

# EL<sup>®</sup>MARK

The Brand of Electricity



## ELECTRICAL EQUIPMENT CATALOGUE | 2024

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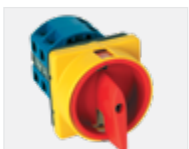


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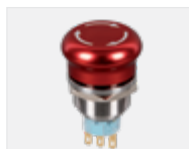


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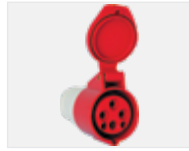
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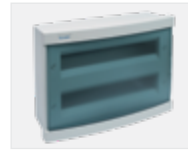
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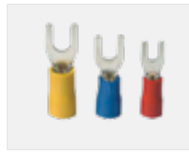


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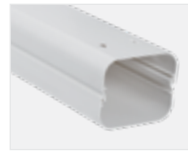
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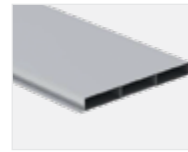
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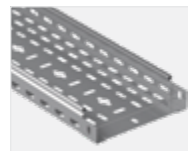
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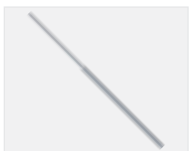


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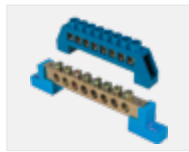


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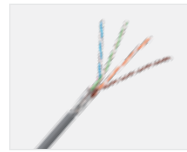
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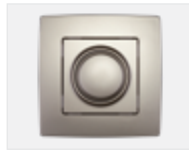
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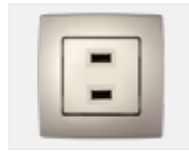
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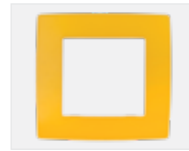
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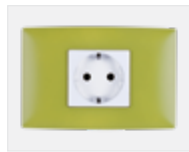
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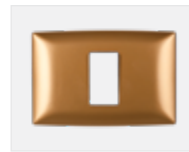
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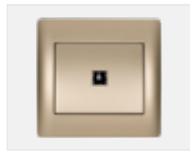


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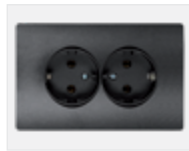
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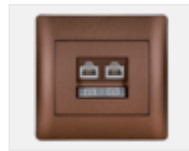
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Bureau Veritas Certification



**ELMARK INDUSTRIES AD**

2, Dobrudzha Str., 9300, Dobrich, Bulgaria

Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

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**ISO 9001:2015**

Scope of certification

---

Production and trade of Miniature Circuit Breakers (MCB), Molded Case Circuit Breakers (MCCB), Residual Current Devices (RCD) and Contactors and Devices for Control and Protection of Electrical Motors. Assembly and testing of Industrial and LED lighting. Assembly and testing of decorative lighting.

---

Original cycle start date:	07-04-2009
Expiry Date of Previous Cycle:	16-03-2021
Certification / Recertification Audit date:	02-03-2021
Certification/Recertification Cycle Start Date:	17-03-2021
Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on:	16-03-2024

Certificate No.: **BG001733**    Version: **2**    Issue Date: **26-03-2021**



*Rogana Khatunova*

Signed on behalf of BVQI SAS UK Branch

Certification Body Address: 5th Floor, 66 Prescot Street, London, E1 9HG, United Kingdom  
Local Office: #1A, Bulgaria Blvd., 1404 Sofia, Bulgaria

Further clarifications regarding the scope and validity of this certificate, and the applicability of the management system requirements, please call: +33 (0) 900 90 90

ALLIANZ BULGARIA INSURANCE CO. LTD.

## GENERAL INSURANCE

TO WHOM IT MAY CONCERN

CERTIFICATE OF COVER

This is to certify that we, "Allianz Bulgaria" Insurance Co., Ltd., Bulgaria, Sofia, IN 040638060, in our capacity as Insurers, have issued an insurance Policy No 13000230390000001 and effected Product Liability insurance as follows:


<b>ASSURED:</b>	<b>ELMARK INDUSTRIES AD</b> , BULSTAT No. 124634156, Dobrich, Dobrudzha 2 Boul.
<b>Interest</b>	Production of Miniature Circuit Breakers (MCB), Molded Case Circuit Breakers (MCCB), Residual Current Devices (RCD) and Contactors, Thermomagnetic automatic breakers, Thermal overload relays and Devices for Control and Protection of Electrical Motors. Assembly and testing of Decorative, Luminescent, Industrial and LED lighting.
<b>Limits:</b>	1 500 000 EUR any one occurrence 1 500 000 EUR in aggregate for the insurance period
<b>PERIOD:</b>	TWELVE MONTHS with effect from 01-01-2023
<b>Territorial Scope:</b>	Worldwide except USA and Canada and the territories under their jurisdiction

**Warranties, if any:**

In the event that the Assured or anyone acting on his behalf uses the above information as evidence for insurance or evidence of financial responsibility under any applicable law relating to financial responsibility, or otherwise shows or offers it to any other party as evidence of insurance, it must be clearly understood that this confirmation relates only to the dates set out above and that such insurance is subject to General Conditions of "Allianz Bulgaria", attached clauses and terms, conditions, limitations, exclusions and other provisions of the Insurance Policy issued.

Issued on December 29<sup>th</sup> 2022

Place of issue/Varna, Strazha Mladinova 68 Str., General representation 039, varna.center@allianz.bg tel: +359 2568 3000



"ALLIANZ BULGARIA" INS Co., LTD.

**Intertek**

## Certificate

 for European Product Safety

Reference No. 1814486

### Circuit-breakers with overcurrent protection

Type designation: C61N, C62N, C63N, C64N

Certificate holder: **Elmark Industries BG**  
2 Dobruzhka Blvd., Dobrich,  
BULGARIA

The product complies with the standard(s): EN 60898-1:2003+A1+A11+A12+A13

Date of expiry: 16 August 2023

EU Directive information: According to the principle of presumption of conformity, this certificate constitutes support for an EC Declaration of Conformity and CE marking according to the Low Voltage Directive 2014/35/EU.

Additional information in Appendix:

Certification Body: Intertek Semko AB, Product Certification Place: Kista - Stockholm

Signed:  Date: 16 August 2018  
Bo Berglöf Page 1 of 3

This certificate is issued in accordance with the terms and conditions set out in the Appendix.

**Intertek**

## Certificate

 for European Product Safety

Reference No. 1815647

### Moulded Case Circuit-Breakers

Type designation: DG 1

Certificate holder: **Elmark Industries BG**  
2 Dobruzhka Blvd., Dobrich,  
BULGARIA

The product complies with the standard(s): EN 60947-2:2017

Date of expiry: 13 September 2023

EU Directive information: According to the principle of presumption of conformity, this certificate constitutes support for an EC Declaration of Conformity and CE marking according to the Low Voltage Directive 2014/35/EU.

Additional information in Appendix:

Certification Body: Intertek Semko AB, Product Certification Place: Kista - Stockholm

Signed:  Date: 13 September 2018  
Fredrik Wennersten Page 1 of 2

This certificate is issued in accordance with the terms and conditions set out in the Appendix.

**intertek**  
Total Quality Assured.

## Certificate

 for European Product Safety

Reference No. 1817803

**Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs)**

Type designation: JEL1

Certificate holder: **Elmark Industries SC**  
2 Dobruzha Blvd., Dobrich,  
BULGARIA

The product complies with the standard(s): EN 61008-2-1:1994+A11  
EN 61008-1:2012+A1+A2+A11+A12

Date of expiry: 31 October 2023

EU Directive information: According to the principle of presumption of conformity, this certificate constitutes support for an EC Declaration of Conformity and CE marking according to the Low Voltage Directive 2014/35/EU.

Additional information in Appendix:

Certification Body: Intertek Semko AB, Product Certification Place: Kista - Stockholm

Signed:   
Helen Gustafsson Date: 31 October 2018  
Page 1 of 2

This certificate is issued in accordance with the terms and conditions set out in the Appendix.

**intertek**  
Total Quality Assured.

## Certificate

 for European Product Safety

Reference No. 1817119

**AC Contactor**

Type designation: LT1-D4011, LT1-D5011, LT1-D6511, LT1-D8011, LT1-D9511

Certificate holder: **Elmark Industries SC**  
2 Dobruzha Blvd., Dobrich,  
BULGARIA

The product complies with the standard(s): EN 60947-6-1:2010+A1  
EN 60947-6-1:2017

Date of expiry: 15 October 2023

EU Directive information: According to the principle of presumption of conformity, this certificate constitutes support for an EC Declaration of Conformity and CE marking according to the Low Voltage Directive 2014/35/EU.

Additional information in Appendix:

Certification Body: Intertek Semko AB, Product Certification Place: Kista - Stockholm

Signed:   
Bj Bergström Date: 15 October 2018  
Page 1 of 3

This certificate is issued in accordance with the terms and conditions set out in the Appendix.

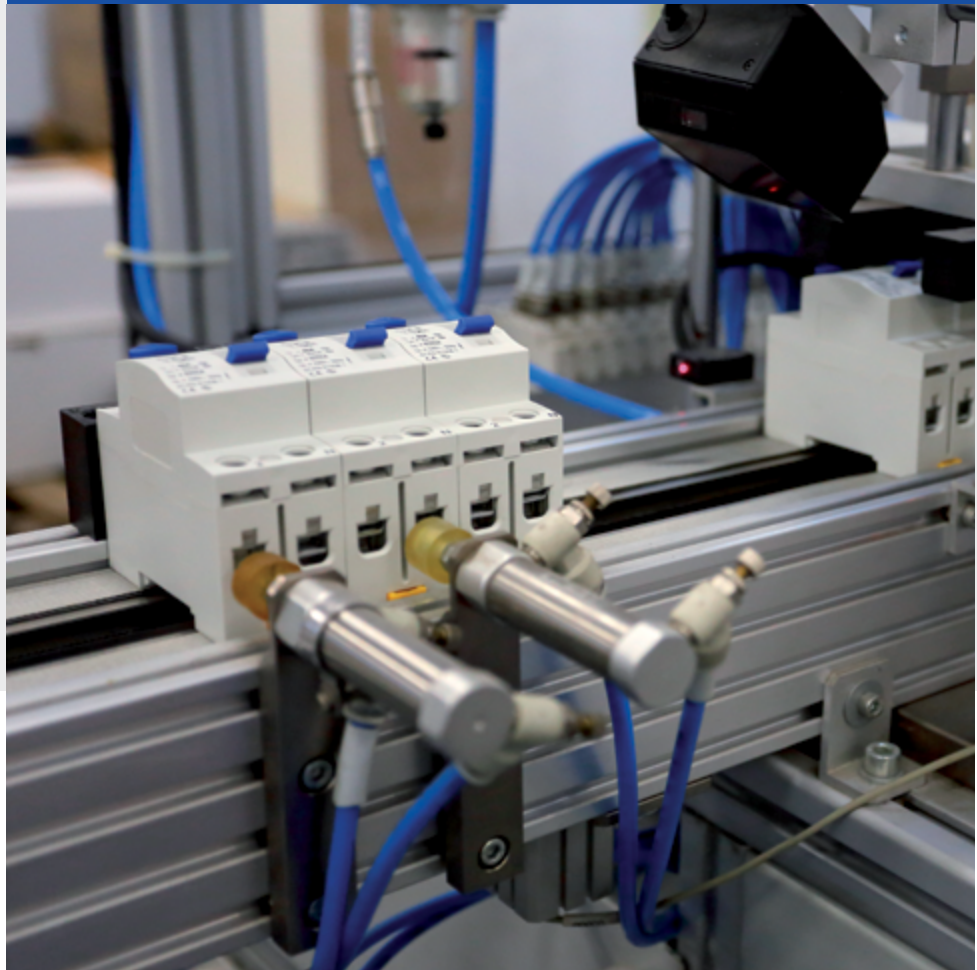






# AUTOMATION

- Miniature circuit breakers & accessories
- High power safety devices & isolating switches
- Switch disconnectors
- Isolating switches
- Moulded case circuit breakers
- Residual current devices
- Surge arresters
- Low voltage contactors
- Thermal overload relays
- Starters
- Frequency inverters
- Timers
- Transformers
- Industrial relays
- Measurement devices
- Limit switches
- Sensors
- Rotary switches
- Buttons & Indicators
- Warning lights & Towers

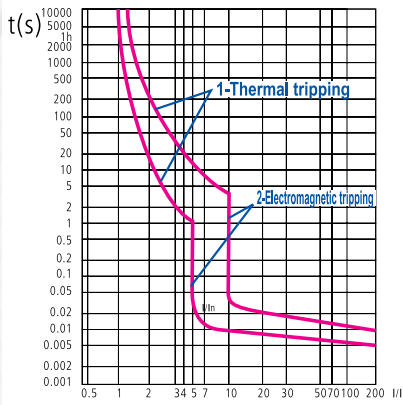


## MINIATURE CIRCUIT BREAKERS SERIES C40N

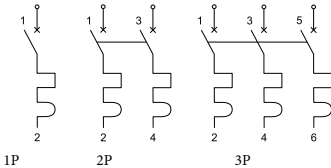
C4xN  
 ┌── number of poles (1,2,3)  
 └── breaking capacity in (kA)  
 ┌── tripping curve C  
 C x  
 ┌── rated current in (A)  
 └── tripping curve C

### Documents corresponding to the product:

Standard EN60898-1  
 EN60947-2



C type



Dimensions (mm)					
C	D1	D2	D3	H1	
5	40	65	72	78	
H2	W1	W2	W3	W4	
45	18	36	54	72	

### FUNCTIONS

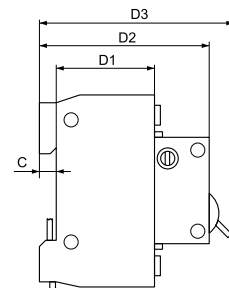
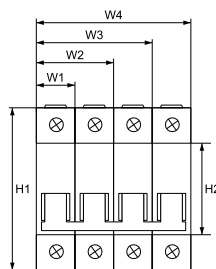
- Protection of the electrical circuits from overload or short circuits of the outer circuit
- It can be used as a device for commutation and control of electrical circuits
- In combination with auxiliary devices it allows remote control, commutation or indication of the protected circuit
- For mounting in residential and industrial buildings
- For mounting at a distance from the transformer post from 150 to 850 m
- Allows protection of consumers generating short circuit currents up to 4500 A

### TECHNICAL DATA

- Rated voltage: 230/400V; 50/60Hz
- Breaking capacity (cycle O-CO) in accordance with standard EN 60 898-1: 4500A
- Rated breaking capacity Ics= 75% Icu
- Isolating voltage: ≥2000V
- Electrical wear resistance (number of cycles): 4000
- Mechanical (number of cycles): 20000
- Class of current limiting: 3
- IP code: IP>20
- Tripping:
  - C – the maximum current release breaks between 5 and 10 In; used to protect main power supply cables and conventional consumers
- Joining terminal: flat (tunnel) screw terminal with composition 1.5 coldly draw-plated plane Q235– A
- Plastic box – not keeping the burning material nylon PA66, UV rays wear resistance
- Box permittivity strength: >18MV/m
- Abnormal heating wear resistance and fire of the outer parts: 960°C /3s
- Maximum current release containing:
  - Copper coil » composition: pure copper T2 type
    - » Resistance: from 0.6 to 180m
    - » Welding effort: <150 000 N/mm
  - Bimetal plate » composition: 5J158 to TB180 depending on the current
    - » Thickness: 0.6mm (up to 40A) and 0.8mm (up to 63A)
  - Magnetic core » composition: coldly draw-plated metal wire (1Gr18Ni9)
    - » Thickness: 1.15 to 2.24µm
    - » Drawing effort: from 200 to 400N/mm
  - Contact head of the movable contact » composition: silver graphite CAg(5)
    - » Dimension 3x3x0.8 (up to 40A) and 4x4x0.8 (up to 63A)
  - Static contact » composition: pure copper T2Y2
    - » Composition of the contact head: silver graphite CAg(5)
- Power supply (conducting)
  - Power supply busbar 1P63, 2P63, 3P63
  - Rigid conductors up to 25 mm<sup>2</sup>
  - Flexible conductors up to 16 mm<sup>2</sup>
- Tightening moment: 1.33Nm

### MOUNTING

- Vertical
- DIN-rail
- For mounting in housing or industrial environment without serious interference
- Ambient temperature: -5°C to + 65°C±2° C



**7 YEARS TOTAL WARRANTY**  
 + 7 standard  
 0 extended  
\* for industrial usage  
 3 years warranty



AC current type

### 1P MINIATURE CIRCUIT BREAKERS C40N

Catalogue number	Type	Number of poles	Rated current I <sub>n</sub> (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41660C	C41N / 2A	1	2	4.5	1.0	12/240
41661C	C41N / 4A	1	4	4.5	1.0	12/240
41651C	C41N / 6A	1	6	4.5	1.0	12/240
41652C	C41N / 10A	1	10	4.5	1.5	12/240
41653C	C41N / 16A	1	16	4.5	2.5	12/240
41654C	C41N / 20A	1	20	4.5	2.5	12/240
41655C	C41N / 25A	1	25	4.5	4.0	12/240
41656C	C41N / 32A	1	32	4.5	6.0	12/240
41657C	C41N / 40A	1	40	4.5	10.0	12/240
41658C	C41N / 50A	1	50	4.5	10.0	12/240
41659C	C41N / 63A	1	63	4.5	10.0	12/240



### 2P MINIATURE CIRCUIT BREAKERS C40N



AC current type

Catalogue number	Type	Number of poles	Rated current I <sub>n</sub> (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41670C	C42N / 6A	2	6	4.5	1.0	6/120
41671C	C42N / 10A	2	10	4.5	1.5	6/120
41672C	C42N / 16A	2	16	4.5	2.5	6/120
41673C	C42N / 20A	2	20	4.5	2.5	6/120
41674C	C42N / 25A	2	25	4.5	4.0	6/120
41675C	C42N / 32A	2	32	4.5	6.0	6/120
41676C	C42N / 40A	2	40	4.5	10.0	6/120
41677C	C42N / 50A	2	50	4.5	10.0	6/120
41678C	C42N / 63A	2	63	4.5	10.0	6/120



### 3P MINIATURE CIRCUIT BREAKERS C40N



AC current type

Catalogue number	Type	Number of poles	Rated current I <sub>n</sub> (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41641C	C43N / 6A	3	6	4.5	1.0	4/80
41642C	C43N / 10A	3	10	4.5	1.5	4/80
41643C	C43N / 16A	3	16	4.5	2.5	4/80
41644C	C43N / 20A	3	20	4.5	2.5	4/80
41645C	C43N / 25A	3	25	4.5	4.0	4/80
41646C	C43N / 32A	3	32	4.5	6.0	4/80
41647C	C43N / 40A	3	40	4.5	10.0	4/80
41648C	C43N / 50A	3	50	4.5	10.0	4/80
41649C	C43N / 63A	3	63	4.5	10.0	4/80



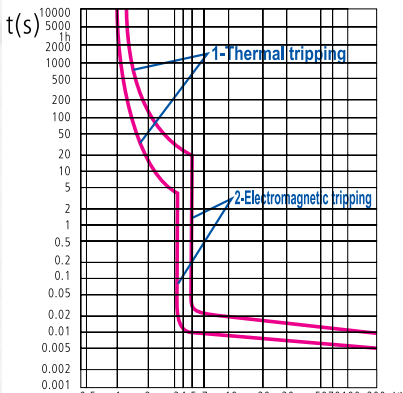
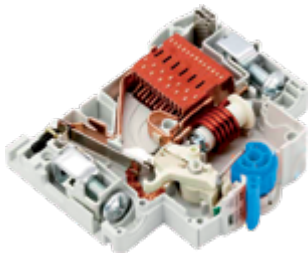
**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## MINIATURE CIRCUIT BREAKERS SERIES C60N

