock and the other information against power cut.
- ▶ Supports TS EN 62056-21 protocol on optic port for communication and programming needs.
- ▶ The information can also be read in power cut condition from LCD screen using button and via communication on optic port thanks to a secondary 10 year lifetime lithium battery.
- ▶ Keeps energy values of actual and previous 12 periods in memory.
- ▶ Has 30 days of loading profile (optional 360 days) 1 hour interval.
- ▶ Calculates demand in every 15 minutes.
- ▶ 150V-300V wide operating voltage range.
- ▶ The real time clock has 0,5sec/day precision. Temperature and crystal compensation is done to prevent real time clock's time drifts.
- ▶ Actual current and voltage can be seen on the screen.
- ▶ It is easy to read metering information even in the dark, thanks to the backlight of the LCD screen.
- ▶ An optional RS485 communication port is available for AMI/AMR applications.
- ▶ All single phase meters are MID compliant.
- ▶ Operating temperature range is between -40°C to 85°C.
- ▶ Optional Circuit Breaker Relay
- ▶ Communication icons indicates on the screen
- ▶ RS485 communication (optional)

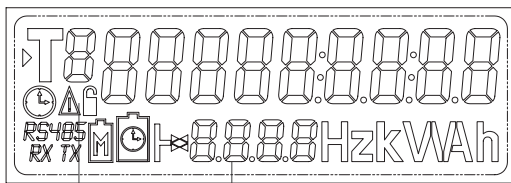
## Outline Dimensions (M550 / M560)



## Outline Dimensions (M600)



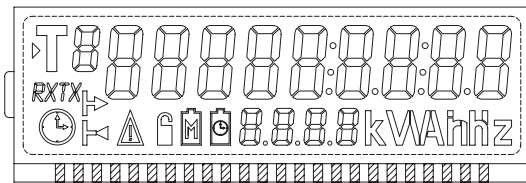
## LCD Screen (M550 / M560)



Tariff codes  
T, T1, T2, T3, T4

Obis codes

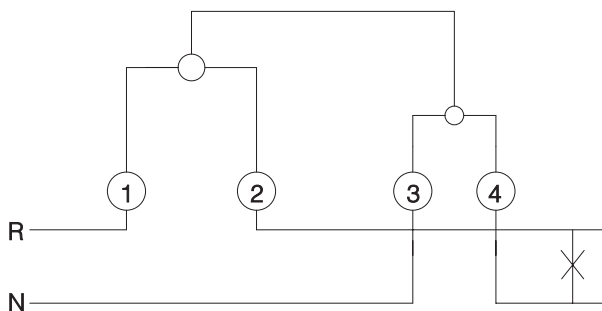
## LCD Screen (M600)



## Explanation of LCD Icons (M550 / M600)

	Battery low alarm
	Real time clock error alarm
	Terminal cover opened alarm
	Main cover opened alarm
	Current tariff indicator
	Maximum demand indicator

## Connection diagram for monophase meters (M550 / M560)



## Technical Specifications

Specifications		Model No.	
		<b>M550.2251</b>	<b>M600.2251T</b>
		<b>M560.2251S</b>	<b>M560.2251</b>
		<b>M600.2251</b>	<b>M560.2251</b>
Nominal Voltage		220 V or 230 V	220 V veya 230 V
Operating Voltage Range		150 V~300 V	150 V~300 V
Nominal (Base) Current		5 A	5 A
Maximum Current		100 A	100 A
Minimum Current		250 mA	250 mA
Starting Current		20 mA	20 mA
Meter Constant	Active	3000, 3000, 5000 imp/kWh	5000, 3000 imp/kwh
	Reactive	-	-
Accuracy (Class)	Active	B (Class 1)	B (Class 1)
One Way		One Way	Two-Way
Frequency		50 Hz $\pm$ 10%	50 Hz $\pm$ 10%
IP Protection Class		IP54	IP54
Protection Class		II	II
EMC Class		E2	E2
Mechanical Class		M1	M1
Humidity Ratio		<95%	<95%
Operating Temperature Range		-40°C~+85°C	-40°C~+85°C
Storage Temperature Range		-40°C~+85°C	-40°C~+85°C
Power Consumption in Voltage Circuit		< 2W 10 VA	< 2W 10 VA
Power Consumption in Current Circuit		< 4 VA	< 4 VA
Real Time Clock Battery (Lithium)		3,6 V	3, 6 V
		1.2 Ah	1, 2 Ah
Meters Voltage Battery	Voltage	3 V	3 V
	Capacity	195 mAh	195 mAh
Battery Lifetime		10 Years /4 Years	10 Years /4 Years
Real Time Clock	Sensibility	0,5 sec./day	0,5 sec./day
	Temperature and Frequency	Yes	Yes
	Calibration	Yes	Yes
Communication		-/RS485 ops	- /RS485
Optical Communication		EN 62056- 21	EN 62056-21
Load Profile	Total Record Duration	30 days (optional 360 days)	30 days (optional 360 days)
	Channel Count	1	1
	Record Interval	1 hour	1 hour
Current Line Connection		Direct	Direct
LCD Display	Digit Count	9 (6+3) digit	9 (6+3) digit
	Lifetime	10 Year	10 Year
	Backlight	Yes	Yes
	Menu	Constant	Constant
	Current and Voltage Display for each Phase	Yes	Yes
Tariff	Count	4	4
Number of Time Slices		8	8
Log Record		Yes	Yes
Circuit Breaker		100 A optional	-

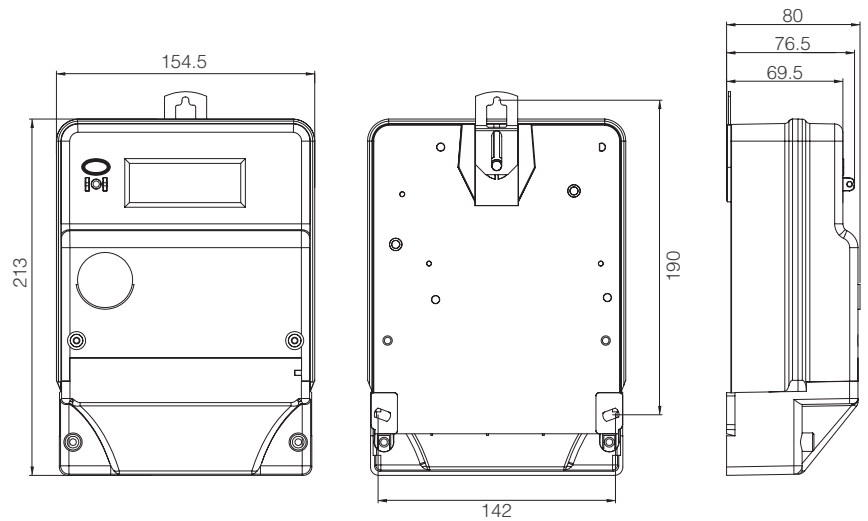
# Threephase Electronic Electricity Meters

Beyond your expectations with wide load profile features, backlight and communication options

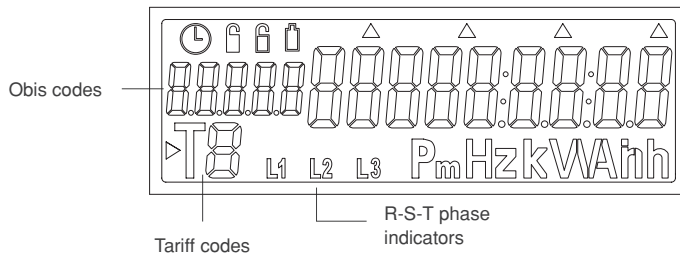


T510

## Outline Dimensions (T510)

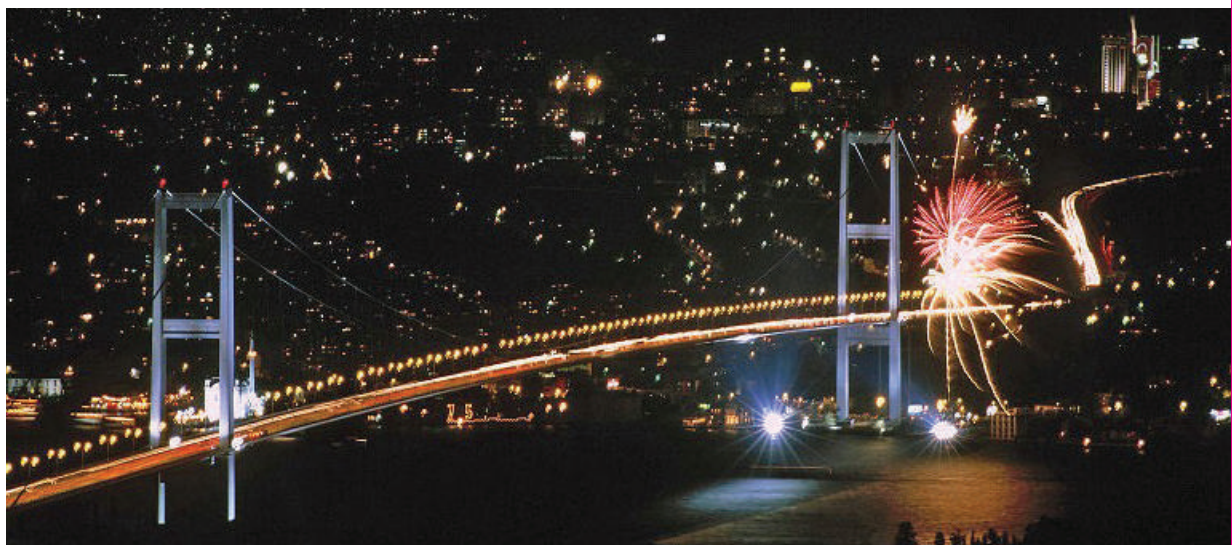


## T510 LCD Screen



### Coding Explanations

	Battery low alarm
	Real time clock error alarm
	Main cover opened alarm
	Terminal cover opened alarm
	Maximum demand indicator



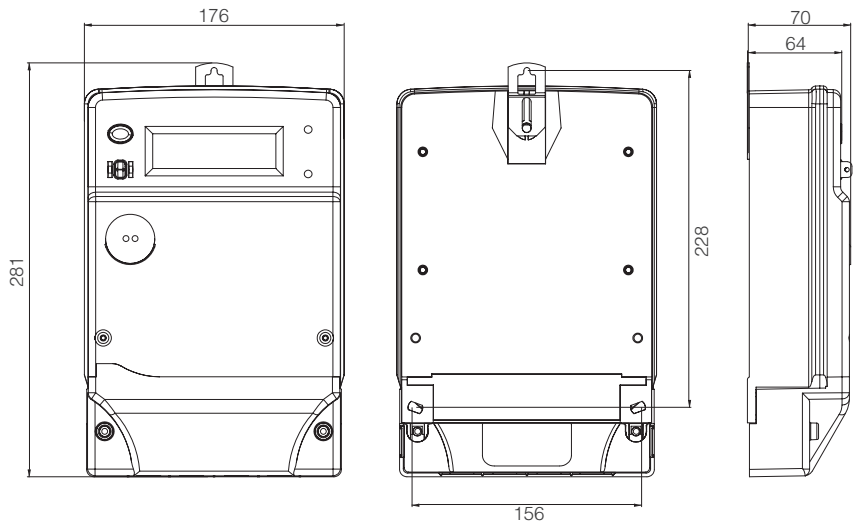




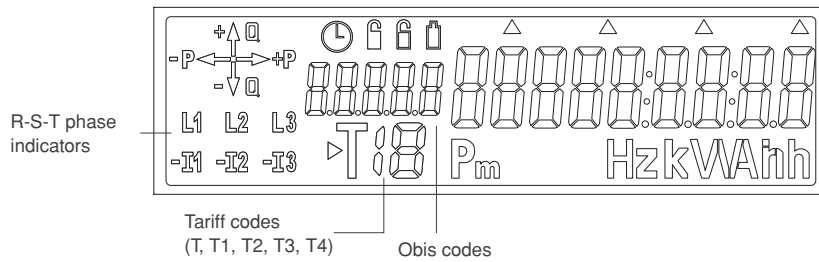
C500. KOY- C500. KOT

## Outline Dimensions

(C520.K0Y / C520.K0T / C500.K0Y / C500.K0T)



## C500. KOY / C500. KOT



### Coding Explanations

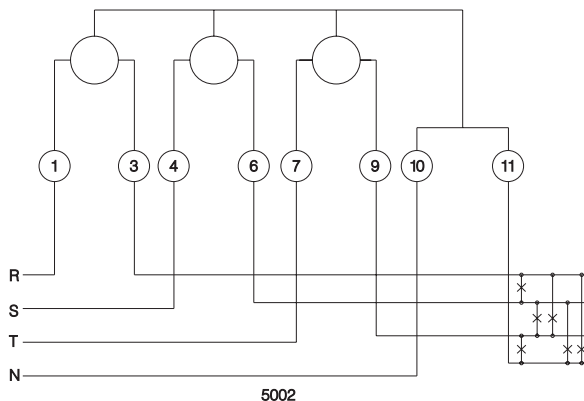
- Battery low alarm
- Real time clock error alarm
- Main cover opened alarm
- Terminal cover opened alarm
- Maximum demand indicator



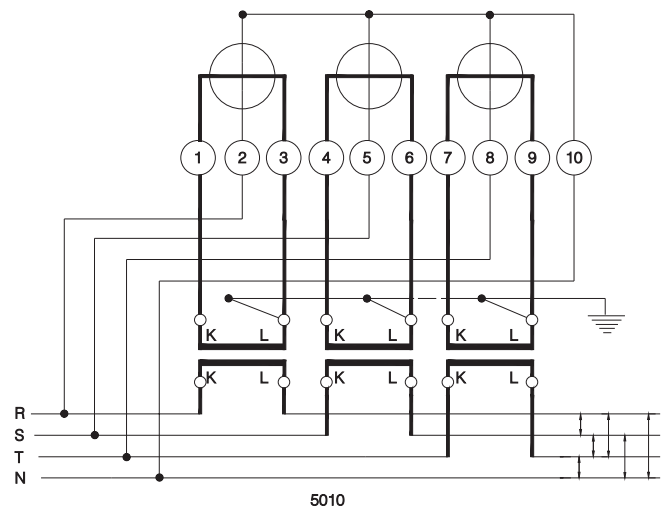
## General Specifications

- ▶ Class B (1%) accuracy (TS EN 50470-1, TS EN 50470-3) when measuring active 3 phase energy.
- ▶ Splits day into 8 time slices; measuring consumed energy in 4 different tariffs; weekdays, Saturday and Sunday can be programmed separately.
- ▶ 10 year lifetime lithium battery protects time and date information against power cut.
- ▶ Keeps information on permanent memory for 100 years without the need for energy.
- ▶ LCD screen showing consumed energy according to tariffs and error notices.
- ▶ Battery weakening, real time clock corruption, absence of one of the phases, wrong phase sequence, reverse current direction main cover and terminal cover intervention can be seen on LCD as flashing symbols and with their code numbers.
- ▶ Supports TS EN 62056-21 protocol on optic port for communication and programming needs.
- ▶ An optional RS485 communication port is available for AMI/AMR applications.
- ▶ Daylight saving time (DST) configuration is supported.
- ▶ The information can also be read in power cut condition from LCD screen using button and via communication on optic port thanks to a secondary 10 year lifetime lithium battery.
- ▶ Keeps energy values of actual and previous 12 periods in memory.
- ▶ Maximum demand is calculated by its demand meter. Demand calculation period can be adjusted to 5, 10, 15, 30, 45 or 60 minutes.
- ▶ From 1 minute to 60 minute intermittently, up to 90 days long, 3 or 5 channels load profile.
- ▶ The meter has current transformers inside. These current transformers have lifetime accuracy guarantee and advantages like very low energy consumption and isolation from the mains
- ▶ Meters with X/5 current transformer models are available.
- ▶ Easy to read metering information even in the dark, thanks to the backlight of the LCD screen.
- ▶ All three phase meters are MID compliant.
- ▶ From 150V to 300V (3x220/380V) accurate metering.
- ▶ Operating temperature range is from -40°C to 85°C.
- ▶ Bidirectional models available.

### Direct Connected Meters



### Current Transformer Connected Meters



Direct or Transformer connected Threephase meters for street lighting, commercial companies with middle consumption, offices and housings

# Threphase Electronic Electricity Meters

## Technical Specifications

Specifications		Model No.		
		T510.2256	T510.2251	T510.2510
Nominal Voltage		3x220/380 V	3x220/380 V or 3x230/400V	3x220 / 380 V
Operating Voltage Range		150 V~300 V	150V~300V	150V~300V
Nominal (Base) Current		5 A	5A	X / 5 A
Maximum Current		60 A	100 A	10A
Minimum Current		250 mA	250 mA	50 mA
Starting Current		20 mA	20 mA / 20mA	10 mA
Meter Constant	Active	1000 imp/kWh	1000 imp/kWh	5000 imp/kWh
Accuracy (Class)	Active	B (Class 1)	B (Class 1)	B (Class 1)
Frequency		50 Hz ± 10%	50 Hz ± 20%	50 Hz ± 20%
IP Protection Class		IP54	IP54	IP54
Protection Class		II	II	II
EMC Class		E2	E2	E2
Mechanical Class		M1	M1	M1
Humidity Ratio		<95%	<95%	<95%
Operating Temperature Range		-40°C~+85°C	-40°C ~ +85°C	-40°C ~ +85°C
Storage Temperature Range		-40°C~+85°C	-40°C ~ +85°C	-40°C ~ +85°C
Power Consumption in Voltage Circuit		< 2W 10 VA	< 2W 10 VA	< 2W 10 VA
Power Consumption in Current Circuit		< 4 VA	< 4 VA	< 4 VA
Real Time Clock Battery (Lithium)		3,6 V/1.2 Ah	3,6 V/ 1.2 Ah	3,6 V/ 1.2 Ah
Battery Lifetime		10 Years /4 Years (Storage)	10 Years /4 Years (Storage)	10 Years /4 Years (Storage)
Real Time Clock	Accuracy	TS EN 61038	TS EN 61038	TS EN 61038
	Temperature and Frequency Calibration	Yes	Yes	Yes
DST Application		Yes	Yes	Yes
Communication	EN 62056-21	RS485 ops	RS485 (opt)	RS485 (opt)
Optical Communication		EN 62056- 21	EN 62056-21	EN 62056-21
Load Profile	Total Record Duration	60/240 days	60/240 days	60/240 days
	Channel Count	3	3	3
	Record Interval	30 min	30 min	30 min
Current Line Connection		Direct	Direct	Current Transformer
LCD Display	Digit Count	9 (6+3) digit	9 (6+3) digit	9 (6+3) digit
	Lifetime	10 Year	10 Year	10 Year
	Backlight	-	Optional	Optional
	Menu	Constant	Constant	Constant
	Quadrant Display			
	VDEW 2.0	-	-	-
	Current and Voltage Display	Yes		
	for each Phase	Yes	-/Yes	-/Yes
Tariff	Count	4	4	4
	Holidays	Optional	-	-
Number of Time Slices		8	8	8
Season Structure		Optional	-	-
Alarm Relay		-	-	-
Magnetic Field Sensor		-	-	-
Harmonic Analysis		-	-	-
Circuit Breaker		Optional	Yes	-

All Makel products are 100% tested and verified from production to packaging. All Makel meters are subjected to accuracy and periodic tests with highly accurate Zera test systems.

## Technical Specifications

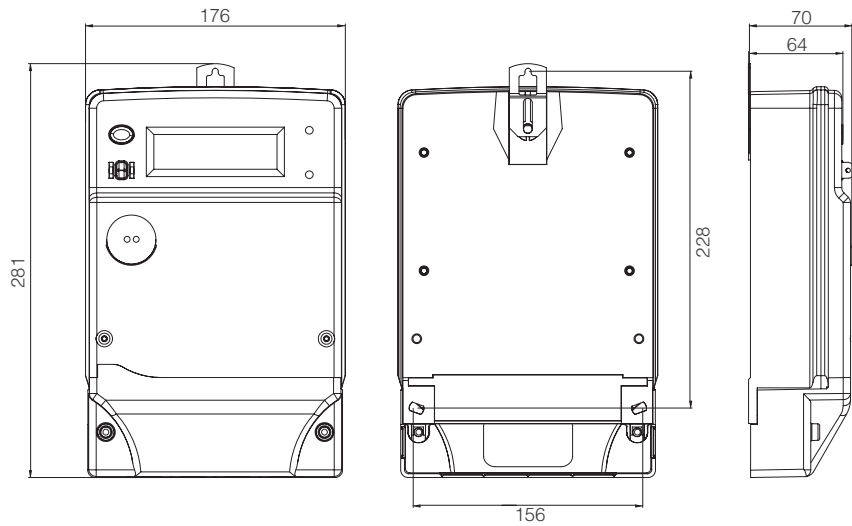
Specifications	Model No.
	<b>C520.K0Y.2251</b> <b>C520.K0T.2251</b>
Nominal Voltage	3x230/400 V
Operating Voltage Range	150 V~300 V
Nominal (Base) Current	5 A
Maximum Current	100 A
Minimum Current	250 mA
Starting Current	20 mA
Meter Constant	Active 1000 imp/kWh
	Reactive -
Accuracy (Class)	Active B (Class1)
	Reactive -
Frequency	50 Hz $\pm$ 10%
Measure Direction	One Way
	Two-way
IP Protection Class	IP54
Protection Class	II
EMC Class	E2
Mechanical Class	M1
Humidity Ratio	<95%
Operating Temperature Range	-40°C ~ +85°C
Storage Temperature Range	-40°C ~ +85°C
Power Consumption in Voltage Circuit	< 2W 10 VA
Power Consumption in Current Circuit	< 4VA
Real Time Clock Battery (Lithium)	3.6 V/1.2 Ah
Battery Lifetime	10 Years /4 Years (Storage)
Real Time Clock	Accuracy TS EN 61038
	Temperature and Frequency Yes
	Calibration Configurable
DST Application	RS 232 / RS 485
Communication	EN 62056-21 EN 62056-21
Load Profile	Total Record Duration 120 days
	100 days
	Channel Count 3
	4
	Record Interval 1,5,10,15,20,30,60 dk.
Current Line Connection	Direct
LCD Display	Digit Count 9 (6+3) dijit
	Lifetime 10 Year
	Backlight Opsiyonel
	Menu Constant / Dynamically Configurable
	Quadrant Display -
	Current and Voltage Display Yes
	for each Phase
	frequency, Cos $\phi$
Tariff	Count 4 (Optional 16)
	Holidays - / Yes (Optional)
Number of Time Slices	8 / (Optional 32)
Season Structure	- / Yes (Optional)
Alarm Relay	- / Yes (Optional)
Magnetic Field Sensor	- / Yes (Optional)
Harmonic Analysis	Yes
Log Record	Yes
Generator Detection Input	- / Yes (Optional)

All Makel meters have exceeded protections over conformed standards. 4.4 kV for surge tests instead of 4 kV, 8 kV isolation tests instead of 6kV, 30V/m instead of 10V/m regarding EMI. All our meters have IP54 protection class. Meters operate over standards definitions such as they operate between 40Hz and 60 Hz frequencies, 150V and 300V supply voltages, -40 to +85 °C temperatures

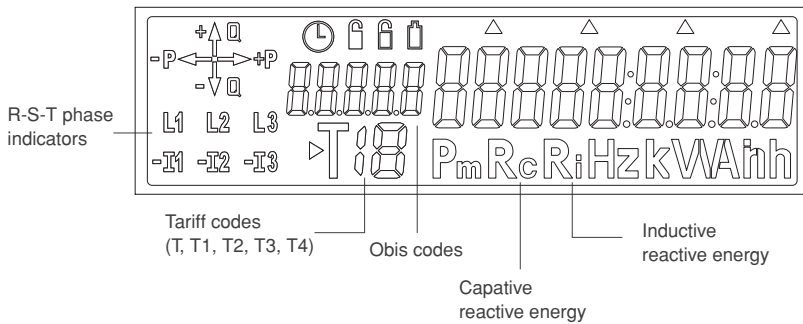


C500-C510

## Outline Dimensions (C520 / C500 / C510)



## C520 / C500 / C510 LCD Screen



### Coding Explanations

	Battery low alarm
	Real time clock error alarm
	Main cover opened alarm
	Terminal cover opened alarm
	Current tariff indicator
	Maximum demand indicator

Single or bidirectional, CT or Direct connected, class 0.5 or class 1 Industrial Meters for Industries, hotels, shopping malls, power plants, MV subscribers, etc.



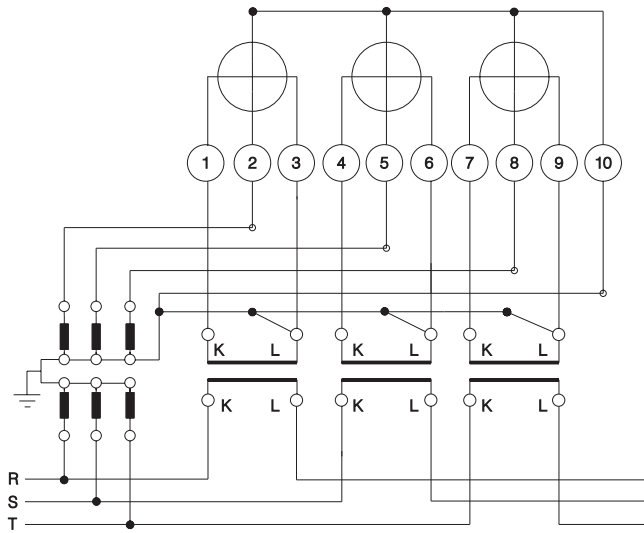


## General Specifications

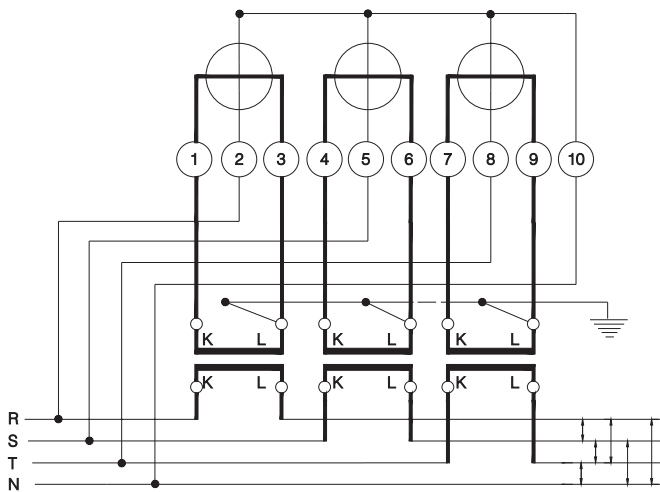
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- ▶ Industrial (Combi) Electronic Electricity Metering Products, measures consumed active energy according to class B (%1) or class C (%0.5) (TS EN 50470-1, TS EN 50470-3) and reactive energy according to class 2 (TS EN 62053-23) in all 3 phases.
- ▶ Have ability to divide a week into 3 parts called “Week, Saturday, Sunday” and divide each part into 8 locals and calculate consumed energy in 4 different tariffs. (Some types have 16 tariffs, special tariff days and seasons).
- ▶ Date and time are prevented from electricity failures by lithium cell which has minimum 10 year battery life.
- ▶ Have a non-volatile memory that data remains over 100 years without energy.
- ▶ Have a wide lcd that displays consumed energy in each tariffs and fault notifications. ( Some types of meters have dynamic menu.)
- ▶ Have the ability to display low battery, real time clock failure, power line failure, wrong ordered line, reversed current, main cover and terminal cover tampering.
- ▶ Have optical port interface that supports TS EN 62056-21 standard.
- ▶ Have RS485/RS232 ports to support AMI/AMR systems.
- ▶ Have the ability to make DST (Daylight saving time) automatically. It can be enabled/disabled dynamically by user.
- ▶ Have ability to read data from lcd by pressing button or communication interface on electricity breaks.
- ▶ Current and past 12 month period data are saved into non-volatile memory.
- ▶ Have the ability to measure maximum demands that can be programmed as 5, 10, 15, 30, 45, 60 minutes dynamically.
- ▶ Have 3 or 5 channels wide range load profile that supports up to 90 days with programmable period between 1-60 minutes.
- ▶ Current transformers, used as metering component, have guaranteed to save metering sensivity in all time.
- ▶ Additionally they have no power consumption and provide isolation from power line.
- ▶ Current “Voltage, current, frequency and  $\cos\Phi$ ” values of each phases are shown on lcd displays.
- ▶ Have types that include “X/5 Current” and “voltage” transformers.
- ▶ With an lcd backlight, it’s easy to read data from meters in dark places.
- ▶ Have types that support magnetic tamper detection.
- ▶ Have types that support WDEV 2.0 quadrant indication and harmonic analysis.
- ▶ %0.5 class products support bidirectional and high accuracy metering.
- ▶ Operates between 150V - 300V (3x220/380V) and 40V -75V (3x58/100V) voltages.
- ▶ Operates between temperatures -40 and 85 °C.
- ▶ Generator detection input is provided optionally.

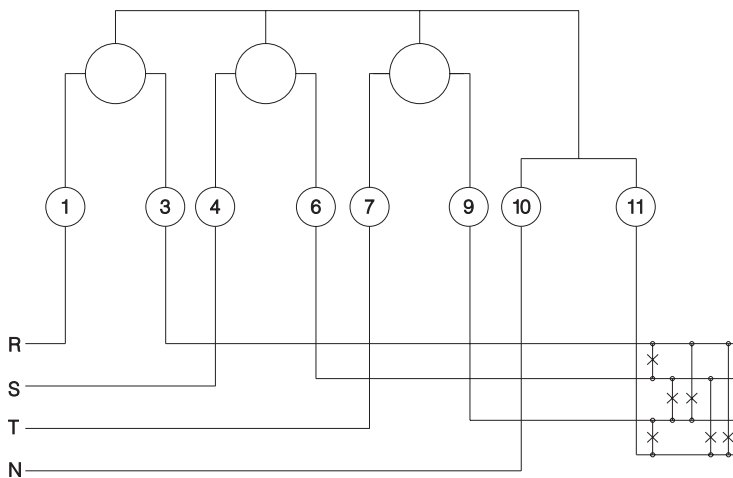
## Current And Voltage Transformer Connected Meters



## Current Transformer Connected Meters



## Direct Connected Meters



## Technical Specifications

Specifications		Model No.	
		C520.KMY.2251 C520.KMT.2251	C520.AMY.2251 C520.AMT.2251
Nominal Voltage		3x230/400 V	3x230/400 V
Operating Voltage Range		150 V~300 V	150 V~300 V
Nominal (Base) Current		5 A	5 A
Maximum Current		100 A	100 A
Minimum Current		250 mA	150 mA
Starting Current		20 mA	20 mA
Meter Constant	Active	1000 imp/kWh	1000 imp/kWh
	Reactive	1000 imp/ kVARh	1000 imp/ kVARh
Accuracy (Class)	Active	B(Class1)	C(Class 0,5)
	Reactive	Class 2	Class 2
Frequency		50 Hz ± 10%	50 Hz ± 10%
Measure Direction		One Way	One Way
		Two-way	Two-way
IP Protection Class		IP54	IP54
Protection Class		II	II
EMC Class		E2	E2
Mechanical Class		M1	M1
Humidity Ratio		<95%	<95%
Operating Temperature Range		-40°C ~ +85°C	-40°C ~ +85°C
Storage Temperature Range		-40°C ~ +85°C	-40°C ~ +85°C
Power Consumption in Voltage Circuit		< 2W 10 VA	< 2W 10 VA
Power Consumption in Current Circuit		< 4VA	< 4VA
Real Time Clock Battery (Lithium)		3.6 V/1.2 Ah	3.6 V/1.2 Ah
Battery Lifetime		10 Years /4 Years (Storage)	10 Years /4 Years (Storage)
Real Time Clock	Accuracy	TS EN 61038	TS EN 61038
	Temperature and Frequency	Yes	Yes
	Calibration	Configurable	Configurable
DST Application		RS 232 / RS 485	RS 232 / RS 485
Communication		EN 62056-21	EN 62056-21
Load Profile	Total Record Duration	91 days	91 days
		91 days	91 days
	Channel Count	5	5
		8	8
Record Interval	1,5,10,15,20,30,60 dk.	1,5,10,15,20,30,60 dk.	
Current Line Connection		Direct	Direct
LCD Display	Digit Count	9 (6+3) dijit	9 (6+3) dijit
	Lifetime	10 Year	10 Year
Backlight		Yes	Yes
Menu		Constant / Dynamically Configurable	Constant / Dynamically Configurable
Quadrant Display		vdew 2.1	vdew 2.2
Current and Voltage Display		Yes	Yes
for each Phase		Yes	Yes
frequency, Cosφ		Yes	Yes
Tariff	Count	4 (Optional 16)	4 (Optional 16)
	Holidays	- / Yes (Optional)	- / Yes (Optional)
Number of Time Slices		8 / (Optional 32)	8 / (Optional 32)
Season Structure		- / Yes (Optional)	- / Yes (Optional)
Alarm Relay		- / Yes (Optional)	- / Yes (Optional)
Magnetic Field Sensor		- / Yes (Optional)	- / Yes (Optional)
Harmonic Analysis		-	-
Log Record		-	-
Generator Detection Input		- / Yes (Optional)	- / Yes (Optional)

## Technical Specifications

Specifications		Model No.	
		C520.KMY.2556 C520.KMT.2556	C520.AMY.2556 C520.AMT.2556
Nominal Voltage		3x230/400 V	3x230/400 V
Operating Voltage Range		40 V~300 V	40 V~300 V
Nominal (Base) Current		X / 5 A	X / 5 A
Maximum Current		10 A	10 A
Minimum Current		50 mA	50 mA
Starting Current		10 mA	5 mA
Meter Constant	Active	20 000 imp/kWh	20 000 imp/kWh
	Reactive	20 000 imp/ kVAh	20 000 imp/ kVAh
Accuracy (Class)	Active	B (Class 1)	C (Class0,5)
	Reactive	Class 2	Class 2
Frequency		50 Hz ± 10%	50 Hz ± 10%
Measure Direction		One Way	One Way
		Two-way	Two-way
IP Protection Class		IP54	IP54
Protection Class		II	II
EMC Class		E2	E2
Mechanical Class		M1	M1
Humidity Ratio		<95%	<95%
Operating Temperature Range		-40°C ~ +85°C	-40°C ~ +85°C
Storage Temperature Range		-40°C ~ +85°C	-40°C ~ +85°C
Power Consumption in Voltage Circuit		< 2W 10 VA	< 2W 10 VA
Power Consumption in Current Circuit		< 4VA	< 4VA
Real Time Clock Battery (Lithium)		3.6 V/1.2 Ah	3.6 V/1.2 Ah
Battery Lifetime		10 Years /4 Years (Storage)	10 Years /4 Years (Storage)
Real Time Clock	Accuracy	TS EN 61038	TS EN 61038
	Temperature and Frequency Calibration	Yes	Yes
		Configurable	Configurable
DST Application		RS 232 / RS 485	RS 232 / RS 485
Communication	EN 62056-21	EN 62056-21	EN 62056-21
Load Profile	Total Record Duration	91 days	91 days
		91 days	91 days
	Channel Count	5	5
		8	8
	Record Interval	1,5,10,15,20,30,60 dk.	1,5,10,15,20,30,60 dk.
Current Line Connection		CT / CT and VT	CT / CT and VT
LCD Display	Digit Count	9 (6+3) dijit	9 (6+3) dijit
	Lifetime	10 Year	10 Year
	Backlight	Yes	Yes
	Menu	Constant / Dynamically Configurable	Constant / Dynamically Configurable
	Quadrant Display	vdew 2.3	vdew 2.4
	Current and Voltage Display	Yes	Yes
	for each Phase	Yes	Yes
	frequency, Cosφ	Yes	Yes
Tariff	Count	4 (Optional 16)	4 (Optional 16)
	Holidays	- / Yes (Optional)	- / Yes (Optional)
Number of Time Slices		8 / (Optional 32)	8 / (Optional 32)
Season Structure		- / Yes (Optional)	- / Yes (Optional)
Alarm Relay		- / Yes (Optional)	- / Yes (Optional)
Magnetic Field Sensor		- / Yes (Optional)	- / Yes (Optional)
Harmonic Analysis		-	-
Log Record		-	-
Generator Detection Input		- / Yes (Optional)	- / Yes (Optional)

# MAKEL USOBIM (Remote Meter Reading Data Center) System



100% web based architecture provides seamless interface to its users for accessing all data over internet

MAKEL USOBIM, is a 100% web based OSOS(Automatic Meter Reading System) system that is designed for the AMI/AMR needs of the electricity distribution and industrial companies. Meters started to become a part of data communication system first by remote reading of the electricity meter data(AMR - Automatic Meter Reading) and this process is evolved to a Smart Grid: A distribution data management system enabling us to manage energy generation, usage and distribution.

Remote meter reading systems enables us to use the electricity infrastructure efficiently, to make correct estimations for investments, correct grid analysis and planning, reduce tampering and losses, in time billing, real time multi pricing in a multi tariff system, distribution web automation, remote closing and opening, to reduce meter reading cost and to increase customer satisfaction. These features give distribution companies an ease in management and reduce costs. Makel automatic meter reading system, is designed to collect energy usage, state and notifications from customers into a central control station. Meters can also be controlled remotely by the help of the two-way communication. The system can be programmed to read metering data periodically or at the determined time. Also the central station can make immediate reading in cases of a new customer arrival, customer departure, customer objection, tamper or loss suspicion. Makel USOBIM system consists of 3 parts; communication software, application software and database.

Communications software which runs as background service in communication server at data center provides all necessary communication activities between meters and data center using TCP/IP protocols. Communications software and web interface uses database to communicate with each other. Application software is the backbone for web interface and services. It provides a web server for web users. Number of connected users is only limited by the capacity of the server and internet throughput. Database is based on SQL server 2008 and can hold millions of data for years safely and produces faster and sophisticated reports.