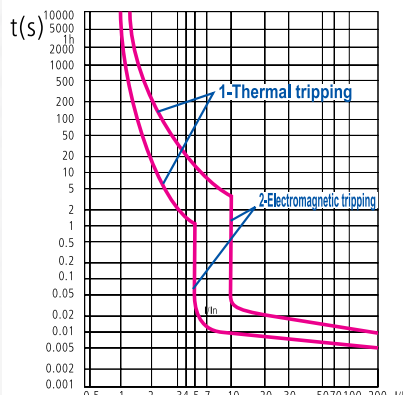
- C6xN
- └─ number of poles (1,2,3,4)
  - └─ breaking capacity in (kA)
  - └─ tripping curve C
- C x
- └─ rated current in (A)
  - └─ tripping curve C,B

**Documents corresponding to the product:**

Standard EN60898-1



**B type**



**C type**

**FUNCTIONS**

- Protection of the electrical circuits from overload or short circuits of the outer circuit
- It can be used as a device for commutation and control of electrical circuits
- In combination with auxiliary devices it allows remote control, commutation or indication of the protected circuit
- For mounting in industrial buildings with high contamination level of the electric systems
- For mounting at a distance from the transformer post from 150 to 850 m
- Allows protection of consumers generating short circuit currents up to 6000 A

**TECHNICAL DATA**

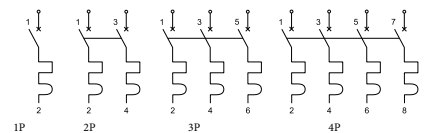
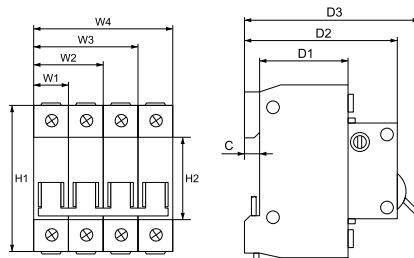
- Rated voltage: 230/400V; 50/60Hz
- Breaking capacity (cycle O-CO) in accordance with standard EN 60 898-1: 6000A
- Rated breaking capacity Ics= 75% Icu
- Isolating voltage: ≥2000V
- Electrical wear resistance (number of cycles): 8000
- Mechanical (number of cycles): 50000
- Class of current limiting: 3
- IP code: IP>20
- Tripping curve:
  - B – the maximum current release breaks between 3 and 5 In; used to protect long circuits and generators
  - C – the maximum current release breaks between 5 and 10 In; used to protect main power supply cables and conventional consumers
- Joining terminal: Combined screw clamp made of 1.5 cold extruded Q235-A material with additional coating
- Plastic box – nylon glass filled FR material
- Status indicator
- Box permittivity strength: >18MV/m
- Abnormal heating wear resistance and fire of the outer parts: 960°C / 3s
- Heat resistance of internal non-electrical components: 850°C / 10 s
- Maximum current release containing:
  - coil: solenoid
    - » resistance: from 0.6 to 180m
    - » welding effort: <150 000 N/mm
  - bimetal plate – composition: 5J158 to TB180 depending on the current
    - » thickness: 0.6mm (up to 40A) and 0.8mm (up to 63A)
  - Magnetic core » composition: coldly draw-plated metal wire (1Gr18Ni9)
    - » thickness: 1.15 to 2.24µm
    - » drawing effort: from 200 to 400N/mm
  - contact head of the movable contact – composition: silver graphite CAg(5)
    - » dimension 3x3x0.8 (up to 40A) and 4x4x0.8 (up to 63A)
  - static contact – composition: pure copper T2Y2
    - » composition of the contact head: silver graphite CAg(5)
- Power supply (conducting)
  - power supply busbar 1P63, 2P63, 3P63
  - rigid conductors up to 25 mm<sup>2</sup>
  - flexible conductors up to 16 mm<sup>2</sup>
- Tightening moment: 1.33Nm

**MOUNTING**

- Vertical
- DIN-rail
- For mounting in housing or industrial environment without serious interference
- Ambient temperature: -5°C to + 65°C±2° C

Dimensions (mm)

C	D1	D2	D3	H1
5	50	65	72	81
H2	W1	W2	W3	W4
45	18	36	54	72



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

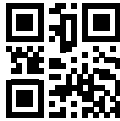




AC current type

### 1P MINIATURE CIRCUIT BREAKERS C60N

Catalogue number Curve C	Catalogue number Curve B	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41100C	41501C	C61N / 1A	1	1	6	1.0	12/240
41102C	41502C	C61N / 2A	1	2	6	1.0	12/240
41104C	41504C	C61N / 4A	1	4	6	1.0	12/240
41106C	41506C	C61N / 6A	1	6	6	1.0	12/240
41110C	41510C	C61N / 10A	1	10	6	1.5	12/240
41116C	41516C	C61N / 16A	1	16	6	2.5	12/240
41120C	41520C	C61N / 20A	1	20	6	2.5	12/240
41125C	41525C	C61N / 25A	1	25	6	4.0	12/240
41132C	41532C	C61N / 32A	1	32	6	6.0	12/240
41140C	41540C	C61N / 40A	1	40	6	10.0	12/240
41150C	41550C	C61N / 50A	1	50	6	10.0	12/240
41163C	41563C	C61N / 63A	1	63	6	10.0	12/240



### 2P MINIATURE CIRCUIT BREAKERS C60N



AC current type

Catalogue number Curve C	Catalogue number Curve B	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41202C	41602C	C62N / 2A	2	2	6	1.0	6/120
41204C	41604C	C62N / 4A	2	4	6	1.0	6/120
41206C	41606C	C62N / 6A	2	6	6	1.0	6/120
41210C	41610C	C62N / 10A	2	10	6	1.5	6/120
41216C	41616C	C62N / 16A	2	16	6	2.5	6/120
41220C	41620C	C62N / 20A	2	20	6	2.5	6/120
41225C	41625C	C62N / 25A	2	25	6	4.0	6/120
41232C	41632C	C62N / 32A	2	32	6	6.0	6/120
41240C	41640C	C62N / 40A	2	40	6	10.0	6/120
41250C	41650C	C62N / 50A	2	50	6	10.0	6/120
41263C	41663C	C62N / 63A	2	63	6	10.0	6/120



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

### 3P MINIATURE CIRCUIT BREAKERS C60N



AC current type

Catalogue number Curve C	Catalogue number Curve B	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41302C	41702C	C63N / 2A	3	2	6	1.0	4/80
41304C	41704C	C63N / 4A	3	4	6	1.0	4/80
41306C	41706C	C63N / 6A	3	6	6	1.0	4/80
41310C	41710C	C63N / 10A	3	10	6	1.5	4/80
41316C	41716C	C63N / 16A	3	16	6	2.5	4/80
41320C	41720C	C63N / 20A	3	20	6	2.5	4/80
41325C	41725C	C63N / 25A	3	25	6	4.0	4/80
41332C	41732C	C63N / 32A	3	32	6	6.0	4/80
41340C	41740C	C63N / 40A	3	40	6	10.0	4/80
41350C	41750C	C63N / 50A	3	50	6	10.0	4/80
41363C	41763C	C63N / 63A	3	63	6	10.0	4/80



### 4P MINIATURE CIRCUIT BREAKERS C60N



AC current type

Catalogue number Curve C	Catalogue number Curve B	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41402C	41802C	C64N / 2A	4	2	6	1.0	3/60
41404C	41804C	C64N / 4A	4	4	6	1.0	3/60
41406C	41806C	C64N / 6A	4	6	6	1.0	3/60
41410C	41810C	C64N / 10A	4	10	6	1.5	3/60
41416C	41816C	C64N / 16A	4	16	6	2.5	3/60
41420C	41820C	C64N / 20A	4	20	6	2.5	3/60
41425C	41825C	C64N / 25A	4	25	6	4.0	3/60
41432C	41832C	C64N / 32A	4	32	6	6.0	3/60
41440C	41840C	C64N / 40A	4	40	6	10.0	3/60
41450C	41850C	C64N / 50A	4	50	6	10.0	3/60
41463C	41863C	C64N / 63A	4	63	6	10.0	3/60



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## MINIATURE CIRCUIT BREAKERS SERIES C100L

C10xL  
 └─ number of poles (1,2,3)  
 └─ breaking capacity in (kA)  
 └─ tripping curve B, C  
 C x  
 └─ rated current in (A)  
 └─ tripping curve C, B

### Documents corresponding to the product:

Standard EN60898-1  
EN60947-2



### FUNCTIONS

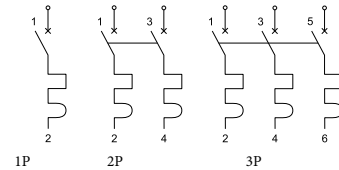
- Protection of the electrical circuits from overload or short circuits of the outer circuit
- It can be used as a device for commutation and control of electrical circuits
- In combination with auxiliary devices it allows remote control, commutation or indication of the protected circuit

### TECHNICAL DATA

- Rated voltage: 230/400V; 50/60Hz
- Breaking capacity (cycle O-CO) in accordance with standard EN 60 898-1: 10000A
- Rated breaking capacity  $I_{cs} = 75\% I_{cu}$
- Isolating voltage:  $\geq 2000V$ , 1 min at impulse wave 1.2/50 $\mu s$
- Electrical wear resistance (number of cycles):  $\geq 4000$
- Mechanical wear resistance (number of cycles):  $\geq 20000$
- Class of current limiting: 3
- IP code: IP > 20
- Tripping curve: C

### MOUNTING

- Vertical
- DIN-rail
- Possibility for labeling



## 1P MINIATURE CIRCUIT BREAKERS C100L



AC current type

Catalogue number Curve C	Catalogue number Curve B	Type	Number of poles	Rated current $I_n$ (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41101C	41101C/B	C101L/6A	1	6	10	1.0	12/240
41103C	41103C/B	C101L/10A	1	10	10	1.5	12/240
41105C	41105C/B	C101L/16A	1	16	10	2.5	12/240
41107C	41107C/B	C101L/20A	1	20	10	2.5	12/240
41108C	41108C/B	C101L/25A	1	25	10	4.0	12/240
41109C	41109C/B	C101L/32A	1	32	10	6.0	12/240
41111C	41111C/B	C101L/40A	1	40	10	10.0	12/240
41112C	41112C/B	C101L/50A	1	50	10	10.0	12/240
41113C	41113C/B	C101L/63A	1	63	10	16.0	12/240



**7 YEARS TOTAL WARRANTY**  
 + 7 standard  
 0 extended  
 \* for industrial usage  
 3 years warranty



AC current type

### 2P MINIATURE CIRCUIT BREAKERS C100L

Catalogue number Curve C	Catalogue number Curve B	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41201C	41201C/B	C102L/6A	2	6	10	1.0	6/120
41203C	41203C/B	C102L/10A	2	10	10	1.5	6/120
41205C	41205C/B	C102L/16A	2	16	10	2.5	6/120
41207C	41207C/B	C102L/20A	2	20	10	2.5	6/120
41208C	41208C/B	C102L/25A	2	25	10	4.0	6/120
41209C	41209C/B	C102L/32A	2	32	10	6.0	6/120
41211C	41211C/B	C102L/40A	2	40	10	10.0	6/120
41212C	41212C/B	C102L/50A	2	50	10	10.0	6/120
41213C	41213C/B	C102L/63A	2	63	10	16.0	6/120



### 3P MINIATURE CIRCUIT BREAKERS C100L



AC current type

Catalogue number Curve C	Catalogue number Curve B	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41301C	41301C/B	C103L/6A	3	6	10	1.0	4/80
41303C	41303C/B	C103L/10A	3	10	10	1.5	4/80
41305C	41305C/B	C103L/16A	3	16	10	2.5	4/80
41307C	41307C/B	C103L/20A	3	20	10	2.5	4/80
41308C	41308C/B	C103L/25A	3	25	10	4.0	4/80
41309C	41309C/B	C103L/32A	3	32	10	6.0	4/80
41311C	41311C/B	C103L/40A	3	40	10	10.0	4/80
41312C	41312C/B	C103L/50A	3	50	10	10.0	4/80
41313C	41313C/B	C103L/63A	3	63	10	16.0	4/80



### 4P MINIATURE CIRCUIT BREAKERS C100L



AC current type

Catalogue number Curve C	Catalogue number Curve B	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41401C	41401C/B	C104L/6A	4	6	10	1.0	3/60
41403C	41403C/B	C104L/10A	4	10	10	1.5	3/60
41405C	41405C/B	C104L/16A	4	16	10	2.5	3/60
41407C	41407C/B	C104L/20A	4	20	10	2.5	3/60
41408C	41408C/B	C104L/25A	4	25	10	4.0	3/60
41409C	41409C/B	C104L/32A	4	32	10	6.0	3/60
41411C	41411C/B	C104L/40A	4	40	10	10.0	3/60
41412C	41412C/B	C104L/50A	4	50	10	10.0	3/60
41413C	41413C/B	C104L/63A	4	63	10	16.0	3/60



**7 YEARS TOTAL WARRANTY**  
+ 7 standard 0 extended  
\* for industrial usage 3 years warranty



## MINIATURE CIRCUIT BREAKERS DP1N (1P + E)

### FUNCTIONS

- Protection of the electrical circuits from overload or short circuit of the outer circuit
- It can be used as a device for commutation and control of electrical circuits
- It breaks simultaneously the lead and the neutral conductor as the heat protection is only at the lead conductor

### TECHNICAL DATA

- Rated voltage: 230V; 50/60Hz
- Breaking capacity (cycle O-CO) in accordance with standard EN 60 898-1: 4500 A
- Rated breaking capacity Ics = 50% Icu
- Insulating voltage:  $\geq 2000V$
- Tripping curve: C – the maximum current release breaks between 5 and 10 In; used to protect main power supply
- Cables and conventional consumers

### CONNECTING

- Joining terminal: flat (tunnel) screw terminal
- Power supply (conducting):
  - power supply busbar DP1N
  - flexible or rigid conductor
- Mounting: on DIN-rail



AC current type



Catalogue number Curve C	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41006C	DP1N/6	1P+N	6	4.5	1.0	12/240
41010C	DP1N/10	1P+N	10	4.5	1.5	12/240
41016C	DP1N/16	1P+N	16	4.5	2.5	12/240
41020C	DP1N/20	1P+N	20	4.5	2.5	12/240
41025C	DP1N/25	1P+N	25	4.5	4.0	12/240
41032C	DP1N/32	1P+N	32	4.5	6.0	12/240

**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## MINIATURE CIRCUIT BREAKERS SERIES C100M

C100M constructive series  
 L number of poles (1;2;3;4)  
 D x rated current  
 L tripping curve C, D, B

### Documents corresponding to the product:

Standard EN60898-1  
 EN 60947-2



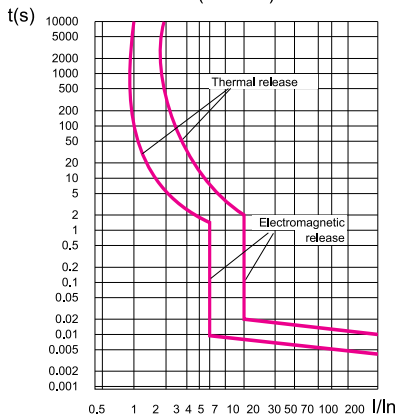
### FUNCTIONS

- Protection of the electrical circuits from overload or short circuits of the outer circuit
- It can be used as a device for commutation and control of electrical circuits
- In combination with auxiliary devices it allows remote control, commutation or indication of the protected circuit

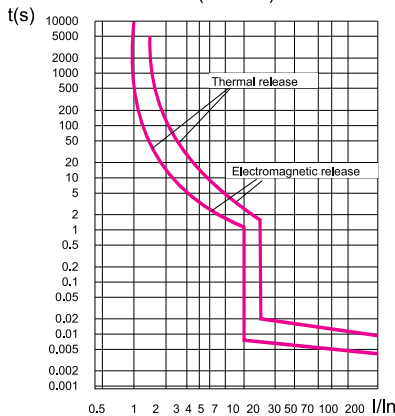
### TECHNICAL DATA

- Rated voltage: 230/400V; 50/60Hz
- Breaking capacity (cycle O-CO) in accordance with standard EN 60 898-1: 10000A
- Rated breaking capacity  $I_{cs} = 75\% I_{cu}$
- Isolating volatage:  $\geq 2000V$
- Electrical wear resistance (number of cycles):  $\geq 4000$
- Mechanical wear resistance (number of cycles):  $\geq 20000$
- Class of current limiting: 3
- IP code: IP>20
- Tripping curve: C,D
- Joining terminal: flat (tunnel) screw terminal with composition 1.5 coldly draw-plated plane Q235 – A
- Plastic box – not keeping the burning material nylon PA66, UV rays wear resistance
- Box permittivity strength:  $> 18MV/m$
- Abnormal heating wear resistance and fire of the outer parts:  $960^{\circ}C / 3s$
- Maximum current release containing:
  - > copper coil - composition: pure copper T2 type
    - > resistance: from 148 to 230m
    - > welding effort:  $< 400 N/mm^2$
  - > bimetal plate – composition: TB180/0.5
    - > thickness: 0.8mm
  - > magnetic core – composition: coldly draw-plated metal wire (1Gr18Ni9)
    - > thickness: 1.15 to 2.24 $\mu m$
    - > drawing effort: 20N/mm<sup>2</sup>
  - > contact head of the movable contact – composition: silver graphite CAg(5)
    - > dimension 6x6x1
  - > static contact – composition: pure copper T2Y2
    - > composition of the contact head: silver graphite CAg(5)
- Power supply (conducting)
  - > power supply busbar
  - > rigid conductors up to 50 mm<sup>2</sup>
  - > rigid conductors up to 50 mm<sup>2</sup>
- Tightening moment: 1.33Nm

(C curve)



(D curve)

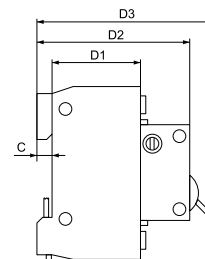
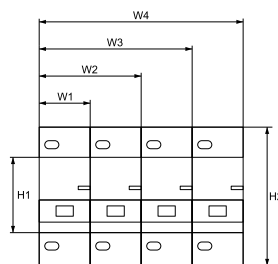
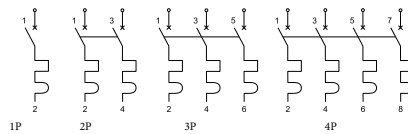


### MOUNTING

- Vertical
- DIN-rail
- Possibility for labeling
- For mounting in industrial environment
- Ambient temperature:  $-5^{\circ}C$  to  $+65^{\circ}C \pm 2^{\circ}C$

Dimensions (mm)

C	D1	D2	D3	H1
5	50	65	74	45
H2	W1	W2	W3	W4
81	27	54	81	108



**7 YEARS TOTAL WARRANTY**  
 + 7 standard  
 0 extended  
\* for industrial usage  
 3 years warranty

### 1P MINIATURE CIRCUIT BREAKERS C100M



AC current type

Catalogue number Curve C	Catalogue number Curve B	Catalogue number Curve D	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Packing/Box (pcs)
41180	41180B	41180D	C100M	1	80	10	9/180
41190	41190B	41190D	C100M	1	100	10	9/180
41195	41195B	41195D	C100M	1	125	10	9/180



### 2P MINIATURE CIRCUIT BREAKERS C100M



AC current type

Catalogue number Curve C	Catalogue number Curve B	Catalogue number Curve D	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Packing/Box (pcs)
41280	41282	41281	C100M	2	80	10	6/120
41290	41292	41291	C100M	2	100	10	6/120



### 3P MINIATURE CIRCUIT BREAKERS C100M



AC current type

Catalogue number Curve C	Catalogue number Curve B	Catalogue number Curve D	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Packing/Box (pcs)
41380	41382	41381	C100M	3	80	10	4/60
41390	41392	41391	C100M	3	100	10	4/60



### 4P MINIATURE CIRCUIT BREAKERS C100M



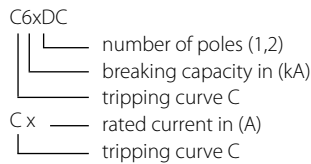
AC current type

Catalogue number Curve C	Catalogue number Curve B	Catalogue number Curve D	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Packing/Box (pcs)
41480	41482	41481	C100M	4	80	10	3/60
41490	41492	41491	C100M	4	100	10	3/60



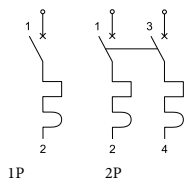
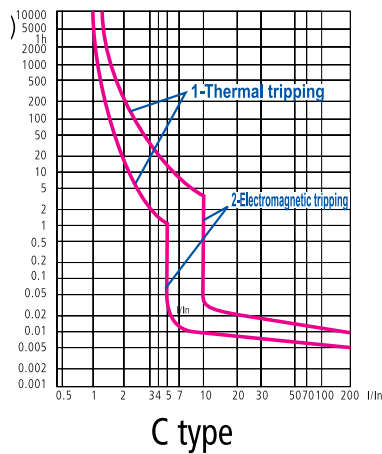
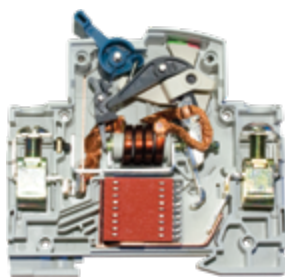
**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## DC MINIATURE CIRCUIT BREAKERS (MCB)



### Documents corresponding to the product:

Standard EN60898-1  
EN60898-2



## MINIATURE CIRCUIT BREAKERS C60DC

### FUNCTIONS

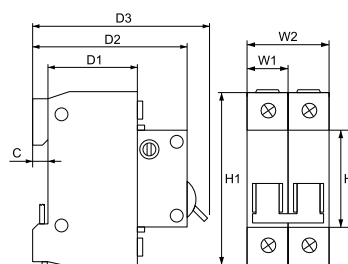
- For lowering constant current voltaic arc and use of the breaker at constant current consumer protection
- Protection of the electrical circuits from overload or short circuit of the outer circuit at alternating current and constant current power supply circuits
- For commutation and control of electrical circuits
- In combination with auxiliary alternating current devices for remote control, commutation or indication of the protected circuit
- For mounting in industrial buildings
- For protection of consumers generating short circuit currents to 6000 A at alternating current power supply

### TECHNICAL DATA

- Rated voltage: 240V; AC/DC
- Breaking capacity (cycle O -CO) in accordance with standard EN 60 898- 1: 6000A
- Rated breaking capacity  $I_{cs}=75\% I_{cu}$
- Insulating voltage:  $\geq 2000V$
- Electrical wear resistance (number of cycles):  $\geq 4000$
- Mechanical wear resistance (number of cycles):  $\geq 20000$
- Class of current limiting: 3
- IP code: IP>20
- Tripping curve: C – the maximum current release breaks between 5 and 10 In; used to protect power supply cables and conventional consumers
- Joining terminal: flat (tunnel) screw terminal with composition 1.5 coldly draw-plated plane Q235– A
- Plastic box – nylon glass filled FR material
- Box permittivity strength:  $> 18MV/m$
- Abnormal heating wear resistance and fire of the outer parts:  $960^{\circ}C / 3s$
- Maximum current release containing:
  - Coil: solenoid
    - resistance: from 0.6 to 180m
    - welding effort:  $< 150\ 000\ N/mm^2$
  - bimetal plate – composition: 5J158 to TB180 according to the current
    - thickness: 0.6mm (up to 40A) and 0.8mm (up to 63A)
  - magnetic core – composition: coldly draw-plated metal wire (1Gr18Ni9)
    - thickness: 1.15 to 2.24 $\mu m$
    - drawing effort: from 200 to 400N/mm
  - contact head of the movable contact – composition: silver graphite CAg(5)
    - dimension 3x3x0.8 (up to 40A) and 4x4x0.8 (up to 63A)
  - static contact – composition: pure copper T2Y2
    - composition of the contact head: silver graphite CAg(5)
  - metal magnetic plate for lowering the constant current arc
- Conducting:
  - power supply busbar 1P63, 2P63
  - rigid conductors up to 25 mm<sup>2</sup>
  - flexible conductors up to 16 mm<sup>2</sup>
- Tightening moment: 1.33Nm

### MOUNTING

- Vertical
- DIN-rail
- For mounting in housing or industrial environment without serious current interference
- Ambient temperature:  $-5^{\circ}C$  to  $+ 65^{\circ}C \pm 2^{\circ} C$



Dimensions (mm)

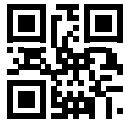
	D1	D2	D3
C			
5	49	65	72
H1	H2	W1	W2
78	45	18	36

**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

### 1P MINIATURE CIRCUIT BREAKERS C60DC



Catalogue number	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41164C	C61DC / 1A	1	1	6	1.0	12/240
41165C	C61DC / 2A	1	2	6	1.0	12/240
41166C	C61DC / 4A	1	4	6	1.0	12/240
41167C	C61DC / 6A	1	6	6	1.0	12/240
41168C	C61DC / 10A	1	10	6	1.5	12/240
41169C	C61DC / 16A	1	16	6	2.5	12/240
41170C	C61DC / 20A	1	20	6	2.5	12/240
41171C	C61DC / 25A	1	25	6	4.0	12/240
41172C	C61DC / 32A	1	32	6	6.0	12/240
41173C	C61DC / 40A	1	40	6	10.0	12/240
41174C	C61DC / 50A	1	50	6	10.0	12/240
41175C	C61DC / 63A	1	63	6	10.0	12/240



### 2P MINIATURE CIRCUIT BREAKERS C60DC



Catalogue number	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41176C	C62DC / 2A	2	2	6	1.0	6/120
41177C	C62DC / 4A	2	4	6	1.0	6/120
41178C	C62DC / 6A	2	6	6	1.0	6/120
41179C	C62DC / 10A	2	10	6	1.5	6/120
41181C	C62DC / 16A	2	16	6	2.5	6/120
41182C	C62DC / 20A	2	20	6	2.5	6/120
41183C	C62DC / 25A	2	25	6	4.0	6/120



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty



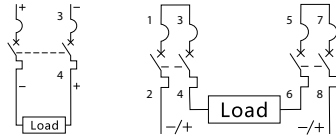
**Documents corresponding to the product:**

Standard IEC60947-2

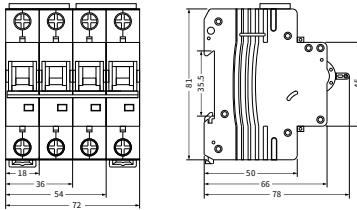
**MINIATURE CIRCUIT BREAKERS (MCB) C60DC PV 500V DC**

MINIATURE CIRCUIT BREAKERS (MCB) C60DC PV the rated working voltage of DC circuit breakers specially used in photovoltage can be as high as DC 1000V. The special arc extinguishing and current limiting system can quickly disconnect the fault current of the DC power distribution system. The photovoltage module, an important component in solar power system, can avoid damage from high DC reverse current and AC feedback current caused by the inverter failure, ensuring a reliable operation of solar PV system.

**Circuit Diagram**



**Overall and Installation Dimension(mm)**



**FUNCTIONS**

- Disconnection the fault current of the DC power distribution system trough are extinguishing and current limiting system.
- Protection from high DC reverse current and AC feedback current caused by the inverter failure, ensuring a reliable operation of solar PV system.
- Responsible protection of high cost components in PV system.
- Covers all common PV system voltages and currents.

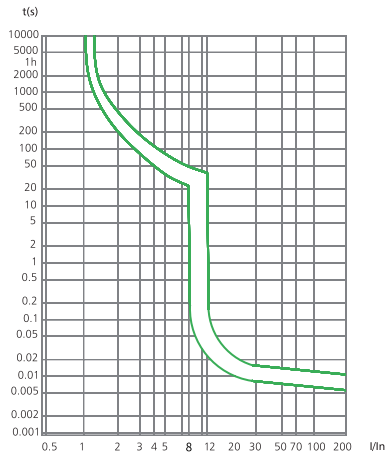
**TECHNICAL DATA**

- Rated voltage: 2P(500V); 4P(1000V)
- Breaking capacity (cycle O -CO) in accordance with standard EN 60 898- 1: 6000A
- Tripping curve: C
- Rated impulse withstands voltage (1.5/50) Uimp: 4000V
- Dielectric test voltage at ind. Freq. for 1 min: 2kV
- Electrical wear resistance (number of cycles): ≥4000
- Mechanical wear resistance (number of cycles): ≥10000
- Pollution degree: 2
- Contact position indicator: Yes
- IP code: IP>20
- Terminal connection type:
  - Cable
  - Pin-type busbar
  - U-type busbar
- Terminal size top/bottom for cable: 25mm<sup>2</sup>
- Terminal size top/bottom for busbar: 25mm<sup>2</sup>
- Tightening torque: 2.5Nm

**MOUNTING**

- Vertical
- DIN-rail
- For mounting in housing or industrial environment without serious current interference
- Ambient temperature: -5° C to + 65°C±2° C
- Daily temperature average: ≤35° C

**Characteristics Curves**



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## 2P MINIATURE CIRCUIT BREAKERS (MCB) C60DC PV 500V DC



Catalogue number	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41264	C62DC PV/6A	2	6	6	4.0	1/6/90
41265	C62DC PV/10A	2	10	6	4.0	1/6/90
41266	C62DC PV/13A	2	13	6	4.0	1/6/90
41267	C62DC PV/16A	2	16	6	4.0	1/6/90
41268	C62DC PV/20A	2	20	6	6.0	1/6/90
41269	C62DC PV/25A	2	25	6	6.0	1/6/90
41270	C62DC PV/32A	2	32	6	10.0	1/6/90
41271	C62DC PV/40A	2	40	6	10.0	1/6/90
41272	C62DC PV/50A	2	50	6	16.0	1/6/90
41273	C62DC PV/63A	2	63	6	25.0	1/6/90



## 4P MINIATURE CIRCUIT BREAKERS (MCB) C60DC PV 1000V DC



Catalogue number	Type	Number of poles	Rated current In (A)	Breaking capacity (kA)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41564	C64DC PV/6A	4	6	6	4.0	1/3/45
41565	C64DC PV/10A	4	10	6	4.0	1/3/45
41566	C64DC PV/13A	4	13	6	4.0	1/3/45
41567	C64DC PV/16A	4	16	6	4.0	1/3/45
41568	C64DC PV/20A	4	20	6	6.0	1/3/45
41569	C64DC PV/25A	4	25	6	6.0	1/3/45
41570	C64DC PV/32A	4	32	6	10.0	1/3/45
41571	C64DC PV/40A	4	40	6	10.0	1/3/45
41572	C64DC PV/50A	4	50	6	16.0	1/3/45
41573	C64DC PV/63A	4	63	6	25.0	1/3/45



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## AUXILIARY DEVICES FOR CIRCUIT BREAKERS

### SINGLE-PHASE DIGITAL VOLTAGE AND CURRENT PROTECTOR



#### FUNCTIONS

- Under-voltage protection
- Over-voltage protection
- Over-current protection

#### FACTORY SETTING

- Over-voltage trip value: 270V
- Under-voltage trip value: 170V
- Over-current trip value: 63A
- Voltage power off time: 2s
- Starting delay time: 2s
- Current power off time: 2s

#### TECHNICAL DATA

- Operated voltage range: 80-400V AC; 50/60Hz (Single-phase)
- Rated current: 63A
- Over-voltage protection value: 230-300V AC
- Under-voltage protection value: 140-230VAC
- Over-current protection value: 1-63A
- Voltage power off time: 0-400s
- Current power off time: 0-30s
- Voltage range setting step: 1V
- Time range setting step: 1s
- Power consumption: ≤ 1.5W
- Mechanical life: 100 000
- Relative humidity: 45-90% Rh
- Altitude: up to 2000m
- Pollution level: 2 class
- Dimensions: 36x80x66mm
- Mounting: on DIN rail

Catalogue number	Type	Rated voltage	Over-voltage protection range	Under-voltage protection range	Over-current protection range	Packing/Box (pcs)
41906	ELMARK MN4	220V AC	230-300V AC	140-230V AC	1-63A	1/100



### THREE-PHASE DIGITAL VOLTAGE AND CURRENT PROTECTOR



#### FUNCTIONS

- Under-voltage protection
- Over-voltage protection
- Over-current protection

#### FACTORY SETTING

- Over-voltage trip value: 420V
- Under-voltage trip value: 210V
- Over-current trip value: 63A
- Voltage power off time: 2s
- Starting delay time: 2s
- Current power off time: 2s

#### TECHNICAL DATA

- Operated voltage range: 140-500V AC; 50/60Hz (Three-phase)
- Rated current: 63A
- Over-voltage protection value: 390-500V AC
- Under-voltage protection value: 140-370VAC
- Over-current protection value: 1-63A
- Voltage power off time: 0-400s
- Current power off time: 0-30s
- Voltage range setting step: 1V
- Time range setting step: 1s
- Power consumption: ≤ 1.5W
- Mechanical life: 100 000
- Relative humidity: 45-90% Rh
- Altitude: up to 2000m
- Pollution level: 2 class
- Dimensions: 72x80x66mm
- Mounting: on DIN rail

Catalogue number	Type	Rated voltage	Over-voltage protection range	Under-voltage protection range	Over-current protection range	Packing/Box (pcs)
41907	ELMARK MN4	400V AC	390-500V AC	140-370V AC	1-63A	1/50



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
+ 2 extended

**Documents corresponding to the product:**

EN 60255-1; IEC60947-5-1



**SINGLE POLE MONITORING VOLTAGE RELAY MN1**

**FUNCTIONS**

- Protect electrical equipment from over & under voltage
- Voltage measurement accuracy <1%
- Relay status is indicated by LED

**TECHNICAL DATA**

- Rated voltage: 220V AC; 50/60Hz
- Hysteresis: 0-20% adjustable
- Time delay: 0.1-10s adjustable
- Reset time: 0.2 sec max
- Current rating: 3A/AC-15
- Mechanical life: 1X10<sup>7</sup>
- Electrical life: 1X10<sup>5</sup>
- Ambient temperature: -10C°/+55C°
- Dimensions: 90x18x64mm
- Mounting: on DIN rail

Catalogue number	Type	Rated voltage	Hysteresis	Packing/Box (pcs)
41900	ELMARK MN1	220V AC	0-20% adjustable	12/240



**Documents corresponding to the product:**

EN 60255-1; IEC60947-5-1



**THREE POLE MONITORING VOLTAGE RELAY MN3**

**FUNCTIONS**

- Protect electrical equipment from over & under voltage
- Voltage measurement accuracy <1%
- Relay status is indicated by LED

**TECHNICAL DATA**

- Rated voltage: 415V AC; 50/60Hz
- Hysteresis: 0-20% adjustable
- Time delay: 0.1-10s adjustable
- Reset time: 0.2 sec max
- Current rating: 3A/AC-15
- Mechanical life: 1X10<sup>7</sup>
- Electrical life: 1X10<sup>5</sup>
- Ambient temperature: -10C°/+55C°
- Dimensions: 90x18x64mm
- Mounting: on DIN rail

Catalogue number	Type	Rated voltage	Hysteresis	Packing/Box (pcs)
41927	ELMARK MN3	415V AC	0-20% adjustable	12/240



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty



## SHUNT RELEASE MX

### FUNCTIONS

- Remote circuit breaker switching off at voltage feed
- Allows manual switching on of the breaker at voltage recovery
- Indication of the device's location

### TECHNICAL DATA

- Rated voltage: 230V; 50/60Hz
- Isolating voltage:  $\geq 2000V$
- IP code: IP>20

### CONNECTING

- Joining terminal: flat (tunnel) screw terminal
- Conductors: flexible up to 1.5mm<sup>2</sup>
- Tightening moment: 1.33Nm
- The power supply of the release is accomplished at the outlet of the breaker

### MOUNTING

- Vertical, clamps with two pins to the breaker's rivets and the executive mechanism is joined up to the switching mechanism of the breaker after dismantling the seal cover

Catalogue number	Type	Rated voltage	Type breaker	Packing/Box (pcs)
41902C	ELMARK MX 60	230V	C60	12/240



## AUXILIARY CONTACT OF

### FUNCTIONS

- At circuit breaker switching off it sends a signal to the control or signalization system
- Indication of the location of the auxiliary contact and the breaker

### TECHNICAL DATA

- Rated voltage: 230V
- Isolating voltage:  $\geq 2000V$
- IP code: IP>20

### CONNECTING

- Joining terminal: flat (tunnel) screw terminal
- Power supply (conducting): - flexible conductors up to 1.5mm<sup>2</sup>

### MOUNTING

- Vertical, clamps with two pins to breaker's rivets, and the executive mechanism is joined up to the switching mechanism of the breaker after dismantling the seal cover

Catalogue number	Type	Rated voltage	Type breaker	Packing/Box (pcs)
41901C	ELMARK OF 60	230V	C60	12/240



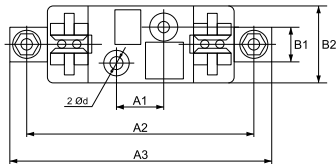
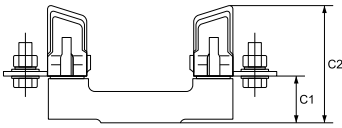
**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty



## HIGH POWER SAFETY DEVICES AND ISOLATING SWITCHES

### Documents corresponding to the product:

Standard EN 60269-1



### BASES FOR HIGH POWER SAFETY DEVICES

The series bases for high power safety device is manufactured of permittivity alloy with mounted contact jaws of electrolytic copper supplied with special springs for contact compression and easy fuse links taking out. All current leading parts are connected to inlet outlet terminals with bolts; the terminals also end with bolts, to which the power supply conductors are connected. The bases are offered in five type sizes corresponding to the five types of fuse links.

Remark : Fuse bases SIST are made of resin / Remark : Fuse bases SISP are made of porcelain

#### Overall dimensions (mm)

Base type	A1	A2	A3	B1	B2	C1	C2	Ød
SIST00	25	100	120	-	30	25	60	7.5
SIST 0	25	150	170	-	30	37	72	7.5
SIST1	25	175	200	30	58	38	84	10.5
SIST2	25	200	225	30	60	38	100	10.5
SIST3	25	210	250	30	60	40	105	10.5

Catalogue number	Base type	Fuse link type	Rated current (A)	Rated voltage Un (V)	Weight (gr)	Packing / Box (pcs)
12001	SIST00	NT 00	up to 160	600	193	5/120



Catalogue number	Base type	Fuse link type	Rated current (A)	Rated voltage Un (V)	Weight (gr)	Packing / Box (pcs)
12010	SIST0	NT 0	up to 160	600	295	3/54



Catalogue number	Base type	Fuse link type	Rated current (A)	Rated voltage Un (V)	Weight (gr)	Packing / Box (pcs)
12100	SIST1	NT 1	up to 250	600	550	3/36



Catalogue number	Base type	Fuse link type	Rated current (A)	Rated voltage Un (V)	Weight (gr)	Packing / Box (pcs)
12200	SIST2	NT 2	up to 400	600	770	1/20



Catalogue number	Base type	Fuse link type	Rated current (A)	Rated voltage Un (V)	Weight (gr)	Packing / Box (pcs)
12300	SIST3	NT 3	up to 630	600	965	1/20



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

**Documents corresponding to the product:**

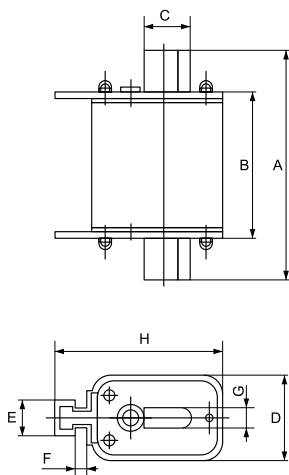
Standard EN 60269-1  
EN 60269-2

**FUSE LINKS FOR HIGH POWER SAFETY DEVICE**

The series fuse links for high power safety devices is designed for short circuit protection. They are distinguished with high speed of operation and high reliability. The element is a ceramic (porcelain) body filled with fine quartz sand for voltaic arc lowering. In the ceramic body is mounted a fusible, specially profiled wafer connecting the current leading terminals. These terminals are manufactured of copper alloy with special nickel coating and have the form of knives to provide more contact surface. The fuse links correspond to "gL – gG" class which means that they are with common function and normal response time. NH Fuses.