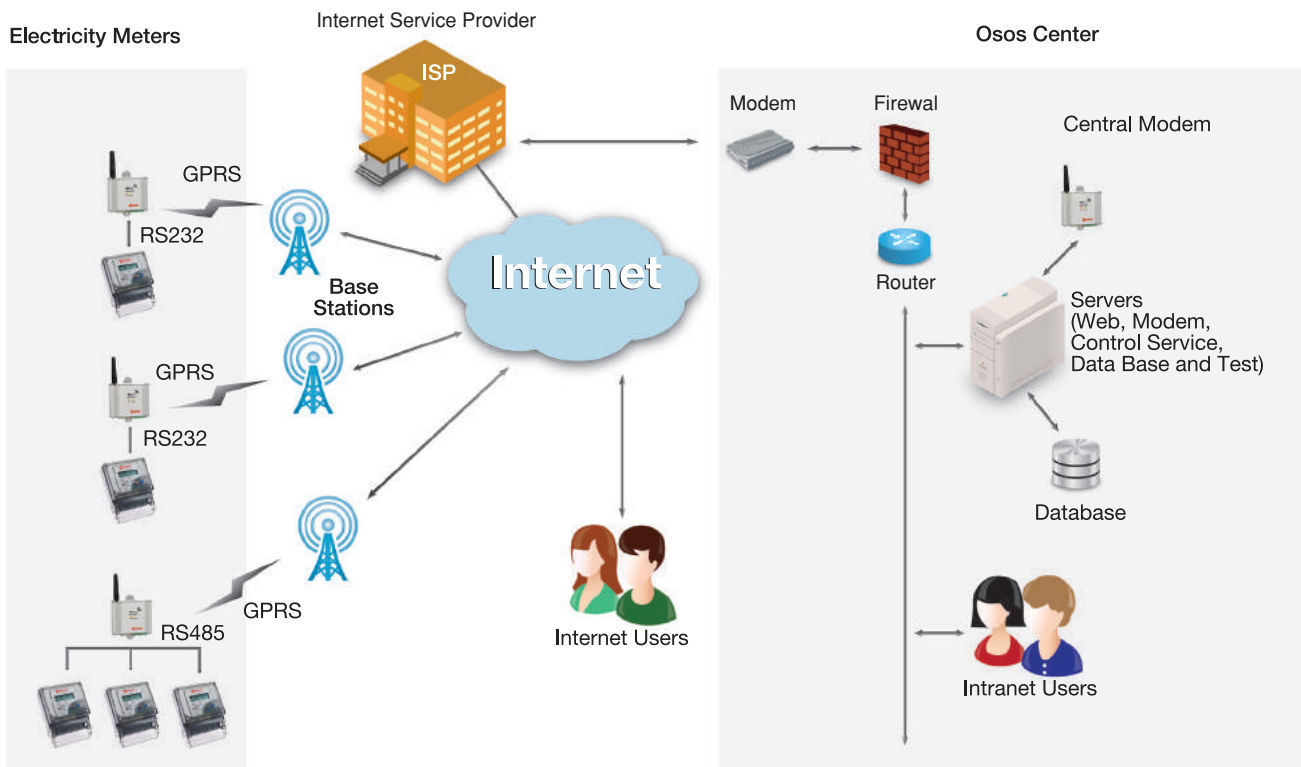


## General Specifications

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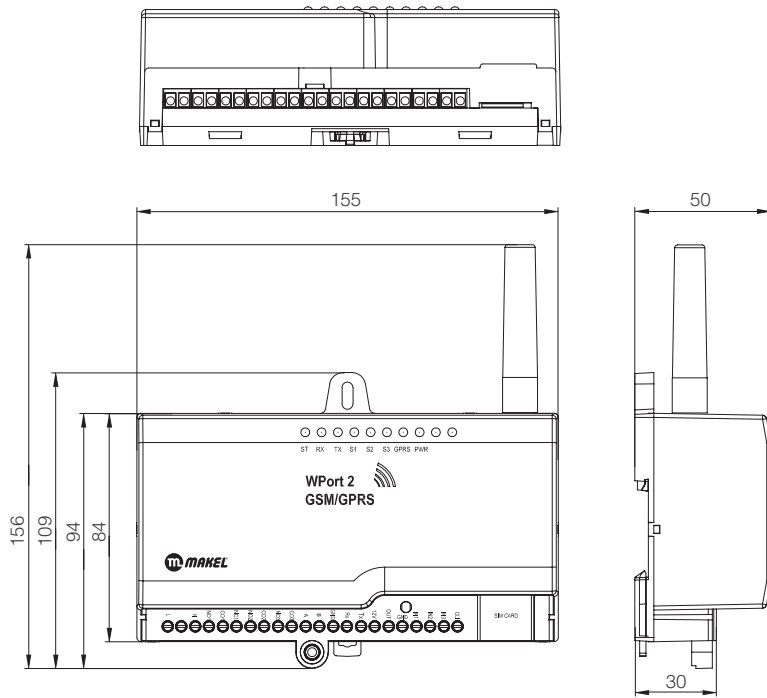
- ▶ GSM/GPRS technology and TCP/IP protocol gives us a wide range of coverage in a secure, fast and cost effective way.
- ▶ The system is independent of the underlying hardware infrastructure, with the help of the web based multi layer modular software architecture; it easy to add and remove a meter. You can start from 1 meter to a hundreds of thousands of meters.
- ▶ Provides data communication interfaces to exchange necessary data between external systems (Geographical information systems, subscriber information management systems, Billing systems, CRM, ERP software) using web services in xml language or in other formats. It also provides methods for processing of retrieved data for hand held terminals.
- ▶ Has a customer tracking aimed at periodic reading (hourly, daily, weekly, etc.), which can collect energy usage, state and notification information and also load profile data.
- ▶ Using universal standards the system is independent of mobile network operators.
- ▶ The analysis module working on top of the SQL database server can make flexible queries, analysis, create graphical views, and creates needed work commands.
- ▶ With the help of the flexible module in the multilayered software new meter communication protocols can be added easily (EN 62056-21, DLMS-COSEM, etc.). The system can read many different brands of meters
- ▶ The security is ensured by using an encrypted communication between the central station and the meter. Database security is ensured by the encrypted communication in the database access layer, authorization mechanism and firewall. Also the database is backed up periodically.
- ▶ With the easily usable GUI, error prone and efficient usage is ensured. Street lightening meters can be controlled automatically or manually by using the reed available in the Wport.
- ▶ Users can be informed through e-mail or SMS for cases like when the Reactive/Active energy ratio goes below or above the determined value, number of failed communication attempts.
- ▶ Different authentication levels enable to create users with different qualifications
- ▶ Virtual metering points can be constructed by using some of the metering points connected to the system.
- ▶ Using Wport modem, Partial (user specified or default packets with user defined or default contents) or complete readout data in meters can be read from data center.
- ▶ Up to 10 different packets with user specified contents can be defined in Makel USOBIM system.
- ▶ All reports created by the system can be exported to Excel, pdf, csv, text, rtf. Also the graphics can be saved in image formats. System can create OSF formats.
- ▶ System is designed to work 7/24.

# Makel Usobim General Architecture



- ▶ OSOS center is the installed data center of AMR. Data management, collection and storage are coordinated in this center.
- ▶ Commands from OSOS data center passing through the routers and broadband modems reach to modems via ISPs and GSM/GPSR mobile internet infrastructure.
- ▶ Modems doing all necessary communications with meters or bypassing commands to meters, behave as a gateway between meters and OSOS data center. Communications are encrypted. If desired, modems can do all the necessary communications with meters in determined times to pick-up and store all required data in standalone fashion and when OSOS data center asks for data, they transfer all stored meter data to data center.
- ▶ Data obtained from meters are stored in a strong database in OSOS Center. So, one can easily and safely reach millions of data in a short time.
- ▶ When desired, internet and intranet users using a web browser which is available in their computers and by entering their user name and password can query all stored data, have desired reports or give new orders for new data reading action.

## Outline Dimensions



With its easy usage and installation, Compact and high quality design, Wport is a data collection and supervision device intended to read and control of electronic electricity meters and such devices which build an AMI/AMR system.



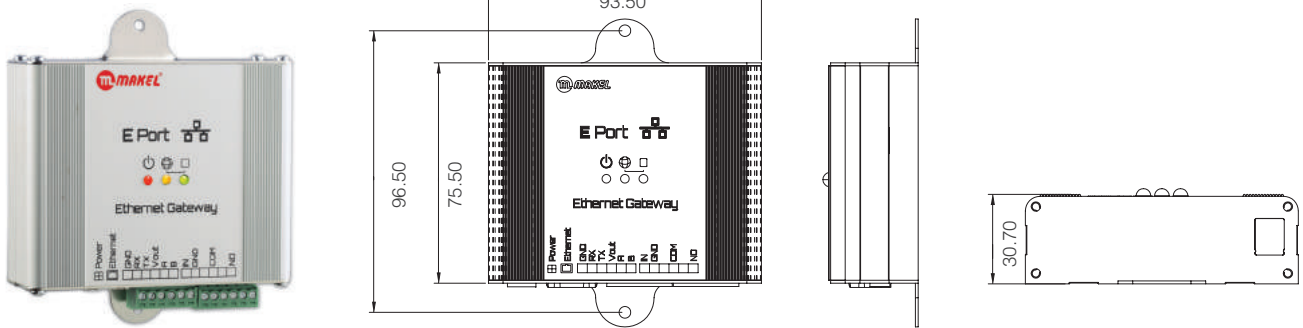
## General Specifications

- ▶ Supports simultaneous multiple port TCP/IP protocols on GPRS/EDGE
- ▶ Operator independent
- ▶ Provides secure communication with its powerful DES algorithm
- ▶ Supports software upgrade through air.
- ▶ RTC can also be updated using time data from GSM Network.
- ▶ Supports IEC 62056-21 mod C and DLMS-COSEM protocols for meter communication with variable speeds.
- ▶ Modem device, may store remote or local software updates, parameter definitions, access attempts from unauthorised IP's other than defined IP, signal deficiencies, auxiliary information such as GSM/GPRS errors and similar information along with date/time tags related to these events.
- ▶ Periodic and a-periodic work instructions with variable contents can be defined According to these work instructions, Wport automatically communicates with meters and collects requested data and stores them in to its memory and realizes requested control operations.
- ▶ It is equipped with three digital inputs for instrument panel, opening cover or similar needs.
- ▶ It is equipped with 3 relay outputs for the activation of devices connected externally.
- ▶ Supports GSM/GPRS/EDGE, 900/1800/1900 Class B communication.
- ▶ External antenna can be connected in case of poor signal conditions.
- ▶ Wport has signal led's for indications GSM connection status and communication activities.
- ▶ Sim card can be inserted and removed with its push/push type sim card connector without opening the device case.
- ▶ Wport has simultaneously working RS232 and RS485 communication interfaces. RS485 interface supports up to 255 meters connected simultaneously.
- ▶ All connections terminals are sealable
- ▶ Variable interval automatic reset feature provides a failsafe mechanism to recover from locks.
- ▶ 100% compatible to web based Makel Usobim AMI/AMR system.

## Technical Specifications

Model	GM1
Communication type	GSM/GPRS/EDGE
Frequency Band	900/1800 MHz
GPRS Class	Class 10
TCP/IP Support	Exist
RS232 Communications	1 unit
RS485 Communications	1 unit
Digital inputs	3 unit
CLI Input	1 unit
Relay Capacity	1 unit 10A 250VAC, 2 unit 5A 250VAC
Digital output	1 unit
Communication Type	RS232 ve RS485
Sim Card	1.8V/3V
External Antenna	SMA (50 Ohm)
RTC	Exist
Operating Temperature	-30°C / +75°C
Operating Voltage	50V - 300V
Dimensions	155 x 110 x 50
Weight	250 gr
Remote SW upload	Exist
Data Security	DES

## Outline Dimensions



The EPort is a remote control and data collection device developed to enable remote reading of measurement values and control of the electrical meters on electronic and similar devices. Since communication is provided over the internet no extra costs are required. By connecting to the network via the RJ-45 Ethernet socket on the device remote reading is made possible by simply connecting with the RS232, RS485 or Optic Port to the meter.

## General Specifications

- ▶ TCP/IP support
- ▶ 10BASE-T and 100BASE-TX Ethernet connection
- ▶ RS232 and RS485 ports can be used at the same time. The RS485 port supports up to 255 connections.
- ▶ It supports optic port connection to the meter
- ▶ Numerical alarm entry: compatible to dry contact or 0-24 V input.
- ▶ 220V/5 A capacity relay output.
- ▶ Compatible with IEC 62056-21 Mod C and DLMS meters.
- ▶ Supports all brands and models of meters.
- ▶ 100% Compatible with the Makel USOBİM (OSOS- automatic meter reading system).
- ▶ The MAC, IP, gateway, sub network mask and port numbers can be adjusted with the E Port configuration software.
- ▶ Has input/output with ESD protection

## Technical Specifications

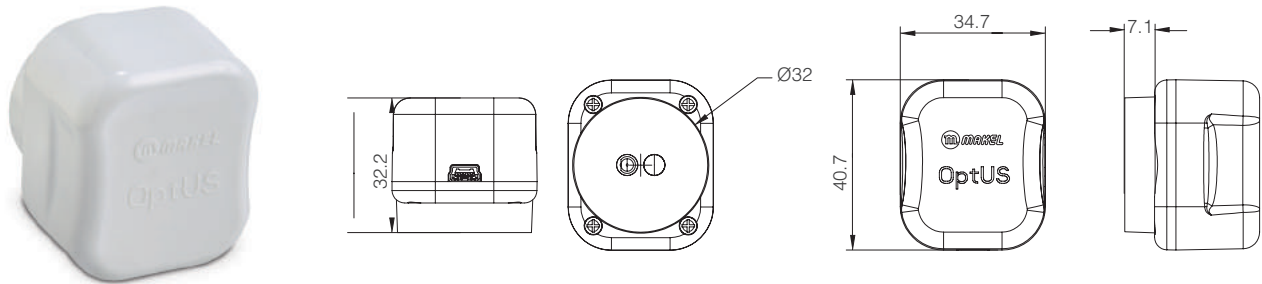
Model	
Communication Protocol	TCP/IP
Network connection	10BASE-T ve 100BASE-TX Ethernet
Network connection	RJ-45
RS232 port	1 item, 300-115200 bps
RS485 port	1 item, 300-115200 bps, max 255 device
Numerical input	1 item
Relay output	1 item, 250V/5A NO
Adaptor input	12V DC
Operation temperature	-40°C / +85°C
Dimensions	77 x 30.7 x 93.5 mm
Weight	180gr



# Optus USB Optic Reader

Optus is a device that can use the computer's USB port to read the meter over the Optic Port.

## Outline Dimensions



## Technical Specifications

### Mechanical Properties

Dimensions	40.5mm x 34.5mm x 32.5mm
Body Material	ABS
Weight	~150gr

### Electrical Properties

Standard	IEC 62056-21
Cable Length	1.5m
Operation voltage	obtains power from the USB port
Electrical Interface	USB 2.0

## Software

The driver needs to be loaded in order for Optus to be operated on this computer. The address where the driver can be downloaded <http://www.makelamr.com/Setup/OptusSetup.exe>

# Reactive Power Compensation Relay

## Single Phase

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
M550.2251	152011013	1	24	5,40	380 x 405 x 255
M550.2251.RS485	152011016	1	24	5,40	380 x 405 x 255
M560.2251	152011029	1	24	5,40	380 x 405 x 255
M560.2251S	152011042	1	24	5,40	380 x 405 x 255
M600.2251	152011030	1	24	5,40	380 x 405 x 255
M600.2251T	152011036	1	24	5,40	380 x 405 x 255
M600.2251.RS485	152011031	1	24	5,40	380 x 405 x 255
M600.2251T.RS485	152011037	1	24	5,40	380 x 405 x 255

## Three Phase

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
T510.2251	152013029	1	8	6,92	280 x 335 x 240
T510.2251.RS485	152013030	1	8	6,92	280 x 335 x 240
T510.2510	152013031	1	8	6,92	280 x 335 x 240
T510.2510.RS485	152013032	1	8	6,92	280 x 335 x 240
C500.K0T.2251	152013033	1	8	6,92	280 x 335 x 240
C500.K0Y.2251.RS485	152013023	1	8	6,92	280 x 335 x 240
C500.K0T.2251.RS485 J	152013056	1	8	6,92	280 x 335 x 240

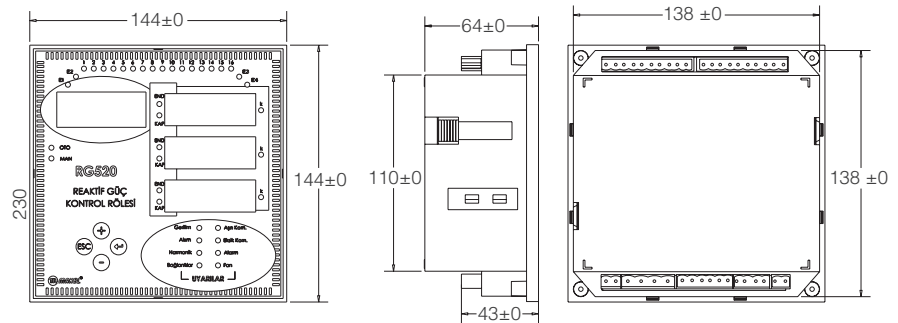
## Industrial

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
C500.KMY.2251.RS232	152012023	1	8	7,36	330 x 380 x 283
C500.KMY.2251.RS485	152012025	1	8	7,36	330 x 380 x 283
C500.KMY.2256.RS232	152012026	1	8	7,36	330 x 380 x 283
C500.KMY.2256.RS485	152012024	1	8	7,36	330 x 380 x 283
C510.AMY.2256.RS485	152012036	1	8	7,36	330 x 380 x 283
C510.AMY.5851.RS485	152012035	1	8	7,36	330 x 380 x 283
C510.AMT.2256.RS485	152012032	1	8	7,36	330 x 380 x 283
C510.AMT.5851.RS485	152012034	1	8	7,36	330 x 380 x 283
C500.KMT.2251.RS485	152012043	1	8	7,36	330 x 380 x 283
C500.KMY.2556.RS485	152012041	1	8	7,36	330 x 380 x 283
C510.AMT.2256.RS485 J	152012048	1	8	7,36	330 x 380 x 283
C500.KMT.2251.RS485 J	152012047	1	8	7,36	330 x 380 x 283

## Wport - E Port - Optus

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
WPort2 Gsm-Gprs Modem/Gateway	152040004	1	10	6,18	293 x 386 x 257
E Port Ethernet Gateway	152040002	1	10	6,18	293 x 386 x 257
Optus USB Optic Reader	152060001	1	-	-	-

## Outline Dimensions



Makel RG500 series Reactive Power Compensation Relay offers professional solutions for companies reactive power compensation needs, with its superior features such as wide current operating ranges starting from very low currents, ability and the ability to make inductive and capacitive compensation in 20 steps and other features

## General Specifications

- ▶ It has 16 Capacitor ranges and 4 (2 alarm and fan choice) inductance ranges. These ranges can be established as mono phase, three phases or between phases connection. Due to the ability to compensate separately for each phase, especially in systems with unbalanced loads produces successful solutions.
- ▶ Two-way compensation can be made. This means that both capacitors and inductors can be used. With this feature places where have capacitive loads (air conditioning, SMPS, PC, Fluorescent and CFL-based lighting) such as banks, hotels, shopping centers, service sector companies, successful compensation can be done.
- ▶ Displays voltage, powers,  $\cos\phi$ , frequencies, total energies for all three phases and time and temperature.
- ▶ Harmonic measurement is available up to 21. harmonic and provides current and voltage harmonics protection.
- ▶ Overvoltage, undervoltage, overcurrent, ratio error, harmonic error, compensation error, and such as overtemperature error can be detected and alarm relay output for each one, or compensation control can be set.
- ▶ Keeps error log records. The times at which errors occur, and recovery time with the error types are recorded.
- ▶ Total active, inductive and capacitive energies are fixed and 3 phase x 3 channels load profile recording are optional. User replaceable 3 channels optional parts. For example; such as  $\cos\phi$ , currents, voltages. In addition, the period of recording is left to the user's needs.
- ▶ Using Fan output, a fan can be started and stopped between the desired temperatures Thus, temperature control for compensation panel doesn't need another temperature measurement system.
- ▶ Automatic test are available for the finding the reactive loads in ranges. In this way, the range powers are perceived automatically without the need to manually entering the capacitor or inductor powers. Additionally, daily control is available for the power values whether or not defective. User can disable or enable this control.
- ▶ If the current flow direction is false, it corrects reversed phase automatically in the Test mode. If phase sequence error is detected, system will continue compensation and will give corresponding error warning.
- ▶ Password protection is available also left to the user's request. When the password protection is active, all programming menu will protected. Thus, the compensation settings and alarm operations will be protected from accidental accesses and system will run properly as set before.
- ▶ It supports modbus protocol on RS485 communication. A Special PC software are available for reading or manipulating relay settings remotely.
- ▶ Enables easy usage with four separate screen.
- ▶ With its improved compensation algorithm decreases the number of switching. Thus, life of the capacitors and contactors will be longer.
- ▶ Ranges ON, OFF and discharge time settings are adjustable.
- ▶ Very fast load changes can be successfully compensated with the thyristor drive model. For example, spot welder.

# Reactive Power Compensation Relay

Model No.	Code No.	Max. Number of Ranges	Measurement devices with RS485 VL1, VL2, VL3 IL1, IL2, IL3, Hz P1, P2, P3, Q1, Q2, Q3, S1, S2, S3 Cos $\phi_1$ , Cos $\phi_2$ , Cos $\phi_3$ $\Sigma$ kWh $\Sigma$ kVARh(ind) $\Sigma$ kVARh(kap) $\Sigma$ kVAh %ind ve %kap Load Profile Error Record	3 Phase	V (Voltage)	I (Current)	Cos $\phi$	Single Phase Capacitor	Three-Phase Capacitor	Support for Balanced and Unbalanced Loads	Active Power (W)	Reactive Power (Yes)	Apparent Power (VA)	kWh	kVARh	% THD-I	% THD-V	1-21. Harmonics (for current and voltage)	Shunt Reactor	Thyristor Control	Generator Detection	RS-485 Modbus	Temperature Measurement and Fan Output Relay	Alarm Functions	Real Time-clock	Equal Aging	Load Profile	Error Record	Password Protection	Led Display	144x144
RG 520EC	152033007	20	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
RG 520E	152033008	20	-	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
RG 518C	152033009	16	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
RG 518	152033010	16	-	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
RG 520T*	152033014	16	-	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
RG 520TC*	152033013	16	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	

(\* ) The thyristor outputs of the RG520T, RG520TC models will be used with one of the RG TR xx drivers appropriately

## Technical Specifications

RG520 - EC	
Operating Voltage (Un)	220V AC
Operating Measuring Range	3mA – 6A
Operating Voltage Range	(0,68 – 1,36)xUn (150-300V)
Operating Current Range	0,015 – 6A
Operating Frequency	50Hz
Operating Temperature Range	-30 to +85 degree
Number of Ranges	16 capacitors, 2+2 inductors (+2 alarm and fan out change)
Range Powers	Mono phase, three phase and between phases able to connecting Capacitors or Inductors,automatic steps power sense
Power Consumption	<4VA
Relay Contact capacity	5A
Screen	1 line 4 digits alpha numeric and 3 line 4 digits 7 segment led display
Wire Diameter	2,5 mm
Safety Class	IP20 and IP40
Connection Type	Terminal connection
Displayed Parameters	Cos $\phi$ , Current, Voltage, frequency, Total active, inductive, capacitive energies Apparent power, active power, reactive power Harmonic measuring (include 21. harmonic) Temperature measuring, real time calendar and hour
Measuring Accuracy	Voltage, current and Cos $\phi$ = 1% Active, reactive and apparent power = 1% Temperature between 25 to 85 degree = +/- 5 degree
Setting Limits	Target Cos $\phi$ = 0.8 inductive to 0.8 capacitive Current transformer ratio = 5/5 to 5000/5 Voltage transformer ratio = 220 /220 Step On, Off and discharge times = 1to 180 second
RS 485 Communication ModBus	Address range = 1 to 247 Baud rate = 1200, 2400, 4800, 9600, 19200 and 38400 bps
Load Profile	Record period = 1, 5, 10, 15, 30, 60 minute Record type = Energies and 3 phase x 3 channel change Max record time = 19 hours to 48 days
Error Log Records	Max record number = 192 number
Alarm Functions	Low and over voltage Over current, over temperature Harmonic protection Poor or over compensation Rate error
Fan Function	On board temperature control relay
Password Protection	Exist

## Reactive Power Compensation Relay

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
RG 520EC	152033007	1	6	10,26	285 x 475 x 275
RG 520E	152033008	1	6	10,26	285 x 475 x 275
RG 518C	152033009	1	6	10,26	285 x 475 x 275
RG 518	152033010	1	6	10,26	285 x 475 x 275
RG 520T *	152033014	1	6	10,26	285 x 475 x 275
RG 520TC *	152033013	1	6	10,26	285 x 475 x 275





Makel microprocessor controlled capacitive load drivers, dynamic power factor control Capacitive up to 80 kVAR in applications designed to switch loads.

The modules trigger signals can activate control of capacitors after within 10ms. The microprocessor based architecture and algorithm ensures that the modules enter the circuit at the time of zero transition, so that no damage is caused to the capacitors. Modules can be up to 480V, star or delta connected, symmetrical or asymmetrical, capacitive, resistive or inductive loads at the time of zero crossing. The triggering of the modules can easily be done by reactive power control relays or PLCs.

The benefits of microprocessor controlled capacitive load drivers compared to conventional mechanical contactors are: longer life, very high speed and number of switches, ensuring no current and voltage transients during switching and keeping the life of the capacitor used long.

The capacitive load drivers with microprocessor control continuously control the operating voltage, operating condition and temperature and record the fault detections and inform the user with four LEDs and dry contact output on the front panel. Makel microprocessor controlled capacitive load drivers operate without problems in harmonic filter reactors or without reactors. The external thermal connection terminals protect the harmonic filter reactor used in the compensation system against overheating. Makel microprocessor controlled capacitive load drivers do not require maintenance and are quiet.

## Fields of Application

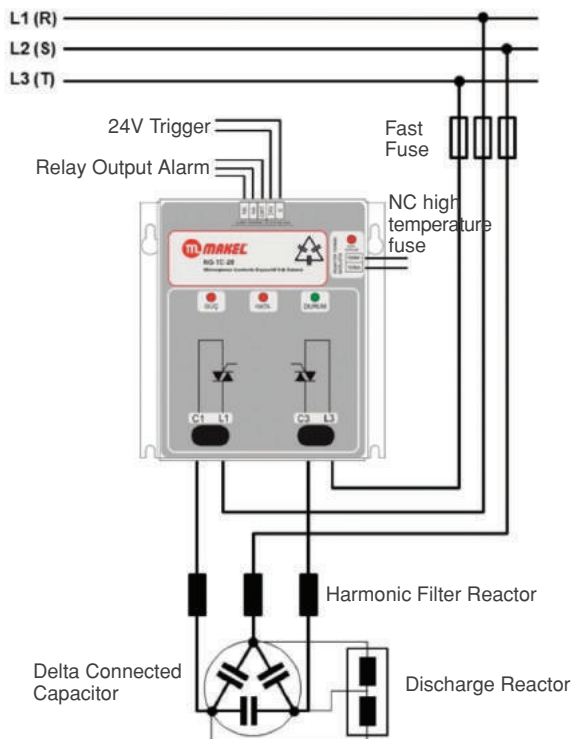
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Capacitive microprocessor controlled capacitive load drivers are used in all dynamic reactive power compensation systems that require fast response times. Facilities such as welding machines, elevators, cranes, arc and induction hobs, wind turbines, and other facilities with rapidly varying fluctuating loads are examples of petrol stations, commercial buildings, public institutions and other businesses.

## Technical Specifications

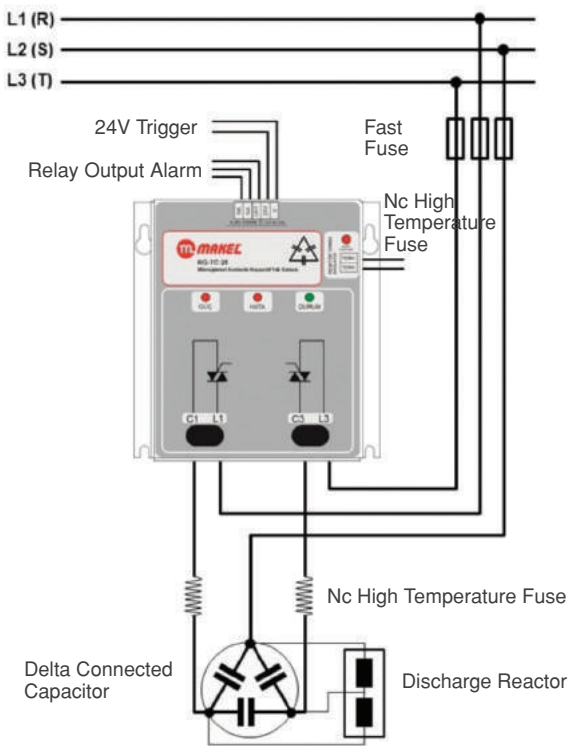
Parametre	Birim	RG-TC-12	RG-TC-25	RG-TC-50	RG-TC-80
Nominal voltage	V	400±%14	400±%14	400±%14	400±%14
Maximum Cutting Voltage	V	1600	1600	1600	1600
Maximum Working Voltage	A	20	40	80	115
Maximum di/dt	A/μs	50	100	140	140
Conductor Thickness	mm <sup>2</sup>	16	16	35	35
Semi-Conductor Item	-	2	2	2	2
Load Characteristic	-	R/L/C	R/L/C	R/L/C	R/L/C
External Supply Voltage	V	-	-	230±%10	230±%10
Fan Power	VA	-	-	32	32
External supply Conductor Thickness	mm <sup>2</sup>	-	-	2.5	2.5
Fan Switch on Temperature	°C	-	-	50	50
Trigger Voltage/Current	V/mA	24/10	24/10	24/10	24/10
Trigger Conductor Thickness	mm <sup>2</sup>	2.5	2.5	2.5	2.5
Power Loss	W	40	84	155	278
Thermal Protection Temperature Level	°C	90±5	90±5	90±5	90±5
Overvoltage Protection	-	C	C	C	C
IP Class	-	20	20	20	20
Ambient Temperature					
Operation (Nominal)	°C	-20~45	-20~45	-20~45	-20~45
Working (75% load)	°C	-20~60	-20~60	-20~60	-20~60
Storage	°C	-40~100	-40~100	-40~100	-40~100
Relative Humidity	%	5~95	5~95	5~95	5~95
Dimensions: Width x Length x Depth	mm	144x150x117.5	144x150x117.5	161x229x197.5	161x229x197.5
Weight	kg	2.2	2.2	5.9	5.9

## Wiring Diagrams

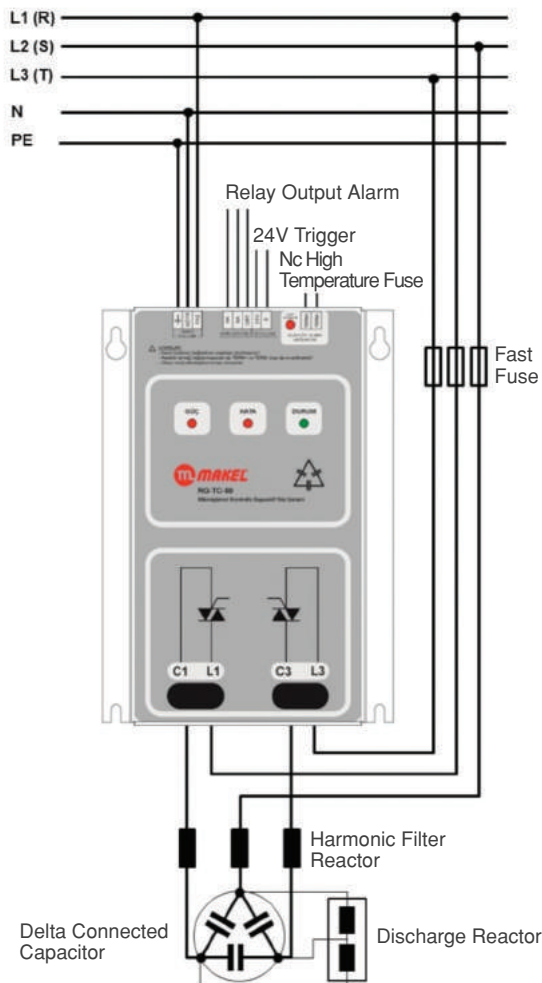


Recommended electrical connection diagram of RG-TC-12 and RG-TC-25 modules with harmonic filter reactor and discharge reactor. The structure of RG-TC-12 and RG-TC-25 modules, terminals and connection diagrams are equivalent.

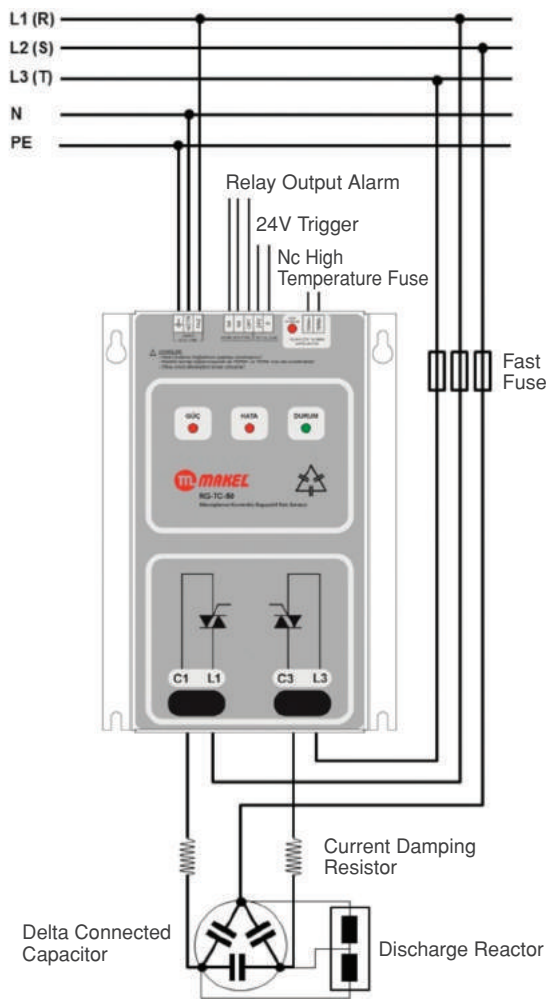
## Wiring Diagrams



Recommended electrical connection diagram of RG-TC-12 and RG-TC-25 modules with harmonic filter reactor and discharge reactor. The structure of RG-TC-12 and RG-TC-25 modules, terminals and connection diagrams are equivalent.



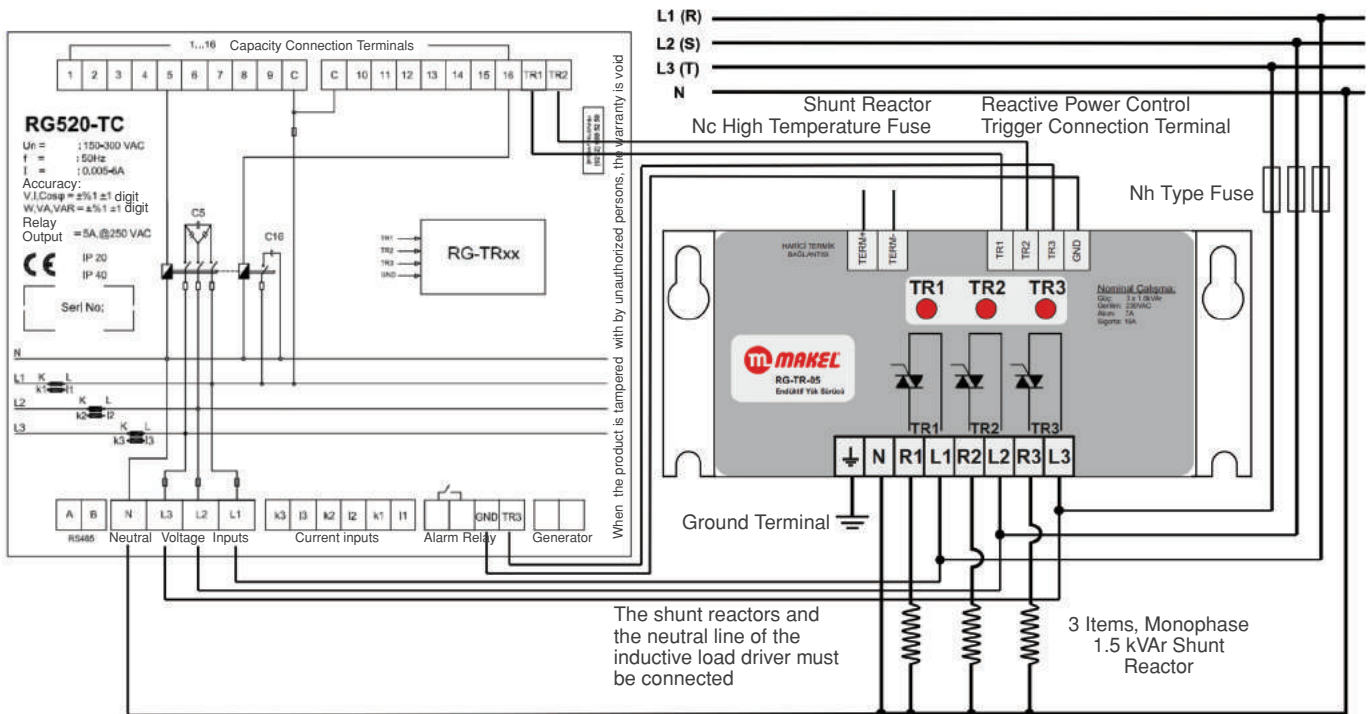
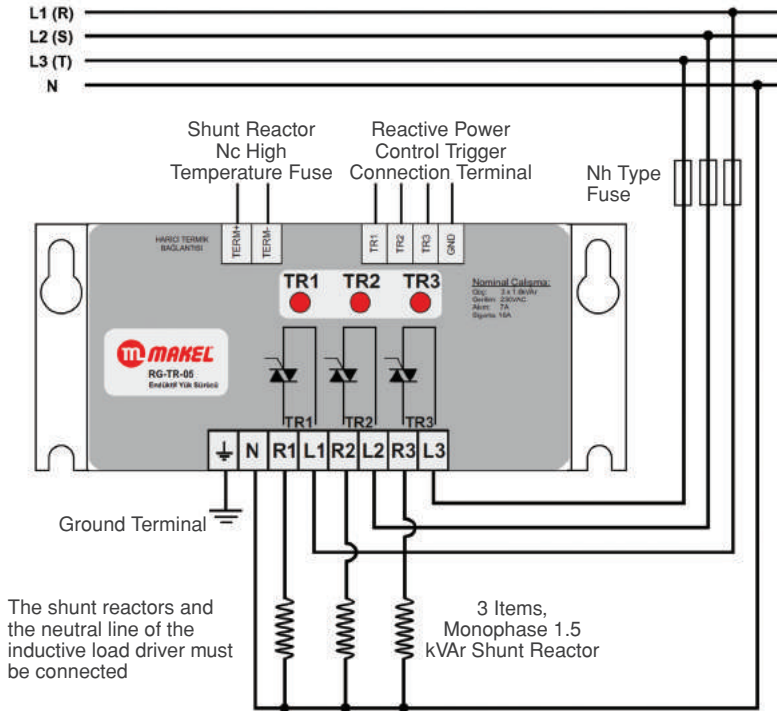
Recommended electrical connection diagram of RG-TC-50 and RG-TC-80 modules with harmonic filter reactor and discharge reactor. The structure of the RG-TC-50 and RG-TC-80 modules, terminals and connection diagrams are equivalent.