**TECHNICAL DATA**

- Rated voltage: 500V
- Rated short circuit current: 120 kA
- IP code: IP 00
- Ambient temperature: -5 to +65°C
- Altitude: up to 2000m
- Operating class gL/gG – general purpose, line protection, slow acting.



Base type	A	B	C	D	H
NT00	78	40	15	29	56.5
NT 0	125	68	15	29	56.5
NT1	135	68	21	48	62
NT 2	150	68	27	58	72
NT 3	150	68	33	67	84.5
NT00C	78	40	15	21	56.5
NT1C	135	68	21	29	62
NT2C	150	68	33	48	84.5

Catalogue number	Type	In (A)	Un (V)	Packing / Box (pcs)
10001	NT00	16	500,600	3/90
10002	NT00	25	500,600	3/90
10003	NT00	32	500,600	3/90
10004	NT00	40	500,600	3/90
10005	NT00	50	500,600	3/90
10006	NT00	63	500,600	3/90
10008	NT00	80	500,600	3/90
10009	NT00	100	500,600	3/90
10012	NT00	125	500,600	3/90
10016	NT00	160	500,600	3 / 90



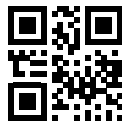
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



Catalogue number	Type	In (A)	Un (V)	Packing / Box (pcs)
10015	NT0	16	500,600	3/90
10025	NT0	25	500,600	3/90
10032	NT0	32	500,600	3/90
10040	NT0	40	500,600	3/90
10050	NT0	50	500,600	3/90
10063	NT0	63	500,600	3/90
10080	NT0	80	500,600	3/90
10090	NT0	100	500,600	3/90
10092	NT0	125	500,600	3/90
10096	NT0	160	500,600	3/90



Catalogue number	Type	In (A)	Un (V)	Packing / Box (pcs)
10108	NT1	80	500,600	3/36
10110	NT1	100	500,600	3/36
10112	NT1	125	500,600	3/36
10116	NT1	160	500,600	3/36
10120	NT1	200	500,600	3/36
10122	NT1	225	500,600	3/36
10125	NT1	250	500,600	3/36



Catalogue number	Type	In (A)	Un (V)	Packing / Box (pcs)
10216	NT2	160	500,600	1/24
10220	NT2	200	500,600	1/24
10225	NT2	250	500,600	1/24
10231	NT2	315	500,600	1/24
10240	NT2	400	500,600	1/24



Catalogue number	Type	In (A)	Un (V)	Packing / Box (pcs)
10350	NT3	500	500,600	1/24
10363	NT3	630	500,600	1/24



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



Catalogue number	Type	In (A)	Un (V)	Packing / Box (pcs)
10001C	NT00C	16	500,600	3/120
10002C	NT00C	25	500,600	3/120
10003C	NT00C	32	500,600	3/120
10004C	NT00C	40	500,600	3/120
10005C	NT00C	50	500,600	3/120
10006C	NT00C	63	500,600	3/120
10008C	NT00C	80	500,600	3/120
10009C	NT00C	100	500,600	3/120



Catalogue number	Type	In (A)	Un (V)	Packing / Box (pcs)
10108C	NT1C	80	500,600	3/54
10110C	NT1C	100	500,600	3/54
10112C	NT1C	125	500,600	3/54
10116C	NT1C	160	500,600	3/54



Catalogue number	Type	In (A)	Un (V)	Packing / Box (pcs)
10216C	NT2C	160	500,600	1/30
10220C	NT2C	200	500,600	1/30
10225C	NT2C	250	500,600	1/30



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

**Documents corresponding to the product:**

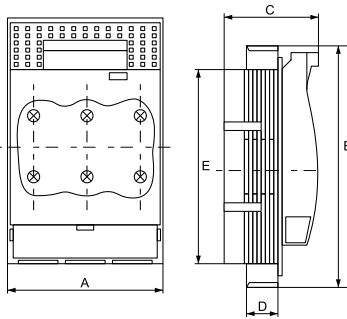
Standard EN 60947-1; EN 60947-3

**ISOLATING SWITCHES**

Designed in two types – horizontal and vertical. They represent a combination of low voltage isolating switch and high power safety devices mounted in a common plastic corpus. They are used for low voltage distribution boards and complete transformer substations (CTS) where visible circuit distribution is necessary. They provide safety and convenience at fuse links change. The plastic corpus increases the IP code and the plastic lid provides simultaneous circuits switching on/off. The lid allows easy removing which is additional measure at repairs. The vertical isolating switches are mounted directly to the power supply rails which enables the exploitation and improves the safety of the staff.

**TECHNICAL DATA**

- Rated voltage: 500V
- Rated short circuit current: according to the mounted fuse links
- Number of poles: 3
- Impulse voltage wear resistance: 8kV
- Mechanical wear resistance: 3000 cycles
- IP code: IP 40
- Plastic: UV rays wear resistance
- Ambient temperature: -5 to +65°C
- Altitude: up to 2000m



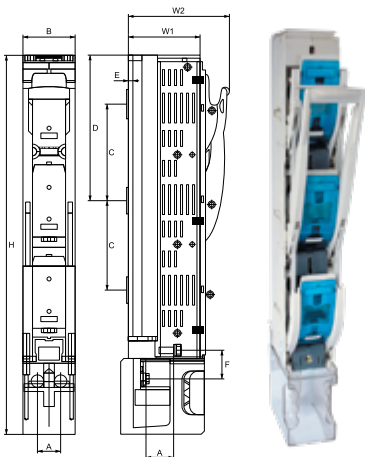
**Overall dimensions (mm)**

Base type	A	B	C	D	E
THB -160	105	160	85	45	100
THB - 250	185	220	111	66	180
THB - 400	210	260	130	88	205
THB - 630	256	270	140	94.5	245

Catalogue number	Type	In (A)	Un (V)	Fuse link size	Packing / Box (pcs)
44801	THB	160	500, 660	NT00	1/18
44802	THB	250	500, 660	NT1	1/6
44803	THB	400	500, 660	NT2	1/4
44804	THB	630	500, 660	NT3	1/4



**Overall dimensions (mm)**



Base type	A	B	C	D	E	F	G	H	W1	W2
HG2B	50	99	185	290	2	57	58	746	146	195

Catalogue number	Type	In (A)	Un (V)	Fuse link size	Packing / Box (pcs)
44805	HG2B	160	500, 660	NT00	1/4
44806	HG2B	250	500, 660	NT1	1/4
44807	HG2B	400	500, 660	NT2	1/4
44808	HG2B	630	500, 660	NT3	1/4





**Documents corresponding to the product:**

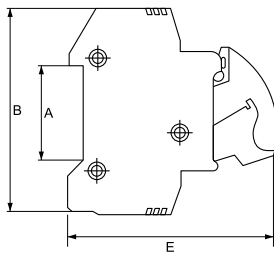
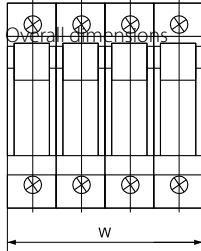
Standard EN 60269-2;  
IEC269-2

**SWITCH DISCONNECTORS RT18**

The series of switch disconnectors are developed for short-circuit protection. They have a high speed of start and high reliability. They have a plastic body of non-flammable plastics adapted for mounting on a DIN rail, where a porcelain round plug, which is filled with fine quartz sand for extinguishing the electric arc. LED indicator is mounted on the front panel to show fuse link condition. In this ceramic body is mounted melting, specifically profiled plate, which connects the input power terminals. These terminals are produced from copper alloy with especially laid nickel layer and contact with the projecting bolts from the plastic body. There are offered two types of insertions according to the degree of quick operation: normally quickly operating ones – class “gG”. Suitable for DC system.

**TECHNICAL DATA**

- Rated voltage: 500V
- Rated short circuit current: according to the mounted fuse links
- Number of poles: 3
- Impulse voltage wear resistance: 8kV
- Mechanical wear resistance: 3000 cycles
- IP code: IP 40
- Plastic: UV rays wear resistance
- Ambient temperature: -5 to +65°C
- Altitude: up to 2000m



Catalogue number	Base type	Number of poles	Rated current (A)	Type of the fuse	Base dimensions (mm)				Packing / Box (pcs)
					A	B	W	E	
10RT1831	1PRT18 - 32x	1P	32	xxG1038	37	82	18	78	12/240
10RT18311	1NRT18 - 32x	1P+N	32	xxG1038	37	82	36	78	6/120
10RT1832	2PRT18 - 32x	2P	32	xxG1038	37	82	36	78	6/120
10RT1833	3PRT18 - 32x	3P	32	xxG1038	37	82	54	78	4/80
10RT18331	3NRT18 - 32x	3P+N	32	xxG1038	37	82	72	78	3/60
10RT1861	1PRT18 - 63x	1P	63	xxG1451	37	105	27	110	6/108
10RT18611	1NRT18 - 63x	1P+N	63	xxG1451	37	105	54	110	6/108
10RT1862	2PRT18 - 63x	2P	63	xxG1451	37	105	54	110	6/108
10RT1863	3PRT18 - 63x	3P	63	xxG1451	37	105	81	110	6/108
10RT18631	3NRT18 - 63x	3P+N	63	xxG1451	37	105	108	110	6/108



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



### FUSE FOR SWITCH DISCONNECTORS RT18

Catalogue number	Type of the fuse class gG	Voltage (V)	Rated current (A)	Size of the fuse A x ØB x C	Packing / Box (pcs)
10G10381	01G1038	500	1	38xØ10.3x10mm	10/2000
10G10382	02G1038	500	2	38xØ10.3x10mm	10/2000
10G10384	04G1038	500	4	38xØ10.3x10mm	10/2000
10G10386	06G1038	500	6	38xØ10.3x10mm	10/2000
10G103810	10G1038	500	10	38xØ10.3x10mm	10/2000
10G103816	16G1038	500	16	38xØ10.3x10mm	10/2000
10G103820	20G1038	500	20	38xØ10.3x10mm	10/2000
10G103825	25G1038	500	25	38xØ10.3x10mm	10/2000
10G103832	32G1038	500	32	38xØ10.3x10mm	10/2000
10G145140	40G1451	500	40	51xØ14.3x12mm	10/500
10G145150	50G1451	500	50	51xØ14.3x12mm	10/500
10G145163	63G1451	500	63	51xØ14.3x12mm	10/500



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## PHOTOVOLTAGE FUSE HOLDERS

### PHOTOVOLTAGE FUSE HOLDERS 1500V DC, 15PV14L SERIES

Photovoltaic fuse holders provide protection against short-circuits and overloads. They work with fuse till 50A and rated voltage 1500V DC.

#### FUNCTIONS AND ADVANTAGES:

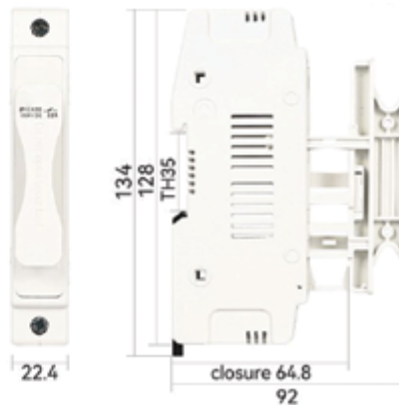
- Protection against short-circuits and overloads.
- Easy installation and fuse removal with no additional tools required.
- Tin-plated bimetallic copper fuse clips deliver superior fatigue resistance compared to traditional spring brass.
- High temperature performance thanks to venting grooves and cooling chambers that improve heat dissipation also for multiple configurations.
- Finger safety feature which ensures personnel protection during maintenance (no possibility of getting in touch with live parts during fuse replacement).

#### TECHNICAL DATA

- Rated Voltage: 1500V DC
- Rated Current: 50A
- Size of Fuse Link: suitable for fuse with sizes 10x85 and 14x85mm
- Class of Operation: gPV
- Mechanical Life: 500 times
- Tightening Torque: 2.5Nm
- Cable section of terminal: 10mm<sup>2</sup>
- Mounting: on DIN rail



Catalogue number	Type	Number of poles	Rated current (A)	Base dimensions (mm)			Packing /Box (pcs)
				W	H	D	
15PV14L	PV DC	1P	50	22.4	134	92	1/5/120



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
+ 2 extended

## FUSE LINKS 1500V DC FOR PHOTOVOLTAGE FUSE HOLDERS 15PV14L SERIES

A fuse is a replaceable circuit protection device that provides protection to both the equipment and the equipment operator in the event of a circuit overload. It is commonly connected with a circuit in series, and when fault current increases to a certain value, the fuse blows out to cut off the circuit so as to fulfill an aim of protecting other equipment in the circuit. The fuse is the most commonly used component in an over current protection circuit. The traditional fuse mainly consists of two parts of a tube body, of which both ends have metal connecting terminals, and metal melts in the tube body. Solar fuses vary in a number of different ways including fuse speed, voltage and amperage rating, braking capacity and their physical size and shape.

### FUNCTIONS

- Protect solar power equipment against over current.
- Protect against reverse current and short circuits.

### TECHNICAL DATA

- Rated voltage: 1500V DC
- Rated current: 6-50A
- Class of operation: gPV
- Breaking capacity: 20kA
- Sizes: 10x85mm and 14x85mm



Catalogue number	Voltage (V)	Rated current (A)	Size of the fuse (mm)	Packing/ Box (pcs)
15PV06A	1500V DC	6	10x85	1000
15PV10A	1500V DC	10	10x85	1000
15PV12A	1500V DC	12	10x85	1000
15PV16A	1500V DC	16	10x85	1000
15PV20A	1500V DC	20	10x85	1000
15PV25A	1500V DC	25	10x85	1000
15PV32A	1500V DC	32	10x85	1000



Catalogue number	Voltage (V)	Rated current (A)	Size of the fuse (mm)	Packing/ Box (pcs)
15PV40A	1500V DC	40	14x85	400
15PV45A	1500V DC	45	14x85	400
15PV50A	1500V DC	50	14x85	400

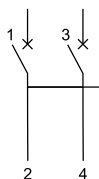
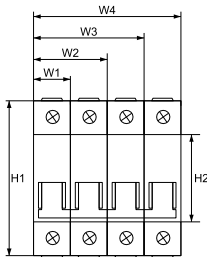
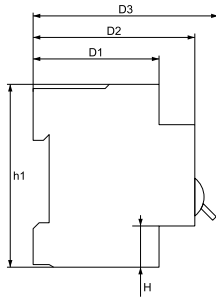
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



## SWITCH DISCONNECTORS ISS FROM 20A TO 125A

### Documents corresponding to the product:

Standard EN 60947-3 and IEC947-3



### FUNCTIONS

- Switching on/off heavy loaded electrical circuits
- Breaking of electrical circuits
- Can be used as a main breaker
- It has no protective function
- Specification: CE, ROHS, BS, EN, IEC60439-3

### TECHNICAL DATA

- Rated voltage: 230/400V; 50/60Hz
- Joining terminal: flat (tunnel) screw terminal
- Connecting: power supply busbar, rigid or flexible conductors
- Tightening moment: 1.33Nm
- Isolating voltage:  $\geq 500V$
- Electrical wear resistance (number of cycles):  $\geq 10000$

- Mechanical wear resistance (number of cycles):  $\geq 20000$
- IP code: IP>20
- Mounting: DIN-rail
- Plastic material of UV rays
- Ambient temperature:  $-20^{\circ}C + 65^{\circ}C$

Dimensions (mm)

H1	H2	D1	D2	D3	W1	W2	W3	W3
81	45	50	65	76	17.5	35	52.5	70

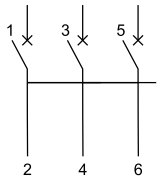
Catalogue number	Type	Number of poles	Rated current In (A)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41914	ISS	1P	40	10	12/240
41911	ISS	1P	63	16	12/240
41912	ISS	1P	80	25	12/240
41913	ISS	1P	100	35	12/240
41916	ISS	1p	125	50	12/240



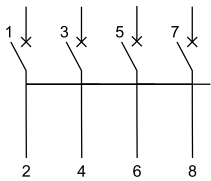
Catalogue number	Type	Number of poles	Rated current In (A)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41924	ISS	2P	40	10	6/120
41921	ISS	2P	63	16	6/120
41922	ISS	2P	80	25	6/120
41923	ISS	2P	100	35	6/120
41925	ISS	2p	125	50	6/120



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty



Catalogue number	Type	Number of poles	Rated current In (A)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41935	ISS	3P	20	2.5	4/80
41936	ISS	3P	32	6.0	4/80
41934	ISS	3P	40	10	4/80
41931	ISS	3P	63	16	4/80
41932	ISS	3P	80	25	4/80
41933	ISS	3P	100	35	4/80
41937	ISS	3p	125	50	4/80



Catalogue number	Type	Number of poles	Rated current In (A)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41944	ISS	4P	40	10	3 / 60
41941	ISS	4P	63	16	3 / 60
41942	ISS	4P	80	25	3 / 60
41943	ISS	4P	100	35	3 / 60
41945	ISS	4p	125	50	3 / 60



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

### PADLOCK ADAPTER FOR MCB

The adapter makes it possible to block the operating lever whether switched ON or OF



Catalogue number	Type
41904	Padlock adaptor for MCB

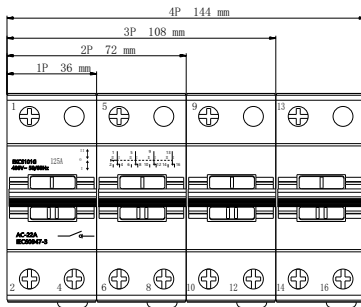
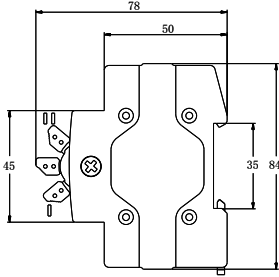


## THREE POSITION CHANGEOVER SWITCH 1-0-2 ISS3 SERIES, 63A

### Documents corresponding to the product:

Standard IEC60947-3

### Overall and installation dimensions (mm)



Three positions I-0-II



Three positions I-0-II

A changeover switch is designed to transfer a house or business electricity from the commercial power grid to a local generator when an outage occurs also known as transfer switches, they connect directly to the generator commercial power supply or line and the house. ISS3 can be freely switched on and off between two loads carried by a group of lines, or on two power sources.

### FUNCTIONS:

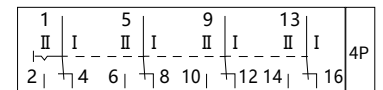
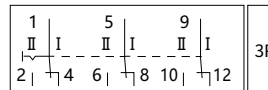
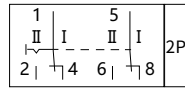
- Switching on/off heavy loaded electrical circuits
- Switching between two loads or two power sources
- Breaking of electrical circuits
- Can be used as a main breaker
- It has no protective function

### TECHNICAL DATA

- Rated operational voltage Ue: 2P 230V; 50/60Hz
- Rated operational voltage Ue: 3P/ 4P 400V; 50/60Hz
- Rated current: 63A
- Joining terminal: flat (tunnel) screw terminal
- Connecting: power supply busbar, rigid conductors till 16mm<sup>2</sup> or flexible conductors till 10mm<sup>2</sup>
- Tightening moment: 1.8Nm

- Isolating voltage: 440V
- Electrical wear resistance (number of cycles): ≥25 000
- Mechanical wear resistance (number of cycles): ≥20 000
- IP code: IP>20
- Mounting: DIN-rail
- Plastic material of UV rays
- Ambient temperature: -20°C + 65°C

### Circuit diagram



Catalogue number	Type	Number of poles	Rated current In (A)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41928	ISS3	2P	63	10/16	6/120
41930	ISS3	3P	63	10/16	6/120
41929	ISS3	4P	63	10/16	6/120



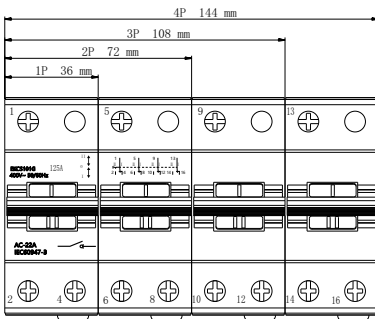
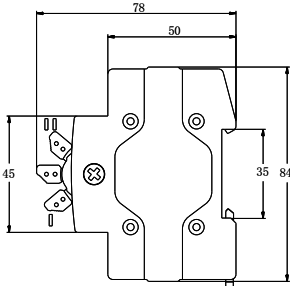
**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## THREE POSITION CHANGEOVER SWITCH 1-0-2 ISS4 SERIES, 125A

### Documents corresponding to the product:

Standard IEC60947-3

#### • Overall and installation dimensions (mm)



A changeover switch is designed to transfer a house or business electricity from the commercial power grid to a local generator when an outage occurs also known as transfer switches, they connect directly to the generator commercial power supply or line and the house. ISS4 can be freely switched on and off between two loads carried by a group of lines, or on two power sources.

#### FUNCTIONS:

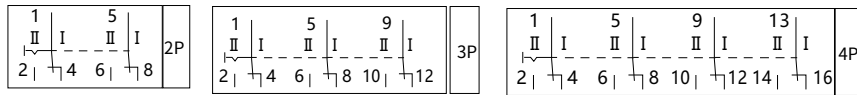
- Switching on/off heavy loaded electrical circuits
- Switching between two loads or two power sources
- Breaking of electrical circuits
- Can be used as a main breaker
- It has no protective function

#### TECHNICAL DATA

- Rated operational voltage Ue: 2P 240V; 50/60Hz
- Rated operational voltage Ue: 3P/ 4P 400V; 50/60Hz
- Rated current: 125A
- Joining terminal: flat (tunnel) screw terminal
- Connecting: power supply busbar, rigid or flexible conductors till 50mm<sup>2</sup>
- Electrical wear resistance (number of cycles): ≥ 1 500

- Mechanical wear resistance (number of cycles): ≥ 8 500
- IP code: IP>20
- Mounting: DIN-rail
- Plastic material of UV rays
- Ambient temperature: -20°C + 65°C

#### Circuit diagram



Three positions I-0-II



Three positions I-0-II

Catalogue number	Type	Number of poles	Rated current In (A)	Recommended conductor (mm <sup>2</sup> )	Packing/Box (pcs)
41946	ISS4	2P	125	50	1/2/60
41948	ISS4	3P	125	50	1/45
41947	ISS4	4P	125	50	1/45



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## SWITCH DISCONNECTORS ISS2 FROM 125A TO 800A

### Documents corresponding to the product:

Standard EN 60947-1  
EN 60947-3 and IEC 60947-6

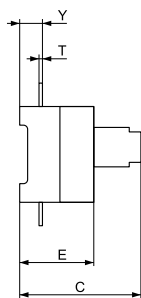
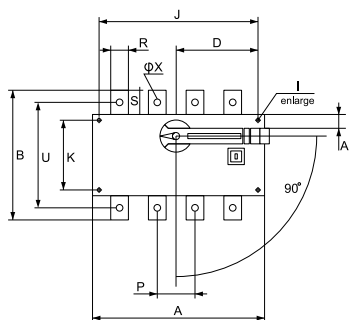
The series three- and four-pole load switch disconnectors ISS2 xxx are produced for mounting in main electrical boards for disconnection of the circuits, switching on of generators because of the fact they are not affected by the frequency variations. High mechanical strength and resistance to circulation. Simple and secure management.

### FUNCTIONS

- Switching on and off electrical circuits under load
- Disconnection of electrical circuits
- Used as main circuit-breaker
- Resistant to high voltages, to short circuits in the protected circuit
- It has no protective function

### TECHNICAL DATA

- Rated voltage: not higher than 660V; 50/60Hz
- Double connector: screw connection
- Connection: solid or flexible conductors
- Insulation voltage:  $\geq 1000V$
- Resistance to impulse voltage: 8000V
- Electrical endurance (number of cycles):  $\geq 5\ 000$
- Mechanical endurance (number of cycles):  $\geq 10\ 000$
- IP code: IP>20
- Mounting method: to a surface by means of bolts
- Plastic resistant to UV rays
- Ambient temperature:  $-20^{\circ}\pm 65^{\circ}C$



### Dimensions (mm)

Type	A	B	C	D	E	J	J1	K	R	S	T	Y
ISS2-125/3	140	135	125	27	73	120	120	65	20	25	3.5	25
ISS2-125/4	170	135	125	27	73	150	150	65	20	25	3.5	25
ISS2-160/3	140	135	125	27	73	120	120	65	20	25	3.5	25
ISS2-160/4	170	135	125	27	73	150	150	65	20	25	3.5	25
ISS2-250/3	180	170	138	35	86	160	160	90	25	30	3.5	25
ISS2-250/4	230	170	138	35	86	210	210	90	25	30	3.5	25
ISS2-400/3	230	240	165	50	110	210	210	140	32	40	5	37
ISS2-400/4	295	240	165	50	110	275	275	140	32	40	5	37
ISS2-630/3	230	260	165	50	110	210	210	140	40	50	6	37
ISS2-630/4	295	260	165	50	110	275	275	140	40	50	6	37
ISS2-800/3	378	312	240	50	140	353	353	175	60	56	8	48
ISS2-800/4	498	312	240	50	140	473	473	175	60	56	8	48

Catalogue number 3-pole	Catalogue number 4-pole	Type	Rated current In (A)	Max. breaking capacity Icu (A)	Tightening moment (Nm)	Packing/Box (pcs)
41951	41961	ISS2-125in	125	1250	6.5	1/12
41952	41962	ISS2-125out	125	1250	6.5	1/12
41953	41963	ISS2-160in	160	1250	6.5	1/12
41954	41964	ISS2-160out	160	1250	6.5	1/12
41955	41965	ISS2-250in	250	2000	10	1/6
41956	41966	ISS2-250out	250	2000	10	1/6
41957	41967	ISS2-400in	400	3200	14.5	1/2
41958	41968	ISS2-630in	630	4000	14.5	1/2
41959	41969	ISS2-800in	800	1000	27	1/2

### Note:

ISS2-xxx in – load circuit-breaker for mounting in the interior of a board  
ISS2-xxx out – load circuit-breaker with an extended lever for mounting on the front panel of the board



## MANUAL SWITCHING TO RESERVE SERIES EQ 2M FROM 160A TO 800A

### Documents corresponding to the product:

Standard EN 60947-1  
EN 60947-3 and IEC 60947-6

The series three- and four-pole load isolating switch EQ 2 M xxx are produced for mounting in main electrical boards for disconnection of the circuits, manual switching between two power supplies or switching ON of generators because of the fact they are not affected by the frequency variations. High mechanical strength and resistance to circulation. Simple and secure management.

### FUNCTIONS

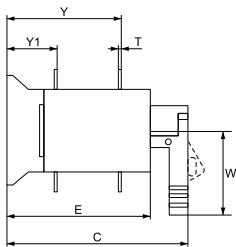
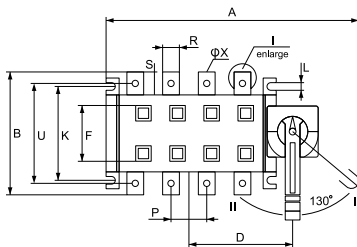
- Switching on and off of low voltage electrical circuits under load
- Disconnection of the electrical circuit from one of the power supplies, while providing immediately switching to the other
- Used as main switch

- Resistant to high voltages, to short circuits in the protected circuit
- It has no protective function

### TECHNICAL DATA

- Rated voltage: not higher than 690V; 50/60Hz
- Double connector: screw connection
- Connection: hard or flexible conductors
- Insulation voltage:  $\geq 1000V$
- Resistance to impulse voltage: 8000V
- Electrical endurance (number of cycles):  $\geq 5\ 000$
- Mechanical endurance (number of cycles):  $\geq 10\ 000$

- IP code: IP>20
- Mounting method: to a surface by means of bolts
- Plastic resistant to UV rays
- Ambient temperature:  $-20^{\circ}\div 65^{\circ}C$
- Small size
- Indication which of the two supplies is operating



### Dimensions (mm)

Type	A	B	C	D	E	J	J1	K	R	S	T	Y	Y1
EQ2M-160/3	270	135	212	89	150	120	65	95	20	25	3.5	55	25
EQ2M-160/4	300	135	212	104	150	150	65	95	20	25	3.5	55	25
EQ2M-250/3	307	170	260	110	180	160	65	115	25	30	3.5	70	25
EQ2M-250/4	357	170	260	135	180	210	65	115	25	30	3.5	70	25
EQ2M-400/3	372	240	297	150	236	210	77	180	32	40	5	83	37
EQ2M-400/4	432	240	297	180	236	275	77	180	32	40	5	83	37
EQ2M-630/3	372	240	297	150	236	210	77	180	40	50	6	83	37
EQ2M-630/4	432	240	297	180	236	275	77	180	40	50	6	83	37
EQ2M-800/3	372	240	297	150	236	210	77	180	60	56	8	83	48
EQ2M-800/4	432	240	297	180	236	275	77	180	60	56	8	83	48



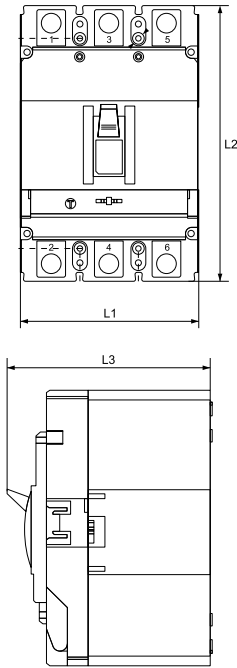
Catalogue number 3-pole	Catalogue number 4-pole	Type	Rated current In (A)	Max. breaking capacity Icu (A)	Tightening moment (Nm)	Packing/Box (pcs)
44641	44641P	EQ2M-160	160	1250	6.5	1/4
44642	44642P	EQ2M-250	250	2000	10	1/2
44643	44643P	EQ2M-400	400	3200	14.5	1/2
44644	44644P	EQ2M-630	630	4000	14.5	1/2
44645	44645P	EQ2M-800	800	1000	27	1/2



## HIGH BREAKING CAPACITY LEVEL MOULDED CASE CIRCUIT BREAKERS (MCCB) DS1 MAX FROM 63A... 800A

### Documents corresponding to the product:

Standard EN 60947-1  
EN 60947-2



### FUNCTIONS

- High breaking capacity level
- Switching on/off heavy loaded electrical circuits
- Breaking of electrical circuits and control of powerful consumers
- Can be used as a main breaker in housing or industrial distributing installations

- Endures high currents of short circuit in the protected circuit
- Remarkable with high reliability of current characteristics control: manual
- Possibility for auxiliary devices mounting for automation

### TECHNICAL DATA

- Isolating voltage: 2000V
- Surge voltage wear resistance:  $\geq 8000V$
- Connecting:
  - > Rigid or flexible conductors
  - > Front conductors joining
  - > Possibility for mounting to lengthening terminal
- Plastic elements:
  - > Not keeping the burning material nylon PA66
  - > Box permittivity strength:  $> 16MV/m$
- Abnormal heating wear resistance and fire of the outer parts:  $960^{\circ}C$
- Static contacts – alloy: pure copper T2Y2

- > Contact head: silver graphite CAg(5)
- > Thickness: depends on the current
- Tightening moment: 1.33Nm
- Electrical wear resistance (number of cycles):  $\geq 10000$
- Mechanical wear resistance (number of cycles):  $\geq 20000$
- IP code: IP>20
- Mounting: joining with bolts; mounting position: vertical
- Plastic material of UV rays and non-flammable
- Test button
- Ambient temperature:  $-20^{\circ}/65^{\circ}C$

### Overall dimensions (mm)

Type	L1	L2	L3	Type	L1	L2	L3
DS1 MAX 125/63 3P M	75	133	82	DS1 MAX 125/63 4P M	100	133	82
DS1 MAX 125/80 3PM	75	133	82	DS1 MAX 125/80 4PM	100	133	82
DS1 MAX 125/100 3P M	75	133	82	DS1 MAX 125/100 4P M	100	133	82
DS1 MAX 125/125 3P M	75	133	82	DS1 MAX 125/125 4P M	100	133	82
DS1 MAX 250/160 3P M	107	165	127	DS1 MAX 250/160 4P M	141	165	127
DS1 MAX 250/200 3P M	107	165	127	DS1 MAX 250/200 4P M	141	165	127
DS1 MAX 250/250 3P H	107	165	127	DS1 MAX 250/250 4P H	141	165	127
DS1 MAX 400/400 3P H	150	257	148	DS1 MAX 400/400 4P H	198	257	148
DS1 MAX 630/630 3P H	150	257	148	DS1 MAX 630/630 4P H	198	257	148
DS1 MAX 800/800 3P H	210	280	155	DS1 MAX 800/800 4P H	280	280	155

Catalogue number 3-poles	Catalogue number 4-poles	Type	Rated current In (A)	Operating breaking capacity (kA) lcs	Max. breaking capacity (kA) lcu		Thermal current adjustment (A)	Packing/ box (pcs)
					415V	690V		
44163MM	444163MM	DS1 MAX-125	63	25	36	20	50.4-63	1/16
44164MM	444164MM	DS1 MAX-125	80	25	36	20	64-80	1/16
44165MM	444165MM	DS1 MAX-125	100	25	36	20	80-100	1/16
44166MM	444166MM	DS1 MAX-125	125	25	36	20	100-125	1/16
44160MM	444160MM	DS1 MAX-250	160	36	50	20	125-160	1/6
44200MM	444200MM	DS1 MAX-250	200	36	50	20	160-200	1/6
44250MH	444250MH	DS1 MAX-250	250	36	50	25	200-250	1/6
44401MH	444401MH	DS1 MAX-400	400	60	85	30	320-400	1/3
44630MH	444630MH	DS1 MAX-630	630	60	85	30	504-630	1/2
44800MH	444800MH	DS1 MAX-800	800	75	100	50	640-800	1/2

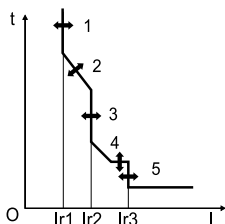
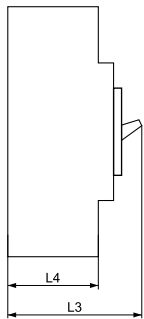
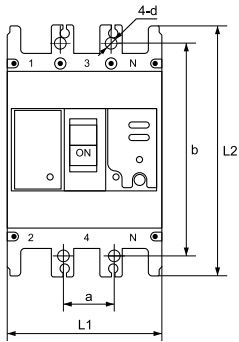


**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## HIGH BREAKING CAPACITY LEVEL MOULDED CASE CIRCUIT BREAKERS (MCCB) DS1 MAX TO 800A-ELECTRONIC TYPE

### Documents corresponding to the product:

Standard EN 60947-1  
EN 60947-2



### FUNCTIONS

- High breaking capacity level
- Switching on/off heavy loaded electrical circuits
- Breaking of electrical circuits and control of powerful consumers
- Can be used as a main breaker in housing or industrial distributing installations
- Endures high currents of short circuit in the protected circuit
- Remarkable with high reliability of current characteristics
- Control: manual

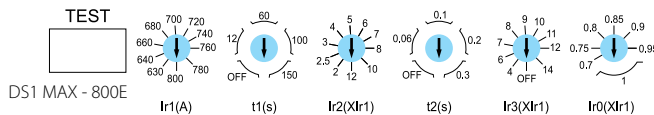
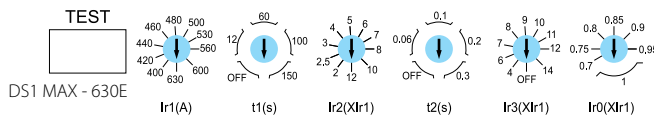
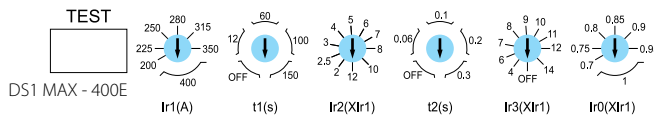
### TECHNICAL DATA

- Rated operating voltage: 415/690V; 50/60Hz
- Isolating voltage: 2000V
- Surge voltage wear resistance:  $\geq 8000V$
- Joining terminal: flat (tunnel) screw terminal
- Connecting:
  - Rigid or flexible conductors
  - Front conductors joining
  - Possibility for mounting to lengthening terminal
- Electrical wear resistance (number of cycles):  $\geq 10000$

- Possibilities for electrical module parameters adjustment through direct modules (combination of keys) thus providing accurate protection from overload and short circuit
- simultaneous protection of the three phases
- possibility for auxiliary devices mounting for automation
- contactor for TT test 15V DC

- Mechanical wear resistance (number of cycles):  $\geq 20000$
- IP code: IP>20
- Abnormal heating wear resistance and fire of the outer parts: 960°C
- Mounting:
  - Joining with bolts
  - Mounting position: vertical
- Plastic material of UV rays and non-flammable
- Test button
- Ambient temperature:  $-20^{\circ} \div 65^{\circ}C$

Catalogue number 3-poles	Catalogue number 4-poles	Type	Rated current In (A)	Operating breaking capacity (kA) lcs	Max. breaking capacity (kA) lcu	Thermal current adjustment (A)	Packing/box (pcs)
44940MH	444940MH	DS1 MAX-400E	400	50	85 30	200-400	1/3
44963MH	444963MH	DS1 MAX-630E	630	50	85 30	400-630	1/2
44980MH	444980MH	DS1 MAX-800E	800	65	100 50	630-800	1/2



### Tripping characteristic:

- Ir1(A) Over-load long time delay tripping current
- Ir1 adjustment, according to the different rated current of MCCB.
- t1(s) Long time delay tripping time t1 adjustment.
- Ir2(XIr1) Short circuit short time delay tripping time Ir2 adjustment.
- t2(s) Short time delay tripping time t2 adjustment.
- Ir3(XIr1) Short circuit instantaneous tripping current Ir3 adjustment.
- Ir0(XIr1) Pre-alarm tripping current Ir0 adjustment.

**7 YEARS TOTAL WARRANTY**  
+ 7 standard 0 extended  
\* for industrial usage  
3 years warranty

## HIGH BREAKING CAPACITY LEVEL MOULDED CASE CIRCUIT BREAKERS (MCCB) DS-3E 1000 AND 1250A-ELECTRONIC TYPE

The feature discriminating electronic circuit breakers from thermal-magnetic breakers is to control the over current releases with electronic circuits. Electronic control is performed via microprocessor. During design of the electronic circuit, worst possibilities to encounter in operation have been taken into consideration. In high circuit currents, direct opening has been ensured without operating electronic circuit. Rated and Instant opening current adjustment areas of electronic circuit breakers are quite wide. This feature allows wide use opportunity to the breaker Furthermore, electronic circuit breakers are not affected by ambient temperatures.