Recommended electrical connection diagram of RG-TC-50 and RG-TC-80 modules with harmonic filter reactor and discharge reactor. The structure of the RG-TC-50 and RG-TC-80 modules, terminals and connection diagrams are equivalent.

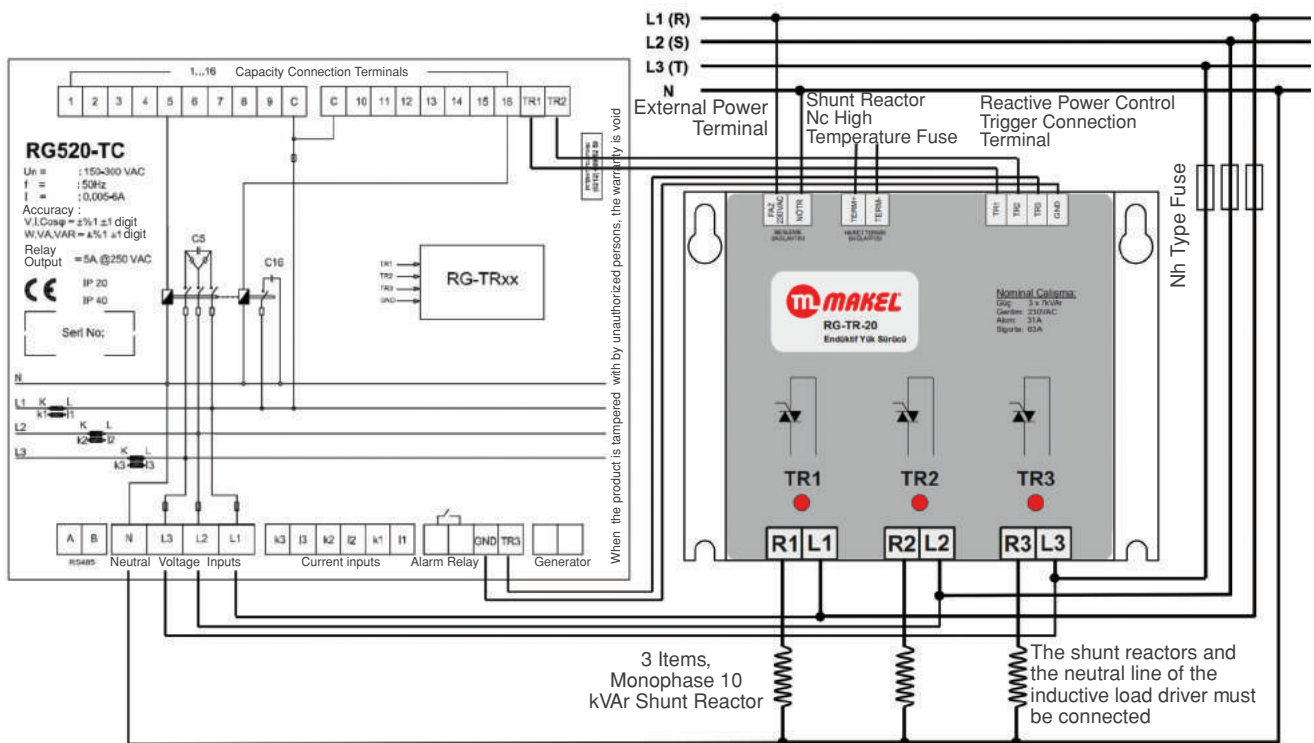
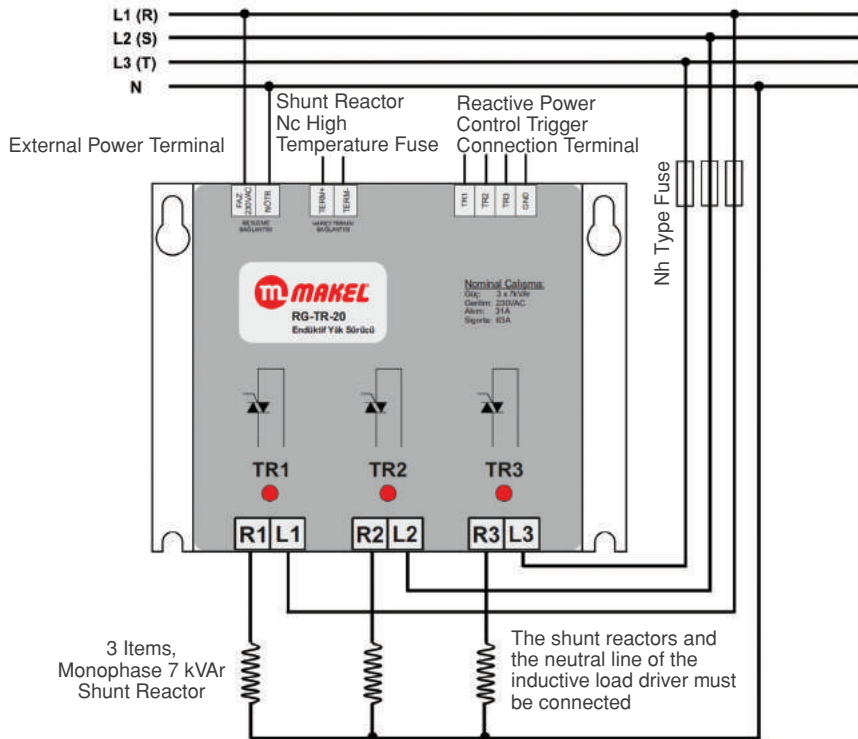
## Wiring Diagrams

RG-TR-05-Diagram



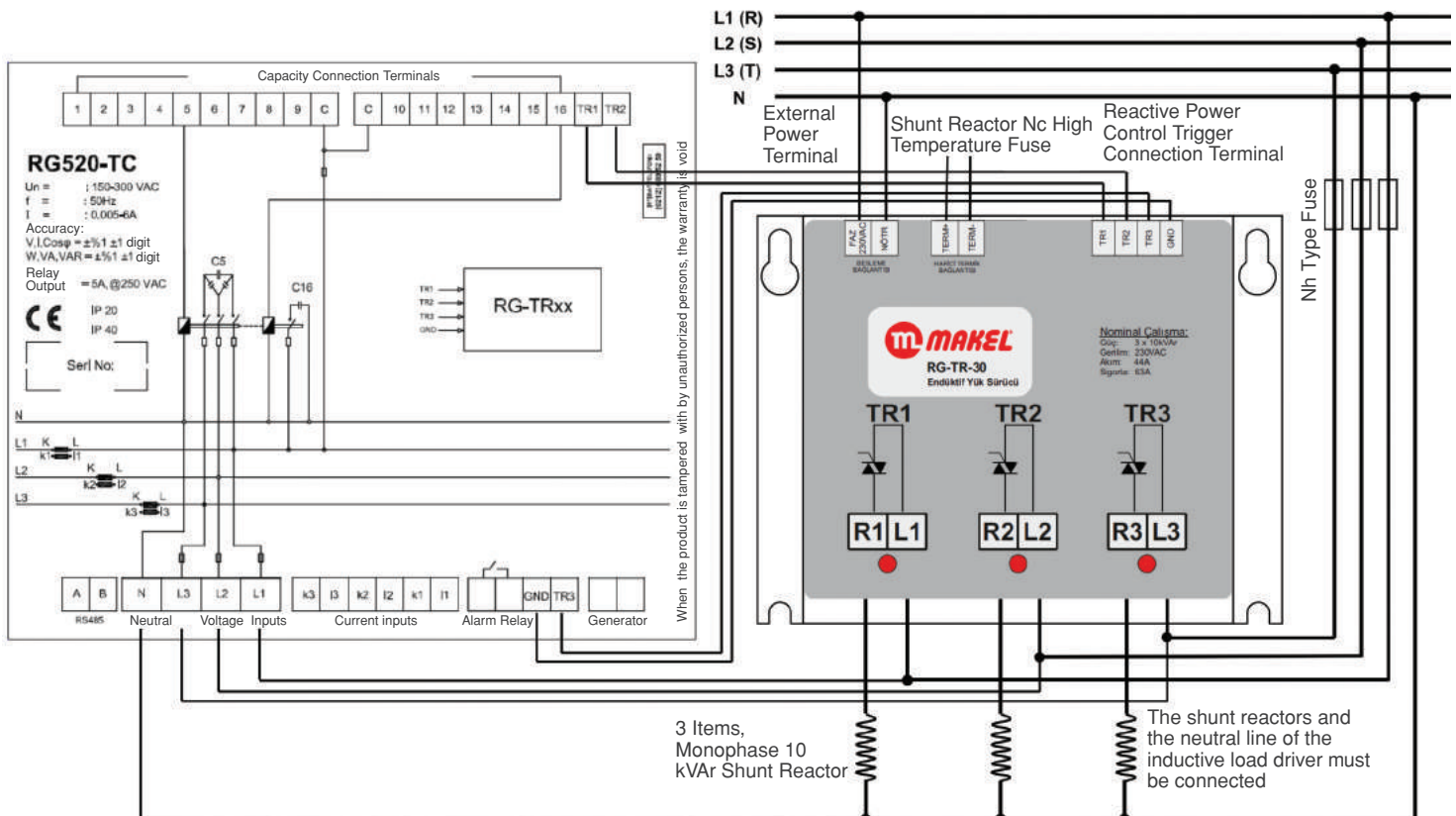
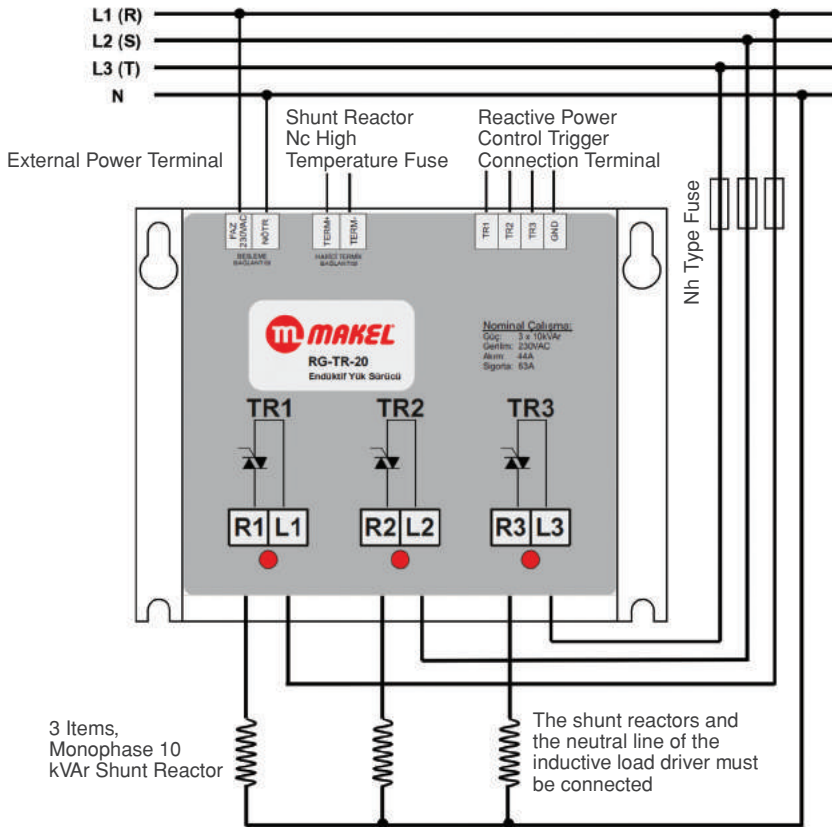


# RG-TR-20-Diagram



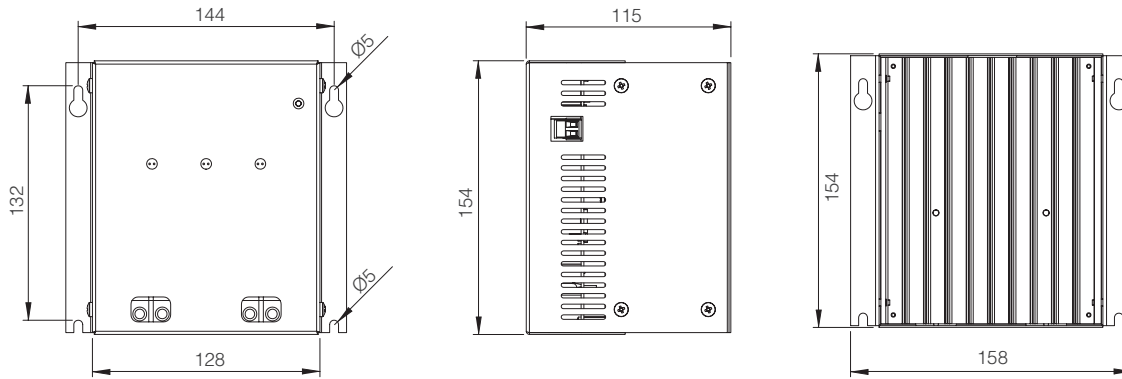
## Wiring Diagrams

RG-TR-30-Diagram

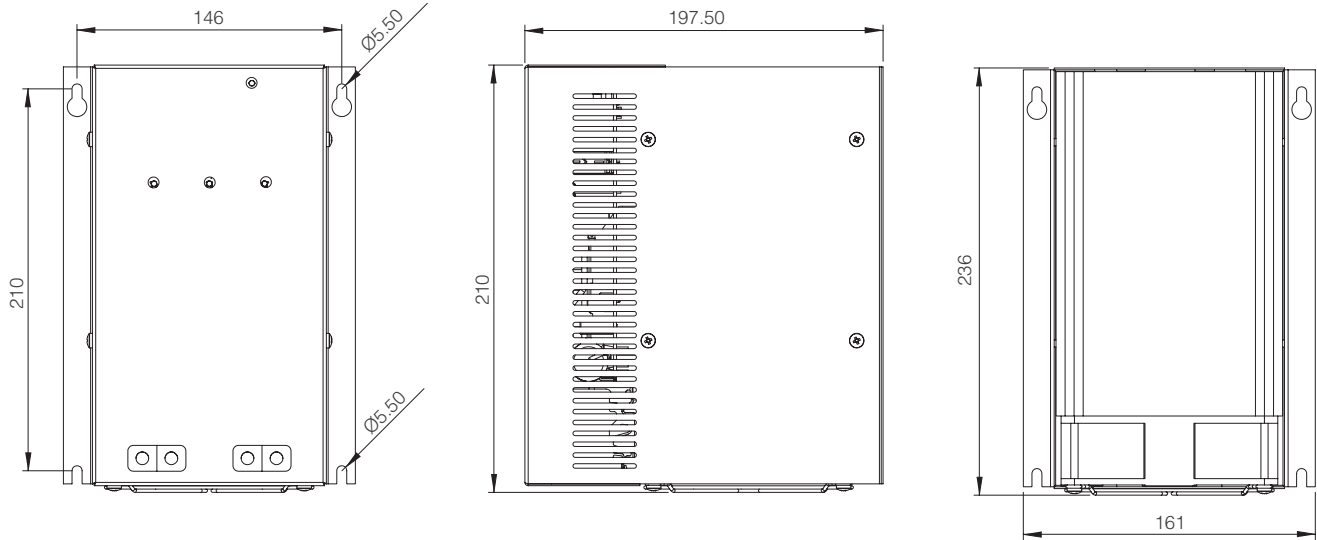


# Technical Drawings

RG-TC-12-25



RG-TC-50-80



## Thyristor Driver

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)	Monopase connection	Threepases connection	Max Power kVAR	Over Temperature Protection	Error Notifications (Relay Output)	Trigger Speed (ms)
RG TR -05	150021127	1	1	1,2	130 x 85 x 105	■	-	1.6	■	-	20
RG TR -10	152033015	1	1	1,7	130 x 125 x 105	■	-	3.3	■	-	20
RG TR -20	150021128	1	1	2,8	130 x 145 x 155	■	-	6.6	■	-	20
RG TR -30	150021129	1	1	2,9	130 x 145 x 156	■	-	10	■	-	20
RG TC-12	150021123	1	1	2,2	144 x 150 x 117	-	■	12.5	■	■	10
RG TC-25	150021124	1	1	2,2	144 x 150 x 117	-	■	25	■	■	10
RG TC-50	150021125	1	1	5,9	161 x 229 x 197	-	■	50	■	■	10
RG TC-80	150021126	1	1	5,9	161 x 229 x 197	-	■	80	■	■	10

## Multimeter



Multimeter M3T



Multimeter M6T



Voltmeter V3T

Industries can keep their energy supply healthy, by monitoring and supervising their power system with the help of Makel Panelmeter solutions. Makel panelmeter products with reactive power control relay offer complete product portfolio to its customers.

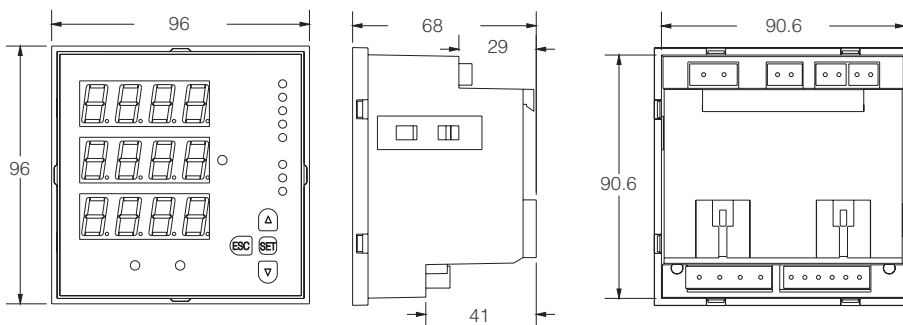
Panelmeter product portfolio includes 3-phase measuring M6T, M3T Multimeters, V3T Voltmeters and 1-phase measuring A1M Ammeter, V1M Voltmeter products. A1M and V1M have single display group, M3T and V3T have 3 display group and M6T has 6 display group.

## General Specifications

- ▶ Voltmeters are three phase devices and can measure line-neutral voltages, line-line voltages and phase frequencies.
- ▶ Multimeters are multifunctional devices which can measure many electrical parameters of the system. Multimeters can measure phase currents, line-neutral voltages, line-line voltages and phase frequencies. They can also calculate the neutral current and  $\cos\phi$  values.
- ▶ Panelmeter models can generate alarms via relays if the system parameters like currents and voltages go out of the boundary limits which user configures or if there is a phase sequence error.
- ▶ Panelmeters have 3 or 6 group of 4 digit seven segment displays. User can see 3 phase data at the same time.
- ▶ Maximum values of currents, line-neutral voltages, line-line voltages, demands of currents and minimum values of currents, line-neutral voltages, line-line voltages are recorded in its flash memory and can be displayed.
- ▶ The metering menu of the multimeter can be changed automatically in period of from 1 to 15 seconds.
- ▶ Maximum demand period can be adjusted.
- ▶ Current and voltage transformer ratio can be configured.
- ▶ To prevent unauthorized person to change the configuration, it is possible to activate password control.
- ▶ Current starting delay can be set for motor applications.  
Instant tripping property can be activated separately for current, voltage and frequency values.
- ▶ Latch property of relays of the panelmeter can be activated and the default position of the relays can be reversed.
- ▶ Modbus RTU protocol is supported over RS485 line. So the measured values and configuration values can be read and configuration values can also be changed.

Model No.	Code No.	Panel type I1, I2, I3	Voltage Phase-neutral VL1N, VL2N, VL3N	Voltage phase-phase VL12, VL23, VL13	Cosφ	Hz	I Neutral	V, Hz, Overflow and Underflow Protection	IV, Hz, Overflow and Underflow Protection	Demand ((Current))	Phase Sequence protection	Contact (Single relay)	(Current)	RS-485 Modbus	...X/5A (Voltage transformer range)	Voltage Transformer Rate	96X96	Panel Type	Rail Type	3 Display 4 Digit	6 Display 4 Digit	Password Protection
V3T - 21	152050003	-	■	■	-	■	-	■	-	■	■	-	-	-	-	■	■	■	■	■	-	■
M3T - 22	152050001	■	■	■	■	■	■	-	■	■	■	-	-	-	-	■	■	■	■	■	-	■
M6T - 22C	152050004	■	■	■	■	■	■	-	■	■	■	-	-	-	-	■	■	■	■	■	-	■
M3T - 22C	152050002	■	■	■	■	■	■	-	■	■	■	-	-	-	-	■	■	■	■	■	-	■
M3T - 21	152050006	■	■	■	-	■	■	-	■	■	■	-	-	-	-	■	■	■	■	■	-	■
M3T - 20	152050005	■	■	■	-	■	■	-	■	■	■	-	-	-	-	■	■	■	■	■	-	■

## Outline Dimensions



## Technical Specifications

Specifications	V3T - 21	M3T - 22	M6T - 22C
Operating voltage	24V-300V AC/DC	24V-300V AC/DC	24V-300V AC/DC
Operating frequency	50/60Hz	50/60Hz	50/60Hz
Temperature range	-10 C° / +70 C°	-10 C° / +70 C°	-10 C° / +70 C°
Supply power consumption	< 6 VA	< 6 VA	< 6 VA
Class	%1 ±1 digit	%1 ±1 digit	%1 ±1 digit
Outputs relay	1 piece NO 5A 250V	2 piece NO 5A 250V	2 piece NO 5A 250V
Safety class	IP20	IP20	IP20
Cable thickness for terminal connection	2,5mm <sup>2</sup>	2,5mm <sup>2</sup>	2,5mm <sup>2</sup>
Weight	< 300g	< 300g	< 300g

Specifications	M3T - 22C	M3T - 21	M3T - 20
Operating voltage	24V-300V AC/DC	24V-300V AC/DC	24V-300V AC/DC
Operating frequency	50/60Hz	50/60Hz	50/60Hz
Temperature range	-10 C° / +70 C°	-10 C° / +70 C°	-10 C° / +70 C°
Supply power consumption	< 6 VA	< 6 VA	< 6 VA
Class	%1 ±1 digit	%1 ±1 digit	%1 ±1 digit
Outputs relay	2 piece NO 5A 250V	1 piece NO 5A 250V	-
Safety class	IP20	IP20	IP20
Cable thickness for terminal connection	2,5mm <sup>2</sup>	2,5mm <sup>2</sup>	2,5mm <sup>2</sup>
Weight	< 300g	< 300g	< 300g



## Ampermeter

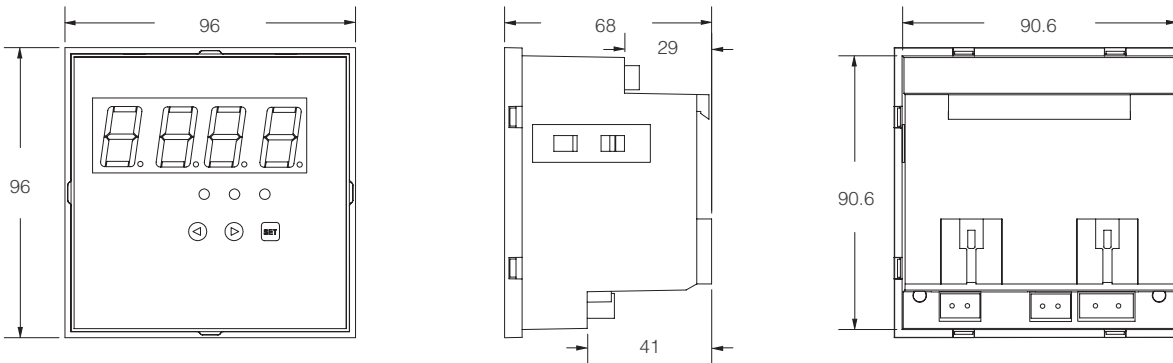


Ampermeter A1M

Model No	Code No.	Single-phase Current Demand	Max Demand	Contact Output (single relay)	Over/Low Protection	...X/5A (Current transformer ratio)	96X96	Panel Type	Rail Type	1 Display 4 Digit	150-300V AC/DC Feeding
A1M - 10	152070017	■	■	■	■	■	■	■	■	■	■
A1M - 11	152070018	■	■	■	■	■	■	■	■	■	■
A1M - 10T*	152070030	■	■	■	■	■	■	■	■	■	■

\*AT-20 is supplied with current transformer.

## Outline Dimensions (Ampermeter A1M)



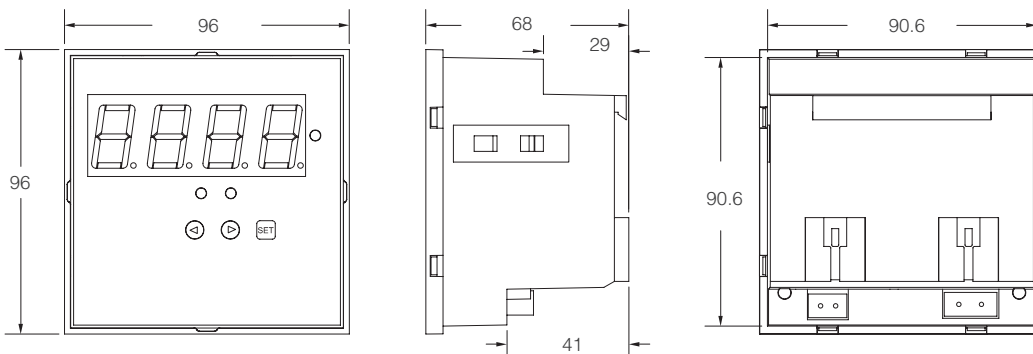
## Voltmeter



Voltmeter V1M

Model No	Code No.	Single-phase Voltage	Max Voltage	Min. Voltage	Contact Output (single relay)	Over/Low Protection	Voltage Transformer Ratio	96X96	Panel Type	Rail Type	1 Display 4 Digit	150-300V AC/DC Feeding
V1M-10	152070019	■	■	■	■	■	■	■	■	■	■	■
V1M-11	152070027	■	■	■	■	■	■	■	■	■	■	■

## Outline Dimensions (Voltmeter V1M)



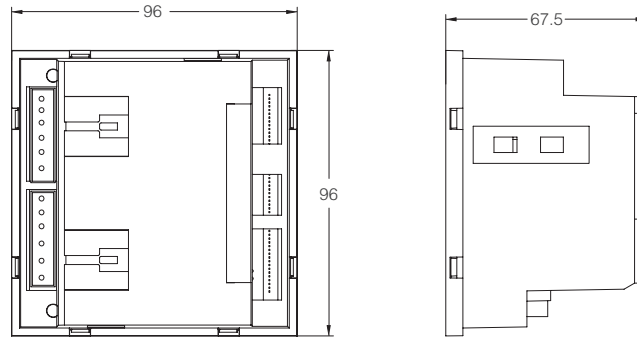
## Technical Specifications

Specifications	A1M-10 / A1M-10T	A1M-11	V1M-10	V1M-11
Operating voltage	150-300V AC/DC	150-300V AC/DC	150-300V AC/DC	150-300V AC/DC
Operating frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Temperature range	-20 C° / +70 C°	-20 C° / +70 C°	-20 C° / +70 C°	-20 C° / +70 C°
Supply power consumption	4VA (max)	4VA (max)	4VA (max)	4VA (max)
Class	%1 ±1 digit	%1 ±1 digit	%1 ±1 digit	%1 ±1 digit
Outputs relay	-	1 Pcs NO 5A 250V	-	1 Pcs NO 5A 250 V
Safety class	IP20	IP20	IP20	IP20
Cable thickness for terminal connection	2,5mm <sup>2</sup>	2,5mm <sup>2</sup>	2,5mm <sup>2</sup>	2,5mm <sup>2</sup>
Weight	220g / 275g	235g	225g	240g

### Multimeter / Ampermeter / Voltmeter

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
V3T - 21	152050003	1	12	3,71	250 x 235 x 220
M3T - 22	152050001	1	12	4,14	250 x 235 x 220
M6T - 22C	152050004	1	12	4,17	250 x 235 x 220
M3T - 22C	152050002	1	12	4,17	250 x 235 x 220
M3T - 21	152050006	1	12	4,04	250 x 235 x 220
M3T - 20	152050005	1	12	3,88	250 x 235 x 220
A1M - 10	152070017	1	12	2,96	250 x 235 x 220
A1M - 11	152070018	1	12	3,12	250 x 235 x 220
A1M - 10 T	152070030	1	12	3,60	250 x 235 x 220
V1M - 10	152070019	1	12	3,02	250 x 235 x 220
V1M - 11	152070027	1	12	3,18	250 x 235 x 220

## Outline Dimensions



MEA 11C is a network analyzer that displays and records measurements of all specified network parameters. It has one, two or three phase measurement capability. Can be used in two, three or four-wire networks.

Thanks to the structure of 96 x 96 mm format, it is suitable for all analogue displays. The 3.6-inch LCD display makes it possible to read measured parameters from a distance. In poorly lit environments, the MEA 11C also has a background illumination to create the optimal reading area.

MEA 11C uses the MODBUS protocol as the communication protocol.

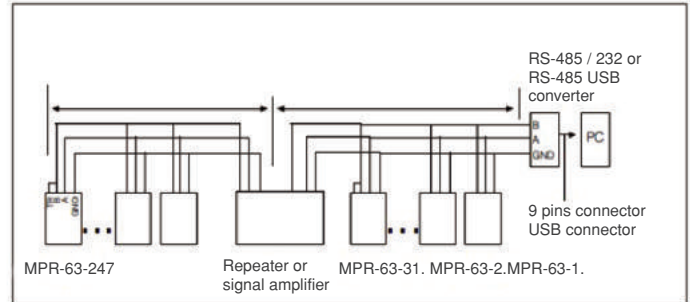
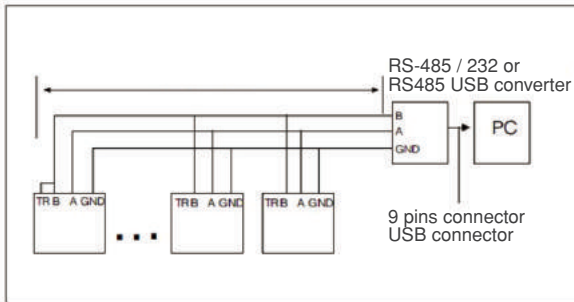
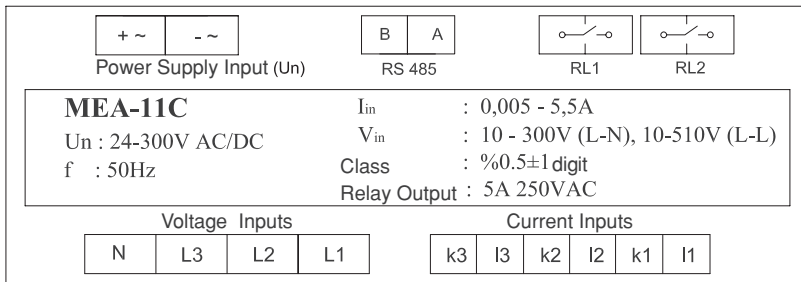
## General Specifications

- ▶ The measurement information of parameters can be read from display
- ▶ 3 wire + neutral systems can be measured.
- ▶ It supports modbus protocol on RS485 communication. A Special PC software are available for downloading specified parameters.
- ▶ The turn rate of current transformer and the turn rate of voltage transformer can be changed.
- ▶ The specified parameters can be recorded in static area with timestamp. the recorded parameters can be downloaded to PC using special software.
- ▶ The electricity in wires can be seen from the symbols on the LCD instantly.
- ▶ The device is protected with password for authorized used.

## Security Precautions

- ▶ Use appropriate personal protective equipment. carefully follow safe electrical operation practices.
- ▶ Installation of this device must only be carried out by a qualified electrician. Safety measures must be read before installation.
- ▶ Before starting work on the device, disconnect all power to the network analyzer and the equipment it is installed into.
- ▶ Before starting work on the device, disconnect all power to the network analyzer and the equipment it is installed into.
- ▶ Never remove the front panel when the device is connected to the network.
- ▶ Never work alone when setting up, operating and servicing the energy analyzer.
- ▶ Clean the energy analyzer with dry cloth only.
- ▶ Do not touch the electricity wire during dismantling or installation of the energy analyzer.
- ▶ The faultless use of the network analyzer depends on proper transport, installation and operation. Failure to observe the basic installation rules may result in death, injury and equipment damage.
- ▶ Separate all input and output cables for the network analyzer before exposing the equipment containing the network analyzer to the high voltage test. Otherwise, high voltage tests may damage the electronic components of the network analyzer.
- ▶ The network analyzer must be installed in a suitable electric panel.

# Wiring Diagrams



# Technical Specifications

Operating voltage	24V-300V AC/DC
Operating frequency	50/60Hz
Temperature range	-10°C / +70°C
Supply power consumption	<6 VA
Class	%1 ±2 digit
Outputs relay	2 adet NO 5A 250V
Safety class	IP20
Cable thickness for terminal connection	2,5mm <sup>2</sup>
Weight	<300g

# Network Analyzer

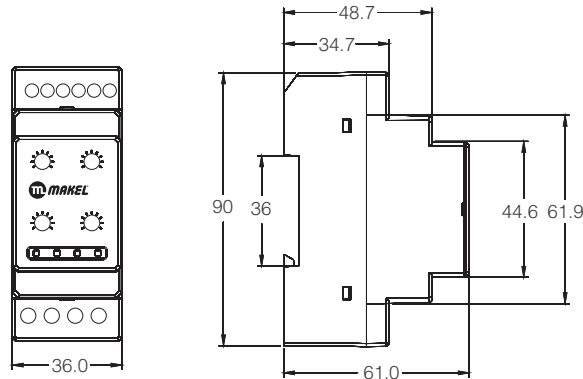
Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
MEA 11C Network Analyzer	152070044	1	12	5,00	246 x 232 x 215

Panel type 11, 12, 13, 21
Voltage Phase-neutral VL1, VL2, VL3, VL3N
Voltage phase-phase VL12, VL2x3, VL13
PF (Power Factor) PF1, PF2, PF3, ΣPF
Cosφ1, Cosφ2, Cosφ3
kW, kVA, kVA, ΣP, ΣQ, ΣS, Demand (Max., Min., Anlık)
% THD I
% THD V
Frequency Hz
Average Voltage (Phase-Neutral, Phase - Phase)
Energy (kWh, kVArh)
Voltage Harmonic Separately (Until 32th Harmonic)
Current Harmonic Separately (Until 32th Harmonic)
Load Profile (25 Different Parameter Recording)
Real Time and Date
Natural
V, Hz, Overflow and Underflow Protection
IV, Hz, Overflow and Underflow Protection
Protect Phase Order
Error Records
Shortchange (2 Relay)
Alarm Function
15 Real-Time Alarm Controls For Each Shortchange
RS-485 Modbus
...XSA (Current Transformer Turn Rate)
Voltage Transformer Rate
96X96
Panel Type
Rail Type
LCD (Graphic Display + Custom Design Display) Password Protection



MKN - 02P

## Outline Dimensions



### Motor Protection Relays

During the operation of three phase motors if voltage imbalance or voltage outage occurs the motor overheats. This situation can cause damage in the motors. Motor protection relays are designed to cut off the motor's power supply in such situations to prevent any kind of malfunction. Also by doing phase checks it makes sure that motor connections run smoothly.

### Control Functions

**During Phase Control:** Makes sure whether or not the phase connection order is done correctly as L1, L2, L3.

If the connection order is different the relay (out) cannot be made to draw and the motor will not be operated. In this case the "Phs. Seq." on the device will be lit up.

**Ptc Control (in MKx02P models):** This control is done in order for the motor winding temperature to be measured. If the winding temperature reaches dangerous levels the relay will release without delay and the motor will be stopped. When Ptc error occurs or the Ptc connection is left idle the "Phs.Seq." led flashes.

**Insufficient Supply Control:** When the 3 phase voltages fall below the margin to the point that the device cannot be supplied with power the relay will release without delay and the motor will be stopped. During this time the "Asm" led flashes.

**Absence of Phase Control:** When at least one of the 3 phase voltages falls below the set Phs. Abs. setting the relay will release without delay and the motor will be stopped. During this time the "Phs.Abs" led flashes.

### Operating the Device

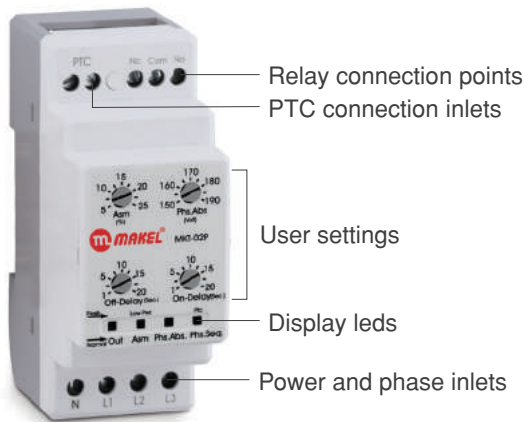
The necessary connections are made by studying the connection chart. Care must be taken to avoid Phase order and Ptc error (in Ptc models). If Ptc is not to be used the Ptc ends must be made into short circuits. When the system is operated if there is no error the out relay draws and the "out" led lights up. If there is an error the out relay will not extract and the relevant error light will go on.

**Asymmetry Error During Normal Operation:** If the voltage imbalance is higher than the asymmetry setting in the system a period that is as long as the Off-Delay setting will be waited. If the problem continues after this period the drawn relay is released and the motor is stopped the "Asm" led lights up, the "Out" led turns off, if the error is not continuing the relay remains drawn.

**Moving to Normal Operation While an Asymmetry Error is Ongoing:** If the voltage imbalance is lower than the asymmetry setting in the system, a period that is as long as the On-Delay setting will be waited out. If there is no asymmetry error at the end of the period the released relay is drawn and the motor is operated, the "Asm" led turns off, the "Out" led turns on, if the error continues the relay remains released.

**Note:** In the event that a single phase is cut off while the motor is operating, the cut off phase's voltage cannot be zero because the other phase voltages pass over the motor windings and appear in the entry of the cut off phase. Therefore make the asymmetry setting lower.