### FEATURES

- Rated operating voltage: 230/400V 50/60Hz
- Electromagnetic coil 100VA for breakers up to 400A
- Electromagnetic coil 150VA for breakers 630-800A
- Available joining conductors

### TECHNICAL DATA

- Rated voltage: 400V AC
- Automatic relay: Electronic type
- Rated isolating voltage: 1000V
- Short-circuit breaking capacity(KA)Icu/Ics: 65/50
- Electrical life: 1000
- Mechanical life: 4000
- Pole number: 3P
- Rated current: 1000A and 1250A
- Weight: 5,7kg
- Dimension (LxHxD): 210x257x155mm

### PANEL ADJUSTMENT KNOB AS FOLLOWS IN TURN:

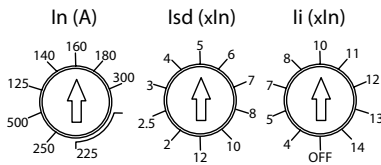
- IR(A) I<sub>sd</sub>(x IR) I<sub>i</sub> (x IR)
- IR: Overload long delay tripping setting current; I<sub>sd</sub>: Short-circuit short delay tripping setting current;
- I<sub>i</sub>: Short-circuit instantaneous tripping setting current.

### FEATURES

- Altitude up to 2000m;
- Ambient medium temperature should be within -10°C to +55°C;
- It can withstand the effect of damp air;
- It can withstand the effect of salt fog or oil mist;
- It can withstand the effect of moulds;
- It can withstand the effect of nuclear radiation;
- The max inclination is 22.5°C.
- It still can work reliably when to normal vibration;
- It can still work reliably if the product subjects to the earthquake (4g).
- Places where the surrounding medium is free from explosion danger, and far away from gas or conductive dust that would erode the metal or destroy the insulation;
- Keep away from rain or snow.

### FACTORY SETTINGS:

- IR(A) I<sub>sd</sub>(x IR) I<sub>i</sub> (x IR)
- Overload long delay setting time, factory default: 60s;
- I<sub>sd</sub>: Short-circuit short delay setting time, factory default: 0.1s;
- I<sub>p</sub>: Overload pre-alarm setting current, factory default: 0.85\*IR.



1	9	7	5	3	1
2	10	8	6	4	2

TEST

COM

Tripping test port (TEST):

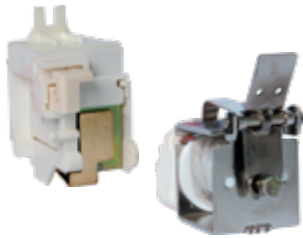
- 1 Tripping test input DC12V (+)
- 2 Tripping test input DC12V (-)



Catalogue number	Type	Number of poles	Rated current In (A)	Operating breaking capacity (kA) Ics	Max. breaking capacity (kA) Icu	Electrical adjustment	Packing/ Box (pcs)
44930	DS-3 1000A	3P	1000	50	65	630-1000A	1
44931	DS-3 1250A	3P	1250	50	65	850-1250A	1

**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## AUXILIARY DEVICES FOR MOULDED CASE CIRCUIT BREAKERS



### SHUNT RELEASE (MX)

The device is used for remote control of breakers as at voltage signal it starts operating and switches off the breaker to which it is mounted

#### TECHNICAL DATA

- Rated operating voltage: 230/400V 50/60Hz
- Electromagnetic coil 100VA for breakers up to 400A
- Electromagnetic coil 150VA for breakers 630-800A
- Available joining conductors

#### MOUNTING

- Mounted in a special jack after cover dismounting

#### CONNECTING

- Connected with the operative system through the provided conductors

### DS1 MAX - ELECTRONIC TYPE WITH MOUNTED MX

Catalogue number		Type
400V	230V	
444511M	44452M	DS1 MAX 400/3300
44455M	44456M	DS1 MAX 630/3300
44459M	44460M	DS1 MAX 800/3300
44505	44503	DS-3E 1000
44506	44504	DS-3E 1250



### DS1 MAX - THERMO MAGNETIC TYPE WITH MOUNTED MX

Catalogue number		Type
400V	230V	
44326M	44327M	DS1 MAX 125/63
44331M	44332M	DS1 MAX 125/80
44336M	44337M	DS1 MAX 125/100
44340M	44341M	DS1 MAX 125/125
44333M	44344M	DS1 MAX 250/160
44347M	44348M	DS1 MAX 250/200
44351M	44352M	DS1 MAX 250/250
44355M	44356M	DS1 MAX 400/400
44363M	44364M	DS1 MAX 630/630
44367M	44368M	DS1 MAX 800/800



MN for DS1 - 125-160

### UNDER VOLTAGE RELEASE (MN)

The device switches off and/or does not allow the switching on of the breaker to which it is mounted at power breakdown or voltage decrease under certain limits

#### TECHNICAL DATA

- Operating voltage: 230/400V 50Hz
- Electromagnetic coil 6VA for breakers up to 400A
- Electromagnetic coil 10VA for breakers 630-800A
- Available joining conductors
- Switches off at voltage decrease under 75% of the operating

#### MOUNTING

- Mounted in a special jack after cover dismounting
- Note: The breakers are offered with mounted accessory

#### CONNECTING

- Connected with the operative system through the provided conductors



MN for DS1 - 250-800

### DS1 MAX-ELECTRONIC TYPE WITH MOUNTED MN

Catalogue number		Type
400V	230V	
44483M	44484M	DS1 MAX 400/3300
44487M	44488M	DS1 MAX 630/3300
44491M	44492M	DS1 MAX 800/3300
44509	44507	DS-3E 1000
44510	44508	DS-3E 1250



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty





### DS1 MAX - THERMO MAGNETIC TYPE WITH MOUNTED MN

Catalogue number		Type
400V	230V	
44391M	44392M	DS1 MAX 125/63
44395M	44396M	DS1 MAX 125/80
44399M	44402M	DS1 MAX 125/100
44407M	44408M	DS1 MAX 125/125
44411M	44412M	DS1 MAX 250/160
44415M	44416M	DS1 MAX 250/200
44419M	44420M	DS1 MAX 250/250
44423M	44424M	DS1 MAX 400/400
44431M	44432M	DS1 MAX 630/630
44435M	44436M	DS1 MAX 800/800



**Documents corresponding to the product:**

Standard EN 60947-1  
EN 60947-2

According to the way of mounting the auxiliary devices can be divided into two groups:

- Internal devices – accessories for whose mounting it is necessary to dismount the cover of the breakers and fix them in specially designed jacks
- External devices – they are mounted right on the top cover of the breaker

#### AUXILIARY CONTACT (OF)

The device changes its condition comfortably to the breaker's condition; it has a NO and a NC contactor.

#### TECHNICAL DATA

- For breakers up to 160A operating current through the auxiliary contact: 3A
- For breakers from 250 to 800A operating current through the auxiliary contact: 6A
- Available joining conductors
- Labeling of the cables

#### MOUNTING

- Mounted in a special jack after cover dismounting.
- Note: The breakers are offered with mounted accessory.

#### CONNECTING

- Connected with the operative system through the provided conductors.



### DS-3E THERMO MAGNETIC TYPE WITH MOUNTED OF

Catalogue number	Type
44511	DS-3E 1000
44512	DS-3E 1250



### DS1 MAX - THERMO MAGNETIC TYPE WITH MOUNTED OF

Catalogue number	Type
44303M	DS1 MAX 125/63
44304M	DS1 MAX 125/80
44305M	DS1 MAX 125/100
44306M	DS1 MAX 125/125
44307M	DS1 MAX 250/160
44308M	DS1 MAX 250/200
44309M	DS1 MAX 250/250
44310M	DS1 MAX 400/400
44312M	DS1 MAX 630/630
44313M	DS1 MAX 800/800



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

MCCB WITH AUXILIARY DEVICES MOUNTED (MX+OF) AND (MN+OF)

**DS1 MAX - ELECTRONIC TYPE WITH MOUNTED MN+OF**



Catalogue number 400V	Catalogue number 230V	Type
44485M	44486M	DS1 MAX 400/3300
44489M	44490M	DS1 MAX 630/3300
44493M	44494M	DS1 MAX 800/3300
44519	44517	DS-3E 1000
44520	44518	DS-3E 1250



**DS1 MAX - THERMO MAGNETIC TYPE WITH MOUNTED MN+OF**



Catalogue number 400V	Catalogue number 230V	Type
44393M	44394M	DS1 MAX 125/63
44397M	44398M	DS1 MAX 125/80
44405M	44406M	DS1 MAX 125/100
44409M	44410M	DS1 MAX 125/125
44413M	44414M	DS1 MAX 250/160
44417M	44418M	DS1 MAX 250/200
44421M	44422M	DS1 MAX 250/250
44425M	44426M	DS1 MAX 400/400
44433M	44434M	DS1 MAX 630/630
44437M	44438M	DS1 MAX 800/800



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## AUXILIARY DEVICES FOR MOULDED CASE CIRCUIT BREAKERS



### DS1 MAX-ELECTRONIC TYPE WITH MOUNTED MX+OF

Catalogue number 400V	Catalogue number 230V	Type
44453M	44454M	DS1 MAX 400/3300
44457M	44458M	DS1 MAX 630/3300
44461M	44462M	DS1 MAX 800/3300
44515	44513	DS-3E 1000
44516	44514	DS-3E 1250



### DS1 MAX - THERMO MAGNETIC TYPE WITH MOUNTED MX+OF

Catalogue number 400V	Catalogue number 230V	Type
44328M	44330M	DS1 MAX 125/63
44334M	44335M	DS1 MAX 125/80
44338M	44339M	DS1 MAX 125/100
44342M	44343M	DS1 MAX 125/125
44345M	44346M	DS1 MAX 250/160
44349M	44350M	DS1 MAX 250/200
44353M	44354M	DS1 MAX 250/250
44357M	44358M	DS1 MAX 400/400
44365M	44366M	DS1 MAX 630/630
44369M	44370M	DS1 MAX 800/800



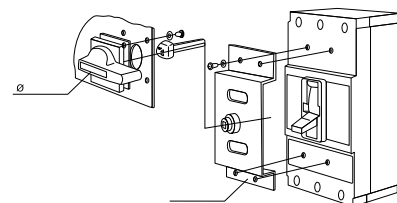
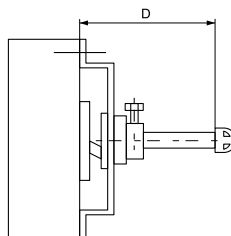
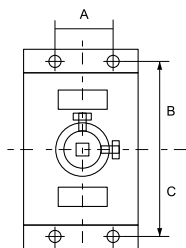
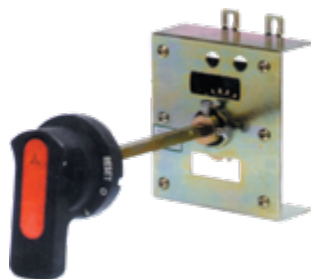
**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

### REMOTE CONTROL FOR MCCB, DS1 MAX (MANUAL)

The device switches off/on the breaker to which manual operative rotary mechanism is mounted  
• Two operating positions of the executive mechanism fixed at 90°C

#### MOUNTING

The base is mounted with bolts right on the cover (scheme 1 mounting), and the handle is mounted at the door of the distribution box, using an extension axis it is joined to the base



Catalogue number	Type of the breaker	Dimensions (mm)					Packing/Box (pcs)
		A	B	C	D min.	D max.	
44966M	DS1 MAX 63A	25	50	50	65	115	1
44967M	DS1 MAX 125A	25	50	50	65	115	1
44969M	DS1 MAX 250A	35	70	70	80	130	1
44970M	DS1 MAX 400A	45	107	107	85	105	1
44972M	DS1 MAX 630/800A	70	119	119	110	110	1

## ELECTRICAL REMOTE CONTROL FOR MCCB DS1 MAX (ELECTRICAL)

The device switches off/on the breaker to which manual operative rotary mechanism is mounted  
• Two operating positions of the executive mechanism fixed at 90°C

### MOUNTING

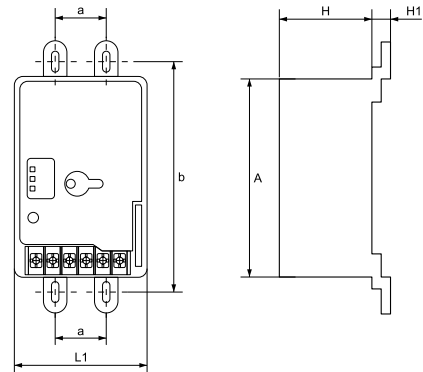
The base is mounted with bolts right on the cover (scheme 1 mounting), and the handle is mounted at the door of the distribution box, using an extension axis it is joined to the base



DS1 - 125-160



DS1 MAX - 63-250



Catalogue number 230V	Catalogue number 400V	Type of the breaker	Dimensions (mm)					Packing/Box (pcs)
			L1	B	B	H	H1	
44917M	44906M	DS1 MAX 63A	116	90	50	77	12,5	1
44912M	44907M	DS1 MAX 125A	116	90	50	77	12,5	1
44914M	44909M	DS1 MAX 250A	116	90	70	77	15	1
44915M	44910M	DS1 MAX 400A	176	130	107	115	27	1
44916M	44911M	DS1 MAX 630A	176	130	119	115	31	1
44916M	44911M	DS1 MAX 630A	176	130	119	115	31	1

## TERMINAL PLATES FOR MCCB - DS1 MAX

Straight copper electro-tinned extensions enabling cable connection outside the switch terminals and providing excellent contact with the switch terminal base. Terminal extensions with different cross section are available depending on the switch rated power.

### MOUNTING

Extensions are directly bolt mounted to the switch terminal base.



Catalogue number 3pcs/set	Catalogue number 4pcs/set	Type	Rated current (A)
31125M	-	TP 125 MAX	125
31250M	-	TP 250 MAX	250
31400M	314400M	TP 400 MAX	400
31630M	314630M	TP 630 MAX	630
31850M	314850M	TP 800 MAX	800

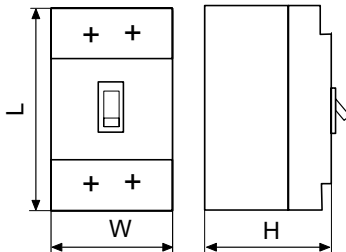
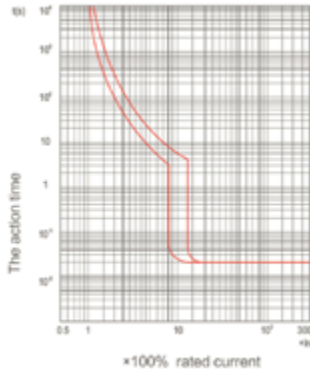


**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## HIGH VOLTAGE MOLDED CASE CIRCUIT BREAKERS

### Documents corresponding to the product:

Standard IEC 60947-1  
IEC 60947-2  
GB/T 14048.2



### 1000V DC HIGH VOLTAGE MOLDED CASE CIRCUIT BREAKERS, DC1 SERIES

DC MOULDED CASE CIRCUIT BREAKERS (MCCB) are used for the protection of electrical devices that operate with direct current. The DC MCCBs are available in 50A-300A with maximum breaking capacity up to 20kA, which can ensure reliable short-circuit protection of the system. The MCCBs available in 2P, with nominal voltage of 1000VDC.

#### FUNCTIONS

- Protection against overloading.
- Protection against short circuit.
- Manual switching control.
- High breaking capacity level.
- Breaking of electrical circuits and control of powerful consumers.

#### TECHNICAL DATA

- Rated voltage  $U_e$  (V) DC: 1000V DC
- Rated insulation voltage  $U_i$  (V): 1250V
- Rated current  $I_n$  (A): 50-300A
- Extreme short-circuit breaking capacity  $I_{cu}$  (kA): 20kA at 1000V DC
- Running short-circuit breaking capacity  $I_{cs}$  (kA):  $I_{cs}=100\%I_{cu}$
- Pole number: 2P
- Rated impulse withstands voltage  $U_{imp}$  (kV): 8kV
- Transient action value ( $I_n$ ): 10In
- Electrical wear resistance (number of cycles):  $\geq 2000$
- Mechanical wear resistance (number of cycles):  $\geq 20000$
- Working temperature:  $-40 \sim +70^\circ\text{C}$
- IP code: IP>20

#### MOUNTING

- Joining with bolts
- Mounting position: vertical

Type	Dimensions (mm)		
	L	W	H
DC1-320	180	76	126

Catalogue number	Type	Rated current $I_n$ (A)	Number of poles	Operating/Max. breaking capacity (kA) $I_{cs}/I_{cu}$ 1000V	Packing/ box (pcs)
44000DC	DC1-320	50A	2P	20/20	1/6
44001DC	DC1-320	63A	2P	20/20	1/6
44002DC	DC1-320	80A	2P	20/20	1/6
44003DC	DC1-320	100A	2P	20/20	1/6
44004DC	DC1-320	125A	2P	20/20	1/6
44005DC	DC1-320	160A	2P	20/20	1/6
44006DC	DC1-320	200A	2P	20/20	1/6
44007DC	DC1-320	250A	2P	20/20	1/6
44008DC	DC1-320	300A	2P	20/20	1/6





**Documents corresponding to the product:**

Standard IEC 60947-1  
IEC 60947-2  
GB/T 14048.2

**1500V DC HIGH VOLTAGE MOLDED CASE CIRCUIT BREAKERS, DC1 SERIES**

DC MOULDED CASE CIRCUIT BREAKERS (MCCB) are used for the protection of electrical devices that operate with direct current. The DC MCCBs are available in 50A-800A with maximum breaking capacity up to 20kA, which can ensure reliable short-circuit protection of the system. The MCCBs available in 2P & 3P, with nominal voltage of 1500VDC.

**FUNCTIONS**

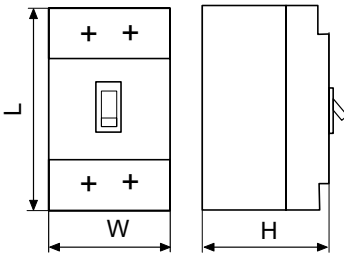
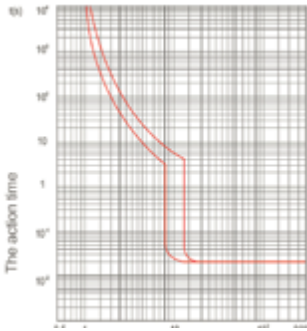
- Protection against overloading.
- Protection against short circuit.
- Manual switching control.
- High breaking capacity level.
- Breaking of electrical circuits and control of powerful consumers.

**TECHNICAL DATA**

- Rated voltage  $U_e$  (V) DC: 1500V DC
- Rated insulation voltage  $U_i$  (V): 1500V
- Rated current  $I_n$ (A): 50-800A
- Extreme short-circuit breaking capacity  $I_{cu}$  (kA): 20kA at 1500V DC
- Running short-circuit breaking capacity  $I_{cs}$  (kA):  $I_{cs}=100\%I_{cu}$
- Pole number: 2P
- Rated impulse withstands voltage  $U_{imp}$  (kV): 12kV
- Transient action value ( $I_n$ ):  $10I_n$
- Electrical wear resistance (number of cycles):  $\geq 2000$
- Mechanical wear resistance (number of cycles):  $\geq 20000$
- Working temperature:  $-40\sim+70^\circ\text{C}$
- IP code: IP>20

**MOUNTING**

- Joining with bolts.
- Mounting position: vertical.