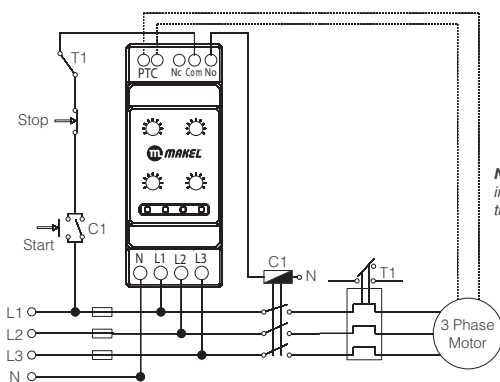




Meanings of the display leds	Out	Asm.	Phs. Abs	Phs. Seq
No problem, normal operation, exit relay active	x			
Asm. error occurred (period being counted)	x	x		
Asymmetry error		x		
Phase order error (Phs. Seq)				x
Ptc error (Ptc)				Flash
Insufficient supply (Low Pwr.)		Flash		
Absence of phase error (Phs. Abs)			x	

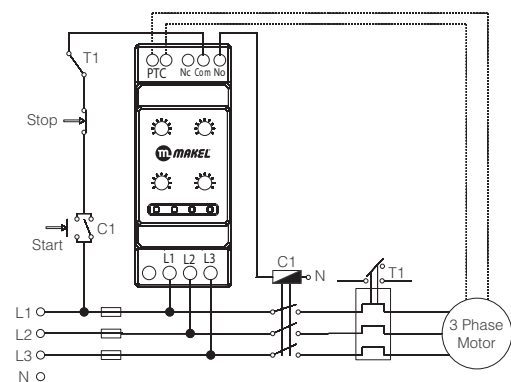
## Wiring Diagrams

MKT-01, MKT-02P



Note: The only difference in the MKT-01 model is that there is no PTC connection.

MKN-02P



## Technical Specifications

Specifications	MKT-01 / MKT-01L / MKT-02P	MKN-02P	MKT-01S
Operation Voltage (Un)	230 V AC	400 V AC	230 V AC
Operation Voltage Interval (U)	150-300V AC	260-520 V AC	65-300V AC
Insufficient Supply Interval	100-120 V AC	175-210 V AC	58-60 V AC
Operation Frequency	50 Hz	50 Hz	50 Hz
Power Consumption (Max)	2.5 VA	2.5 VA	2.5 VA
Measurement Method	TrueRMS	TrueRMS	TrueRMS
Asymmetry	%15 Sabit / %40 Sabit / %5...%25	%5...%25	%15 constant
Phs. Abs. (Absence of Phase)	170 V Fix / 150...190 V adj.	260...330 V adj.	65 constant
Phase Sequence Control	Yes / None / Yes	Yes	Yes
Hysteresis	20% of asymmetry value	20% of asymmetry value	20% of asymmetry value
Off-Delay (Release Delay)	1sec / Set at 1...20 sec	Set at 1...20 sec	1sec
On-Delay (Draw Delay)	1sec	Set at 1...20 sec	1sec
Ptc Operation Interval	None / Opening: more than 1600 ohm Closing: less than 1400 ohm	Opening: more than 1600 ohm Closing: less than 1400 ohm	None
Setting Accuracy	None / + or - %5	+ or - %5	None
Exit Relay	5 A 250 V AC	5 A 250 V AC	5 A 250 V AC
Operation Temperature	Between -20°C...50°C	Between -20°C...50°C	Between -20°C...50°C
Relative Humidity	Less than 90% (Without condensation)	Less than 90% (Without condensation)	Less than 90% (Without condensation)
Cable Sections	2.5 mm <sup>2</sup> multi vessel cable	2.5 mm <sup>2</sup> multi vessel cable	2.5 mm <sup>2</sup> multi vessel cable
Assembly Types	Rail type	Rail type	Rail type
Protection Class	IP20 (Terminals), IP40 (Front Panel)	IP20 (Terminals), IP40 (Front Panel)	IP20 (Terminals), IP40 (Front Panel)
Dimensions	36x90x61	36x90x61	36x90x61
Weight	125gr	125gr	125gr
Insulation	400 V insulation voltage 4 KV source impact	400 V insulation voltage 4 KV source impact	400 V insulation voltage 4 KV source impact

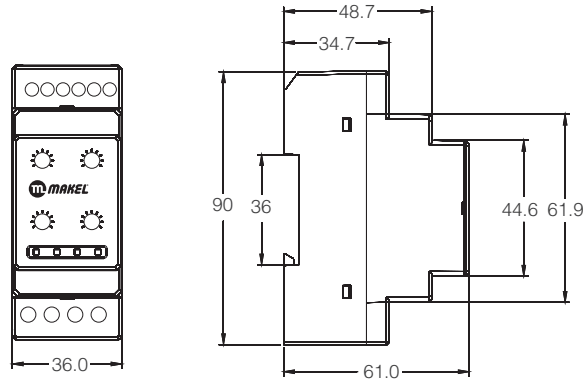
# Current Protection Relays

Current protection relays have been designed for the purpose of protecting the systems they are attached to from excessive and low voltages.



AKM-01

## Outline Dimensions



### Current Protection Relays

Current protection relays monitor the current in every phase of motors and similar devices and make sure that the devices operate in the desired power intervals. When the devices draw currents at intervals other than what is set the system's power is cut off to prevent the device from malfunctioning.

Current protection relays are designed to protect the systems they are attached to from excessive and low currents. It is possible to enter the operation current interval. The relays can also be used as only "excessive current protection" and "low current protection". The first start currents in motors are high, therefore they have a start delay to prevent incorrect excessive currents that may occur.

### Operation of Device

The necessary connections are made according to the connection chart. I<sub>max</sub> and I<sub>min</sub> current margin values cannot be set close to each other or I<sub>max</sub> cannot be smaller than I<sub>min</sub>. If they are set as such an error will occur and the "Set.Err." led will light up. This must be checked. When the system is operated if there is no error the out relay will draw and the "Out" led will light up. If there is an error the relay-out will not draw and the relevant led will light up.

Normal Operation and Excessive or Low Current Error: When the system is first started up the period of time that the Star-delay has been set at is waited out. The current levels measured during the wait period are not evaluated. Thus the start-up current of the motor being high will not cause a problem. After the Start-Delay period is finished the system will go back to working normally.

If the system's current value goes above the excessive current level or falls below the low current level, a PERIOD AS LONG AS THE Off-Delay period is waited out. If the error is ongoing after the waiting period the drawn relay is released, the system it is attached to is stopped and the "I<sub>max</sub>" or "I<sub>min</sub>" led lights up. If the error is not continuing the relay will continue to be drawn.

### Important Explanation

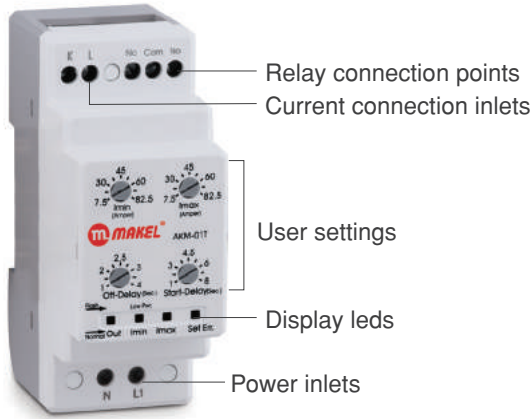
- The excessive current margin and low current margin can be set close to each other or
- If the excessive current margin is set lower than the low current margin there will be an error, the current protection device will not work and the "Set.Err." led will light up.

To use as "**excessive current protection**" set I<sub>min</sub> current margin to min. ampere,

To use as "**low current protection**" set I<sub>max</sub> current margin to max. ampere.

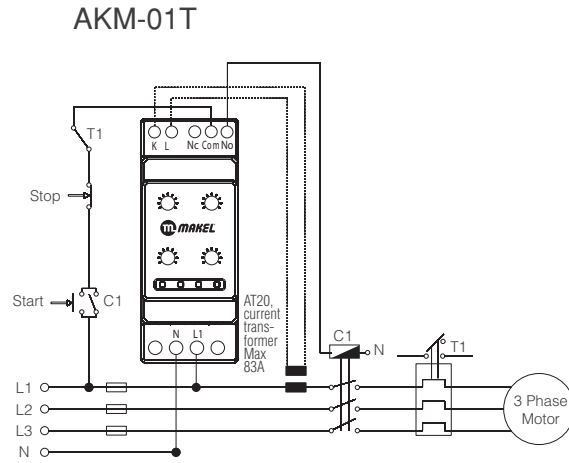
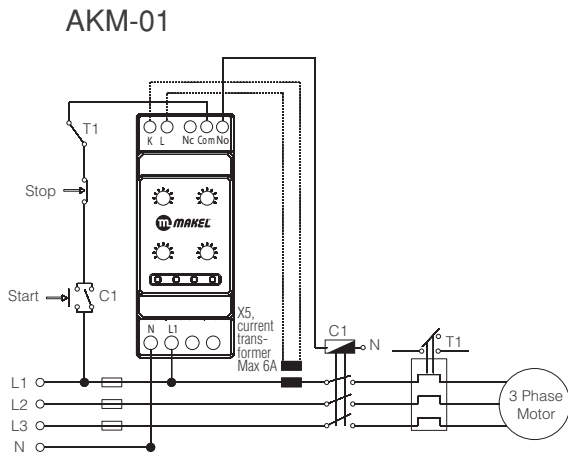
**Off-Delay:** As soon as an excessive or low current error is detected the Off-Delay waiting period must be waited out.

**Start Delay:** At the first point that the system operates the Start-Delay period must be waited out. The current levels that are measured at this time are not taken into account and no excessive load error occurs.



Meaning of the display leds	Out	Imin	Imax	Set.Err.
No problem, normal operation, axit relay active	x			
Excessive error occurred (period being counted)	x		x	
Over current error			x	
Low current occurred (period being counted)	x	x		
Low current error		x		
Outside the boundary of the Imax and Imin settings				x

## Wiring Diagrams



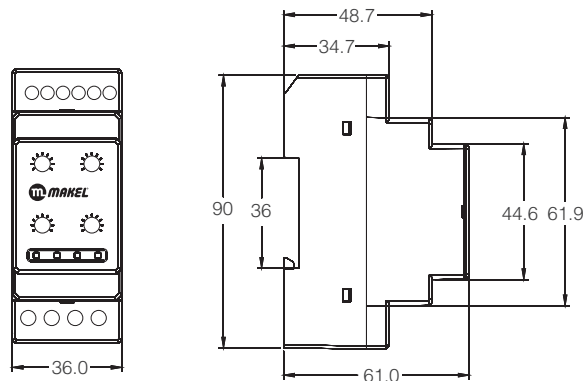
## Technical Specifications

Specifications	AKM-01	AKM-01T
Operation Voltage (Un)	230 V AC	230 V AC
Operating Voltage Interval (U)	150-300 V AC	150-300V AC
Operation Frequency	50 Hz	50 Hz
Power Consumption (Max)	2.5 VA	2.5 VA
Measurement Method	TrueRMS	TrueRMS
I <sub>max</sub> (Over Current Setting)	0,5...5,5 A	7,5...82,5 A
I <sub>min</sub> (Low Current Limit Setting)	0,5...5,5 A	7,5...82,5 A
Hysteresis	200 mA	3 A
Off-Delay (Release Delay)	Set at 1...4 sec	Set at 1...4 sec
Start-Delay (Start-up Delay)	Set at 1...8 sec	Set at 1...8 sec
Setting Accuracy	+ or -%5	+ or -%5
Exit Relay	5 A 250 V AC	5A 250 V AC
Operation Temperature	Between -20°C...50°C	Between -20°C...50°C
Relative Humidity	Less than 90% (Without condensation)	%90'dan küçük (Yoğunlaşma olmadan)
Cable Sections	2.5 mm <sup>2</sup> multi vessel cable	2.5 mm <sup>2</sup> multi vessel cable
Assembly Types	Rail type	Rail type
Protection Class	IP20 (Terminals), IP40 (Front Panel)	IP20 (Terminals), IP40 (Front Panel)
Dimensions	36x90x61	36x90x61
Weight	125gr	125gr
Insulation	400 V insulation voltage, 4 KV source impact	400 V insulation voltage, 4 KV source impact



GKT-02P

## Outline Dimensions



### Voltage Protection Relays

Used to protect triphase motors and similar devices from phase interruptions, voltage imbalances, incorrect connections and overheating. In any error situation the system's power is cut off to prevent the device from malfunctioning.

The voltage protection relay has been designed to protect the systems they are connected to from excessive voltage, low voltage and overheating. Also in 3 phase models they control the phase order to make sure that the motor connections work properly.

### Control Functions

**During Phase Control (in GKx02P models):** Makes sure whether or not the phase connection order is done correctly as L1, L2, L3.

If the connection order is different the relay (out) cannot be made to draw and the motor will not be operated. In this case the "Phs. Seq." on the device will be lit up.

**Ptc Control (in GKx02P models):** This control is done in order for the motor winding temperature to be measured. If the winding temperature reaches dangerous levels the relay will release without delay and the motor will be stopped. When Ptc error occurs or the Ptc connection is left idle and the "Phs. Seq." led flashes.

**Insufficient Supply Control (in GKx02P models):** When the 3 phase voltages fall below the margin to the point that the device cannot be supplied with power, the relay will release without delay and the motor will be stopped. During this time the "Vmax" led flashes.

**Absence of Phase Control (in GKx02P models):** When at least one of the 3 phase voltages is cut off the relay releases without delay and the motor is stopped. During this time the "Vmin" led flashes.

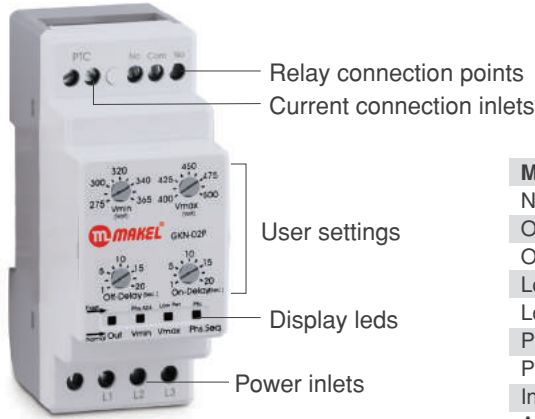
### Operating the Device

The necessary connections are made by studying the connection chart. Care must be taken to avoid Phase order and Ptc error (in Ptc models). If Ptc is not to be used the Ptc ends must be made into short circuits. When the system is operated if there is no error the out relay draws and the "out" led lights up. If there is an error the out relay will not draw and the relevant error light will go on.

**Excessive and/or Low Voltage Occurring During Normal Operation:** If any of the system's phase voltages rise above the excessive voltage margin and/or fall below the low voltage margin period that is as long as the Off-Delay setting will be waited. If the problem continues after this period the drawn relay is released, the system it is connected to is stopped and the "Vmin" and/or "Vmax" led lights up and the "Out" led turns off. If the problem continues the relay stay drawn.

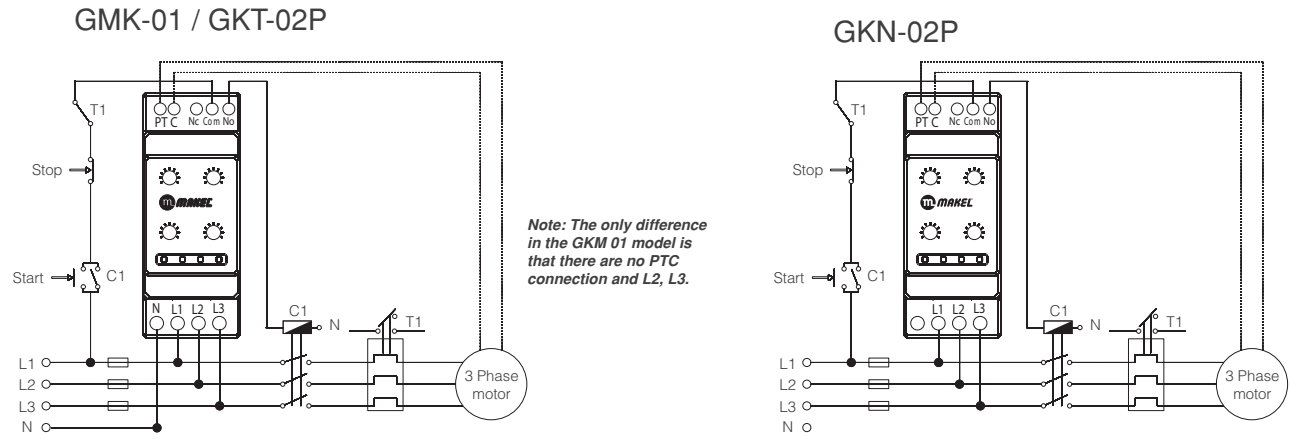
**Moving to Normal Operation While there is an Excessive and/or Low Voltage Error:** If the system's 3 phase voltages are lower than the set Vmax voltage and lower than the set Vmin voltage, a period that is as long as the On-Delay setting will be waited. If there is no error at the end of the period the released relay is drawn and the system is operated. The "Vmax" and "Vmin" led turns off, the "Out" led turns on, if the error is continuing the relay remains released.

**Note:** In the event that a single phase is cut off while the motor is operating, the cut off phase's voltage cannot be zero because the other phase voltages pass over the motor windings and appear in the entry of the cut off phase. Therefore make the Vmin setting higher.



Meaning of the display leds	Out	Vmin	Vmax	Phs. Seq.
No problem, normal operation, exit relay active	x			
Overvoltage error occurred (period being counted)	x		x	
Overvoltage error			x	
Low voltage error occurred (period being counted)	x	x		
Low voltage error		x		
Phase order error (Phs. Seq)				x
Ptc error (Ptc)				Flash
Insufficient supply (Low Pwr.)			Flash	
Absence of phase error (Phs. Abs)		Flash		

## Wiring Diagrams



## Technical Specifications

Specifications	GKM-01/03 - GKT-02P/03P/ 02PL	GKN-02P	GKT-01S
Operation Voltage (Un)	230 V AC	400 V AC	230 V AC
Operation Voltage Interval (U)	150-300 V AC Gxx-01/02, 80-300V AC Gxx-03	260-520 V AC	65-300 V AC
Insufficient Supply Interval	100-120 AC Gxx-01/02, 70-80V AC Gxx-03	175-210 V AC	58-60V AC
Operation Frequency	50 Hz	50 Hz	50 Hz
Power Consumption (Max)	2.5VA	2.5 VA	2.5 VA
Measurement Method	TrueRMS	TrueRMS	TrueRMS
Vmax (Over Voltage Setting)	230...290 V AC	400...500 V AC	230...290 V AC
Vmin (Low Voltage Setting)	160...210 V AC Gxx-01/02, 90...200V Gxx-03	275...365 V AC	Yok
Phase Sequence Control	Yok / Var / Yok	Var	Var
Hysteresis	%5 of Vmax Vmin value	%5 of Vmax Vmin value	%5 of Vmax Vmin value
Off-Delay (Release Delay)	Set at 1 ... 20 sec.	Set at 1 ... 20 sec.	1sec. constant
On-Delay (Draw Delay)			
Ptc Operation Interval	None/Opening: more than 1600 ohm Closing: less than 1400 ohm	Opening: more than 1600 ohm Closing: less than 1400 ohm	None None
Setting Accuracy	+ veya -%5	+ veya -%5	+ veya -%5
Exit Relay	5A 250 V AC	5A 250 V AC	5A 250 V AC
Operation Temperature	-20°C...50°C arası	-20°C...50°C arası	-20°C...50°C arası
Relative Humidity	%90'dan küçük (Yoğunlaşma olmadan)	%90'dan küçük (Yoğunlaşma olmadan)	%90'dan küçük (Yoğunlaşma olmadan)
Cable Sections	2.5mm <sup>2</sup> çok damarlı kablo	2.5mm <sup>2</sup> çok damarlı kablo	2.5mm <sup>2</sup> çok damarlı kablo
Assembly Types	Ray tipi	Ray tipi	Ray tipi
Protection Class	IP20 (Terminaller), IP40 (Ön Panel)	IP20 (Terminaller), IP40 (Ön Panel)	IP20 (Terminaller), IP40 (Ön Panel)
Dimensions	36x90x61	36x90x61	36x90x61
Weight	125gr	125gr	125gr
Insulation	400V Yalıtım Gerilimi, 4KV Source darbe	400V Yalıtım Gerilimi, 4KV Source darbe	400V Yalıtım Gerilimi, 4KV Source darbe



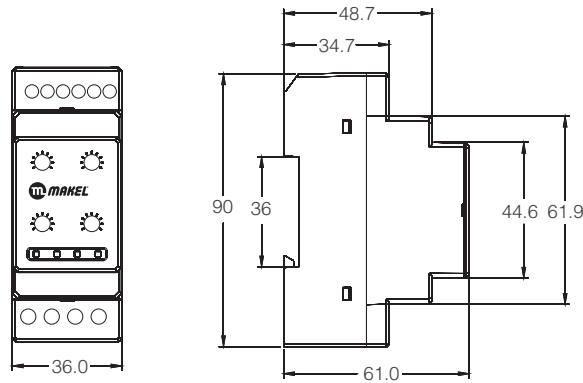
# Liquid Level Control Relays

The liquid level relay has 3 electrodes



SRM-02A

## Outline Dimensions



### Liquid Level Relays

When liquids with certain conductivity are emptied from storage tanks or while the tanks are being filled these relays prevent the tanks from overflowing and the motors working unnecessarily.

The liquid level relay has 3 electrodes. It is used for emptying liquid reservoirs or water wells. The liquid needs to be conductive in order for the electrodes to be detected. The relay may not be used for flammable or explosive liquids.

### Operation of the Device

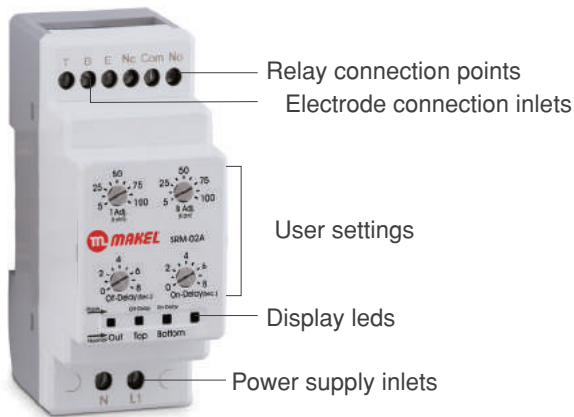
The necessary connections are made according to the connection chart. If the liquid reservoir surface is conductive the E connection terminal may be connected to the reservoir surface. If the reservoir is conductive an electrode must be also be connected to the E terminal.

Attention must be paid to the order of the electrodes in the reservoir or well. The E electrode must be placed in the bottom, the T electrode determining the motor operation point must be placed at the very top and the B electrode determining the stopping point of the motor must be placed in between.

The liquid must be conductive. The relay may not be used with flammable or explosive liquids. If the electrodes are not being detected in the SRM-02A model you can change the perception level and enable it to be detected with the Adj. setting.

**Operation When the Relay is Passive:** When the T and E electrodes are outside of the liquid the “Top” and “Bottom” leds lights up. During this process the out relay is in passive state. The leds of the electrodes that enter the liquid will turn off. When both of the electrodes enter the liquid the On-Delay wait period is counted down. During this period the “Bottom” led will flash. At the end of the period the relay becomes active and the “Out” led goes on.

**Operation When the Relay is Active:** When the T and E electrodes are inside the liquid the “Top” and “Bottom” leds are off. During this process the out relay is in active state. The leds of the electrodes that come out of the liquid will turn on. When both of the electrodes come out of the liquid the Off-Delay wait period is counted down. During this period the “Top” led will flash. At the end of the period the relay becomes passive and the “Out” led goes off.

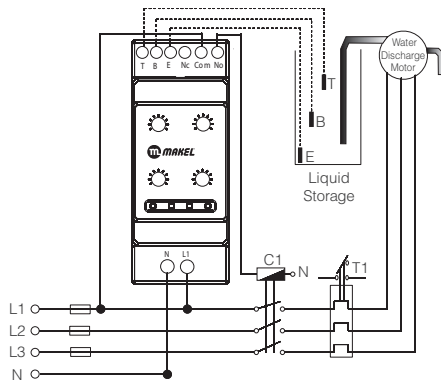


Meanings of the display leds	Out	Top	Bottom
Top and bottom electrodes are outside of the liquid		x	x
Top electrode is outside of the liquid, bottom is inside		x	
Exit active, top and bottom electrodes in liquid	x		
Exit active, top electrode outside liquid	x	x	
The period that exit relay is to be Off is counting down	x	Flash	x
The period that exit relay is to be On is counting down			Flash

**Note:** There are no T Adj., B Adj., Off-Delay and On-Delay settings on the SRM-01 model.

## Wiring Diagrams

SRM-01 / SRM-02A



## Technical Specifications

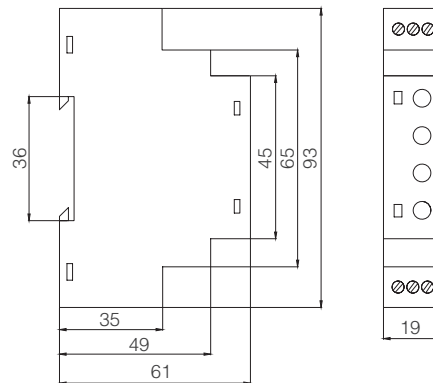
Specifications	SRM-01	SRM-02A
Operation Voltage (Un)	230 V AC	230 V AC
Operation Voltage Interval (U)	150-300 V AC	150-300 V AC
Operation Frequency	50 Hz	50 Hz
Power Consumption (Max)	2.5 VA	2.5 VA
T- adj. (Top electrode sensitivity setting)	Fixed between 0-50 kohm	Set between 0-100 kohm
B- adj. (Top electrode sensitivity setting)	Fixed between 0-50 kohm	Set between 0-100 kohm
Off-Delay (Release period)	1 sec fixed	Set at 1-8 sec
On-Delay (Draw period)	1 sec fixed	Set at 1-8 sec
Setting Accuracy	+ or -5%	+ or -5%
Exit Relay	5 A 250 V AC	5 A 250 V AC
Operation Temperature	Between -20°C...50°C	Between -20°C...50°C
Relative Humidity	Less than 90% (Without condensation)	Less than 90% (Without condensation)
Cable Sections	2.5 mm <sup>2</sup> multi vessel cable	2.5 mm <sup>2</sup> multi vessel cable
Assembly Types	Rail type	Rail type
Protection Class	IP20 (Terminals), IP40 (Front Panel)	IP20 (Terminals), IP40 (Front Panel)
Dimensions	36x90x61	36x90x61
Weight	125gr	125gr
Insulation	400 V insulation voltage 4 KV source impact	400 V insulation voltage 4 KV source impact

## Time Relay TMR-01



TMR-01

### Outline Dimensions



Used especially for process control in industrial automation. They activate or inactivate systems with set delays or start or stop events with a delay.

**Draw Delayed Relays:** draw contact at the end of the T period after voltage is applied to the time relay.

**Release Delayed Relays:** draw contact when voltage is applied to the time relay and release contact at the end of the t period.

*Note:* In order for time settings which have been made when the time relay is with power to be valid, the time relay power supply needs to be provided again.

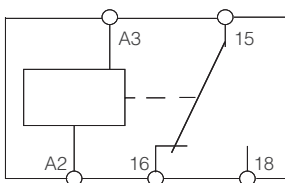
### General Specifications

Time Relays are used in industry for their following feature.

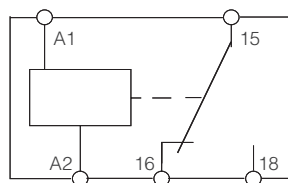
- ▶ General purpose use
- ▶ Easily adjustable time interval
- ▶ Easy attachment to rail
- ▶ Narrow and small size

### Wiring Diagrams

24 V AC / DC  $\pm$  %10



220 / 230 V AC  $\pm$  %20



## Safety Warnings

- ▶ The assembly and electrical connections must be done by technical personnel according to the instructions.
- ▶ While the device is being assembled there should be no power on the connection cables.
- ▶ The device should be mounted inside of the panel.
- ▶ Check the cable connections before operating the device.
- ▶ Do not open the device.
- ▶ Do not operate the device in dirty, wet or vibrating conditions.
- ▶ Use a dry cloth to clean the device, never use a solvent or chemical substance.

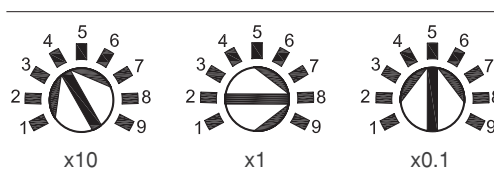
## Time Setting

X10 trimpot value show the tens digit of the desired time, x1 shows the ones digit and x0.1 show the one tenths digit of the desired time.

Example: x10 = 4, x1 = 8, x0.1 = 5 and

Mode= if 1s has been set the contact outlets will change position after 48.5 seconds.

x10	x1	x0.1	Mode	Set Time
4	8	5	1s	48,5 sec
4	8	5	10s	485 sec
4	8	5	1m	48,5 min
4	8	5	10m	485 min
4	8	5	1h	48,5 hour



## Technical Specifications

Specifications	TMR-01
Time Interval	0.5sec – 99.9 hours
Accuracy	<1%
Power Supply	220/230 Vac ± 20% 24 Vac / dc ± 10%
Power Consumption *	Active Power 0.9 W (220 Vac 50 Hz) Visible Power 8 VA
Sudden Impact Voltage Resistance *	2 kV
Surge (IEC 61000-4-5)	
Quick Temporary Sudden Impact Voltage *	4.4 kV
Resistance Burst (IEC 61000-4-4)	
Electromagnetic RF Fields Resistance *	10 V/m
(IEC 61000-4-3)	
Assembly Form	Th Rail assembly (EN 60715)
Protection Class	IP20 (EN 60529),
Ambient Temperature	-5°C + 50°C (Operation) -25°C + 75°C (Storage)
Contact Current /Power	1 C/O, 8A, 2000 VA

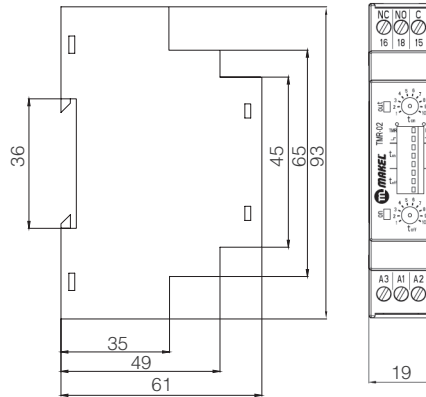
\* Applies to 220/230 Vac (A1-A2) supply line

## Time Relay TMR-02



TMR-02

### Outline Dimensions



**Draw Delayed Relays:** draw contact at the end of the T period after voltage is applied to the time relay.

**Release Delayed Relays:** draw contact when voltage is applied to the time relay and release contact at the end of the t period.

**Note:** In order for time settings which have been made when the time relay is with power to be valid, the time relay power supply needs to be provided again.

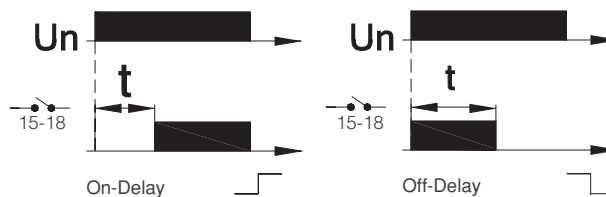
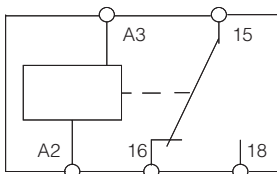
## General Specifications

Time Relays are used in industry for their following feature.

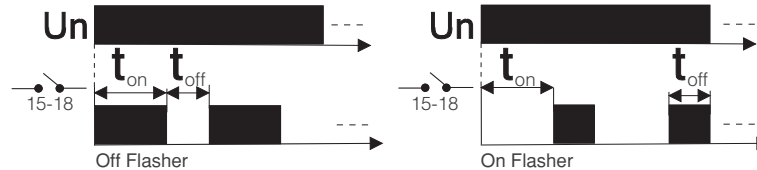
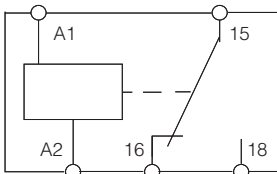
- ▶ General purpose use
- ▶ Easily adjustable time interval
- ▶ Easy attachment to rail
- ▶ Narrow and small size

## Wiring Diagrams

24 VAC/DC  $\pm 10\%$



220 / 230 V AC  $\pm 20\%$



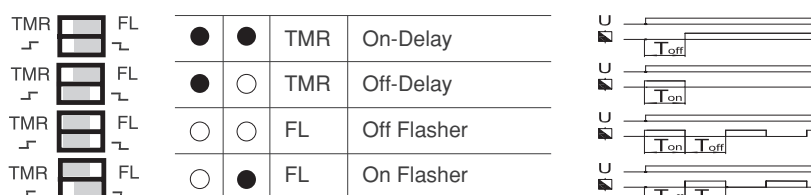


## Safety Warnings

- ▶ The assembly and electrical connections must be done by technical personnel according to the instructions.
- ▶ While the device is being assembled there should be no power on the connection cables.
- ▶ The device should be mounted inside of the panel.
- ▶ Check the cable connections before operating the device.
- ▶ Do not open the device.
- ▶ Do not operate the device in dirty, wet or vibrating conditions.
- ▶ Use a dry cloth to clean the device, never use a solvent or chemical substance.

## Time Setting

TMR-02 timer operated as On-Delay (ER), Off Delay(EM), On Flash mode or Off Flasher mode according to user needs. Adjustable time range of TMR-02 is between 0.5 second- 30 hours.



TMR-02					
5	4	3	T on Time Setting		
8	7	6	T off Time Setting		
			Time Range	Adjustable Time Range	
○	○	○	5 sec	0,5-5 sec	
○	○	●	10 sec	1-10 sec	
○	●	○	30 sec	3-30 sec	
○	●	●	60 sec	6-60 sec	
●	○	○	10 min	1-10 min	
●	○	●	60 min	6-60 min	
●	●	○	10 hour	1-10 hour	
●	●	●	30 hour	3-30 hour	

T on time is setting by 3,4,5 switches and ton trimmer,  
T off time is setting are by 6,7,8 switches and toff trimmer.

T on and/or T off time settings are calculated according to the following formulas

a: Selected time range (by switches)

x: Position of timmer

t: Desired time

$$x = \frac{10 \cdot t}{a} \text{ and } t = \frac{x \cdot a}{10}$$

## Technical Specifications

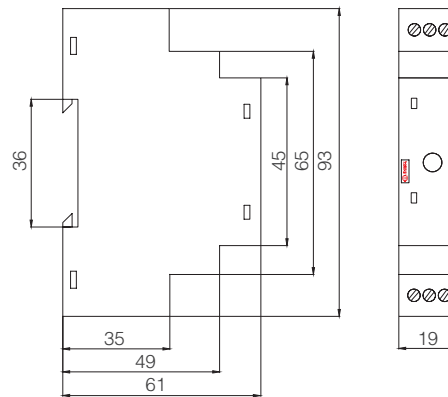
Specifications	TMR-02	Specifications	TMR-02
Time Interval	0,5sec – 30 hours	Electromagnetic RF Fields Resistance *	10 V/m
Accuracy	<1%	(IEC 61000-4-3)	
Power Supply	220/230 Vac ± 20% 24 Vac / dc ± 10%	Assembly Form	Th Rail assembly (EN 60715)
Power Consumption*	Active Power 0.9 W Visible Power 8 VA	Protection Class	IP20 (EN 60529),
Sudden Impact Voltage Resistance *	2 kV	Ambient Temperature	-5°C + 50°C (Operation) -25°C + 75°C (Storage)
Surge (IEC 61000-4-5)		Contact Current /Power	1 C/O, 8A, 2000 VA
Quick Temporary Sudden Impact Voltage * Resistance Burst (IEC 61000-4-4)	4.4 kV		

\* Applies to 220/230 Vac (A1-A2) supply line

## Time Relay TMR-30 / TMR-60



### Outline Dimensions



**Draw Delayed Relays:** draw contact at the end of the T period after voltage is applied to the time relay.

**Note:** In order for time settings which have been made when the time relay is with power to be valid, the time relay power supply needs to be provided again.

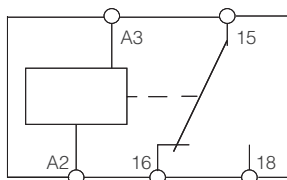
### General Specifications

Time Relays are used in industry for their following feature.

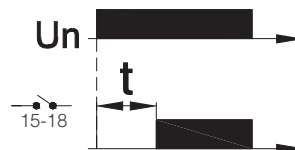
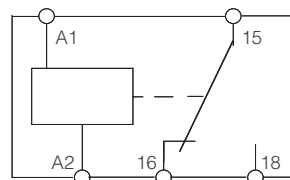
- ▶ General purpose use
- ▶ Easily adjustable time interval
- ▶ Easy attachment to rail
- ▶ Narrow and small size

### Wiring Diagrams

24 V AC / DC  $\pm$  %10



220 / 230 V AC  $\pm$  %20



## Safety Warnings

- ▶ The assembly and electrical connections must be done by technical personnel according to the instructions.
- ▶ While the device is being assembled there should be no power on the connection cables.
- ▶ The device should be mounted inside of the panel.
- ▶ Check the cable connections before operating the device.
- ▶ Do not open the device.
- ▶ Do not operate the device in dirty, wet or vibrating conditions.
- ▶ Use a dry cloth to clean the device, never use a solvent or chemical substance.

## Technical Specifications

Specifications	TMR-30	TMR-60
Time Interval	2-30 sec	2-60 sec
Accuracy	<1%	<1%
Power Supply	220/230 Vac ± 20% 24 Vac / dc ± 10%	220/230 Vac ± 20% 24 Vac / dc ± 10%
Power Consumption * (220 Vac 50 Hz)	Active Power 0.9 W Visible Power 8 VA	Active Power 0.9 W Visible Power 8 VA
Sudden Impact Voltage Resistance * Surge (IEC 61000-4-5)	2 kV	2 kV
Quick Temporary Sudden Impact Voltage * Resistance * Burst (IEC 61000-4-4)	4.4 kV	4.4 kV
Electromagnetic RF Fields Resistance * (IEC 61000-4-3)	10 V/m	10 V/m
Assembly Form	TH Rail assembly (EN 60715)	TH Rail assembly (EN 60715)
Protection Class	IP20 (EN 60529)	IP20 (EN 60529)
Ambient Temperature	-5°C + 50°C (Operation) -25°C + 75°C (Storage)	-5°C + 50°C (Operation) -25°C + 75°C (Storage)
Contact Current /Power	1 C/O, 8A, 2000 VA	1 C/O, 8A, 2000 VA

\* Applies to 220/230 Vac (A1-A2) supply line.