Dimensions (mm)

Type	L	W	H
DC1-320-3P	180	107	126
DC1-400-2P	250	124	165
DC1-630-2P	250	124	165
DC1-800-2P	250	124	165



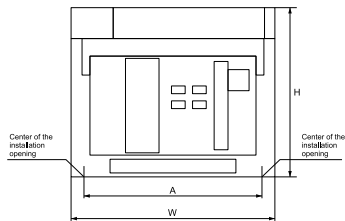
Catalogue number	Type	Rated current $I_n$ (A)	Number of poles	Operating/Max. breaking capacity (kA) $I_{cs}/I_{cu}$ 1000V	Packing/ box (pcs)
44012DC	DC1-320	50A	2P (3P housing)	20/20	1/6
44013DC	DC1-320	63A	2P (3P housing)	20/20	1/6
44014DC	DC1-320	80A	2P (3P housing)	20/20	1/6
44015DC	DC1-320	100A	2P (3P housing)	20/20	1/6
44016DC	DC1-320	125A	2P (3P housing)	20/20	1/6
44017DC	DC1-320	160A	2P (3P housing)	20/20	1/6
44018DC	DC1-320	200A	2P (3P housing)	20/20	1/6
44019DC	DC1-320	250A	2P (3P housing)	20/20	1/6
44009DC	DC1-400	400A	2P (2P housing)	20/20	1/6
44010DC	DC1-630	630A	2P (2P housing)	20/20	1/6
44011DC	DC1-800	800A	2P (2P housing)	20/20	1/6

**7 YEARS TOTAL WARRANTY**  
+ 7 standard 0 extended  
\* for industrial usage  
3 years warranty

## MOULDED CASE CIRCUIT BREAKER (MCCB) DW1 SERIES

### Documents corresponding to the product:

Standard EN 60947-1; EN 60947-2;  
IEC 947-2



The DW1 series is an intelligent type circuit breaker used to control and protect low voltage electrical distribution network. Possibility to set the parameters of the circuit protection, built in under voltage release, remote control, earth protection and load monitoring

### FUNCTIONS

- Switching on/off heavy loaded electrical circuits.
- Breaking of electrical circuits and control of powerful consumers.
- Used as a main breaker in housing or industrial distributing installations.
- Endures high currents of short circuit in the protected circuit.
- Remarkable with high reliability of current characteristics.
- Motor control.
- Mounted auxiliary devices for automation - under voltage release, earth protection, intelligent controlling block with a possibility for a choice of the protected function.

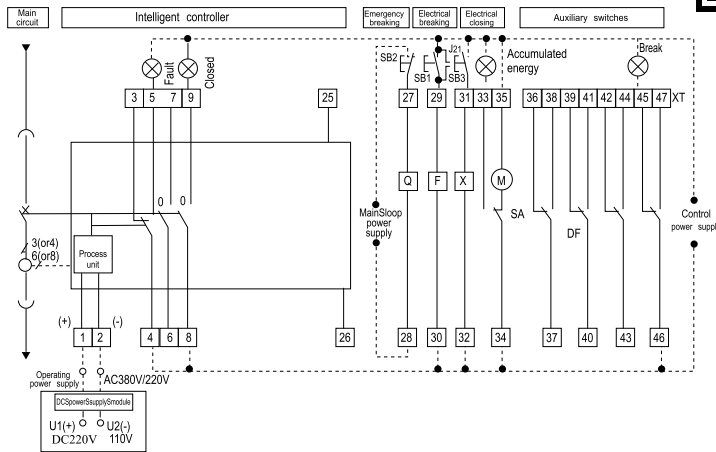
\*A commutation type of breakers with RS 485 connection for duplex transmission of all function parameters, adjustment and data can also be produced at client's order and delivery terms agreement.

### TECHNICAL DATA

- Rated operating voltage: 690V; 50/60Hz
- Isolating voltage: 690V
- Surge voltage wear resistance: 2kV
- Joining terminal: bolt connection with 4 bolts to the power supply rail
- Connecting:
  - > Copper rails
  - > busway connection – at the back
- Electrical wear resistance: ≥2000 cycles
- Mechanical wear resistance: ≥9000 cycles
- IP code: IP54
- Mounting:
  - > Clamping with bolts
  - > Mounting position: vertical gradient - max. 5°
- Plastic material of UV rays and non-flammable
- Test button
- Ambient temperature: -10°C + 65°C
- Installation altitude: up to 2000m

### BASIC PROTECTIVE FUNCTIONS

- Overload protection with long time delay
- Short circuit protection with short time delay, time inversion limit.
- Short circuit protection with short time delay, time fixed limit.
- Instantaneous short circuit protection.
- Earth protection function.
- Full stability function.
- "Overload alarm" function.
- Test function & Auto diagnostics function.



### Dimensions (mm)

Type	A	H	W
DW1-2000 FIXED	362	402	373
DW1-3200 FIXED	422	402	363
DW1-2000 DRAW-OUT	375	432	461
DW1-3200 DRAW-OUT	435	432	494
DW1-4000 DRAW-OUT	550	432	494
DW1-6300 DRAW-OUT	813	452	504

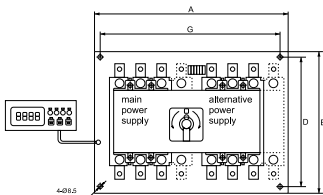
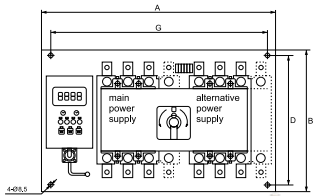
Catalogue number	Type	Rated current In (A)	Rated voltage Un (V)	Breaking capacity (kA)		Electrical wear resistance (number of cycles)	Mechanical wear resistance (number of cycles)	Packing/Box (pcs)
				400 V	690 V			
44208	DW1-2000 FIXED	1600	AC400V	80	50	2000	9000	1/1
44209	DW1-2000 FIXED	2000	AC400V	80	50	2000	9000	1/1
44255	DW1-3200 FIXED	2500	AC400V	100	65	2000	9000	1/1
44329	DW1-3200 FIXED	3200	AC400V	100	65	2000	9000	1/1
44208DO	DW1-2000 DRAW-OUT	1600	AC400V	80	50	2000	9000	1/1
44209DO	DW1-2000 DRAW-OUT	2000	AC400V	80	50	2000	9000	1/1
44255DO	DW1-3200 DRAW-OUT	2500	AC400V	100	65	2000	9000	1/1
44329DO	DW1-3200 DRAW-OUT	3200	AC400V	100	70	2000	9000	1/1
44436DO	DW1-4000 DRAW-OUT	3600	AC400V	100	75	2000	9000	1/1
44440DO	DW1-4000 DRAW-OUT	4000	AC400V	100	75	2000	9000	1/1
44650DO	DW1-6300 DRAW-OUT	5000	AC400V	120	75	2000	9000	1/1
44663DO	DW1-6300 DRAW-OUT	6300	AC400V	120	75	2000	9000	1/1

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## DUAL POWER CHANGE-OVER SWITCH EQ1 SERIES (ATS)

### Documents corresponding to the product:

EN 60947-1  
EN 60947-2; EN 60947-6-1



The system for dual power change-over switch EQ1 is designed to provide continuous power supply and two electrical sources automatic switch in case of failure or deviation from the set parameters. It switches only when the three phases of the second power supply source are available. The system for dual power change-over switch consists of two molded case circuit breakers mounted on a metal frame connected with common operating mechanism and controlled by a command device that controls the system parameters' correspondence.

### FUNCTIONS

- Switching on/off heavy loaded electrical circuits at main power supply discrepancy
- Switching to dual power change-over at power supply phase lack
- With option to connect to fire alarm controller. In case of fire, the ATS switches off both power supply sources
- Breaking of electrical circuits and control of powerful consumers
- Used as a main breaker in housing or industrial distributing installations supplied with a generator or a second power supply source (hospitals, post offices, military sites, control rooms)
- Remarkable with high reliability of current characteristics
- Control: motor
- Controls the following circuit parameters:
  - Presence of the three phases
  - The phase voltage to be in the set limits overload
  - Short circuit at the outlet

### BASIC FUNCTIONS OF THE CONTROL DEVICE

- Overload protection
- Instantaneous short circuit protection
- Under phase protection
- Under voltage protection
- Possibility for setting the change-over time between the two sources – min 3s
- Possibility for automatic switch-over to the

### TECHNICAL DATA

- Rated operating voltage: 690V; 50/60Hz
- Surge voltage wear resistance:  $\geq 6000V$
- Joining terminal: bolt connection with 4 bolts to the power supply rail
- Connecting:
  - Copper rails
  - Flexible or rigid conductors
- Electrical wear resistance (number of cycles):  $\geq 2000$
- Mechanical wear resistance (number of cycles):  $\geq 6000$
- IP code: IP21
- Mounting:
  - Clamping with bolts
  - Mounting position: vertical gradient, maximum 5°
- Plastic material of the breakers of UV rays and nonflammable
- Ambient temperature: -10°C + 65°C
- Installation altitude: up to 2000m

main power supply source after restoring its parameters. The system for dual power change-over switch is offered in two types:

- With display (control device) mounted on the mounting plate (integrated type)
- With separated control display

### Overall dimensions (mm)

Type	A	B	C	D	H
EQ1 - 100	405	365	230	250	<170
EQ1 - 225	450	410	230	250	<190
EQ1 - 400	570	510	300	330	<200
EQ1 - 630	680	620	300	330	<250
EQ1 - 800	750	690	300	330	<250

Catalogue number	Type	Rated current In (A)	Max. breaking capacity (kA) Icu	Operating breaking capacity (kA) Ics	Section of the power supply conductor (mm <sup>2</sup> )	Electrical wear resistance (number of cycles)	Mechanical wear resistance (number of cycles)	Packing/ Box (pcs)
44100	EQ1 - 100	100	50	35	35	2000	6000	1 / 1
44225	EQ1 - 225	225	50	35	70	2000	6000	1 / 1
44403	EQ1 - 400	400	100	65	180	2000	6000	1 / 1
44633	EQ1 - 630	630	100	65	240	1000	3000	1 / 1
44833	EQ1 - 800	800	100	65	240	1000	3000	1 / 1
44101	EQ1 - 100*	100	50	35	35	2000	6000	1 / 1
44226	EQ1 - 225*	225	50	35	70	2000	6000	1 / 1
44404	EQ1 - 400*	400	100	65	180	2000	6000	1 / 1
44634	EQ1 - 630*	630	100	65	240	1000	3000	1 / 1
44834	EQ1 - 800*	800	100	65	240	1000	3000	1 / 1

**Note:** \*Dual power change-over switch with separated control display.

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty



## ELECTRO-MAGNETIC RESIDUAL CURRENT DEVICES (RCD) JEL1, AC TYPE

### Documents corresponding to the product:

EN 61008-1  
EN 61008-2; EN 60947-1



RCD type AC for AC current

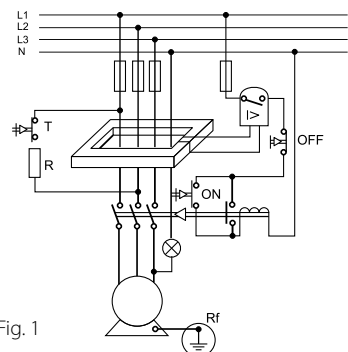
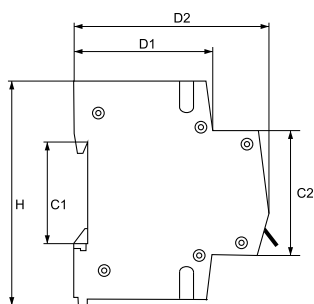
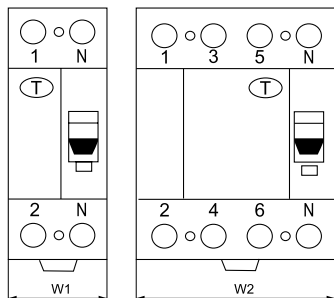


Fig. 1

The residual current device works with no extra power supply to the operating mechanism. It compares the magnitude of the currents through the neutral and phase conductors. The conductors are coiled on toroid and together with the secondary winding form a measurement transformer. The power conductors are coiled in such a way that the magnetic fields generated at electrical current flow through them are mutually neutralized. At failure in the insulation of some of the conductors or at presence of a person under voltage, the system is mis-balanced and the magnetic fields can not be neutralized. This residual field generates in the secondary current winding, called current leakage. The device breaks when the value of this current exceeds the limit value of the residual current breaker.

### FUNCTIONS

- Switching off heavy-loaded electrical circuits at insulation damage of the conductors to the consumers.
- Switching off heavy-loaded electrical circuits at presence of a person under voltage.
- Used to protect not only particular consumers/ circuits, but also the whole panel.
- Remarkable with high reliability of current characteristics.
- Control: manual switching on and automatic switching off at exit failure.

### CONNECTING

- Power supply busbar (only for bipolar)
- Flexible or rigid conductors with corresponding section

### MOUNTING

- On DIN-rail
- Mounting position: vertical

The residual current device is mounted in the distribution box, and after the device the neutral conductor and the earthing conductor must not be connected together. In order to work accurately, the device must have three- or five-conductor grid with separate protective conductor (PE) (e.g. earthing system TN-S or TT with three or five conductors). The corpus of the consumer depending on the grid type must be connected either to the protective conductor or be earthed. (Fig.1)

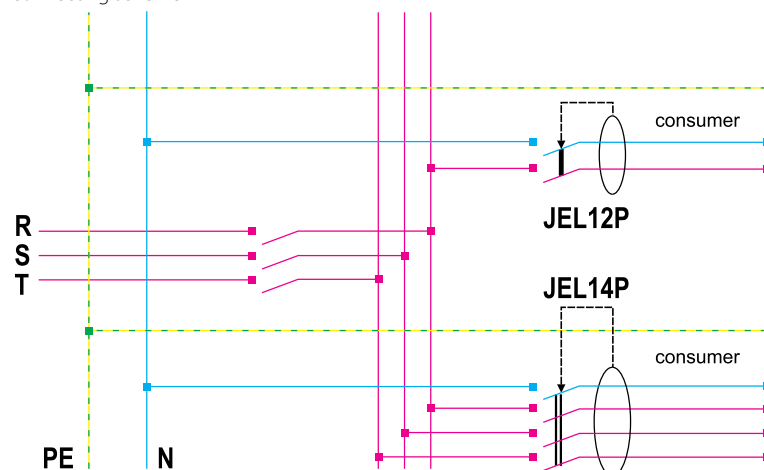
### TECHNICAL DATA

- Rated operating voltage: 230/400V; 50/60 Hz
- Rated current: according to the table
- Responsiveness: 30; 100; 300; 500mA
- Time delay until break: <0.1s at  $I \Delta n$  and <0.04s at  $2I \Delta n$
- Surge voltage wear resistance:  $\geq 2000V$
- Short circuit current wear resistance: 4500A, 6000A
- Joining terminal: flat (tunnel) screw terminal made of 1.5 coldly draw-plated plane Q235A
- Type of the plastic:
  - > Material: self-extinguishing nylon PA66
  - > Permittivity strength: >18MV/m
- Contact head: silver graphite CAg(5)
- Static contact: pure copper T2Y2 type
- Electrical wear resistance (number of cycles):  $\geq 5000$
- Mechanical wear resistance (number of cycles):  $\geq 10000$
- IP code: IP>20
- Indication for operating (switched on) position
- Plastic material of the breakers of UV rays and nonflammable
- Ambient temperature:  $-10^{\circ}C + 65^{\circ}C$
- Installation altitude: up to 2000m

Dimensions (mm)

W1	W2	H	H1	H2	D1	D2
35	70	81	35	45	50	72

### Connecting scheme



## ELECTRO-MAGNETIC RESIDUAL CURRENT DEVICES (RCD) JEL1, AC TYPE



RCD type AC for AC current

Residual current devices JEL 1, 6kA - Type AC - alternating fault currents sensible. Impulse with-stand voltage 2000VAC

Catalogue number				Type	Number of poles	Breaking capacity (kA)	Rated current In (A)	Packing/Box (pcs)
Leakage current I Δ n (mA)								
30	100	300	500					
40210	40212	40213	40214	JEL 1	2P	6	10.0	1/60
40216	40217	40218	40219	JEL 1	2P	6	16.0	1/60
40292	40293	40294	40295	JEL 1	2P	6	20.0	1/60
40221	40222	40223	40224	JEL 1	2P	6	25.0	1/60
40231	40232	40233	40234	JEL 1	2P	6	32.0	1/60
40241	40242	40243	40244	JEL 1	2P	6	40.0	1/60
40261	40262	40263	40264	JEL 1	2P	6	63.0	1/60
40281	40282	40283	40284	JEL 1	2P	6	80.0	1/60
40291	40296	40297	40298	JEL 1	2P	6	100.0	1/60



RCD type AC for AC current

Catalogue number				Type	Number of poles	Breaking capacity (kA)	Rated current In (A)	Packing/Box (pcs)
Leakage current I Δ n (mA)								
30	100	300	500					
40410	40412	40413	40414	JEL 1	4P	6	10.0	1/30
40416	40417	40418	40419	JEL 1	4P	6	16.0	1/30
40492	40493	40494	40495	JEL 1	4P	6	20.0	1/30
40421	40422	40423	40424	JEL 1	4P	6	25.0	1/30
40431	40432	40433	40434	JEL 1	4P	6	32.0	1/30
40441	40442	40443	40444	JEL 1	4P	6	40.0	1/30
40461	40462	40463	40464	JEL 1	4P	6	63.0	1/30
40481	40482	40483	40484	JEL 1	4P	6	80.0	1/30
40491	40496	40497	40498	JEL 1	4P	6	100.0	1/30



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty



## ELECTRO-MAGNETIC RESIDUAL CURRENT DEVICES (RCD) JEL 1A, TYPE A

**Documents corresponding to the product:**

EN 61008-1  
EN 61008-2; EN 60947-1

These are Residual Current Devices (RCDs) JEL 1A with enhanced sensibility and fast - operating protection devices applicable in circuits with harmonic or direct pulsating current component presence.