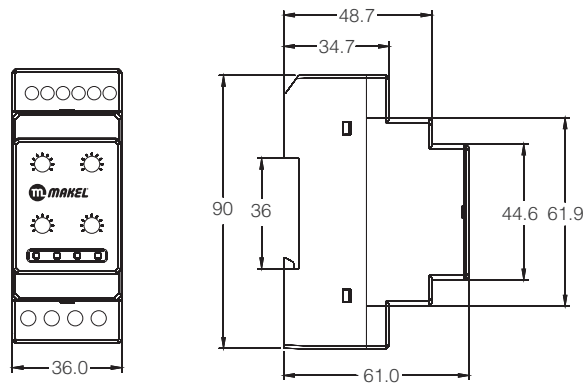
# Photocell Relays

Photocell relays provide energy efficiency by opening and closing lighting systems and keeping lights on for the time interval that is set with the sleep mode.



FRM-01

## Outline Dimensions



### Photocell Relays

These relays turn lights on and off according to the level of daylight and the sleep mode keeps the lights on for a set period to provide energy efficiency.

Photocell relays have a sensor that can detect light intensity and a relay-out that operates according to the light intensity. The device controls the lighting systems that are connected to this outlet. Thus lighting can be turned on automatically when dark and turned off when light.

### Operation of the Device

The necessary connections are made according to the connection chart. The sensor optic connected to the photocell relay must be attached so that the lighting system is not exposed to direct light. Also it is recommended that the optic be attached to areas which are less likely to get dirty.

If the Sleep Mode is not desired in FRM-02S this setting must be brought to Off. When the lux adjustment is being set it should be on 0 Lux for moderate darkness and 1 Lux for the darkest.

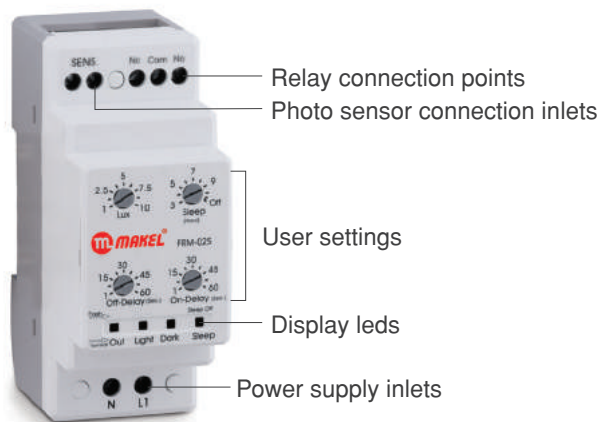
**Normal Operation:** If the ambient light intensity is lower than the set Lux level it means it has gotten dark and the “Dark” led will light up. The On-Delay period will be waited out. (30 sec is fixed on FRM-01). If at the end of the period the setting is dark the “Out” led goes on and the relay-out becomes active.

If the ambient light intensity is higher than the set Lux level it means it has gotten light and the “Light” led will light up. The Off-Delay period will be waited out. (30 sec is fixed on FRM-01). If at the end of the period the setting is light the “Out” led goes off and the relay-out becomes passive.

**Operation in Sleep Mode (In the FRM-02S model):** After it has gotten dark the relay-out becomes active for as long as the number of hours in the sleep setting. After this period is over the “Sleep” led goes on, the “Out” led goes off and the relay-out becomes passive. Thus the lighting will have operated for as long as the set Sleep time and energy efficiency will have been achieved for the time remaining until morning.

After the intensity of the light increases 1 minute goes by. If it is still light when the period is up the “Sleep” led goes off and the normal operation mode starts.

If you do not want the photocell relay to work in Sleep mode set it to “Off”. In this situation the “Sleep” led will flash to inform that the Sleep mode has been cancelled.

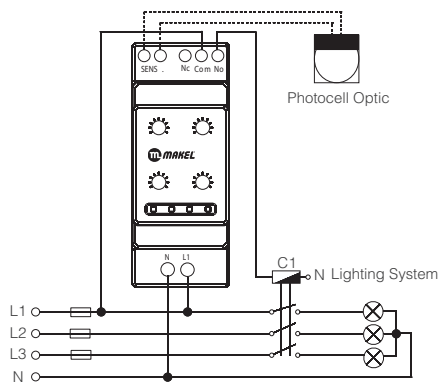


Meanings of the display leds	Out	Light	Dark	Sleep
Operate in daylight (Light)		X		
Dark Has Set (On Delay period countdown)			X	
Operate in dark (Dark)	X		X	
Light Has Set (Off Delay period countdown)	X	X		
Operation in sleep mode (Sleep)			X	X
Exit Sleep Mode (Period countdown)		X		X
Sleep Mode off (Sleep off)				Flash

**Note:** There are no Sleep leds and Off-Delay and On-Delay settings on the FRM-01 model.

## Wiring Diagrams

FRM-01 / FRM-02S



## Technical Specifications

Specifications	FRM-01	FRM-02S
Operation Voltage (Un)	230 V AC	230 V AC
Operation Voltage Interval (U)	150-300 V AC	150-300 V AC
Operation Frequency	50 Hz	50 Hz
Power Consumption (Max)	2.5 VA	2.5 VA
Lux adjustment	1...10	1...10
Sleep Adjustment	None	3-10 hours Set/Sleep off
Off-Delay (Release delay)	30 sec fixed	1...60 sec Set
On-Delay (Draw delay)	30 sec fixed	1...60 sec Set
Setting Accuracy	+ or -5%	+ or -5%
Exit Relay	5 A 250 V AC	5 A 250 V AC
Operation Temperature	Between -20°C...50°C	Between -20°C...50°C
Relative Humidity	Less than 90% (Without condensation)	Less than 90% (Without condensation)
Cable Sections	2.5 mm <sup>2</sup> multi vessel cable	2.5 mm <sup>2</sup> multi vessel cable
Assembly Types	Rail type	Rail type
Protection Class	IP20 (Terminals), IP40 (Front Panel)	IP20 (Terminals), IP40 (Front Panel)
Dimensions	36x90x61	36x90x61
Weight	125gr	125gr
Insulation	400 V insulation voltage 4 KV source impact	400 V insulation voltage 4 KV source impact



## Motor Protection Relays

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)	Absence of Phase	Phase Order	Ptc	Fixed Asymmetry	Set Asymmetry	Without Neutral	Draw Delay	Open Delay	Insufficient Power Supply Warning
MKT - 01	152070001	1	12	1,40	253 x 138 x 103	■	■	-	■	-	-	-	-	■
MKT - 02P	152070002	1	12	1,40	253 x 138 x 103	■	■	■	-	■	-	■	■	■
MKN - 02P	152070003	1	12	1,40	253 x 138 x 103	■	■	■	-	■	-	■	■	■
MKT - 01S	152070028	1	12	1,40	253 x 138 x 103	■	-	-	■	-	-	-	-	■
MKT - 01L	152070048	1	12	1,40	253 x 138 x 103	■	-	-	■	-	-	-	-	■

## Current Protection Relays

Product Name	Code No.	Technical Specifications	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)	Low Current Warning	Excessive Current Warning	Monophase	External Current Transformer	Relay Delay	Start Delay
AKM-01	152070007	1-10.000/5 A veya 0.5-5 A Poles	1	12	1,75	253 x 138 x 103	■	■	■	-	■	■
AKM-01T	152070008	7,5-82,5 A (AT-20 included Current Transformer)	1	12	2,10	265 x 138 x 112	■	■	■	■	■	■

## Low Voltage Current Transformer

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
AT-20	152070025	1	50	2,90	185 x 230 x 45

### Technical Specifications

Current Rating	200 A / 80 mA
Wrap Interval	1 / 2500
Frequency	50/60 Hz
Accuracy	Class 1 (%1)
RL	3.3 Ohm
Operation Temperature	-10°C...65°C
Hole Diameter	12.8 mm
Out Diameter	37 mm



AT-20

## Voltage Protection Relays

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)	Absence of Phase	Phase Order	Ptc	Low Voltage Warning	Over Voltage Warning	Monophase	Three-phase	Neutral	Draw Delay	Open Delay	Insufficient Power Supply Warning	150 V Çalışabilme	90 V Çalışabilme
GKM-01	152070004	1	12	1,40	253 x 138 x 103	■	-	-	■	■	■	-	■	■	■	■	■	-
GKT-02P	152070005	1	12	1,40	253 x 138 x 103	■	■	■	■	■	-	■	-	■	■	■	■	-
GKN-02P	152070006	1	12	1,40	253 x 138 x 103	■	■	■	■	■	-	■	-	■	■	■	■	-
GKT-01S	152070029	1	12	1,40	253 x 138 x 103	-	■	-	-	-	-	■	■	-	-	■	■	-
GKM-03	152070045	1	12	1,40	253 x 138 x 103	■	-	-	■	■	■	-	■	■	■	■	-	■
GKT-03P	152070046	1	12	1,40	253 x 138 x 103	■	■	■	■	■	-	■	-	■	■	■	-	■
GKT-03PL	152070047	1	12	1,40	253 x 138 x 103	■	-	-	■	■	■	-	■	■	■	■	-	■

## Liquid Level Protection Relays

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)	Fixed Sensitivity	Set Sensitivity	Monophase	Fixed Draw Delay	Fixed Open Delay	Set Draw Delay	Set Open Delay	1 C/O Kontak	Small Size Electrode	Large Size Electrode
SRM-01	152070013	1	12	1,40	253 x 138 x 103	■	-	■	■	■	-	-	■	-	-
SRM-02A	152070026	1	12	1,40	253 x 138 x 103	-	■	■	-	-	■	■	■	-	-
SRE-01 (Small Electrode)	152070015	1	12	0,38	-	-	-	-	-	-	-	-	-	■	-

## Time Relays

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)	Draw Delayed (ER)	Release Delayed (ER)	Control Entry Release Delayed (R)	Drawn Control Entry (R)	Triggered in Release Delayed in Release (TS)	Triggered in Release Delayed in Draw (TA)	Symmetric Flasher (EF)	Trigger Entry	Open Flasher	Closed Flasher	Down Meter	Right-Left	Delayed Fall	24V AC/DC	220/230V AC	12-240C AC/DC	24-240C AC/DC
TMR-30 (2-30sn)	152070009	1	22	-	253 x 138 x 103	■	-	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-
TMR-60 (2-60sn)	152070010	1	22	-	253 x 138 x 103	■	-	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-
TMR-01 (0,1sn-99,9 h.)	152070011	1	22	-	253 x 138 x 103	■	■	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-
TMR-02 (0,5sn-30 h.)	152070012	1	22	-	253 x 138 x 103	■	■	-	-	-	-	-	-	■	■	-	-	-	■	■	-	-

## Photocell Relays

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)	Light Intensity Setting	Sleep Economy Mode	Monophase	Fixed Draw Delay	Fixed Open Delay	Set Draw Delay	Set Open Delay
FRM-01*	152070014	1	10	1,45	330 x 180 x 98	■	-	■	■	■	-	-
FRM-02S*	152070016	1	10	1,45	330 x 180 x 98	■	■	■	-	-	■	■
FRG-01 (Lens)	152070024	1	15	0,48	-	-	-	-	-	-	-	-

\*Optical lens is included.



Power from 1.0 kVAr to 30 kVAr 230V / 400V / 440V / 525V voltage options  
Capacitors (ECP Series) are used in low voltage applications such as compensation systems, motor compensation and filter compensation

## Electrical and Mechanical Properties

- ▶ Three phase applications up to 50 kVAr power
- ▶ 135,000 hours life
- ▶ High inrush current (up to 200 x IR)
- ▶ 1.0 .... 50 kVAr
- ▶ 230V ... 525 VAC voltage range
- ▶ Easy connection, installation and assembly
- ▶ Low weight, convenient size
- ▶ Maintenance-free
- ▶ Faston clamps at 1.0 and 2.5 kVAr
- ▶ Screw terminals at 2.5 kV power

## General Specifications

- ▶ Cylindrical aluminum design
- ▶ Closed-loop metallized polypropylene film
- ▶ Resin impregnated
- ▶ Three phase, delta connection
- ▶ External discharge resistor
- ▶ Self-repairing
- ▶ Overpressure safety
- ▶ Environment friendly; Do not have PCB



## Technical Specifications

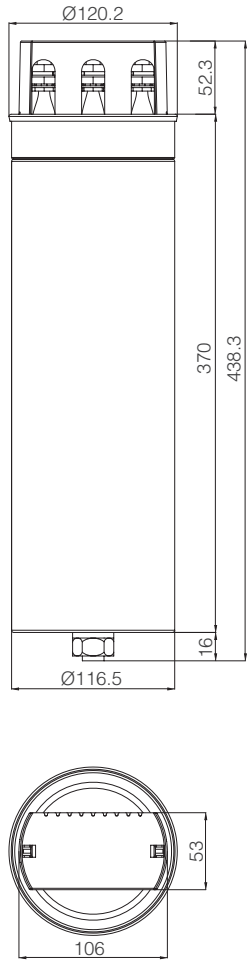
Specifications		
Inrush current	IS	up to 200 x IR
Frequency	f	50 Hz
Capacitance tolerance	%	-5% / + 10%
Overcurrent	I <sub>max</sub>	up to 1.3 x IR (including all effects of harmonics, extrinsic stress and capacitance)
Losses: -Dielectric	W / kVAr	<0.2 W / kVAr-
-Total		<0.45 W / kVAr (without discharge resistor)
Overvoltage	V <sub>max</sub>	VR + 10% (up to 8 hours per day) / VR + 15% (up to 30 minutes per day) VR + 20% (up to 5 minutes per day) / VR + 30% (up to 1 minute per day)
Test voltage, terminal / terminal	V	2.15 x VR AC, 2 seconds
Test voltage, terminal / housing	V	3000 V AC, 10 seconds
Design life	hour	Up to 135,000 hours
Number of on / off operations		per year according to IEC 60831-1 + 2 max. 5000 opening and closing operation
Ambient Temperature	° C	max. temperature 55 ° C min. temperature -25 ° C
Cooling		Natural or fan cooled
Humidity	%	max. 95%
Altitude	m	Max. 2000m high
Standard		IEC 60831-1 + 2
Discharge resistor		within 3 minutes 75V

## Fields of Application

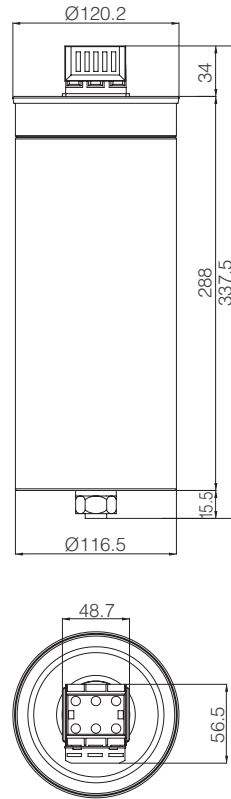
They are used in low voltage applications such as compensation systems, motor compensation and filtered compensation.

## Technical Drawings

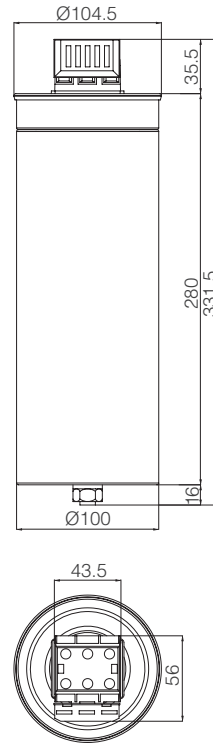
Tube Capacitor 14  
(40-50 kVAr)



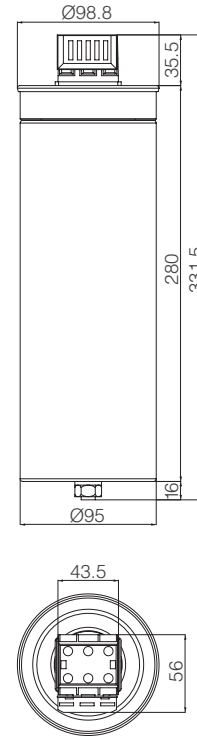
Tube Capacitor 13  
(30 kVAr)



Tube Capacitor 12  
(25 kVAr)

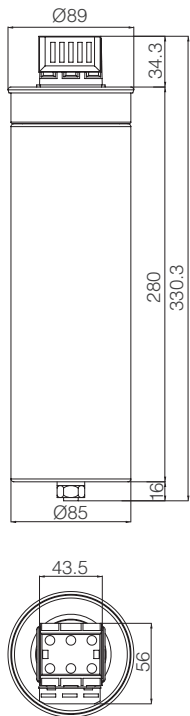


Tube Capacitor 11  
(20 kVAr)

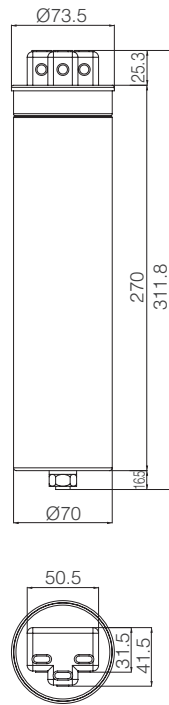




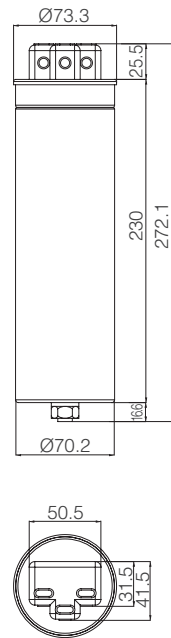
Tube Capacitor 10  
(15 kVAr)



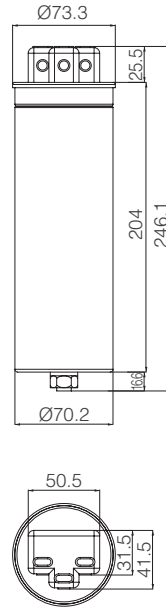
Tube Capacitor 9  
(12,5 kVAr)



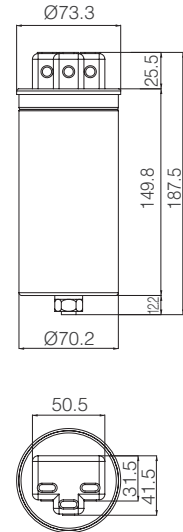
Tube Capacitor 8  
(10 kVAr)



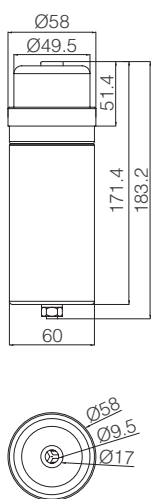
Tube Capacitor 7  
(7,5 kVAr)



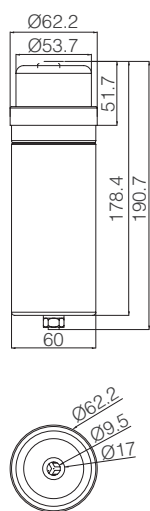
Tube Capacitor 6  
(5 kVAr)



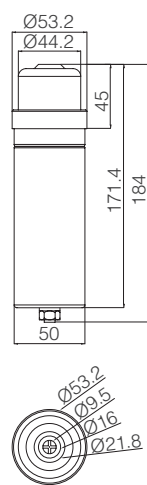
Tube Capacitor 5  
(2,5 kVAr)



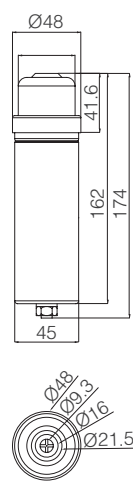
Tube Capacitor 4  
(1,38 kVAr)



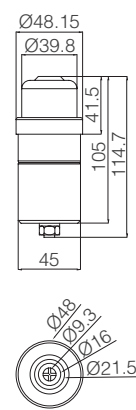
Tube Capacitor 3  
(0,83 kVAr)



Tube Capacitor 2  
(0,55-1-1,5 kVAr)



Tube Capacitor 1  
(0,26 kVAr)



# Capacitors

## Capacitor

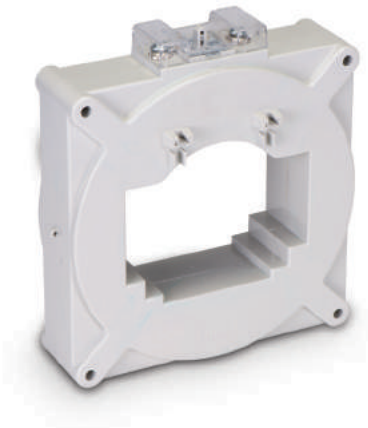
Code No.	Nominal Power ( kVAr)	Nominal Voltage(V AC)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Three Phase Tube Capacitor</b>						
76066007	400-1	400	-	20	4,94	228 x 418 x 108
76066008	400-1,5	400	-	20	5,28	228 x 418 x 108
76066009	400-2,5	400	-	20	8,30	286 x 478 x 151
76066010	400-5	400	-	6	4,44	228 x 418 x 108
76066011	400-7,5	400	-	6	5,90	273 x 478 x 123
76066012	400-10	400	1	6	6,71	268 x 323 x 183
76066013	400-12,5	400	1	6	7,76	300 x 385 x 205
76066014	400-15	400	1	6	11,28	300 x 385 x 205
76066015	400-20	400	1	6	13,88	348 x 378 x 213
76066016	400-25	400	1	6	15,34	348 x 378 x 213
76066017	400-30	400	1	4	13,40	268 x 383 x 283
76066018	400-40	400	1	4	17,70	290 x 480 x 280
76066019	400-50	400	1	4	17,70	290 x 480 x 280
76066020	450-1	450	-	20	4,96	228 x 418 x 108
76066021	450-1,5	450	-	20	5,26	228 x 418 x 108
76066022	450-2,5	450	-	20	8,16	286 x 478 x 151
76066023	450-5	450	-	6	4,46	228 x 418 x 108
76066024	450-7,5	450	-	6	5,90	273 x 478 x 123
76066025	450-10	450	1	6	6,71	268 x 323 x 183
76066026	450-12,5	450	1	6	7,74	300 x 385 x 205
76066027	450-15	450	1	6	11,58	300 x 385 x 205
76066028	450-20	450	1	6	14,06	348 x 378 x 213
76066029	450-25	450	1	6	15,30	348 x 378 x 213
76066030	450-30	450	1	4	13,41	268 x 383 x 283
76066031	450-40	450	1	4	17,62	290 x 480 x 280
76066032	450-50	450	1	4	17,68	290 x 480 x 280
76066033	525-10	525	1	6	6,69	268 x 323 x 183
76066034	525-12,5	525	1	6	7,70	300 x 385 x 205
76066035	525-15	525C	1	6	11,50	300 x 385 x 205
76066036	525-20	525	1	6	13,88	348 x 378 x 213
76066037	525-25	525	1	6	15,20	348 x 378 x 213
76066038	525-30	525	1	4	13,46	268 x 383 x 283
76066039	525-40	525	1	4	17,52	290 x 480 x 280
76066040	525-50	525	1	4	17,52	290 x 480 x 280
76066041	550-2,5	550	-	10	4,22	298 x 473 x 82
76066042	550-5	550	-	12	8,78	245 x 447 x 184
76066043	550-7,5	550	-	6	5,90	273 x 478 x 123

## Mono Phase Tube Capacitor

Code No.	Nominal power ( kVAr)	Nominal Voltage(V AC)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
76066000	230-0,26 kVAr	230	-	49	7,52	278 x 650 x 172
76066001	400-1,67 kVAr (230-0,55)	230	-	25	6,32	288 x 443 x 143
76066002	400-2,5 kVAr (230-0,83)	230	-	24	7,10	288 x 443 x 143
76066003	400-4,17 kVAr (230-1,38)	230	-	25	11,24	353 x 528 x 153
76066004	400-8,33 kVAr (230-2,76)	230	-	20	10,78	306 x 543 x 148
76066005	230-5 kVAr	230	-	6	6,19	273 x 478 x 123
76066006	230-10 kVAr	230	1	6	10,73	300 x 385 x 205



# Low Voltage Current Transformer



Low voltage current transformer is a measurement transformer with the phase difference between primary current and secondary current around 0 degree when connected suitably and secondary current of which is proportional to primary current practically under normal conditions.

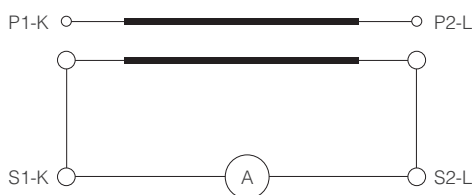
Primary Winding is the winding in which current passes by transforming. Primary tips are marked as P1-K, P2-L.

Secondary Winding is the winding that supports current circuits of current transformer, measuring instruments, counters, relays and similar devices. Secondary tips are marked as S1-K, S2-L.

Secondary windings are wrapped with more spheres with thin wire, Primary windings are wrapped with few spheres from thick wire. Measurement Transformers do not contain primary winding, instead, primary winding is created by passing busbar or cable through nucleus of transformer.

Connection and installation should be conducted by competent technical teams and engineers.

Since internal resistances of elements connected to secondary of Current Transformers are very small, transformer works in short circuit status. Therefore, secondary of current transformers should be left unloaded. When secondary of a transformer, primary of which is connected to network, is left unloaded, magnetic current in reverse direction of primary winding flow of secondary circuit is eliminated. This situation creates high voltages in proportion with winding count in secondary and results in deterioration of isolation of windings, besides, loss of iron in nucleus increases due to high magnetic current and nucleus is heated excessively. While current passes from primary, if it is necessary to change device or connections in secondary or to open secondary due to maintenance, windings should be short circuited with a switch or a conductor. Or, dangerous situations may arise for workers.



## Fields of Application

In general, they are used in compensation panels, generators, compressor panels.

## Technical Specifications

Load Emerging From Copper Cables Loss Of Power (Va.) in Cables with Secondary Current 5A				
Cable (CU)	2,5 mm <sup>2</sup>	4,0 mm <sup>2</sup>	6,0 mm <sup>2</sup>	10,0 mm <sup>2</sup>
1m	0,36	0,22	0,15	0,09
2m	0,71	0,45	0,31	0,18
3m	1,07	0,57	0,45	0,27
4m	1,43	0,89	0,61	0,36
5m	1,78	1,12	0,74	0,44
6m	2,14	1,34	0,89	0,54
7m	2,51	1,59	1,04	0,63
8m	2,85	1,79	1,19	0,71
9m	3,21	2,01	1,34	0,81
10m	3,57	2,24	1,49	0,89

Specifications		
Highest Network Voltage		720 V
Test Voltage for One Minute		3 kV
Usage Location Internal	<b>Internal</b>	<b>Indoor</b>
Continuous Operation Current		1,2 x In
Safety Coefficient		5
Rated Primary Current	From 100A	2500A
Rated Secondary Current		5 A
Working Frequency		50-60 Hz.
Operational Temperature	-5 °C	45°C
Thermal Rated Current		I <sub>th</sub> = 60 x In
Dynamic Rated Current		I <sub>dyn</sub> = 2,5 I <sub>th</sub>

Power Values of Devices Connected to Current Transformers	
Devices	Power VA
Ammeters	0,7...1,5
Wattmeters	0,2...5,0
Cos.q Meters	2,0...6,0
Meter Active, R.active	0,4...1,0
Reactive Power Control Relay	0,5...1,0
Overcurrent Relay	0,2...6,0
Reverse Current Relay	2
Secondary Thermal Relay	7,2...9,0
Standard	TS EN 61869-2 / IEC 61869-2
Protection Class	IP20

### Primary Wound Type

MAK B	
Primary Rated Current	5-150 A
Secondary Rated Current	5-1 A
Rated Output Power	5-10-15 VA
Class	0,5-1

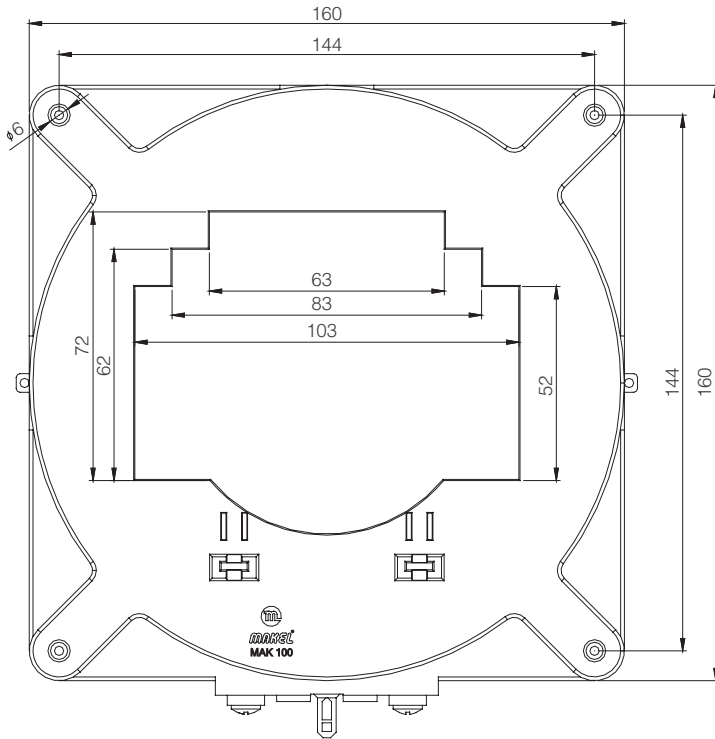
### Busbar Primary Type

	MAK 30	MAK 40	MAK 60	MAK 100
Primary Rated Current	200-300	400-600	750-1250	1500-500
Secondary Rated Current	5,1-10	5,1-10	5,1-10	5,1-10
Rated Output Power	5-10-15	5-10-15	10-15-30	15-30
Class	0,5-1	0,5-1	0,5-1	0,5-1

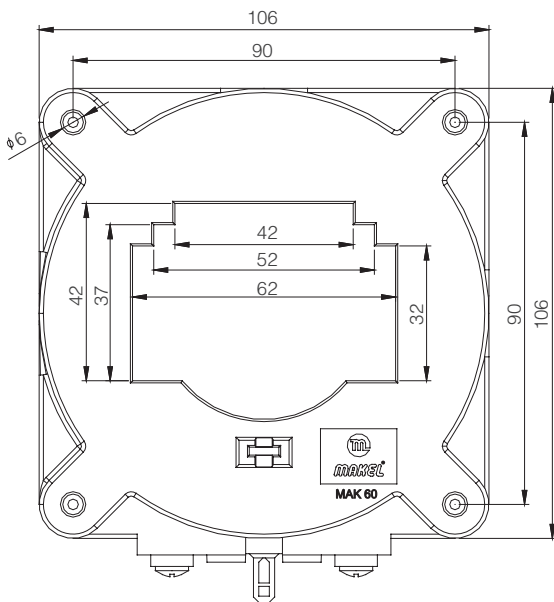


## Technical Drawings

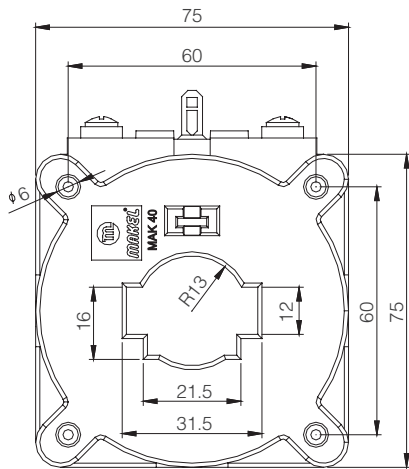
MAK 100



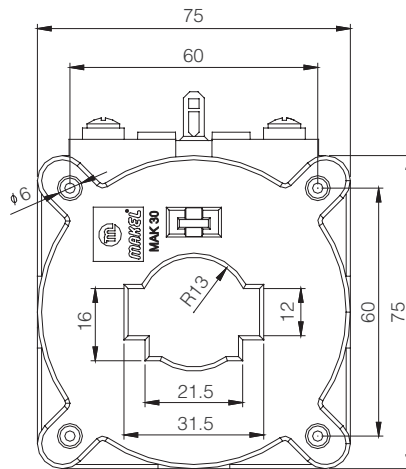
MAK 60



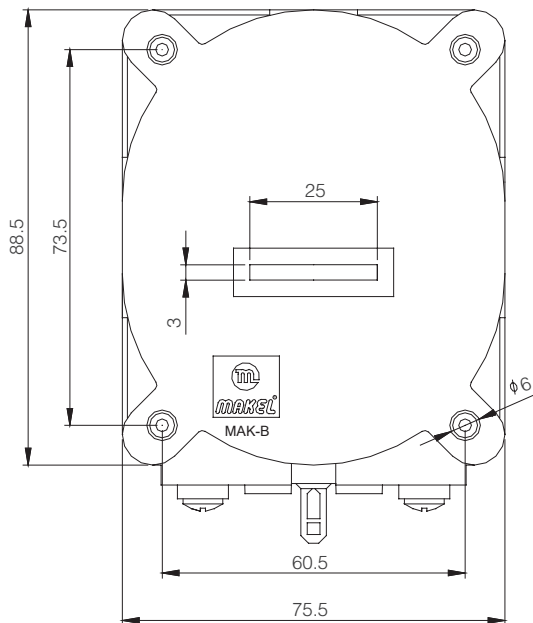
MAK 40



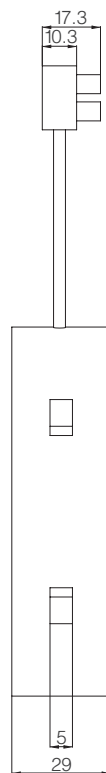
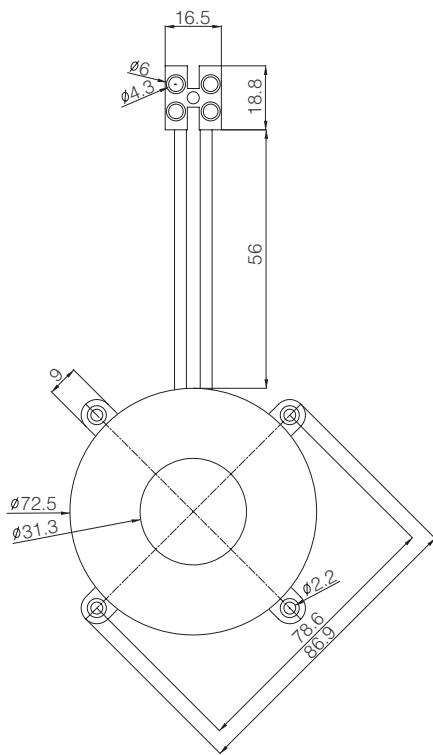
MAK 30



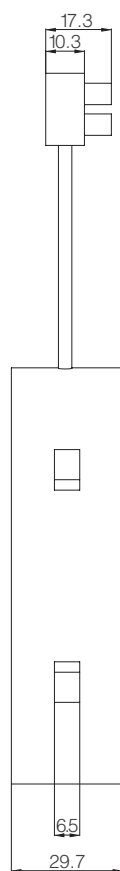
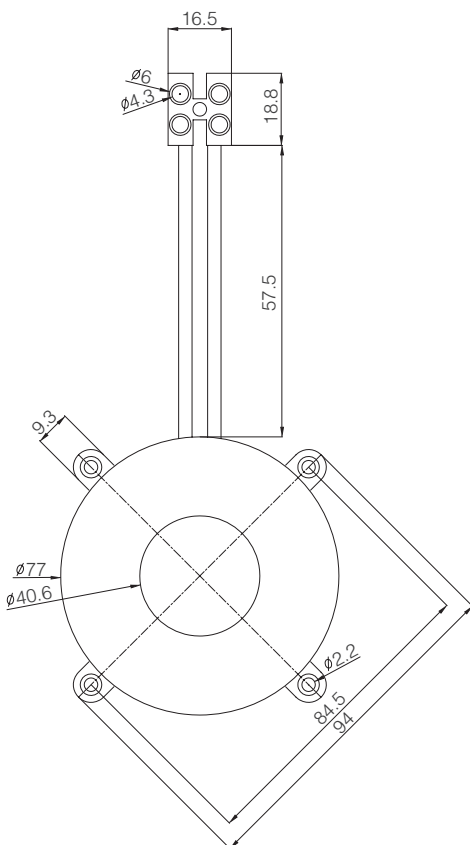
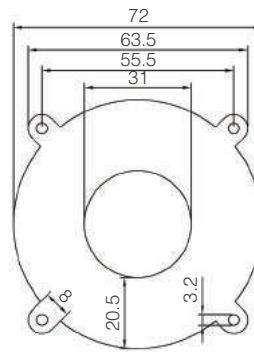
MAK B



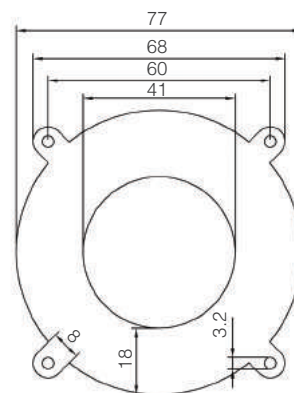
## Technical Drawings

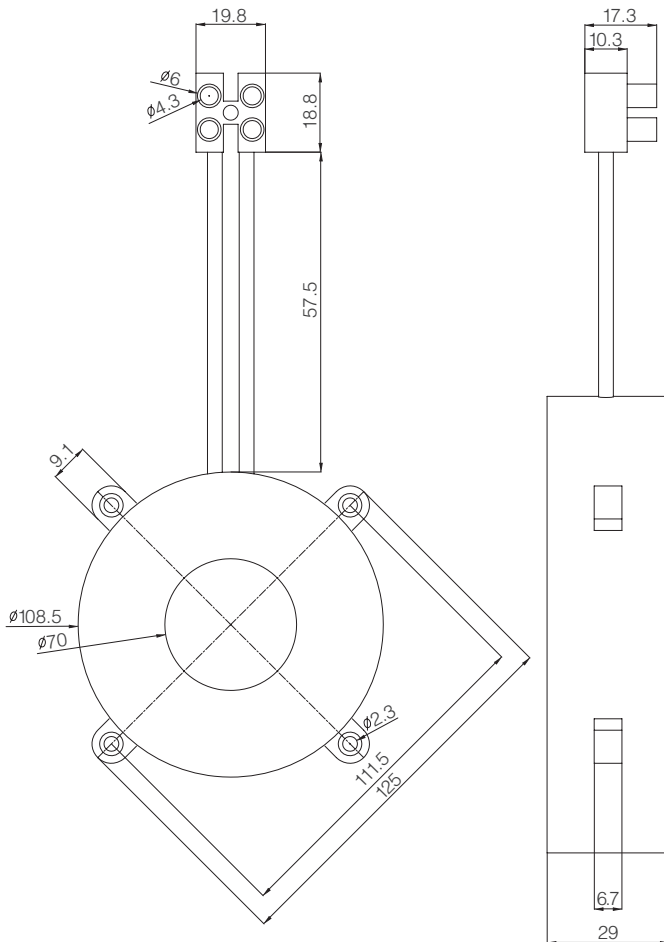


MST - 30

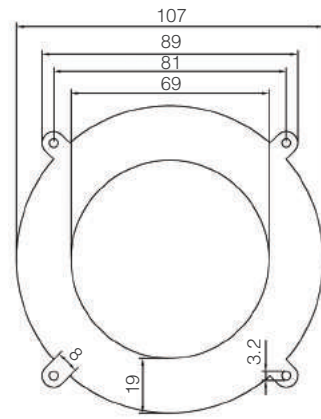


MST - 40

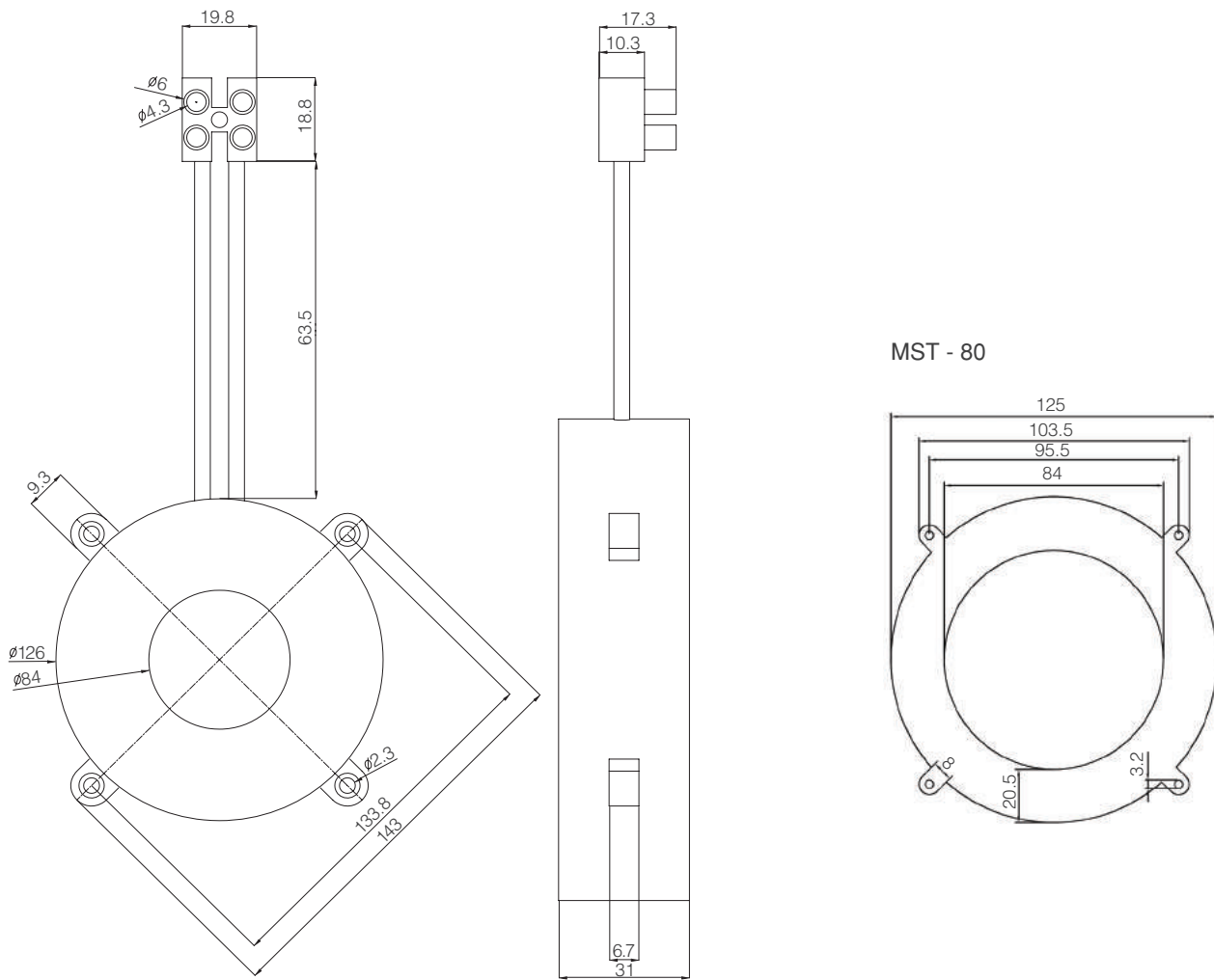




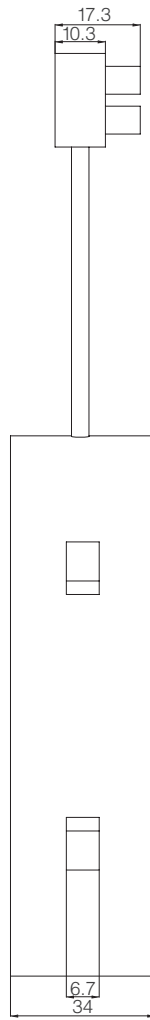
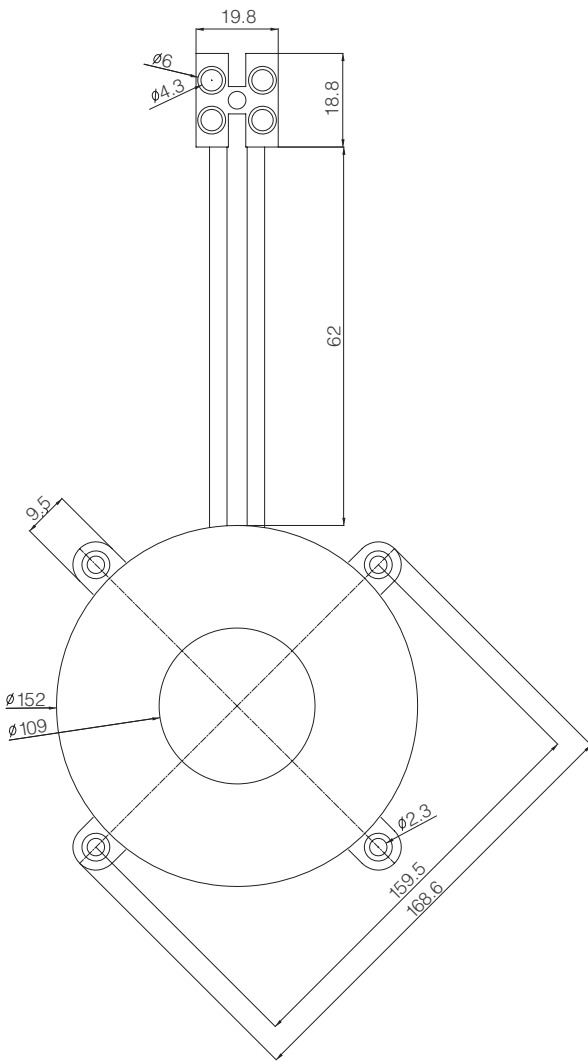
MST - 60



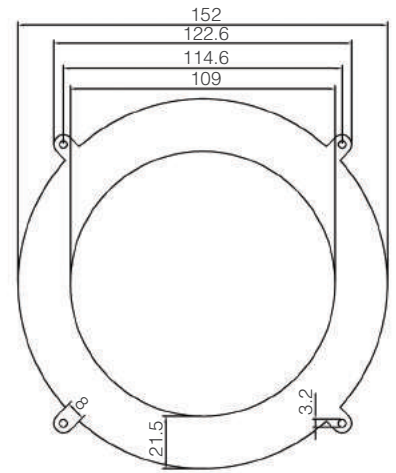
## Technical Drawings







MST - 100



# Low Voltage Current Transformer

## Low Voltage Current Transformer

Product Name	Code No.	Class	Maximum Bara Dimension (mm)	Nominal Power (VA)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>MAK 30</b>								
30/5	75063031	1,00	Ø30	5VA	1	60	28,28	365 x 490 x 220
40/5	75063032	1,00	Ø30	5VA	1	60	28,64	365 x 490 x 220
50/5	75063033	1,00	Ø30	5VA	1	60	28,70	365 x 490 x 220
60/5	75063034	1,00	Ø30	5VA	1	60	28,76	365 x 490 x 220
75/5	75063035	1,00	Ø30	5VA	1	60	28,76	365 x 490 x 220
100/5	75063036	1,00	Ø30	5VA	1	60	29,36	365 x 490 x 220
125/5	75063037	0.5	Ø30	5VA	1	60	29,48	365 x 490 x 220
150/5	75063038	0.5	Ø30	5VA	1	60	29,60	365 x 490 x 220
200/5	75063039	0.5	Ø30	10VA	1	60	30,08	365 x 490 x 220
250/5	75063040	0.5	Ø30	10VA	1	60	25,76	365 x 490 x 220
300/5	75063041	0.5	Ø30	10VA	1	60	22,94	365 x 490 x 220
<b>MAK 40</b>								
400/5	75063042	0.5	Ø40	5VA	1	60	20,84	365 x 490 x 220
400/5	75063043	0.5	Ø40	10VA	1	60	20,66	365 x 490 x 220
500/5	75063044	0.5	Ø40	5VA	1	60	21,74	365 x 490 x 220
500/5	75063045	0.5	Ø40	10VA	1	60	21,86	365 x 490 x 220
600/5	75063046	0.5	Ø40	5VA	1	60	22,04	365 x 490 x 220
600/5	75063047	0.5	Ø40	10VA	1	60	22,10	365 x 490 x 220
<b>MAK 60</b>								
750/5	75063048	0.5	Ø60	10VA	1	36	17,61	315 x 495 x 280
750/5	75063049	0.5	Ø60	15VA	1	36	17,68	315 x 495 x 280
800/5	75063050	0.5	Ø60	10VA	1	36	18,10	315 x 495 x 280
800/5	75063051	0.5	Ø60	15VA	1	36	18,10	315 x 495 x 280
1000/5	75063052	0.5	Ø60	10VA	1	36	18,73	315 x 495 x 280
1000/5	75063053	0.5	Ø60	15VA	1	36	18,69	315 x 495 x 280
1250/5	75063054	0.5	Ø60	10VA	1	36	19,45	315 x 495 x 280
1250/5	75063055	0.5	Ø60	15VA	1	36	19,38	315 x 495 x 280
<b>MAK 100</b>								
1500/5	75063056	0.5	Ø100	10VA	1	18	14,88	505 x 455 x 195
1500/5	75063057	0.5	Ø100	15VA	1	18	14,81	505 x 455 x 195
1600/5	75063058	0.5	Ø100	10VA	1	18	15,06	505 x 455 x 195
1600/5	75063059	0.5	Ø100	15VA	1	18	15,10	505 x 455 x 195
2000/5	75063060	0.5	Ø100	15VA	1	18	15,87	505 x 455 x 195
2000/5	75063061	0.5	Ø100	30VA	1	18	15,94	505 x 455 x 195
2500/5	75063062	0.5	Ø100	15VA	1	18	16,97	505 x 455 x 195
2500/5	75063063	0.5	Ø100	30VA	1	18	17,02	505 x 455 x 195
3000/5	75063064	0.5	Ø100	15VA	1	18	17,74	505 x 455 x 195
3000/5	75063065	0.5	Ø100	30VA	1	18	18,23	505 x 455 x 195

## Sealed Low Voltage Current Transformer

Product Name	Code No.	Class	Maximum Bara Dimension (mm)	Nominal Power (VA)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>MAK 30</b>								
100	75064009	1	Ø30	5VA	1	60	-	365 x 490 x 220
150	75064010	0.5	Ø30	5VA	1	60	-	365 x 490 x 220
200	75064011	0.5	Ø30	10VA	1	60	-	365 x 490 x 220
250	75064012	0.5	Ø30	10VA	1	60	-	365 x 490 x 220
300	75064013	0.5	Ø30	10VA	1	60	-	365 x 490 x 220
<b>MAK 40</b>								
400	75064014	0.5	Ø40	10VA	1	60	-	365 x 490 x 220
500	75064015	0.5	Ø40	10VA	1	60	-	365 x 490 x 220
600	75064016	0.5	Ø40	10VA	1	60	-	365 x 490 x 220
<b>MAK 60</b>								
750	75064017	0.5	Ø60	15VA	1	36	-	315 x 495 x 280
800	75064018	0.5	Ø60	15VA	1	36	-	315 x 495 x 280
1000	75064019	0.5	Ø60	15VA	1	36	-	315 x 495 x 280
1250	75064020	0.5	Ø60	15VA	1	36	-	315 x 495 x 280
<b>MAK 100</b>								
1500	75064021	0.5	Ø100	15VA	1	18	-	505 x 455 x 195
1600	75064022	0.5	Ø100	15VA	1	18	-	505 x 455 x 195
2000	75064023	0.5	Ø100	15VA	1	18	-	505 x 455 x 195
2500	75064024	0.5	Ø100	15VA	1	18	-	505 x 455 x 195
3000	75064025	0.5	Ø100	30VA	1	18	-	505 x 455 x 195

## Barred Low Voltage Current Transformer

Product Name	Code No.	Class	Maximum Bara		Nominal Power (VA)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
			Dimension (mm)						
<b>MAK B</b>									
5/5	75063000	0.5	Barred		5VA	1	36	21,62	420 x 395 x 345
5/5	75063001	0.5	Barred		10VA	1	36	21,51	420 x 395 x 345
5/5	75063002	0.5	Barred		15VA	1	36	21,62	420 x 395 x 345
10/5	75063003	0.5	Barred		5VA	1	36	19,17	420 x 395 x 345
10/5	75063004	0.5	Barred		10VA	1	36	19,17	420 x 395 x 345
10/5	75063005	0.5	Barred		15VA	1	36	19,10	420 x 395 x 345
15/5	75063006	0.5	Barred		5VA	1	36	18,34	420 x 395 x 345
15/5	75063007	0.5	Barred		10VA	1	36	18,34	420 x 395 x 345
15/5	75063008	0.5	Barred		15VA	1	36	18,34	420 x 395 x 345
20/5	75063009	0.5	Barred		10VA	1	36	18,74	420 x 395 x 345
20/5	75063010	0.5	Barred		15VA	1	36	18,74	420 x 395 x 345
25/5	75063011	0.5	Barred		10VA	1	36	18,23	420 x 395 x 345
25/5	75063012	0.5	Barred		15VA	1	36	18,23	420 x 395 x 345
30/5	75063013	0.5	Barred		10VA	1	36	21,74	420 x 395 x 345
30/5	75063014	0.5	Barred		15VA	1	36	21,40	420 x 395 x 345
40/5	75063015	0.5	Barred		10VA	1	36	21,11	420 x 395 x 345
40/5	75063016	0.5	Barred		15VA	1	36	20,97	420 x 395 x 345
50/5	75063017	0.5	Barred		10VA	1	36	21,26	420 x 395 x 345
50/5	75063018	0.5	Barred		15VA	1	36	20,90	420 x 395 x 345
60/5	75063019	0.5	Barred		10VA	1	36	22,19	420 x 395 x 345
60/5	75063020	0.5	Barred		15VA	1	36	22,12	420 x 395 x 345
75/5	75063021	0.5	Barred		10VA	1	36	21,62	420 x 395 x 345
75/5	75063022	0.5	Barred		15VA	1	36	21,40	420 x 395 x 345
80/5	75063023	0.5	Barred		10VA	1	36	21,76	420 x 395 x 345
80/5	75063024	0.5	Barred		15VA	1	36	21,47	420 x 395 x 345
100/5	75063025	0.5	Barred		10VA	1	36	21,62	420 x 395 x 345
100/5	75063026	0.5	Barred		15VA	1	36	21,76	420 x 395 x 345
125/5	75063027	0.5	Barred		10VA	1	36	20,90	420 x 395 x 345
125/5	75063028	0.5	Barred		15VA	1	36	20,90	420 x 395 x 345
150/5	75063029	0.5	Barred		10VA	1	36	21,47	420 x 395 x 345
150/5	75063030	0.5	Barred		15VA	1	36	21,33	420 x 395 x 345

## Barrel Sealed Low Voltage Current Transformer

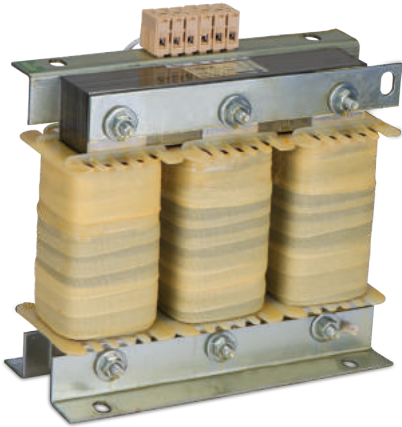
Product Name	Code No.	Class	Maximum Bara		Nominal Power (VA)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
			Dimension (mm)						
<b>MAK B</b>									
30/5	75064000	0.5	Barred		10VA	1	36	-	420 x 395 x 345
40/5	75064001	0.5	Barred		10VA	1	36	-	420 x 395 x 345
50/5	75064002	0.5	Barred		10VA	1	36	-	420 x 395 x 345
60/5	75064003	0.5	Barred		10VA	1	36	-	420 x 395 x 345
75/5	75064004	0.5	Barred		10VA	1	36	-	420 x 395 x 345
80/5	75064005	0.5	Barred		10VA	1	36	-	420 x 395 x 345
100/5	75064006	0.5	Barred		10VA	1	36	-	420 x 395 x 345
125/5	75064007	0.5	Barred		10VA	1	36	-	420 x 395 x 345
150/5	75064008	0.5	Barred		10VA	1	36	-	420 x 395 x 345

## Round Transformer

Product Name	Code No.	Class	Operating frequency	Nominal Power (VA)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
MST 50/5	75065000	1	50 Hz	5 VA	5	140	44,82	570 x 350 x 215
MST 75/5	75065001	1	50 Hz	5 VA	5	140	46,10	570 x 350 x 215
MST 100/5	75065002	1	50 Hz	5 VA	5	140	46,10	570 x 350 x 215
MST 125/5	75065003	1	50 Hz	5 VA	5	140	39,24	570 x 350 x 215
MST 150/5	75065004	1	50 Hz	5 VA	5	140	39,24	570 x 350 x 215
MST 200/5	75065005	1	50 Hz	5 VA	5	140	39,80	570 x 350 x 215
MST 250/5	75065006	1	50 Hz	5 VA	5	140	39,80	570 x 350 x 215
MST 300/5	75065007	1	50 Hz	5 VA	5	140	42,46	570 x 350 x 215
MST 400/5	75065008	1	50 Hz	5 VA	5	140	37,28	570 x 350 x 215
MST 500/5	75065009	1	50 Hz	5 VA	5	140	38,82	570 x 350 x 215
MST 600/5	75065010	1	50 Hz	5 VA	5	140	40,08	570 x 350 x 215
MST 750/5	75065011	1	50 Hz	5 VA	5	80	31,39	670 x 390 x 375
MST 800/5	75065012	1	50 Hz	5 VA	5	80	31,79	670 x 390 x 375
MST 1000/5	75065013	1	50 Hz	5 VA	5	80	33,63	670 x 390 x 375
MST 1250/5	75065014	1	50 Hz	5 VA	5	80	35,39	670 x 390 x 375
MST 1500/5	75065015	1	50 Hz	5 VA	5	30	15,36	670 x 390 x 375
MST 1600/5	75065016	1	50 Hz	5 VA	5	30	15,48	670 x 390 x 375
MST 2000/5	75065017	1	50 Hz	5 VA	5	30	18,66	535 x 395 x 205
MST 2500/5	75065018	1	50 Hz	5 VA	5	30	20,55	535 x 395 x 205

# Shunt Reactor

Shunt reactors are connected in parallel with the system and act as inductive loads. These reactors, which can be produced as monophasic and triphasic, can attract the desired inductive current from the network



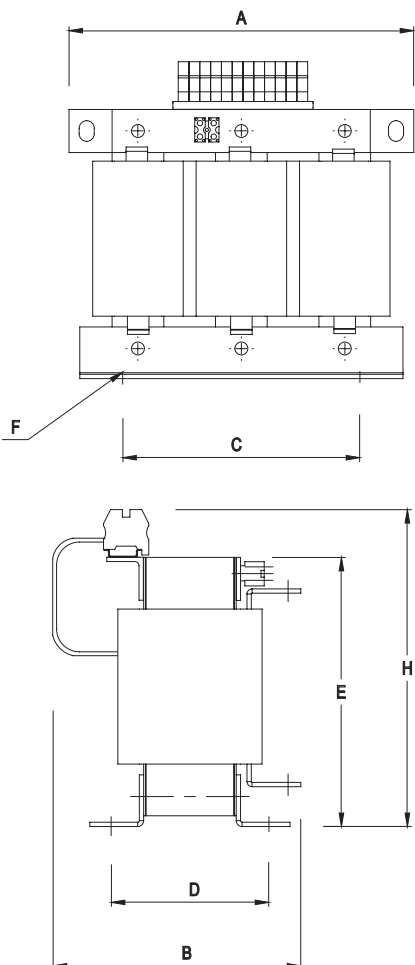
## Shunt Reactors

Reactors can be added to automatic compensation systems to compensate for excessive capacitive power.

The most common applications of shunt reactors are those using long energy transmission and distribution cables. To transmit energy to systems such as radio base stations and radio and TV transmitters, especially in rural areas kilometers long cable must be used. (The cables also have certain capacity values according to their type and characteristics.) In these installations where the load level is low, the system becomes overcompensated due to the capacitive effect of the long cable.

In this case, a continuous capacitive reactive penalty payment is encountered. Also, due to overcompensation, an increase in the mains voltage may occur and sensitive devices may be damaged.

## Technical Dimensions (mm)



### Mono Phase Shunt Reactors

Model No	A	B	C	D	H
MAK ERS1 230/0,1	84	76	64	64	64
MAK ERS1 230/0,25	84	76	64	64	64
MAK ERS1 230/0,5	96	102	84	87	84
MAK ERS1 230/1	150	113	122	89	122
MAK ERS1 230/1,5	150	129	122	104	122
MAK ERS1 230/1,75	150	153	122	128	122
MAK ERS1 230/2,5	192	166	130	148	130

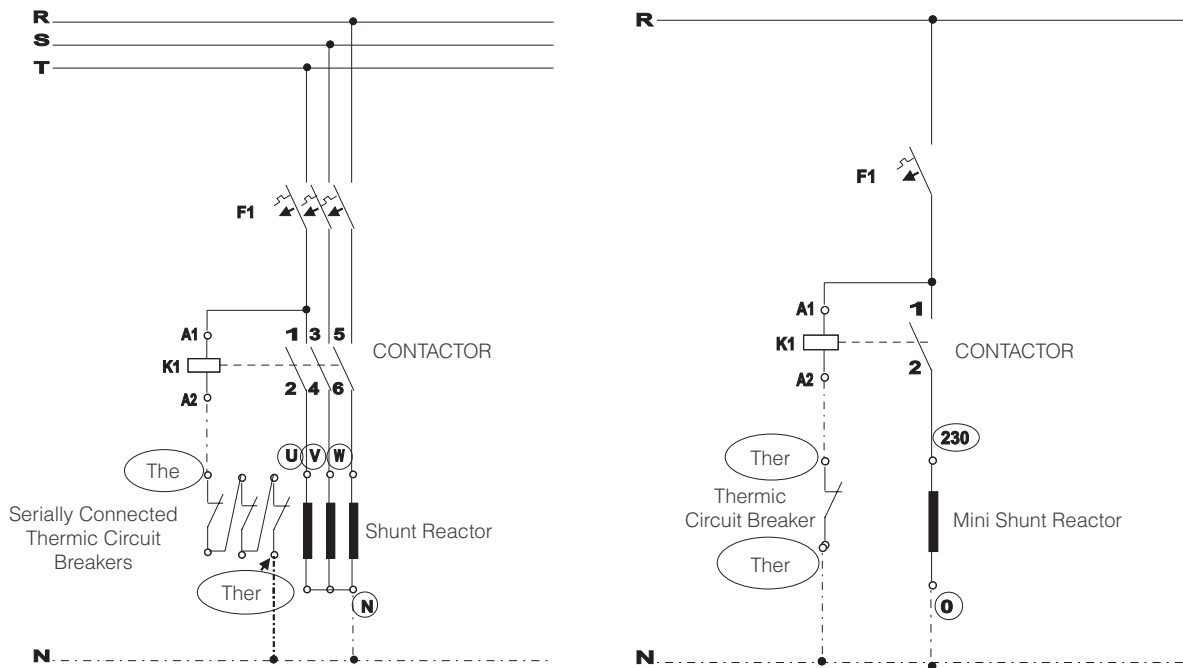
### Three Phase Shunt Reactors

Model No	A	B	C	D	H
MAK ERS3 400/1	180	130	135	84	190
MAK ERS3 400/1,5	180	135	132	94	190
MAK ERS3 400/2	240	150	185	80	240
MAK ERS3 400/2,5	240	120	185	78	240
MAK ERS3 400/3	240	140	185	98	240
MAK ERS3 400/5	300	165	224	120	285
MAK ERS3 400/7,5	300	167	224	130	285
MAK ERS3 400/10	360	195	265	116	300
MAK ERS3 400/12,5	360	210	265	135	300
MAK ERS3 400/15	360	210	265	130	300
MAK ERS3 400/20	420	240	315	175	412
MAK ERS3 400/25	420	255	320	190	420
MAK ERS3 400/30	480	320	400	193	470
MAK ERS3 400/40	480	330	400	220	470
MAK ERS3 400/50	540	340	400	170	530

## General Specifications

- ▶ Single or three-phase, high permeability iron core, air spacing design
- ▶ Electrolytic copper and aluminum wound
- ▶ Current and power required for the design and production
- ▶ Thermal protection against overheating on each leg
- ▶ According to the current terminals, lugs or busbar connection
- ▶ Protection from moisture and ensuring silent work with varnish in vacuum
- ▶ Compliance with EN 61558-1 and EN 61558-2-20 standards, TSE approved and CE marked
- ▶ Production under ISO 9001 quality management system

## Wiring Diagrams



## Common Applications

- ▶ Base stations, transmitter systems and other consumers in rural areas, fed on long transmission lines,
- ▶ The campus covers a large area such as a farm and uses long cables,
- ▶ Inductive load testing systems.



## Technical Specifications

Specifications	MAK-ERS1 230/0.3	MAK-ERS1 230/0.5	MAK-ERS1 230/1	MAK-ERS1 230/1.5
Inductance (mH)	562±5%	338±5%	168±5%	112±5%
Nominal Current (A)	1.30	2.17	4.35	6.50
Thermal Current (A)	1.43	2.39	4.79	7.15
Saturation Peak Current (A <sup>^</sup> )	2	3.3	6.6	10
Nominal Voltage (V)	230	230	230	230
Frequency (Hz)	50	50	50	50
Winding Resistance (mΩ)	7501.3±10%@22C°	3559.5±10%@22C°	1312.5±10%@22C°	611±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	0.3	0.5	1	1.5
Capacitor Type:	0	0	0	0
Winding Losses (W)	17.03	21.45	34.3	34.6
Core Losses (W)	6.52	5.91	20.79	33.69
Total Losses (W)	23.55	27.36	55.09	68.29
Overtemperature protection	132C°	132C°	132C°	132C°
Winding Material	Copper Round Wire	Aluminium Flat Wire	Aluminium Round Wire	Aluminium Round Wire
Connection Type	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Width (mm)	112	128	160	200
Depth (mm)	57.4	70.7	81.6	91.5
Height (mm)	115	125	145	170
Weight (kg)	2	3	5.4	9

Specifications	MAK-ERS1 230/2	MAK-ERS1 230/2.5	MAK-ERS1 230/5	MAK-ERS1 230/0.1
Inductance (mH)	84.2±5%	67.4±5%	33.7±5%	1661±5%
Nominal Current (A)	8.70	10.90	21.70	0.43
Thermal Current (A)	9.57	11.99	23.87	0.47
Saturation Peak Current (A <sup>^</sup> )	13.5	16.8	33.7	0.63
Nominal Voltage (V)	230	230	230	230
Frequency (Hz)	50	50	50	50
Winding Resistance (mΩ)	443.6±10%@22C°	328.7±10%@22C°	202.3±10%@22C°	63352.5±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	2	2.5	5	0.1
Capacitor Type:	0	0	0	0
Winding Losses (W)	46.23	54.04	132.7	15.38
Core Losses (W)	43.86	35.19	44.36	2.1
Total Losses (W)	90.09	89.23	177.06	17.48
Overtemperature protection	132C°	132C°	132C°	132C°
Winding Material	Aluminium Round Wire	Aluminium Round Wire	Aluminium Flat Wire	Copper Round Wire
Connection Type	Terminal Block	Terminal Block	DIN Rail Block	Terminal Block
Width (mm)	200	200	300	112
Depth (mm)	117.5	117.5	110	43.4
Height (mm)	170	170	320	115
Weight (kg)	12.3	12.5	17.1	1.2

Specifications	MAK-ERS1 230/0.25	MAK-ERS1 230/7.5	MAK-ERS1 230/10	MAK-ERS3 400/40
Inductance (mH)	672±5%	22.5±5%	16.8±5%	12.6±5%
Nominal Current (A)	1.09	32.60	43.50	58.00
Thermal Current (A)	1.2	35.86	47.85	63.8
Saturation Peak Current (A <sup>^</sup> )	1.6	51	68	83
Nominal Voltage (V)	230	230	230	400
Frequency (Hz)	50	50	50	50
Winding Resistance (mΩ)	11590.7±10%@22C°	96.5±10%@22C°	70.9±10%@22C°	23±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	0.3	7.5	10	40.2
Capacitor Type:	0	0	0	0
Winding Losses (W)	18.58	145.56	190.75	328.43
Core Losses (W)	5.69	65.76	76.34	192.7
Total Losses (W)	24.27	211.32	267.09	521.13
Overtemperature protection	132C°	132C°	132C°	
Winding Material	Copper Round Wire	Aluminium Flat Wire	Aluminium Flat Wire	Aluminium Flat Wire
Connection Type	Terminal Block	DIN Rail Block	DIN Rail Block	Bar
Width (mm)	112	300	360	480
Depth (mm)	57.4	142	123	311
Height (mm)	115	320	370	405
Weight (kg)	1.9	26.3	27.3	119.4

Specifications	MAK-ERS3 400/0.5	MAK-ERS3 400/1	MAK-ERS3 400/1.5	MAK-ERS3 400/2
Inductance (mH)	1020±5%	505±5%	336±5%	252±5%
Nominal Current (A)	0.72	1.45	2.18	2.90
Thermal Current (A)	0.79	1.6	2.4	3.19
Saturation Peak Current (A <sup>^</sup> )	1.21	2.2	3.3	4.5
Nominal Voltage (V)	400	400	400	400
Frequency (Hz)	50	50	50	50
Winding Resistance (mΩ)	18694.8±10%@22C°	4171.3±10%@22C°	4167.7±10%@22C°	2550.7±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	0.5	1	1.5	2
Capacitor Type:	0	0	0	0
Winding Losses (W)	39.82	34.53	87.78	91.33
Core Losses (W)	13.39	22.53	26.85	74.02
Total Losses (W)	53.21	57.06	114.63	165.35
Overtemperature protection	132C°	132C°	132C°	132C°
Winding Material	Aluminium Round Wire	Aluminium Round Wire	Aluminium Round Wire	Aluminium Round Wire
Connection Type	Terminal Block	Lug	Terminal Block	Terminal Block
Width (mm)	150	180	180	240
Depth (mm)	51.5	71.4	90	80.8
Height (mm)	170	155	195	245
Weight (kg)	3.1	6.7	9.1	11.4

## Technical Specifications

Specifications	MAK-ERS3 400/2.5	MAK-ERS3 400/3	MAK-ERS3 400/5	MAK-ERS3 400/7.5
Inductance (mH)	203±5%	170±5%	102±5%	68±5%
Nominal Current (A)	3.62	4.33	7.21	10.80
Thermal Current (A)	3.98	4.76	7.93	11.88
Saturation Peak Current (A <sup>^</sup> )	5.2	6.21	12.2	16
Nominal Voltage (V)	400	400	400	400
Frequency (Hz)	50	50	50	50
Winding Resistance (mΩ)	1437.4±10%@22C°	859.4±10%@22C°	702±10%@22C°	334.3±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	2.5	3	5	7.5
Capacitor Type:	0	0	0	0
Winding Losses (W)	79.64	68	148.47	163.4
Core Losses (W)	78.57	89.9	33.08	54.33
Total Losses (W)	158.21	157.9	181.55	217.73
Overtemperature protection	132C°		132C°	
Winding Material	Aluminium Round Wire	Aluminium Round Wire	Aluminium Round Wire	Aluminium Round Wire
Connection Type	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Width (mm)	240	240	300	300
Depth (mm)	80.8	90.8	102	120
Height (mm)	245	245	295	295
Weight (kg)	11.8	15	23.3	30.8

Specifications	MAK-ERS3 400/10	MAK-ERS3 400/12.5	MAK-ERS3 400/15	MAK-ERS3 400/20
Inductance (mH)	51±5%	40±5%	33.8±5%	25.5±5%
Nominal Current (A)	14.40	18.10	21.70	29.00
Thermal Current (A)	15.84	19.91	23.87	31.9
Saturation Peak Current (A <sup>^</sup> )	21	27	32	41
Nominal Voltage (V)	400	400	400	400
Frequency (Hz)	50	50	50	50
Winding Resistance (mΩ)	203.1±10%@22C°	140.5±10%@22C°	99.4±10%@22C°	66.1±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	10	12.5	15	20.1
Capacitor Type:	0	0	0	0
Winding Losses (W)	181.27	188.44	200.01	233.58
Core Losses (W)	65	85.1	93.26	144.19
Total Losses (W)	246.27	273.54	293.27	377.77
Overtemperature protection	132C°	132C°		132C°
Winding Material	Aluminium Round Wire	Aluminium Flat Wire	Aluminium Flat Wire	Aluminium Round Wire
Connection Type	DIN Rail Block	Bar	Bar	Bar
Width (mm)	300	360	360	420
Depth (mm)	140	266	269	288.5
Height (mm)	320	305	305	355
Weight (kg)	39.9	49.2	53.9	76.4

Specifications	MAK-ERS3 400/25 kVAr	MAK-ERS3 400/30	MAK-ERS3 400/50
Inductance (mH)	20±5%	17±5%	10±5%
Nominal Current (A)	36.20	43.30	72.50
Thermal Current (A)	39.82	47.63	79.75
Saturation Peak Current (A <sup>^</sup> )	55	61.2	105
Nominal Voltage (V)	400	400	400
Frequency (Hz)	50	50	50
Winding Resistance (mΩ)	46.2±10%@22C°	43.7±10%@22C°	20.7±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	25.1	30	50.2
Capacitor Type:	0	0	0
Winding Losses (W)	264.39	355.35	468.77
Core Losses (W)	161.41	144.49	234.91
Total Losses (W)	425.8	499.84	703.68
Overtemperature protection	132C°	132C°	132C°
Winding Material	Aluminium Flat Wire	Aluminium Flat Wire	Aluminium Flat Wire
Connection Type	Bar	Bar	Bar
Width (mm)	420	420	540
Depth (mm)	295.5	277.9	333.5
Height (mm)	355	355	455
Weight (kg)	88.3	92.9	167.3

Product Name	Code No.	Class	Operating Voltage (V)	Power (kVAr)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
MAK-ERS1	77000016	230V	230/0.1	1P	1	-	1,20	137 x 117 x 129
MAK-ERS1	77000017	230V	230/0.25	1P	1	-	1,90	137 x 117 x 129
MAK-ERS1	77000101	230V	230/0.3	1P	1	-	2,00	137 x 117 x 129
MAK-ERS1	77000018	230V	230/0.5	1P	1	-	3,10	137 x 117 x 129
MAK-ERS1	77000019	230V	230/1	1P	1	-	5,40	172 x 172 x 180
MAK-ERS1	77000020	230V	230/1.5	1P	1	-	9,22	172 x 172 x 180
MAK-ERS1	77000021	230V	230/2.5	1P	1	-	12,50	172 x 172 x 180
MAK-ERS1	77000022	230V	230/5	1P	-	-	17,10	128 x 71 x 125
MAK-ERS1	77000102	230V	230/7.5	1P	-	-	26,30	300 x 142 x 320
MAK-ERS1	77000103	230V	230/10	1P	-	-	27,30	360 x 123 x 370
MAK-ERS3	77000000	400V	400/0.5	3P	1	-	4,28	172 x 172 x 180
MAK-ERS3	77000001	400V	400/1	3P	-	1	7,04	215 x 190 x 265
MAK-ERS3	77000002	400V	400/1.5	3P	-	-	9,54	172 x 172 x 180
MAK-ERS3	77000003	400V	400/2	3P	-	1	11,40	170 x 285 x 310
MAK-ERS3	77000004	400V	400/2.5	3P	-	1	12,18	170 x 285 x 310
MAK-ERS3	77000005	400V	400/3	3P	-	1	15,00	170 x 285 x 310
MAK-ERS3	77000006	400V	400/5	3P	-	1	21,82	245 x 335 x 355
MAK-ERS3	77000007	400V	400/7.5	3P	-	1	30,80	245 x 335 x 355
MAK-ERS3	77000008	400V	400/10	3P	-	-	38,62	300 x 140 x 320
MAK-ERS3	77000009	400V	400/12.5	3P	-	-	49,20	360 x 266 x305
MAK-ERS3	77000010	400V	400/15	3P	-	-	53,90	360 x 269 x 305
MAK-ERS3	77000011	400V	400/20	3P	-	-	76,40	420 x 288 x 355
MAK-ERS3	77000012	400V	400/25	3P	-	-	88,30	420 x 295 x 355
MAK-ERS3	77000013	400V	400/30	3P	-	-	92,90	420 x 278 x 355
MAK-ERS3	77000014	400V	400/40	3P	-	-	119,40	480 x 311 x 405
MAK-ERS3	77000015	400V	400/50	3P	-	-	167,30	540 x 333 x 455



Harmonic Filter Reactors, Capacitors in Filter Compensation Systems  
By using harmonic filter reactors in compensation systems, the following problems encountered in harmonic systems are solved

- ▶ Overcurrent pulling at the moment when the capacitors are switched on
- ▶ The excessive increase of currents due to harmonic resonance condition and overloading of capacitors
- ▶ Condenser breakdown in a short time
- ▶ Loads of lines due to overcurrents, warming on wires
- ▶ Opening the protective elements as untimely
- ▶ Harmonics cause excessive distortion of mains voltage, therefore problems experienced in sensitive devices
- ▶ Developments in communication systems
- ▶ Unexplained problems and failures in electronic cards, devices and computers

## Selection of Suitable Harmonic Filter Reactor

The choice of harmonic filter reactors and power capacitors is of great importance in filter-based compensation systems. The following points are important during the selection of the capacitor and the reactor in order to obtain the expected performance from the installed filter compensation system.

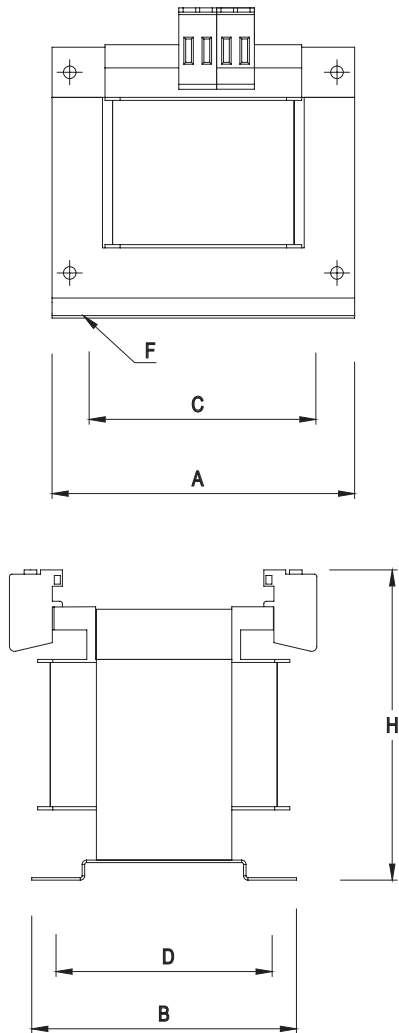
- ▶ The resonance frequency of the filter compensation system is selected according to the harmonics in the system
- ▶ Since the terminal voltages of the condensers will be higher than the mains voltage with the use of the reactors, the nominal voltage of the capacitors to be used is determined according to the selected resonance frequency
- ▶ High-voltage capacitors and harmonic filter reactors, which use compensation power in filter-based compensation systems, are different from the sum of capacitor and capacitor due to their reasons.
- ▶ For this reason, the compensation power of the filtered system should be calculated. Otherwise, an incomplete compensation state may be encountered.
- ▶ To participate in the calculation of the additional temperature increases due to the reactors in the filter compensation panels to be installed and taking necessary measures in the panel.

Harmonics	$U_3 = 0,5\% U_R$
	$U_5 = 5,0\% U_R$
	$U_7 = 5,0\% U_R$
	$U_{11} = 3,5\% U_R$
	$U_{13} = 3,0\% U_R$

Nominal Current  $I_{rms} = \sqrt{(I_1^2 + I_3^2 \dots I_{13}^2)}$



## Technical Dimensios (mm)



$p=7$  189Hz 400V/50Hz

Model No	A	B	C	D	E	F	H
ERH 7/400/2,5	105	50	75	42	-	5x10	120
ERH 7/400/6,25	150	100	110	70	-	5x10	160
ERH 7/400/10	180	115	135	78	-	5x10	195
ERH 7/400/12,5	180	140	135	94	-	5x10	190
ERH 7/400/20	225	117	176	74	-	5x10	260
ERH 7/400/25	240	155	185	100	210	10x15	-
ERH 7/400/40	220	140	200	100	247	10x15	-
ERH 7/400/50	253	180	200	120	247	10x15	-
ERH 7/400/75	300	185	224	124	310	10x15	-
ERH 7/400/100	360	210	267	136	310	10x15	-

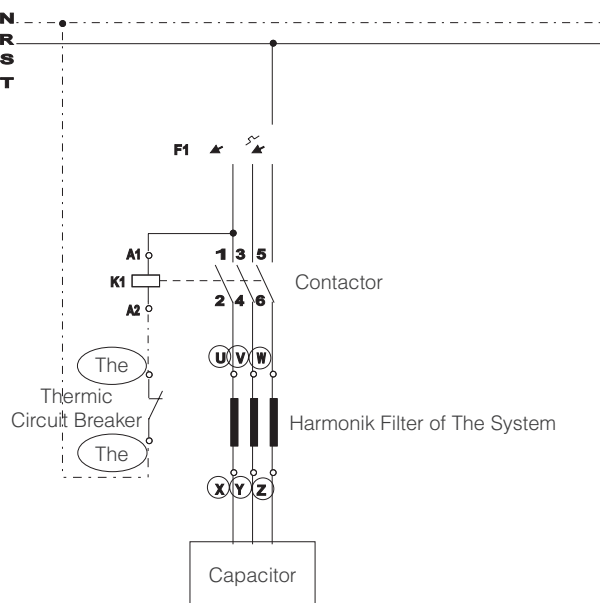
$p=5,67$  210Hz 400V/50Hz

Model No	A	B	C	D	E	F	H
ERH 5,67/400/2,5	120	60	95	52	-	5x10	120
ERH 5,67/400/6,25	180	94	135	74	-	5x10	150
ERH 5,67/400/10	180	105	135	85	-	5x10	181
ERH 5,67/400/12,5	180	115	135	94	-	5x10	181
ERH 5,67/400/20	200	105	185	80	-	10x15	252
ERH 5,67/400/25	200	125	185	100	-	10x15	252
ERH 5,67/400/40	220	150	200	110	247	10x15	-
ERH 5,67/400/50	250	154	224	119	252	10x15	-
ERH 5,67/400/75	300	148	224	114	310	10x15	-
ERH 5,67/400/100	360	166	264	134	310	10x15	-

$p=14$  134Hz 400V/50Hz

Model No	A	B	C	D	E	F	H
ERH 14/400/2,5	150	90	110	70	-	5x10	151
ERH 14/400/6,25	180	105	135	85	-	5x10	181
ERH 14/400/10	180	115	135	94	-	5x10	181
ERH 14/400/12,5	228	120	175	78	-	10x15	220
ERH 14/400/20	200	125	185	100	-	10x15	252
ERH 14/400/25	265	155	200	110	220	10x15	-
ERH 14/400/40	300	200	224	116	250	10x15	-
ERH 14/400/50	300	220	224	135	255	10x15	-
ERH 14/400/75	360	166	264	138	310	10x15	-
ERH 14/400/100	360	193	264	174	310	10x15	-

## Wiring Diagrams



## Technical Specifications

Specifications	MAK-ERH 5.67/400/100K	MAK-ERH 5.67/400/2.5	MAK-ERH 5.67/400/5K	MAK-ERH 5.67/400/10K
Inductance (mH)	0.31±5%	12.3±5%	6.12±5%	3.06±5%
Nominal Current (A)	167.67	4.18	8.39	16.79
Thermal Current (A)	184.44	4.6	9.23	18.47
Saturation Peak Current (A <sup>^</sup> )	351	9.24	18.5	37
Nominal Voltage (V)	400	400	400	400
Frequency (Hz)	50	50	50	50
Winding Resistance (mΩ)	1.5±10%@22C°	634.7±10%@22C°	231.7±10%@22C°	70.3±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	5.67	5.67	5.67	5.67
Capacitor Type:	0	0	0	0
Winding Losses (W)	218.63	45.98	66.65	82.01
Core Losses (W)	212.35	15.4	10.43	21.55
Total Losses (W)	430.98	61.38	77.08	103.56
Overtemperature protection		132C°	132C°	132C°
Winding Material	Aluminium Foil	Aluminium Round Wire	Aluminium Round Wire	Aluminium Round Wire
Connection Type	Lug	Terminal Block	Terminal Block	Terminal Block
Width (mm)	360	120	150	180
Depth (mm)	149	51	51.5	61.5
Height (mm)	305	145	170	195
Weight (kg)	42.8	2.1	2.9	5.1

Specifications	MAK-ERH 5.67/400/12.5	MAK-ERH 5.67/400/20K	MAK-ERH 5.67/400/25K	MAK-ERH 5.67/400/30K	MAK-ERH 5.67/400/40K
Inductance (mH)	2.33±5%	1.53±5%	1.22±5%	1.02±5%	0.765±5%
Nominal Current (A)	22.09	33.63	42.02	50.41	67.15
Thermal Current (A)	24.3	36.99	46.22	55.45	73.87
Saturation Peak Current (A <sup>^</sup> )	46.2	74.2	84.7	115	140
Nominal Voltage (V)	400	400	400	400	400
Frequency (Hz)	50	50	50	50	50
Winding Resistance (mΩ)	30.7±10%@22C°	15±10%@22C°	11.4±10%@22C°	11.7±10%@22C°	6.9±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	5.67	5.67	5.67	5.67	5.67
Capacitor Type:	0	0	0	0	0
Winding Losses (W)	61.35	80.84	93.22	132.45	140.81
Core Losses (W)	25.33	39.09	53.27	53.47	72.3
Total Losses (W)	86.68	119.93	146.49	185.92	213.11
Overtemperature protection	132C°	132C°	132C°	132C°	132C°
Winding Material	Aluminium Flat Wire	Aluminium Foil	Aluminium Foil	Aluminium Foil	Aluminium Foil
Connection Type	DIN Rail Block	Bar	Bar	Bar	Bar
Width (mm)	180	240	240	240	240
Depth (mm)	81.3	185.8	195.8	205.8	237
Height (mm)	220	205	205	205	205
Weight (kg)	8.3	12.2	14.3	16.9	18.7

Specifications	MAK-ERH 5.67/400/50K	MAK-ERH 5.67/400/75K	MAK-ERH 7/400/0.5	MAK-ERH 7/400/0.83K	MAK-ERH-E50 7/400/1
Inductance (mH)	0.58±5%	0.41±5%	76.7±5%	43.2±5%	38.4±5%
Nominal Current (A)	88.35	125.74	0.81	1.43	1.60
Thermal Current (A)	97.18	138.32	0.89	1.57	1.76
Saturation Peak Current (A <sup>^</sup> )	185	308	1.75	3	3.5
Nominal Voltage (V)	400	400	400	400	400
Frequency (Hz)	50	50	50	50	50
Winding Resistance (mΩ)	3.9±10% <sup>@22C°</sup>	2±10% <sup>@22C°</sup>	8786.3±10% <sup>@22C°</sup>	2112±10% <sup>@22C°</sup>	2613.7±10% <sup>@22C°</sup>
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	5.67	5.67	7	7	7.27
Capacitor Type:	0	0	0	0	0
Winding Losses (W)	140.81	158.41	21.67	15.84	25.46
Core Losses (W)	97.42	162.16	2.84	6.17	4.91
Total Losses (W)	238.23	320.57	24.51	22.01	30.37
Overtemperature protection	132C°	132C°	132C°	132C°	132C°
Winding Material	Aluminium Foil	Aluminium Foil	Copper Round Wire	Copper Round Wire	Copper Round Wire
Connection Type	Bar	Bar	Terminal Block	Terminal Block	Terminal Block
Width (mm)	264	360	120	120	120
Depth (mm)	219	254	41	67	41
Height (mm)	242.6	305	145	145	145
Weight (kg)	25.9	42.7	1.4	1.5	1.5

Specifications	MAK-ERH 7/400/1.5K	MAK-ERH 7/400/1.25K	MAK-ERH 7/400/2.5K	MAK-ERH 7/400/5K
Inductance (mH)	25.6±5%	30.7±5%	15.3±5%	7.66±5%
Nominal Current (A)	2.29	2.05	3.80	7.60
Thermal Current (A)	2.52	2.25	4.18	8.36
Saturation Peak Current (A <sup>^</sup> )	4.41	4.4	8	14.7
Nominal Voltage (V)	400	400	400	400
Frequency (Hz)	50	50	50	50
Winding Resistance (mΩ)	1507.3±10% <sup>@22C°</sup>	1776.2±10% <sup>@22C°</sup>	555.9±10% <sup>@22C°</sup>	176.6±10% <sup>@22C°</sup>
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	7	7	7	7
Capacitor Type:	0	0	0	0
Winding Losses (W)	31.13	29.2	32.29	40.91
Core Losses (W)	6.52	6.35	10.57	27.93
Total Losses (W)	37.65	35.55	42.86	68.84
Overtemperature protection	132C°	132C°	132C°	132C°
Winding Material	Copper Round Wire	Copper Round Wire	Aluminium Round Wire	Aluminium Round Wire
Connection Type	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Width (mm)	120	120	120	150
Depth (mm)	41	41	85	51.5
Height (mm)	145	145	145	170
Weight (kg)	1.5	1.5	1.6	3.1

## Technical Specifications

Specifications	MAK-ERH 7/400/6.25K	MAK-ERH 7/400/10K	MAK-ERH 7/400/12.5K	MAK-ERH 7/400/15K
Inductance (mH)	6.13±5%	3.83±5%	3.07±5%	2.55±5%
Nominal Current (A)	9.51	15.21	19.11	22.91
Thermal Current (A)	10.46	16.73	21.02	25.2
Saturation Peak Current (A <sup>^</sup> )	18.4	28	36.8	42
Nominal Voltage (V)	400	400	400	400
Frequency (Hz)	50	50	50	50
Winding Resistance (mΩ)	156.7±10%@22C°	72±10%@22C°	46.7±10%@22C°	36.7±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	7	7	7	7
Capacitor Type:	0	0	0	0
Winding Losses (W)	56.65	68.1	70.5	82.14
Core Losses (W)	38.89	12.95	14.92	21.55
Total Losses (W)	95.54	81.05	85.42	103.69
Overtemperature protection	132C°	132C°	132C°	132C°
Winding Material	Aluminium Round Wire	Aluminium Round Wire	Aluminium Round Wire	Aluminium Foil
Connection Type	Terminal Block	Terminal Block	DIN Rail Block	Bar
Width (mm)	180	180	180	180
Depth (mm)	61.5	105	71.4	195
Height (mm)	195	190	220	155
Weight (kg)	4.8	5.1	6.9	9.2

Specifications	MAK-ERH 7/400/20K	MAK-ERH 7/400/25K	MAK-ERH 7/400/30K	MAK-ERH 7/400/40K	MAK-ERH 7/400/50K
Inductance (mH)	1.92±5%	1.53±5%	1.3±5%	0.95±5%	0.767±5%
Nominal Current (A)	30.63	38.13	45.72	60.94	76.26
Thermal Current (A)	33.7	41.94	50.3	67.04	83.89
Saturation Peak Current (A <sup>^</sup> )	58.8	74	85	117	147
Nominal Voltage (V)	400	400	400	400	400
Frequency (Hz)	50	50	50	50	50
Winding Resistance (mΩ)	19.6±10%@22C°	15.3±10%@22C°	16.7±10%@22C°	7.9±10%@22C°	6.3±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	7	7	7.11	7	7
Capacitor Type:	0	0	0	0	Not-Present
Winding Losses (W)	76.15	97.87	159.97	128.51	163.39
Core Losses (W)	25.8	27.35	30.61	44.19	58.42
Total Losses (W)	101.95	125.22	190.58	172.7	221.81
Overtemperature protection	132C°	132C°	132C°	132C°	132C°
Winding Material	Aluminium Foil	Aluminium Foil	Aluminium Foil	Aluminium Foil	Aluminium Foil
Connection Type	Bar	Bar	Bar	Bar	Bar
Width (mm)	240	240	240	240	264
Depth (mm)	185.8	185.8	211.8	231.8	230
Height (mm)	205	205	205	205	242.6
Weight (kg)	11.7	12.2	12.7	17.6	21.2

Specifications	MAK-ERH 7/400/75K	MAK-ERH 7/400/80K	MAK-ERH 7/400/100K	MAK-ERH 14/400/2.5	MAK-ERH 14/400/5K
Inductance (mH)	0.51±5%	0.48±5%	0.383±5%	33.1±5%	16.6±5%
Nominal Current (A)	114.11	121.51	153.10	3.83	7.26
Thermal Current (A)	125.52	133.67	168.41	4.21	7.99
Saturation Peak Current (A <sup>^</sup> )	221	235	294	6.5	12.2
Nominal Voltage (V)	400	400	400	400	400
Frequency (Hz)	50	50	50	50	50
Winding Resistance (mΩ)	3.4±10%@22C°	2.4±10%@22C°	2±10%@22C°	788.7±10%@22C°	263.1±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	7	7	7	14	14
Capacitor Type:	0	0	0	0	0
Winding Losses (W)	207.69	169.87	223.54	47.18	55.92
Core Losses (W)	81.53	87.07	130.27	4.34	18.96
Total Losses (W)	289.22	256.94	353.81	51.52	74.88
Overtemperature protection	132C°	132C°	132C°	132C°	132C°
Winding Material	Aluminium Foil	Aluminium Foil	Aluminium Foil	Aluminium Round Wire	Aluminium Round Wire
Connection Type	Bar	Bar	Bar	Terminal Block	Terminal Block
Width (mm)	300	300	360	150	150
Depth (mm)	241	246	195	51.5	66.5
Height (mm)	255	255	310	170	170
Weight (kg)	27.9	31.3	42	2.9	4.6

Specifications	MAK-ERH 14/400/10K	MAK-ERH 14/400/20K	MAK-ERH 14/400/30K	MAK-ERH 14/400/40K	MAK-ERH 14/400/60K
Inductance (mH)	8.3±5%	4.14±5%	2.76±5%	2.07±5%	1.38±5%
Nominal Current (A)	14.49	29.08	43.57	58.06	87.13
Thermal Current (A)	15.94	31.99	47.93	63.87	95.85
Saturation Peak Current (A <sup>^</sup> )	24.4	53.2	73.2	97.5	133
Nominal Voltage (V)	400	400	400	400	400
Frequency (Hz)	50	50	50	50	50
Winding Resistance (mΩ)	119.9±10%@22C°	54.8±10%@22C°	15.7±10%@22C°	9.5±10%@22C°	5.9±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	14	14	14	14	14
Capacitor Type:	0	0	0	0	0
Winding Losses (W)	103.95	196.78	136.77	145.46	199.63
Core Losses (W)	11.67	38.13	35.06	46.65	68.57
Total Losses (W)	115.62	234.91	171.83	192.11	268.2
Overtemperature protection	132C°	132C°	132C°	132C°	132C°
Winding Material	Aluminium Round Wire	Aluminium Flat Wire	Aluminium Foil	Aluminium Foil	Aluminium Foil
Connection Type	Terminal Block	DIN Rail Block	Bar	Bar	Bar
Width (mm)	180	240	264	300	300
Depth (mm)	81.3	116.8	219	220	273
Height (mm)	195	270	242.6	255	255
Weight (kg)	8.1	14.6	25.9	29.9	41.1



## Technical Specifications

Specifications	MAK-ERH 14/400/12.5K	MAK-ERH 14/400/25K	MAK-ERH 14/400/50K
Inductance (mH)	6.63±5%	3.3±5%	1.66±5%
Nominal Current (A)	18.11	36.32	72.65
Thermal Current (A)	19.92	39.96	79.91
Saturation Peak Current (A <sup>^</sup> )	30.5	61	122
Nominal Voltage (V)	400	400	400
Frequency (Hz)	50	50	50
Winding Resistance (mΩ)	62.8±10%@22C°	21.7±10%@22C°	9.2±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	ta 40C°/F
Varnish Type	Vacuum Impregnated Varnish	Vacuum Impregnated Varnish	Vacuum Impregnated Varnish
Isolation Level	3000VAC/1 min	3000VAC/1 min	3000VAC/1 min
Harmonic Loading	Acc. En 61000-2-2 THDU<%6	Acc. En 61000-2-2 THDU<%6	Acc. En 61000-2-2 THDU<%6
Relevant Standard	EN 61558-2-20; EN 60076-6	EN 61558-2-20; EN 60076-6	EN 61558-2-20; EN 60076-6
Filtering Factor p(%)	14	14	14
Capacitor Type	0	0	0
Winding Losses (W)	83.06	125.16	220.93
Core Losses (W)	13.7	26.94	56.45
Total Losses (W)	96.76	152.1	277.38
Overtemperature protection	132°C on Middle Coil	132°C on Middle Coil	132°C on Middle Coil
Winding Material	Aluminium Round Wire	Aluminium Foil	Aluminium Foil
Connection Type	Terminal Block	Bar	Bar
Width (mm)	180	240	300
Depth (mm)	90	237	251
Height (mm)	195	205	255
Weight (kg)	9.7	19.4	31.8

Specifications	MAK-ERH 14/400/100K	MAK-ERH1 7/230/000.50	MAK-ERH1 7/230/1	MAK-ERH1 7/230/1.5	MAK-ERH1 7/230/2.5
Inductance (mH)	0.829±5%	25.1±5%	4.84	8.43±5%	5.1±5%
Nominal Current (A)	144.90	2.44	5.33	7.27	12.18
Thermal Current (A)	159.39	2.68	10.1	7.99	13.4
Saturation Peak Current (A <sup>^</sup> )	242	5.1	230	15.2	25.4
Nominal Voltage (V)	400	230	50	230	230
Frequency (Hz)	50	50	529,5±10%@22C°	50	50
Winding Resistance (mΩ)	3.2±10%@22C°	1143.3±10%@22C°	ta 40C°/F	236±10%@22C°	139.6±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F	EN 61558-2-20	ta 40C°/B	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20	7	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	14	7	0	7	7
Capacitor Type:	0	0	16.78	0	0
Winding Losses (W)	320.4	8.97	4.98	16.6	28.16
Core Losses (W)	105.22	3.17	21.76	7.82	13.34
Total Losses (W)	425.62	12.14	132C°	24.42	41.5
Overtemperature protection	132C°	132C°	Aluminium Round	132C°	132C°
Winding Material	Aluminium Foil	Copper Round Wire	Wire	Aluminium Round Wire	Aluminium Round Wire
Connection Type	Bar	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Width (mm)	360	88	112	112	128
Depth (mm)	284	34.1	43.4	65.8	87.4
Height (mm)	305	100	115	115	125
Weight (kg)	61.2	0.6	1.7	2.9	2.5

Specifications	MAK-ERH1 7/230/5	MAK-ERH 7/230/10
Inductance (mH)	2.5±5%	1.27±5%
Nominal Current (A)	24.26	48.42
Thermal Current (A)	26.68	53.26
Saturation Peak Current (A <sup>^</sup> )	51	101
Nominal Voltage (V)	230	230
Frequency (Hz)	50	50
Winding Resistance (mΩ)	35.3±10%@22C°	10.4±10%@22C°
Isolation Class	ta 40C°/F	ta 40C°/F
Relevant Standard	EN 61558-2-20	EN 61558-2-20
Filtering Factor p(%)	7	7
Capacitor Type:	0	0
Winding Losses (W)	29.25	35.88
Core Losses (W)	22.22	29.66
Total Losses (W)	51.47	65.54
Overtemperature protection	132C°	132C°
Winding Material	Aluminium Flat Wire	Aluminium Flat Wire
Connection Type	Lug	Lug
Width (mm)	160	200
Depth (mm)	81.6	74.7
Height (mm)	105	130
Weight (kg)	7.2	6.9

# Harmonic Filter

Code No.	Product Name	p	Resonance Frequency (Hz)	Operating Voltage (Hz)	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
77000023	14/400/2.5	%14	134	400/50	1	-	2,3	137 x 152 x 162
77000092	14/400/5	%14	134	400/50	1	-	4,6	172 x 172 x 180
77000024	14/400/6.5	%14	134	400/50	-	1	7	215 x 190 x 265
77000025	14/400/10	%14	134	400/50	-	1	8,1	215 x 190 x 265
77000026	14/400/12.5	%14	134	400/50	-	1	9,7	170 x 285 x 310
77000027	14/400/20	%14	134	400/50	-	1	14,6	230 x 280 x 305
77000028	14/400/25	%14	134	400/50	-	1	19,4	230 x 280 x 305
77000093	14/400/30	%14	134	400/50	-	1	18	230 x 280 x 305
77000029	14/400/40	%14	134	400/50	-	1	29,9	200 x 285 x 310
77000030	14/400/50	%14	134	400/50	-	1	31,8	200 x 285 x 310
77000094	14/400/60	%14	134	400/50	-	1	41,1	200 x 285 x 310
77000031	14/400/75	%14	134	400/50	-	1	48,5	245 x 335 x 355
77000032	14/400/100	%14	134	400/50	-	1	61,2	245 x 335 x 355
77000104	7/400/0,5	%7	189	400/50	1	-	1,4	137 x 152 x 162
77000033	7/400/0.83	%7	189	400/50	1	-	1,5	137 x 152 x 162
77000105	7/400/1,0	%7	189	400/50	1	-	1,5	137 x 152 x 162
77000034	7/400/1.25	%7	189	400/50	1	-	1,5	137 x 152 x 162
77000035	7/400/1.5	%7	189	400/50	1	-	1,5	137 x 152 x 162
77000036	7/400/2.5	%7	189	400/50	1	-	1,84	137 x 152 x 162
77000037	7/400/5	%7	189	400/50	1	-	3,1	172 x 172 x 180
77000038	7/400/6.25	%7	189	400/50	-	1	5,14	215 x 190 x 265
77000039	7/400/10	%7	189	400/50	-	1	5,2	215 x 190 x 265
77000040	7/400/12.5	%7	189	400/50	-	1	7,28	215 x 190 x 265
77000089	7/400/15	%7	189	400/50	-	1	9,2	215 x 190 x 265
77000041	7/400/20	%7	189	400/50	-	1	11,3	170 x 285 x 310
77000042	7/400/25	%7	189	400/50	-	1	12,92	170 x 285 x 310
77000090	7/400/30	%7	189	400/50	-	1	12,7	170 x 285 x 310
77000043	7/400/40	%7	189	400/50	-	1	17,6	170 x 285 x 310
77000044	7/400/50	%7	189	400/50	-	1	21,2	170 x 285 x 310
77000045	7/400/75	%7	189	400/50	-	1	27,9	230 x 280 x 305
77000091	7/400/80	%7	189	400/50	-	1	31,3	230 x 280 x 305
77000046	7/400/100	%7	189	400/50	-	1	41,46	200 x 285 x 310
77000047	5.67/400/2.5	%5,67	210	400/50	1	-	2,1	137 x 152 x 162
77000086	5.67/400/5	%5,67	210	400/50	1	-	2,9	172 x 172 x 180
77000048	5.67/400/6.25	%5,67	210	400/50	-	1	3,4	215 x 190 x 265
77000049	5.67/400/10	%5,67	210	400/50	-	1	5,1	215 x 190 x 265
77000050	5.67/400/12.5	%5,67	210	400/50	-	1	8,3	215 x 190 x 265
77000051	5.67/400/20	%5,67	210	400/50	-	1	12,2	170 x 285 x 310
77000052	5.67/400/25	%5,67	210	400/50	-	1	14,3	170 x 285 x 310
77000087	5.67/400/30	%5,67	210	400/50	-	1	16,9	170 x 285 x 310
77000053	5.67/400/40	%5,67	210	400/50	-	1	18,7	230 x 280 x 305
77000054	5.67/400/50	%5,67	210	400/50	-	1	25,9	230 x 280 x 305
77000088	5.67/400/60	%5,67	210	400/50	-	1	33,2	230 x 280 x 305
77000055	5.67/400/75	%5,67	210	400/50	-	1	43,6	200 x 285 x 310
77000056	5.67/400/100	%5,67	210	400/50	-	1	42,8	200 x 285 x 310
77000106	7/230/0,5 1P	%7	-	230V	1	-	0,6	137 x 117 x 129
77000095	7/230/1.0 1P	%7	-	230V	1	-	1,2	137 x 117 x 129
77000096	7/230/1.5 1P	%7	-	230V	1	-	2,9	137 x 117 x 129
77000097	7/230/2.5 1P	%7	-	230V	1	-	2,5	137 x 117 x 129
77000098	7/230/5.0 1P	%7	-	230V	1	-	7,2	137 x 117 x 129
77000099	7/230/7.5 1P	%7	-	230V	1	-	5	172 x 172 x 180
77000100	7/230/10.0 1P	%7	-	230V	1	-	6,9	172 x 172 x 180





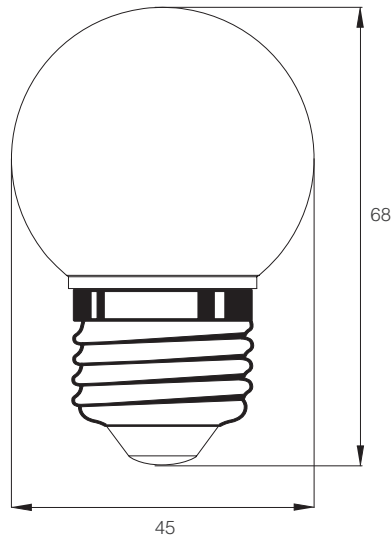






# Makel Led Night Lamp

1W White



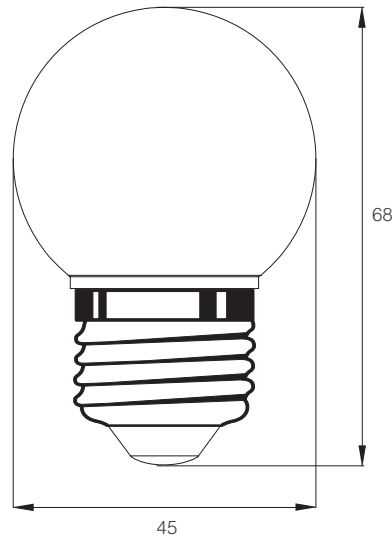
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## Technical Specifications **BB01.0W-0127A**

Rated Current	5mA
Socket Type	E27
Class	A+
Consumption	1kWh/1000h
Service Life	20.000 hours
CRI	≥ 80
Power Factor	> 0.3
Heating Time	< 1sec.
Rated Voltage	AC230V 50Hz
Rated Power	1 W
Luminous Colour	Cold White
Chrominance Signal	CW
Colour Temperature	6500K
IP Definition	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Night Lamp</b>					
1W White	BB01.0W-0127A	1	100	1,96	235 x 290 x 235

## 1W Red



 %85 Energy - Saving

### Technical Specifications **BB01.0W-0327A**

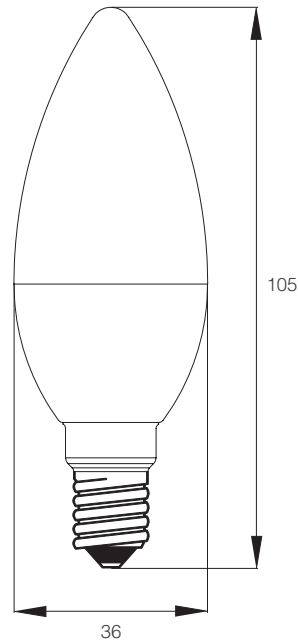
Rated Current	30mA
Socket Type	E27
Class	A+
Consumption	1kWh/1000h
Service Life	20.000 hours
Power Factor	> 0.15
Heating Time	< 1sec.
Rated Voltage	AC230V 50Hz
Rated Power	1 W
Luminous Colour	Red, Yellow, Blue, Green
Chrominance Signal	Red, Yellow, Blue, Green
IP Definition:	IP20


Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Night Lamp</b>					
1W Red	BB01.0W-0327A	1	100	1,96	235 x 290 x 235
1W Yellow	BB01.0W-0527A	1	100	1,96	235 x 290 x 235
1W Blue	BB01.0W-0427A	1	100	1,96	235 x 290 x 235
1W Green	BB01.0W-0227A	1	100	1,96	235 x 290 x 235

 Equal values given for 4 different colors.

# Makel Led Plug Type

3W / 24W 3000K Warm White  
3W / 24W 6500K Cold White



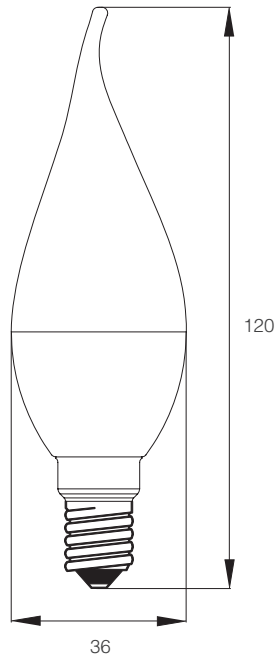
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Technical Specification	BM03.0W-0214A	BM03.0W-0114A
Rated Current	20mA	20mA
Socket Type	E14	E14
Class	A+	A+
Consumption	3kWh/1000h	3kWh/1000h
Service Life	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5
Heating Time	< 1sec.	< 1sec.
Rated Voltage	AC230V 50Hz	AC230V 50Hz
Rated Power	3 W	3 W
Equivalent Watt	24 W	24 W
Lumen	240	240
Luminous Colour	Warm White	Cold White
Chrominance Signa	WW	CW
Colour Temperature	3000K	6500K
IP Definition	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Plug Type</b>					
3W / 24W 3000K Warm White	BM03.0W-0214A	1	100	2,81	195 x 530 x 160
3W / 24W 6500K Cold White	BM03.0W-0114A	1	100	2,81	195 x 530 x 160

# Makel Led Crooked Candle Type

3W / 24W 3000K Warm White  
3W / 24W 6500K Cold White



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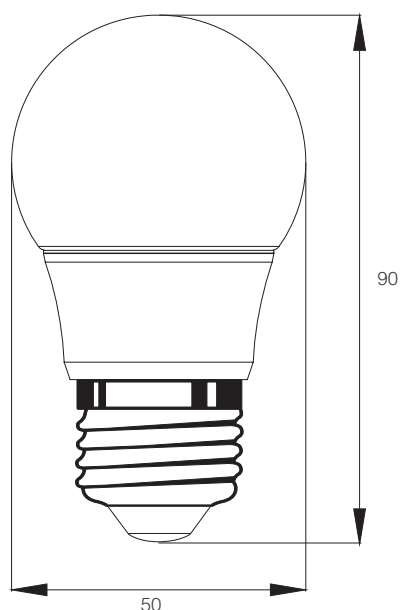
Technical Specification	BG03.0W-0214A	BG03.0W-0114A
Rated Current	20mA	20mA
Socket Type	E14	E14
Class	A+	A+
Consumption	3kWh/1000h	3kWh/1000h
Service Life	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5
Heating Time	< 1sec.	< 1sec.
Rated Voltage	AC230V 50Hz	AC230V 50Hz
Rated Power	3 W	3 W
Equivalent Watt	24 W	24 W
Lumen	240	240
Luminous Colour	Warm White	Cold White
Chrominance Signal	WW	CW
Colour Temperature	3000K	6500K
IP Definition	IP20	IP20


Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Crooked Candle Type</b>					
3W / 24W 3000K Warm White	BG03.0W-0214A	1	100	2,75	195 x 530 x 160
3W / 24W 6500K Cold White	BG03.0W-0114A	1	100	2,75	195 x 530 x 160



# Makel Led Bulb

3W / 25W 3000K Warm White  
 3W / 25W 4000K Daylight  
 3W / 26W 6500K Cold White

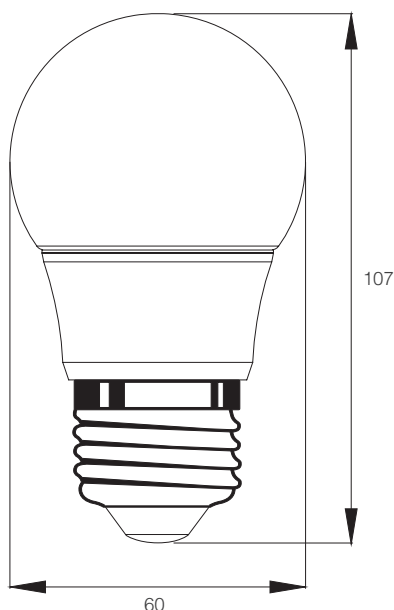


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Technical Specifications	BC03.0W-0227A	BC03.0W-0827A	BC03.0W-0127A
Rated Current	20mA	20mA	20mA
Socket Type	E27	E27	E27
Class	A+	A+	A+
Consumption	3kWh/1000h	3kWh/1000h	3kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Heating Time	< 1sec.	< 1sec.	< 1sec.
Rated Voltage	AC 230V 50Hz	AC 230V 50Hz	AC 230V 50Hz
Rated Power	3 W	3 W	3 W
Equivalent Watt	25 W	25 W	26 W
Lumen	250	250	270
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Bulb</b>					
3W / 25W 3000K Warm White	BC03.0W-0227A	1	100	3,58	255 x 453 x 205
3W / 25W 4000K Daylight	BC03.0W-0827A	1	100	3,58	255 x 453 x 205
3W / 25W 6500K Cold White	BC03.0W-0127A	1	100	3,58	255 x 453 x 205

5W / 39W 3000K Warm White  
 5W / 39W 4000K Daylight  
 5W / 41W 6500K Cold White



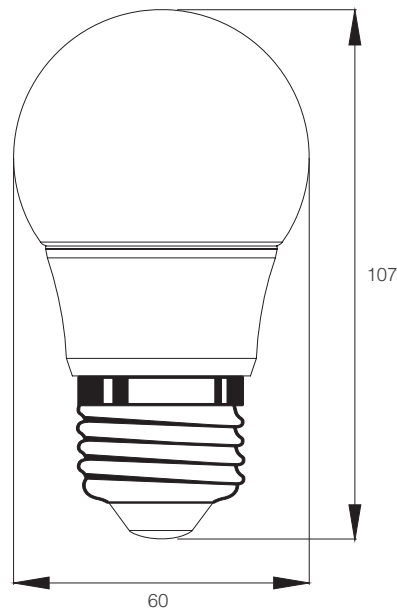
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Technical Specifications	BC05.0W-0227M	BC05.0W-0827M	BC05.0W-0127M
Rated Current	42mA	42mA	42mA
Socket Type	E27	E27	E27
Class	A+	A+	A+
Consumption	5kWh/1000h	5kWh/1000h	5kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Heating Time	< 0.5sec.	< 0.5sec.	< 0.5sec.
Operating Voltage Range	150-260VAC	150-260VAC	150-260VAC
Rated Voltage	220-240VAC/50-60Hz	220-240VAC/50-60Hz	220-240VAC/50-60Hz
Rated Power	5 W	5 W	5 W
Equivalent Watt	39 W	39 W	41 W
Lumen	450	450	480
Luminous Colour	Warm White	Daylight	Cold White
Colour Temperature	WW	NW	CW
Chrominance Signal	3000K	4000K	6500K
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Bulb</b>					
5W / 39W 3000K Warm White	BC05.0W-0227M	1	100	5,86	310 x 550 x 255
5W / 39W 4000K Daylight	BC05.0W-0227M	1	100	5,86	310 x 550 x 255
5W / 41W 6500K Cold White	BC05.0W-0127M	1	100	5,86	310 x 550 x 255

# Makel Led Bulb

6W / 44W 3000K Warm White  
 6W / 44W 4000K Daylight  
 6W / 45W 6500K Cold White

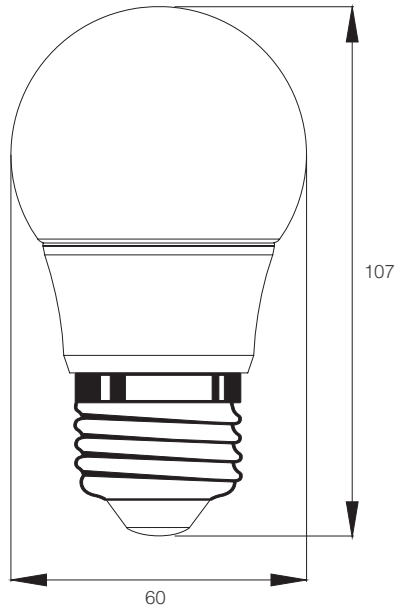



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Technical Specifications	BC06.0W-0227M	BC06.0W-0827M	BC06.0W-0127M
Rated Current	52mA	52mA	52mA
Socket Type	E27	E27	E27
Class	A+	A+	A+
Consumption	6kWh/1000h	6kWh/1000h	6kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Heating Time	< 0.5sec.	< 0.5sec.	< 0.5sec.
Operating Voltage Range	150-260VAC	150-260VAC	150-260VAC
Rated Voltage	220-240VAC/50-60Hz	220-240VAC/50-60Hz	220-240VAC/50-60Hz
Rated Power	6 W	6 W	6 W
Equivalent Watt	44 W	44 W	45 W
Lumen	540	540	550
Luminous Colour	Warm White	Daylight	Cold White
Colour Temperature	WW	NW	CW
Chrominance Signal	3000K	4000K	6500K
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Bulb</b>					
6W / 44W 3000K Warm White	BC06.0W-0227M	1	100	6,19	310 x 550 x 255
6W / 44W 4000K Daylight	BC06.0W-0827M	1	100	6,19	310 x 550 x 255
6W / 45W 6500K Cold White	BC06.0W-0127M	1	100	6,19	310 x 550 x 255

7W / 51W 3000K Warm White  
 7W / 51W 4000K Daylight  
 7W / 52W 6500K Cold White



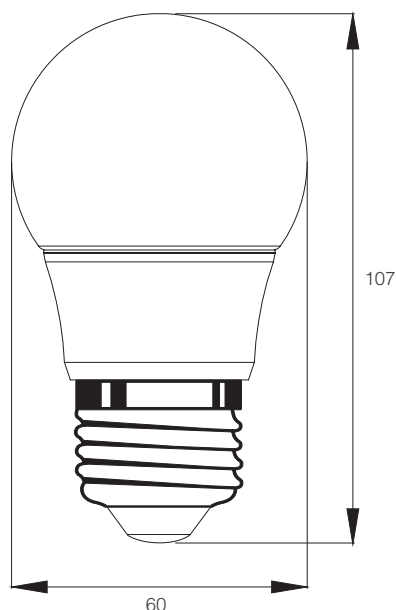
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Technical Specifications	BC07.0W-0227M	BC07.0W-0827M	BC07.0W-0127M
Rated Current	59mA	59mA	59mA
Socket Type	E27	E27	E27
Class	A+	A+	A+
Consumption	7kWh/1000h	7kWh/1000h	7kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Heating Time	< 0.5sec.	< 0.5sec.	< 0.5sec.
Operating Voltage Range	150-260VAC	150-260VAC	150-260VAC
Rated Voltage	220-240VAC/50-60Hz	220-240VAC/50-60Hz	220-240VAC/50-60Hz
Rated Power	7 W	7 W	7 W
Equivalent Watt	51 W	51 W	52 W
Lumen	660	660	670
Luminous Colour	Warm White	Daylight	Cold White
Colour Temperature	WW	NW	CW
Chrominance Signal	3000K	4000K	6500K
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Bulb</b>					
7W / 50W 3000K Warm White	BC07.0W-0227M	1	100	6,48	310 x 550 x 255
7W / 51W 4000K Daylight	BC07.0W-0827M	1	100	6,48	310 x 550 x 255
7W / 52W 6500K Cold White	BC07.0W-0127M	1	100	6,48	310 x 550 x 255

# Makel Led Bulb

8W / 60W 3000K Warm White  
 8W / 60W 4000K Daylight  
 8W / 61W 6500K Cold White



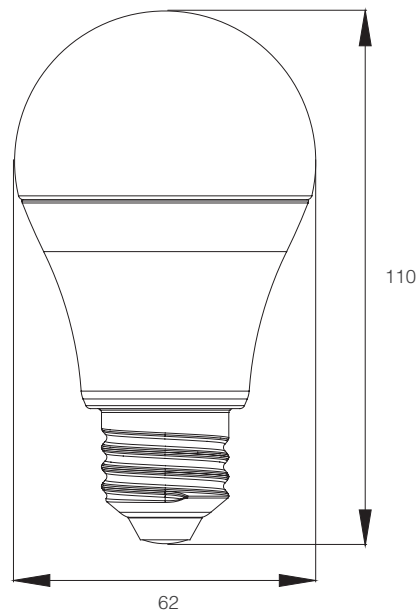
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Technical Specifications	BC08.0W-0227M	BC08.0W-0827M	BC08.0W-0127M
Rated Current	67mA	67mA	67mA
Socket Type	E27	E27	E27
Class	A+	A+	A+
Consumption	8kWh/1000h	8kWh/1000h	8kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Heating Time	< 0.5sec.	< 0.5sec.	< 0.5sec.
Operating Voltage Range	150-260VAC	150-260VAC	150-260VAC
Rated Voltage	220-240VAC/50-60Hz	220-240VAC/50-60Hz	220-240VAC/50-60Hz
Rated Power	8 W	8 W	8 W
Equivalent Watt	60 W	60 W	61 W
Lumen	810	810	820
Luminous Colour	Warm White	Daylight	Cold White
Colour Temperature	WW	NW	CW
Chrominance Signal	3000K	4000K	6500K
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Bulb</b>					
8W / 60W 3000K Warm White	BC08.0W-0227M	1	100	6,58	310 x 550 x 255
8W / 60W 4000K Daylight	BC08.0W-0827M	1	100	6,58	310 x 550 x 255
8W / 61W 6500K Cold White	BC08.0W-0127M	1	100	6,58	310 x 550 x 255



9W / 64W 3000K Warm White  
 9W / 64W 4000K Daylight  
 9W / 66W 6500K Cold White



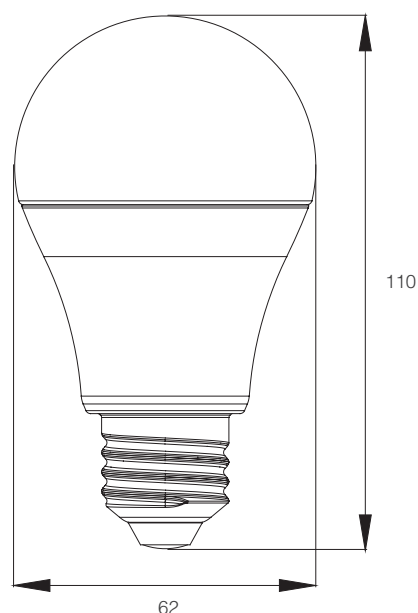
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Technical Specifications	BC09.0W-0227M	BC09.0W-0827M	BC09.0W-0127M
Rated Current	75mA	75mA	75mA
Socket Type	E27	E27	E27
Class	A+	A+	A+
Consumption	9kWh/1000h	9kWh/1000h	9kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Heating Time	< 0.5sec.	< 0.5sec.	< 0.5sec.
Operating Voltage Range	150-260VAC	150-260VAC	150-260VAC
Rated Voltage	220-240VAC/50-60Hz	220-240VAC/50-60Hz	220-240VAC/50-60Hz
Rated Power	9 W	9 W	9 W
Equivalent Watt	64 W	64 W	66 W
Lumen	870	870	900
Luminous Colour	Warm White	Daylight	Cold White
Colour Temperature	WW	NW	CW
Chrominance Signal	3000K	4000K	6500K
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Bulb</b>					
9W / 64W 3000K Warm White	BC09.0W-0227M	1	100	7,48	310 x 550 x 255
9W / 64W 4000K Daylight	BC09.0W-0827M	1	100	7,48	310 x 550 x 255
9W / 66W 6500K Cold White	BC09.0W-0127M	1	100	7,48	310 x 550 x 255

# Makel Led Bulb

10W / 70W 3000K Warm White  
 10W / 70W 4000K Daylight  
 10W / 72W 6500K Cold White

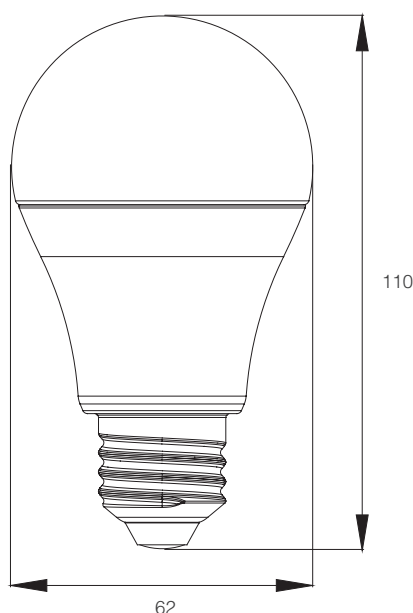



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Technical Specifications	BC10.0W-0227M	BC10.0W-0827M	BC10.0W-0127M
Rated Current	81mA	81mA	81mA
Socket Type	E27	E27	E27
Class	A+	A+	A+
Consumption	10kWh/1000h	10kWh/1000h	10kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Heating Time	< 0.5sec.	< 0.5sec.	< 0.5sec.
Operating Voltage Range	150-260VAC	150-260VAC	150-260VAC
Rated Voltage	220-240VAC/50-60Hz	220-240VAC/50-60Hz	220-240VAC/50-60Hz
Rated Power	10 W	10 W	10 W
Equivalent Watt	70 W	70 W	72 W
Lumen	980	980	1010
Luminous Colour	Warm White	Daylight	Cold White
Colour Temperature	WW	NW	CW
Chrominance Signal	3000K	4000K	6500K
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Bulb</b>					
10W / 70W 3000K Warm White	BC10.0W-0227M	1	100	7,50	310 x 550 x 255
10W / 70W 4000K Daylight	BC10.0W-0827M	1	100	7,50	310 x 550 x 255
10W / 72W 6500K Cold White	BC10.0W-0127M	1	100	7,50	310 x 550 x 255

12W / 80W 3000K Warm White  
 12W / 80W 4000K Daylight  
 12W / 82W 6500K Cold White



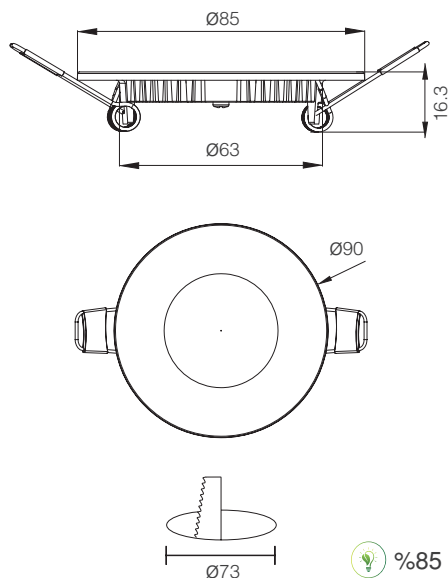
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Technical Specifications	BC12.0W-0227M	BC12.0W-0827M	BC12.0W-0127M
Rated Current	97mA	97mA	97mA
Socket Type	E27	E27	E27
Class	A+	A+	A+
Consumption	12kWh/1000h	12kWh/1000h	12kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Heating Time	< 0.5sec.	< 0.5sec.	< 0.5sec.
Operating Voltage Range	150-260VAC	150-260VAC	150-260VAC
Rated Voltage	220-240VAC/50-60Hz	220-240VAC/50-60Hz	220-240VAC/50-60Hz
Rated Power	12 W	12 W	12 W
Equivalent Watt	80 W	80 W	82 W
Lumen	1140	1140	1180
Luminous Colour	Warm White	Daylight	Cold White
Colour Temperature	WW	NW	CW
Chrominance Signal	3000K	4000K	6500K
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Bulb</b>					
12W / 80W 3000K Warm White	BC12.0W-0227M	1	100	7,66	310 x 550 x 255
12W / 80W 4000K Daylight	BC12.0W-0827M	1	100	7,66	310 x 550 x 255
12W / 82W 6500K Cold White	BC12.0W-0127M	1	100	7,66	310 x 550 x 255

# Makel Led Slim Downlight

3W 3000K Warm White  
 3W 4000K Daylight  
 3W 6500K Cold White

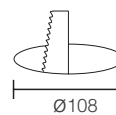
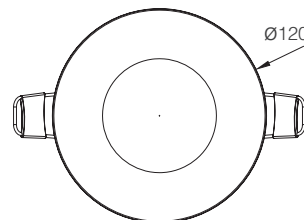
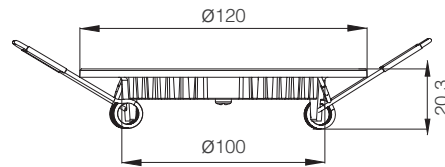



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Technical Specifications	DC03.0W-02005	DC03.0W-08005	DC03.0W-01005
Rated Current	45mA	45mA	45mA
Class	A+	A+	A+
Consumption	3kWh/1000h	3kWh/1000h	3kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Starting Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	100-240VAC	100-240VAC	100-240VAC
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	3 W	3 W	3 W
Lumen	150	150	180
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP40	IP40	IP40

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Slim Downlight</b>					
3W 3000K Warm White	DC03.0W-02005	1	48	6,89	260 x 545 x 215
3W 4000K Daylight	DC03.0W-08005	1	48	6,89	260 x 545 x 215
3W 6500K Cold White	DC03.0W-01005	1	48	6,89	260 x 545 x 215

6W 3000K Warm White  
 6W 4000K Daylight  
 6W 6500K Cold White



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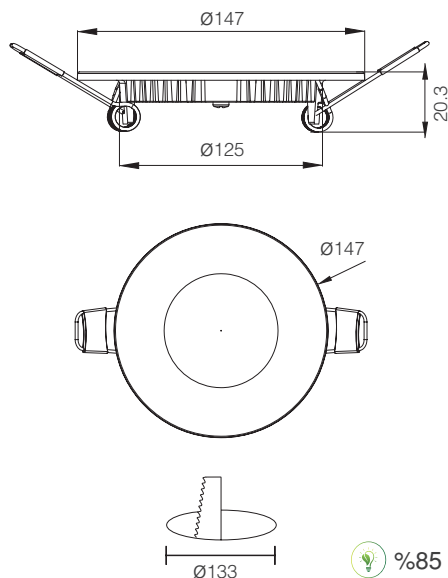
Technical Specifications	DC06.0W-02005	DC06.0W-08005	DC06.0W-01005
Rated Current	55mA	55mA	55mA
Class	A+	A+	A+
Consumption	6kWh/1000h	6kWh/1000h	6kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Starting Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	100-240VAC	100-240VAC	100-240V
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	6 W	6 W	6 W
Lumen	420	420	450
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP40	IP40	IP40

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Slim Downlight</b>					
6W 3000K Warm White	DC06.0W-02005	1	48	11,61	260 x 565 x 345
6W 4000K Daylight	DC06.0W-08005	1	48	11,61	260 x 565 x 345
6W 6500K Cold White	DC06.0W-01005	1	48	11,61	260 x 565 x 345



# Makel Led Slim Downlight

9W 3000K Warm White  
 9W 4000K Daylight  
 9W 6500K Cold White



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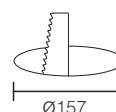
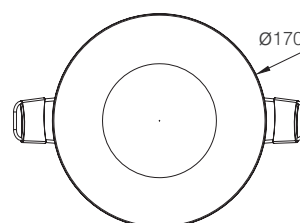
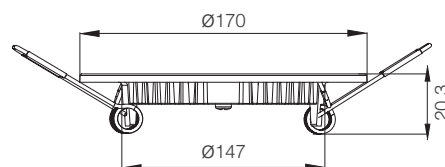
Technical Specifications	DC09.0W-02005	DC09.0W-08005	DC09.0W-01005
Rated Current	75mA	75mA	5mA
Class	A+	A+	A+
Consumption	9kWh/1000h	9kWh/1000h	9kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Starting Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	100-240VAC	100-240VAC	100-240VAC
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	9 W	9 W	9 W
Lumen	650	650	700
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP40	IP40	IP40

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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## Led Slim Downlight

9W 3000K Warm White	DC09.0W-02005	1	36	12,11	260 x 400 x 335
9W 4000K Daylight	DC09.0W-08005	1	36	12,11	260 x 400 x 335
9W 6500K Cold White	DC09.0W-01005	1	36	12,11	260 x 400 x 335

12W 3000K Warm White  
 12W 4000K Daylight  
 12W 6500K Cold White



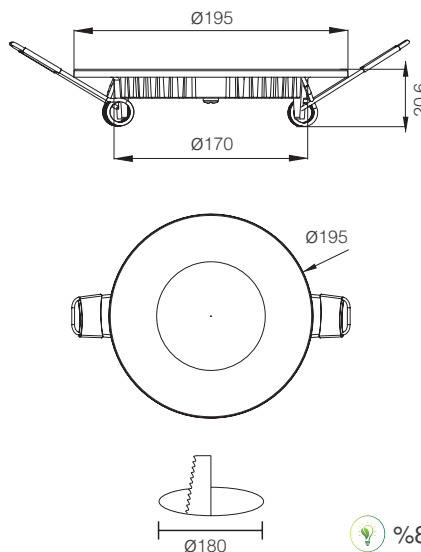
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Technical Specifications	DC12.0W-02005	DC12.0W-08005	DC12.0W-01005
Rated Current	105mA	105mA	105mA
Class	A+	A+	A+
Consumption	12kWh/1000h	12kWh/1000h	12kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Starting Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	100-240VAC	100-240VAC	100-240VAC
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	12 W	12 W	12 W
Lumen	900	900	900
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP40	IP40	IP40

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Slim Downlight</b>					
12W 3000K Warm White	DC12.0W-02005	1	24	10,15	260 x 450 x 385
12W 4000K Daylight	DC12.0W-08005	1	24	10,15	260 x 450 x 385
12W 6500K Cold White	DC12.0W-01005	1	24	10,15	260 x 450 x 385

# Makel Led Slim Downlight

15W 3000K Warm White  
 15W 4000K Daylight  
 15W 6500K Cold White

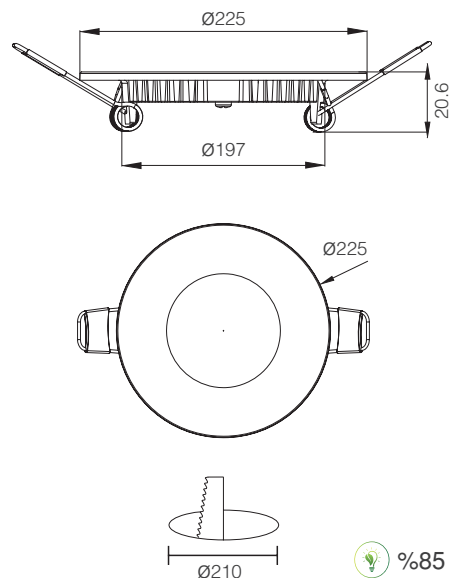


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Technical Specifications	DC15.0W-02005	DC15.0W-08005	DC15.0W-01005
Rated Current	140mA	140mA	140mA
Class	A+	A+	A+
Consumption	15kWh/1000h	15kWh/1000h	15kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Starting Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	100-240VAC	100-240VAC	100-240VAC
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	15 W	15 W	15 W
Lumen	1100	1100	1200
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP40	IP40	IP40

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Slim Downlight</b>					
15W 3000K Warm White	DC15.0W-02005	1	24	12,75	260 x 505 x 425
15W 4000K Daylight	DC15.0W-08005	1	24	12,75	260 x 505 x 425
15W 6500K Cold White	DC15.0W-01005	1	24	12,75	260 x 505 x 425

18W 3000K Warm White  
 18W 4000K Daylight  
 18W 6500K Cold White



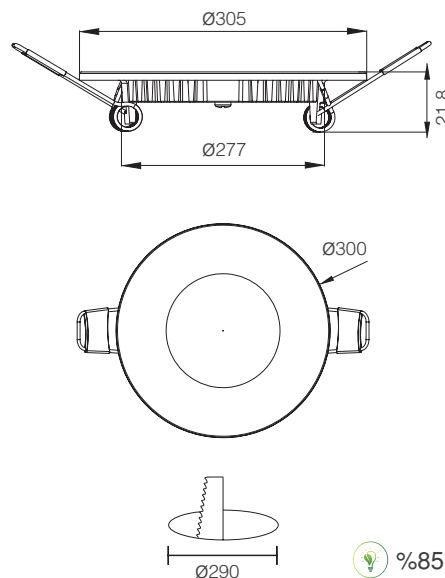
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Technical Specifications	DC18.0W-02005	DC18.0W-08005	DC18.0W-01005
Rated Current	165mA	165mA	165mA
Class	A+	A+	A+
Consumption	18kWh/1000h	18kWh/1000h	18kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Starting Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	100-240VAC	100-240VAC	100-240VAC
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	18 W	18 W	18 W
Lumen	1400	1400	1450
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP40	IP40	IP40

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Slim Downlight</b>					
18W 3000K Warm White	DC18.0W-02005	1	24	16,16	260 x 585 x 505
18W 4000K Daylight	DC18.0W-08005	1	24	16,16	260 x 585 x 505
18W 6500K Cold White	DC18.0W-01005	1	24	16,16	260 x 585 x 505

# Makel Led Slim Downlight

24W 3000K Warm White  
 24W 4000K Daylight  
 24W 6500K Cold White



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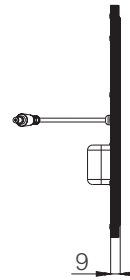
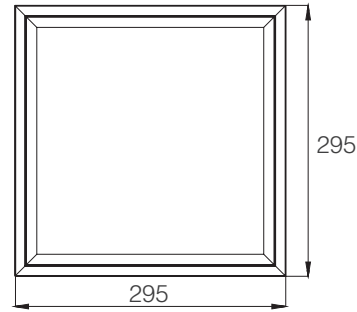
Technical Specifications	DC24.0W-02005	DC24.0W-08005	DC24.0W-01005
Rated Current	215mA	215mA	215mA
Class	A+	A+	A+
Consumption	24kWh/1000h	24kWh/1000h	24kWh/1000h
Service Life	20.000 hours	20.000 hours	20.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.5	> 0.5	> 0.5
Starting Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	100-240VAC	100-240VAC	100-240VAC
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	24 W	24 W	24 W
Lumen	1800	1800	1900
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP40	IP40	IP40


Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Slim Downlight</b>					
24W 3000K Warm White	DC24.0W-02005	1	12	13,70	260 x 735 x 340
24W 4000K Daylight	DC24.0W-08005	1	12	13,70	260 x 735 x 340
24W 6500K Cold White	DC24.0W-01005	1	12	13,70	260 x 735 x 340



# Makel Led Panel Armature

30X30 16W 3000K Warm White  
 30X30 16W 4000K Daylight  
 30X30 16W 6500K Cold White



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Technical Specifications	PC16.0W-02006	PC16.0W-08006	PC16.0W-01006
Rated Current	77mA	77mA	77mA
Class	A+	A+	A+
Consumption	16kWh/1000h	16kWh/1000h	16kWh/1000h
Driver service Life	20.000 hours	20.000 hours	20.000 hours
Panel Service Life	50.000 hours	50.000 hours	50.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.95	> 0.95	> 0.95
Heating Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	150 - 260VAC	150 - 260VAC	150 - 260V
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	16 W	16 W	16
Lumen	1300	1300	1300
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP20	IP20	IP20

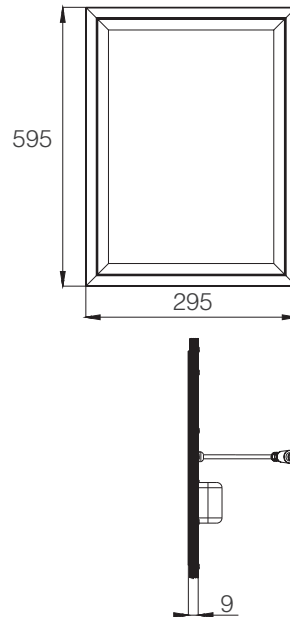
Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
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### Led Panel Armature

30X30 16W 3000K Warm White	PC16.0W-02006	1	12	10,41	210 x 750 x 330
30X30 16W 4000K Daylight	PC16.0W-08006	1	12	10,41	210 x 750 x 330
30X30 16W 6500K Cold White	PC16.0W-01006	1	12	10,41	210 x 750 x 330

# Makel Led Panel Armature

30X60 22W 3000K Warm White  
 30X60 22W 4000K Daylight  
 30X60 22W 6500K Cold White

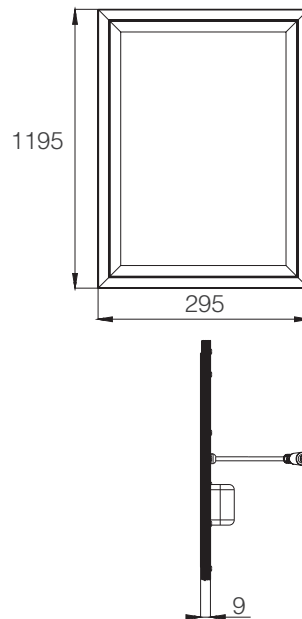



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Technical Specifications	PC24.0W-02007	PC24.0W-08007	PC24.0W-01007
Rated Current	100mA	100mA	100mA
Class	A+	A+	A+
Consumption	22kWh/1000h	22kWh/1000h	22kWh/1000h
Driver service Life	20.000 hours	20.000 hours	20.000 hours
Panel Service Life	50.000 hours	50.000 hours	50.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.95	> 0.95	> 0.95
Heating Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	150 - 260VAC	150 - 260VAC	150 - 260VAC
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	22 W	22 W	22 W
Lumen	1900	1900	1900
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Panel Armature</b>					
30X60 22W 3000K Warm White	PC24.0W-02007	1	6	11,01	220 x 675 x 330
30X60 22W 4000K Daylight	PC24.0W-08007	1	6	11,01	220 x 675 x 330
30X60 22W 6500K Cold White	PC24.0W-01007	1	6	11,01	220 x 675 x 330

30X120 36W 3000K Warm White  
 30X120 36W 4000K Daylight  
 30X120 36W 6500K Cold White



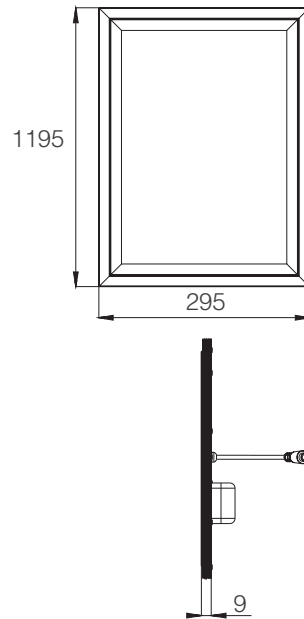
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Technical Specifications	PC36.0W-02009	PC36.0W-08009	PC36.0W-01009
Rated Current	170mA	170mA	170mA
Class	A+	A+	A+
Consumption	36kWh/1000h	36kWh/1000h	36kWh/1000h
Driver service Life	20.000 hours	20.000 hours	20.000 hours
Panel Service Life	50.000 hours	50.000 hours	50.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.95	> 0.95	> 0.95
Heating Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	150 - 260VAC	150 - 260VAC	150 - 260VAC
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	36 W	36 W	36 W
Lumen	3100	3100	3100
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Panel Armature</b>					
30X120 36W 3000K Warm White	PC36.0W-02009	1	6	18,52	220 x 675 x 330
30X120 36W 4000K Daylight	PC36.0W-08009	1	6	18,52	220 x 675 x 330
30X120 36W 6500K Cold White	PC36.0W-01009	1	6	18,52	220 x 675 x 330

# Makel Led Panel Armature

30X120 48W 3000K Warm White  
 30X120 48W 4000K Daylight  
 30X120 48W 6500K Cold White

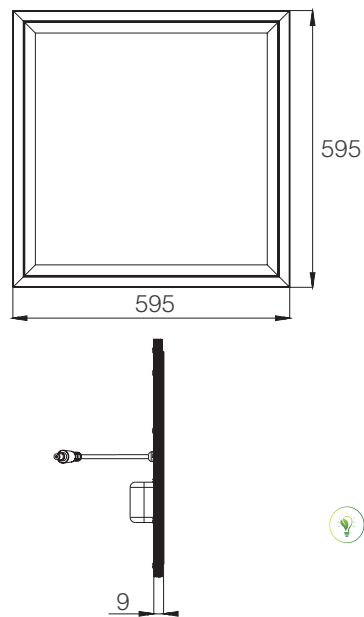



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Technical Specifications	PC48.0W-02009	PC48.0W-08009	PC48.0W-01009
Rated Current	220mA	220mA	220mA
Class	A+	A+	A+
Consumption	48kWh/1000h	48kWh/1000h	48kWh/1000h
Driver service Life	20.000 hours	20.000 hours	20.000 hours
Panel Service Life	50.000 hours	50.000 hours	50.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.95	> 0.95	> 0.95
Heating Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	150 - 260VAC	150 - 260VAC	150 - 260VAC
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	48 W	48 W	48 W
Lumen	4100	4100	4100
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Panel Armature</b>					
30X120 48W 3000K Warm White	PC48.0W-02009	1	6	18,52	215 x 1285 x 330
30X120 48W 4000K Daylight	PC48.0W-08009	1	6	18,52	215 x 1285 x 330
30X120 48W 6500K Cold White	PC48.0W-01009	1	6	18,52	215 x 1285 x 330

60X60 36W 3000K Warm White  
 60X60 36W 4000K Daylight  
 60X60 36W 6500K Cold White



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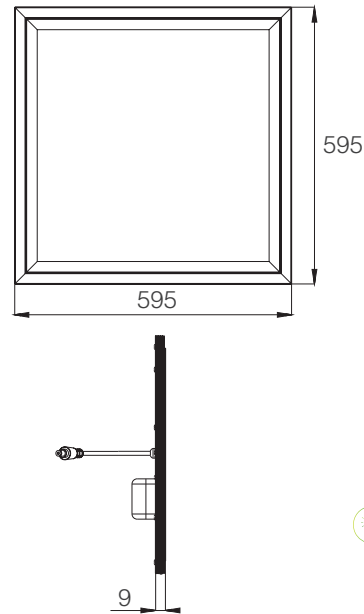
Technical Specifications	PC36.0W-02008	PC36.0W-08008	PC36.0W-01008
Rated Current	170mA	170mA	170mA
Class	A+	A+	A+
Consumption	36kWh/1000h	36kWh/1000h	36kWh/1000h
Driver service Life	20.000 hours	20.000 hours	20.000 hours
Panel Service Life	50.000 hours	50.000 hours	50.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.95	> 0.95	> 0.95
Heating Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	150 - 260VAC	150 - 260VAC	150 - 260VAC
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	36 W	36 W	36 W
Lumen	3200	3200	3300
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Panel Armature</b>					
60X60 36W 3000K Warm White	PC36.0W-02008	1	6	20,20	215 x 625 x 670
60X60 36W 4000K Daylight	PC36.0W-08008	1	6	20,20	215 x 625 x 670
60X60 36W 6500K Cold White	PC36.0W-01008	1	6	20,20	215 x 625 x 670



# Makel Led Panel Armature

60X60 48W 3000K Warm White  
 60X60 48W 4000K Daylight  
 60X60 48W 6500K Cold White

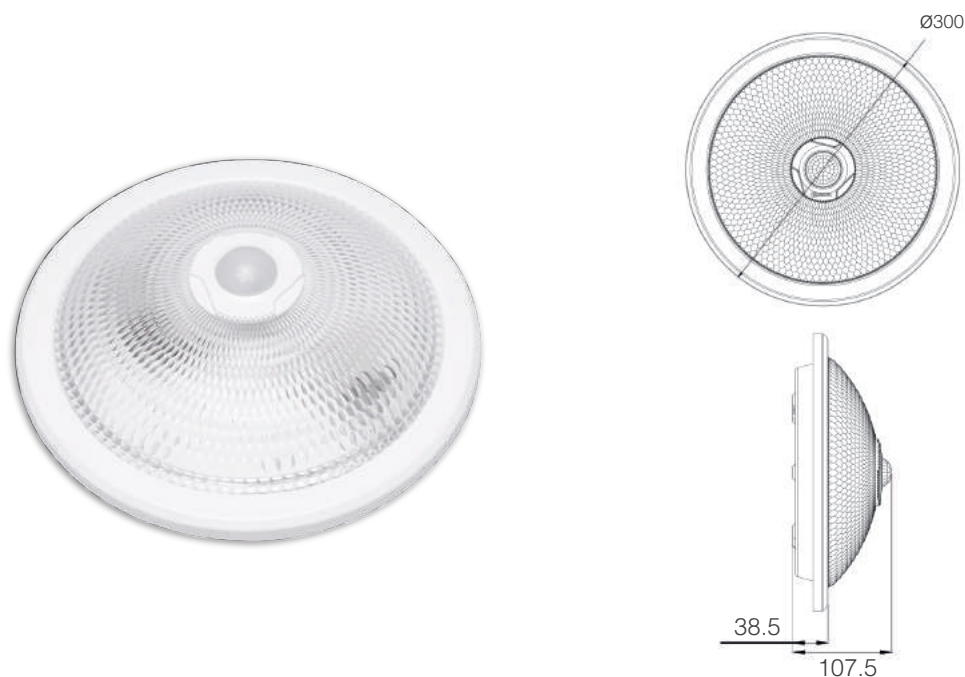


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Technical Specifications	PC48.0W-02008	PC48.0W-08008	PC48.0W-01008
Rated Current	220mA	220mA	220mA
Class	A+	A+	A+
Consumption	48kWh/1000h	48kWh/1000h	48kWh/1000h
Driver service Life	20.000 hours	20.000 hours	20.000 hours
Panel Service Life	50.000 hours	50.000 hours	50.000 hours
CRI	≥ 80	≥ 80	≥ 80
Power Factor	> 0.95	> 0.95	> 0.95
Heating Time	< 1sec.	< 1sec.	< 1sec.
Operating Voltage Range	150 - 260VAC	150 - 260VAC	150 - 260VAC
Rated Voltage	AC230V 50Hz	AC230V 50Hz	AC230V 50Hz
Rated Power	48 W	48 W	48 W
Lumen	3900	4000	4100
Luminous Colour	Warm White	Daylight	Cold White
Chrominance Signal	WW	NW	CW
Colour Temperature	3000K	4000K	6500K
Body Colour	White/RAL 9016	White/RAL 9016	White/RAL 9016
Body Material	Aluminum	Aluminum	Aluminum
IP Definition	IP20	IP20	IP20

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Led Panel Armature</b>					
60X60 48W 3000K Warm White	PC48.0W-02008	1	6	20,20	215 x 625 x 670
60X60 48W 4000K Daylight	PC48.0W-08008	1	6	20,20	215 x 625 x 670
60X60 48W 6500K Cold White	PC48.0W-01008	1	6	20,20	215 x 625 x 670

## Ceiling Armature with Motion Sensor



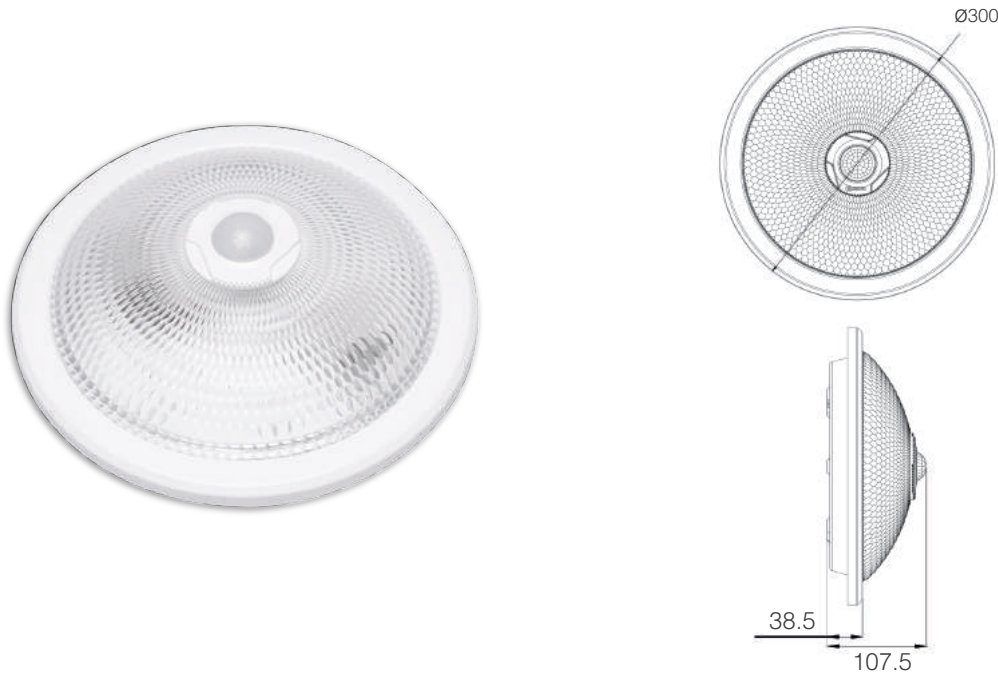
### Technical Specifications

### AC00.0W-07001

Operating Voltage Range	220-240VAC / 50Hz-60Hz
Detection Influence Area	360°
Installation Height	Max. 4.5m / Typical 2.8m
Installation Height	-25 °C...+40 °C
Installation Height	Max. 9m Typical 7m (2.8m. Height)
Time Setting	9-240 sec.
Day Light Adjustment	10-1200 Lux
Power Consumption	0.45W (on moving ) 0.1 W (not moving (Stationary)
Max. Lighting Load	2x25W Incandescent Lamp 2x5W LED Lamp

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Motion Sensor Lighting</b>					
Ceiling Armature with Motion Sensor	AC00.0W-07001	1	10	14,82	560 x 620 x 315

# Ceiling Armature with Emergency Lighting & Motion Sensor



## Technical Specifications

## AC00.0W-07002

Operating Voltage Range	220-240VAC / 50Hz-60Hz
Detection Influence Area	360°
Installation Height	Max. 4.5m / Tipik 2.8m
Operating Temperature	-25 °C...+40 °C
Operating Temperature	Max. 9m
Detection Distance	Typical 7m (2.8m. Height)
Time Setting	9-240 sec.
Day Light Adjustment	10-1200 Lux
Power Consumption	0.45W (on moving) 0.1 W(not moving (Stationary)
Max. Lighting Load	2x25W Incandescent Lamp 2x5W LED Lamp
Emergency Lighting	2W LED 6500K 25 Lumen
Battery Type	3x1.2V 1000mAh AA Rechargeable Battery (NiCd/NiMH)
Emergency Lighting Time	2 Hour

Product Name	Code No.	Piece in Box	Piece in Package	Gross Weight (kg)	Size of Package (mm)
<b>Motion Sensor Lighting</b>					
Ceiling Armature with Emergency Lighting & Motion Sensor	AC00.0W-07001	1	10	16,05	560 x 620 x 315