**FUNCTIONS**

- Switching off electrical circuits on load at conductor insulation breaking to the consumer
- Switching off electrical circuits on load at direct and indirect contact
- Switching off electrical circuits on load at alternating earth fault currents during consequent light impact
- Switching off consumers at harmonic presence due to luminescent lights
- Switching off consumers in DC circuits at fault currents presence
- Mechanical indicator for ON position

**TECHNICAL DATA**

- Rated operating voltage: 230/400V; 50 Hz
- Rated current: according to the table
- Responsiveness: 30mA and 300mA
- Time delay until break: <0.1s at I $\Delta$ n and <0.04s at 2I $\Delta$ n
- Short circuit current wear resistance: 6000A
- Electrical wear resistance (number of cycles):  $\geq$ 2000
- Mechanical wear resistance (number of cycles):  $\geq$ 4000
- IP code: IP>20

**CONNECTING**

- Power supply busbar (only for bipolar)
- Flexible or rigid conductors with corresponding section

**MOUNTING**

- On DIN-rail
- Mounting position: vertical

Residual current devices JEL 1A, 6kA - Type A - alternating and pulsating direct fault currents sensible Impulse withstand voltage 2000VAC/ 400VDC



RCD type A for AC/DC current

Catalogue number	Type	Number of poles	Breaking capacity (kA)	Rated current In (A)	Packing/Box (pcs)	
Leakage current I $\Delta$ n (mA)						
30	300					
40516	40518	JEL 1A	2P	6	16.0	1/60
40592	40594	JEL 1A	2P	6	20.0	1/60
40521	40523	JEL 1A	2P	6	25.0	1/60
40531	40533	JEL 1A	2P	6	32.0	1/60
40541	40543	JEL 1A	2P	6	40.0	1/60
40561	40563	JEL 1A	2P	6	63.0	1/60
40581	40583	JEL 1A	2P	6	80.0	1/60
40591	40597	JEL 1A	2P	6	100.0	1/60



RCD type A for AC/DC current

Catalogue number	Type	Number of poles	Breaking capacity (kA)	Rated current In (A)	Packing/Box (pcs)	
Leakage current I $\Delta$ n (mA)						
30	300					
40616	40618	JEL 1A	4P	6	16.0	1 / 30
40692	40694	JEL 1A	4P	6	20.0	1 / 30
40621	40623	JEL 1A	4P	6	25.0	1 / 30
40631	40633	JEL 1A	4P	6	32.0	1 / 30
40641	40643	JEL 1A	4P	6	40.0	1 / 30
40661	40663	JEL 1A	4P	6	63.0	1 / 30
40681	40683	JEL 1A	4P	6	80.0	1 / 30
40691	40697	JEL 1A	4P	6	100.0	1 / 30



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty



## ELECTRO-MAGNETIC RESIDUAL CURRENT DEVICE (RCD)- JEL1B, TYPE B

### Documents corresponding to the product:

IEC61008-1  
IEC62423



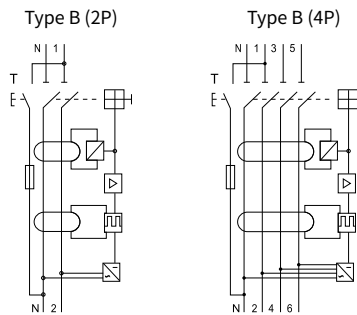
RCD type B for AC/DC current

### DESCRIPTION OF THE OPERATING SYSTEM

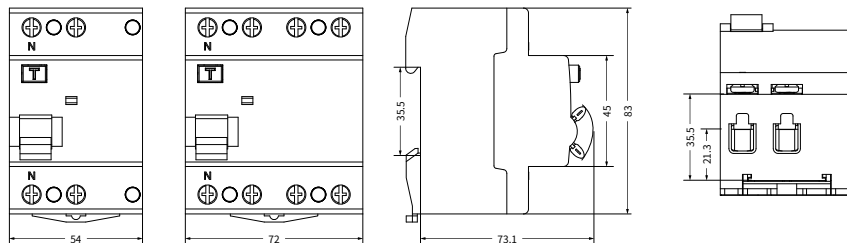
JEL1B Type B RCD has compact structure, good reliability, and high safety. They ensure higher protection levels with maximum operational continuity under all working conditions. Type B RCDs are sensitive to AC, pulsating AC and steady DC leakage currents. This type may be required for use in photovoltaic (PV) solar energy installations because the PV panels produce a DC output and some types of fault can result in the leakage of DC currents to earth. Type B RCDs can ensure maximum safety in many applications, such as EV Charging Station, Crane and Elevator, variable speed drives, medical equipment, PV and Wind power plants, etc.

### TECHNICAL DATA

- Mode: Electromagnetic
- Type: B for AC/DC current
- Rated operating voltage Ue 2P: 240V 50/60 Hz
- Rated operating voltage Ue 4P: 415V 50/60 Hz
- Insulation voltage Ui: 500V
- Circuit breaker rated current: according to the table
- Residual current responsiveness: 30mA
- Break time under IΔn: ≤0.1s
- Circuit breaker tripping curve: C
- Breaking capacity: 10 000A
- Short circuit protection device (SCPD) fuse: 10 000A
- Rated impulse withstand voltage(1.5/50) Uimp: 4000V
- Dielectric test voltage at ind. Freq. for 1min: 2.5kV
- Electrical life: 2 000 cycles
- Mechanical life: 4 000 cycles
- IP code: IP>20
- Terminal connection type:
  - > Cable
  - > Pin-type busbar
  - > U-type busbar
- Terminal size top/bottom for cable: 35mm<sup>2</sup>
- Terminal size top/bottom for busbar: 35mm<sup>2</sup>
- Tightening torque: 2.5Nm
- Ambient temperature: -10°C + 65°C
- Installation altitude: up to 2000m



Circuit diagram



Overall and installation dimensions (mm)

**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty



RCD type B for AC/DC current

### 2P ELECTRO-MAGNETIC RESIDUAL CURRENT DEVICE (RCD)- JEL1B

Catalogue number	Type	Number of poles	Breaking capacity (kA)	Rated current (A)	Packing/Box (pcs)
Leakage current I <sub>Δn</sub> (mA)					
30					
40845B	JEL1B	1P+N	10	16	1/90
40846B	JEL1B	1P+N	10	25	1/90
40847B	JEL1B	1P+N	10	32	1/90
40848B	JEL1B	1P+N	10	40	1/90
40849B	JEL1B	1P+N	10	63	1/90
40850B	JEL1B	1P+N	10	80	1/90
40851B	JEL1B	1P+N	10	100	1/90



### 4P ELECTRO-MAGNETIC RESIDUAL CURRENT DEVICE (RCD)- JEL1B



RCD type B for AC/DC current

Catalogue number	Type	Number of poles	Breaking capacity (kA)	Rated current (A)	Packing/Box (pcs)
Leakage current I <sub>Δn</sub> (mA)					
30					
40852B	JEL1B	3P+N	10	16	1/45
40853B	JEL1B	3P+N	10	25	1/45
40854B	JEL1B	3P+N	10	32	1/45
40855B	JEL1B	3P+N	10	40	1/45
40856B	JEL1B	3P+N	10	63	1/45
40857B	JEL1B	3P+N	10	80	1/45
40858B	JEL1B	3P+N	10	100	1/45

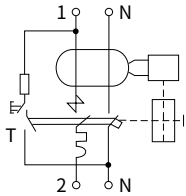


**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

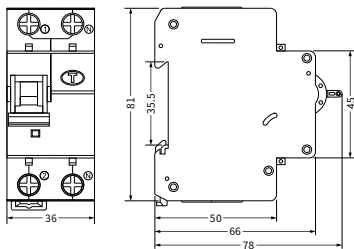
## ELECTRO-MAGNETIC RESIDUAL CURRENT OPERATED CIRCUIT BREAKER (RCBO) - JEL5A, TYPE A CURVE C

### Documents corresponding to the product:

IEC61009-1



Circuit diagram



Overall and installation dimensions (mm)



RCBO type A for AC/DC current

### DESCRIPTION OF THE OPERATING SYSTEM

RCBO JEL5A is with enhanced sensibility and fast - operating protection devices applicable in circuits with harmonic or direct pulsating current component presence RCBO JEL5A is mainly used for AC 50Hz or 60Hz, rated voltage 230 or below and rated working current 40A or below and immediately cut off power supply once someone suffers from electric shock or leakage current above specified value. It is a combination of automatic circuit breaker and residual current electromagnet device. It combines the properties of the two elements. The circuit breaker reacts at short circuit or overload in the protected circuit, and the electromagnetic residual current device- at failure in the conductors' insulation. It compares the magnitude of the currents through the neutral and phase conductors. The conductors are coiled on toroid and together with the secondary winding form a measurement transformer. The power conductors are coiled in such a way that the magnetic fields generated at electrical current flow through them are mutually neutralized. At failure in the insulation of some of the conductors or at presence of a person under voltage, the system is mis-balanced and the magnetic fields can not be neutralized. This residual magnetic field generates in the secondary current winding, called current leakage. When the value of this current exceeds the limit value of the residual current breaker the device breaks and the residual current device switches off from the power supply grid. The device operates without any extra power supply to the electromagnetic residual current and is not influenced by voltage varying or decreasing.

### FUNCTIONS

- Switching off heavy-loaded electrical circuits at short circuit or overload.
- Switching off heavy-loaded electrical circuits at insulation damage of the conductors to the consumers.
- Switching off heavy-loaded electrical circuits at presence of a person and animals under voltage.
- Switching off consumers at harmonic presence due to luminescent lights.
- Switching off consumers in DC circuits at fault currents presence.
- Used to protect not only particular consumers/ circuits, but also the whole panel.
- Remarkable with high reliability of current characteristics.
- Control: manual switching on and automatic switching off at failure in the insulation after the breaker.

### MOUNTING

- On DIN-rail
  - Mounting position: vertical
- The residual current device is mounted in the distribution box, and after the device the neutral conductor and the earthing conductor must not be connected together. In order to work accurately, the device must have three- or five-conductor grid with separate operating neutral conductor (N) and separate protecting conductor (PE) (e.g. earthing system TN-S or TT with three or five conductors).

### TECHNICAL DATA

- Mode: Electromagnetic
- Type: A for AC/DC current
- Rated operating voltage  $U_e$ : 230/240V 50/60 Hz
- Insulation voltage  $U_i$ : 500V
- Circuit breaker rated current: according to the table
- Residual current responsiveness: 30; 300mA
- Break time under  $I_{\Delta n}$ :  $\leq 0.1s$
- Circuit breaker tripping curve: C
- Energy limiting class: 3
- Breaking capacity: 6 000A
- Rated impulse withstand voltage(1.5/50)  $U_{imp} \geq 4000V$
- Dielectric test voltage at ind.Freq. for 1min: 2kV
- Pollution degree: 2
- Thermo-magnetic release characteristic: C
- Electrical life: 4 000 cycles
- Mechanical life: 10 000 cycles
- IP code: IP>20
- Indication for operating (switched on) position
- Terminal connection type:
  - > Cable
  - > Pin-type busbar
  - > U-type busbar
- Terminal size top/bottom for cable: 25 mm<sup>2</sup>
- Terminal size top/bottom for busbar: 25 mm<sup>2</sup>
- Tightening torque: 2.5Nm
- Reference temperature for setting of thermal element: 30°C
- Ambient temperature: -10°C + 65°C
- Installation altitude: up to 2000m

Catalogue number	Type	Number of poles	Breaking capacity (kA)	Rated current (A)	Packing / Box (pcs)	
Leakage current $I_{\Delta n}$ (mA)						
30	300					
40006A	40012A	JEL5A	1P+N	6	6	1/90
40010A	40013A	JEL5A	1P+N	6	10	1/90
40016A	40018A	JEL5A	1P+N	6	16	1/90
40020A	40019A	JEL5A	1P+N	6	20	1/90
40025A	40023A	JEL5A	1P+N	6	25	1/90
40032A	40033A	JEL5A	1P+N	6	32	1/90
40040A	40043A	JEL5A	1P+N	6	40	1/90



## ELECTRONIC RESIDUAL CURRENT OPERATED CIRCUIT BREAKER (RCBO)- JEL4A, TYPE A CURVE C

### Documents corresponding to the product:

IEC61009-1

### DESCRIPTION OF THE OPERATING SYSTEM

RCBO JEL4A is with enhanced sensibility and fast - operating protection devices applicable in circuits with harmonic or direct pulsating current component presence. "Phase line + neutral + leakage" protection circuit breaker JEL4A is applied to the single-phase residential circuit of 50Hz or 60Hz, rated voltage 230V, to protect leakage, civil electrical overload and short circuit. The product is provided with many advantages such as small size, high breaking capacity, cutting off zero-line, live line at the same time, and leakage protecting in the case of reverse wiring live line.

### FUNCTIONS

Switching off heavy-loaded electrical circuits at short circuit or overload.

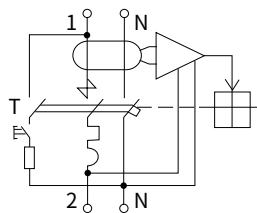
- Switching off heavy-loaded electrical circuits at insulation damage of the conductors to the consumers.
- Switching off heavy-loaded electrical circuits at presence of a person and animals under voltage.
- Switching off consumers at harmonic presence due to luminescent lights.
- Switching off consumers in DC circuits at fault currents presence.
- Used to protect not only particular consumers/circuits, but also the whole panel.
- Remarkable with high reliability of current characteristics.
- Control: manual switching on and automatic switching off at failure in the insulation after the breaker.

### MOUNTING

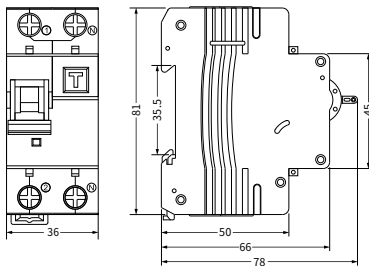
- On DIN-rail
  - Mounting position: vertical
- The residual current device is mounted in the distribution box, and after the device the neutral conductor and the earthing conductor must not be connected together. In order to work accurately, the device must have three- or five-conductor grid with separate operating neutral conductor (N) and separate protecting conductor (PE) (e.g. earthing system TN-S or TT with three or five conductors).

### TECHNICAL DATA

- Mode: Electronic
- Type: A for AC/DC current
- Rated operating voltage  $U_e$ : 230/240V 50/60 Hz
- Insulation voltage  $U_i$ : 500V
- Circuit breaker rated current: according to the table
- Residual current responsiveness: 30; 300mA
- Break time under  $I_{\Delta n}$ :  $\leq 0.1$  s
- Circuit breaker tripping curve: C
- Energy limiting class: 3
- Breaking capacity: 6 000A
- Rated impulse withstand voltage (1.5/50)  $U_{imp} \geq 4000V$
- Dielectric test voltage at ind.Freq. for 1min: 2kV
- Pollution degree: 2
- Electrical life: 4 000 cycles
- Mechanical life: 10 000 cycles
- IP code: IP>20
- Indication for operating (switched on) position
- Terminal connection type:
  - > Cable
  - > Pin-type busbar
  - > U-type busbar
- Terminal size top/bottom for cable: 25mm<sup>2</sup>
- Terminal size top/bottom for busbar: 25 mm<sup>2</sup>
- Tightening torque: 2.5Nm
- Reference temperature for setting of thermal element: 30°C
- Ambient temperature: -10°C + 65°C
- Installation altitude: up to 2000 m



Circuit diagram



Overall and installation dimensions (mm)

**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty



RCBO type A for AC/DC current

### COMBINED ELECTRONIC RESIDUAL CURRENT DEVICE AND CIRCUIT BREAKER 2P 6KA

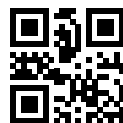
Catalogue number	Type	Number of poles	Breaking capacity (kA)	Rated current (A)	Packing / Box (pcs)	
Leakage current I $\Delta$ n (mA)						
30	300					
40206A	40205A	JEL4A	1P+N	6	6	1/90
40211A	40208A	JEL4A	1P+N	6	10	1/90
40215A	40235A	JEL4A	1P+N	6	16	1/90
40225A	40230A	JEL4A	1P+N	6	20	1/90
40240A	40246A	JEL4A	1P+N	6	25	1/90
40265A	40236A	JEL4A	1P+N	6	32	1/90
40274A	40273A	JEL4A	1P+N	6	40	1/90



RCBO type A for AC/DC current

### COMBINED ELECTRONIC RESIDUAL CURRENT DEVICE AND CIRCUIT BREAKER 4P 6KA

Catalogue number	Type	Number of poles	Breaking capacity (kA)	Rated current (A)	Packing / Box (pcs)	
Leakage current I $\Delta$ n (mA)						
30	300					
40470A	40477A	JEL4A	3P+N	6	6	1/30
40471A	40478A	JEL4A	3P+N	6	10	1/30
40472A	40479A	JEL4A	3P+N	6	16	1/30
40473A	40480A	JEL4A	3P+N	6	20	1/30
40474A	40485A	JEL4A	3P+N	6	25	1/30
40475A	40486A	JEL4A	3P+N	6	32	1/30
40476A	40487A	JEL4A	3P+N	6	40	1/30



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## RCBO WITH ARC FAULT PROTECTIVE, JEL8A CURVE C

**Documents corresponding to the product:**

IEC61009-1  
IEC62606



RCBO type A for AC/DC current

**DESCRIPTION OF THE OPERATING SYSTEM**

An arc-fault detection device (AFDD) or arc-fault circuit interrupter (AFCI) is a circuit breaker that breaks the circuit when it detects the electric arcs that are a signature of loose connections in home wiring. Loose connections, which can develop over time, can sometimes become hot enough to ignite house fires dangerous arc (that can occur, for example, in a lamp cord which has a broken conductor). An AFDD selectively distinguishes between a harmless arc (incidental to normal operation of switches, plugs, and brushed motors), and a potentially dangerous arc (that can occur, for example, in a lamp cord which has a broken conductor).

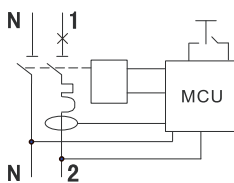
**FUNCTIONS**

- Arc Fault Protection.
- Overload Protection.
- Short-Circuit Protection.
- Earth-Leakage Protection.

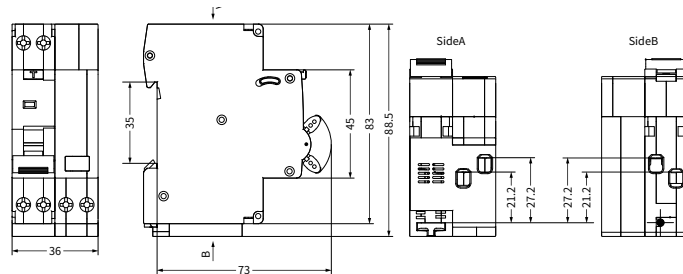
**TECHNICAL DATA**

- Mode: Electronic
- Type: A for AC/DC current
- Rated operating voltage  $U_e$ : 240V 50/60 Hz
- Insulation voltage  $U_i$ : 400V
- Circuit breaker rated current: according to the table
- Residual current responsiveness: 30mA
- Break time under  $I_{\Delta n}$ :  $\leq 0.1s$
- Circuit breaker tripping curve: C
- Energy limiting class: 3
- Breaking capacity: 6 000A
- Rated impulse withstand voltage(1.5/50)  $U_{imp} \geq 4000V$
- Dielectric test voltage at ind.Freq. for 1min: 2kV
- Pollution degree: 2

- Electrical life: 4 000 cycles
- Mechanical life: 10 000 cycles
- IP code: IP>20
- Indication for operating (switched on) position
- Terminal connection type:
  - Cable
  - Pin-type busbar
  - U-type busbar
- Terminal size top/bottom for cable: 16mm<sup>2</sup>
- Terminal size top/bottom for busbar: 16mm<sup>2</sup>
- Tightening torque: 2.5Nm
- Reference temperature for setting of thermal element: 30°C
- Ambient temperature: -10°C + 65°C
- Installation altitude: up to 2000m



Circuit diagram



Overall and installation dimensions

Catalogue number	Type	Number of poles	Breaking capacity (kA)	Rated current (A)	Packing / Box (pcs)
Leakage current $I_{\Delta n}$ (mA)					
30					
40870	JEL8A	1P+N	6	6	1/60
40871	JEL8A	1P+N	6	10	1/60
40872	JEL8A	1P+N	6	16	1/60
40873	JEL8A	1P+N	6	20	1/60
40874	JEL8A	1P+N	6	25	1/60
40875	JEL8A	1P+N	6	32	1/60
40876	JEL8A	1P+N	6	40	1/60



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty



## ELECTRONIC TYPE DPN RESIDUAL CURRENT OPERATED CIRCUIT BREAKER (RCBO), JEL9A

### Documents corresponding to the product:

IEC61009-1



RCBO type A for AC/DC current

### DESCRIPTION OF THE OPERATING SYSTEM

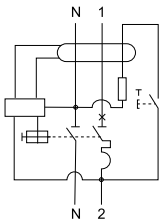
RCBO JEL9A provide protection against earth faults, overloads, short circuits and over-voltage in commercial and domestic installation. The RCBO with both disconnected neutral and phase guarantees its proper actuation against earth leakage faults even when the neutral and phase are wrongly connected the electronic RCBO incorporate a filtering device preventing the risks of unwanted due to transient voltages and transient currents.

### FUNCTIONS

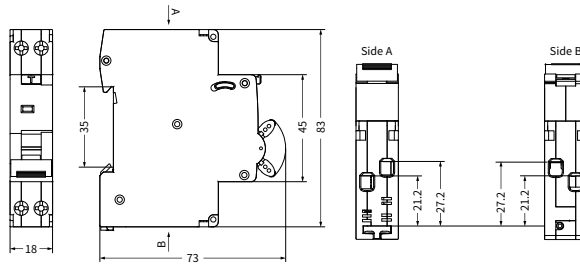
- Overload Protection
- Short-Circuit Protection
- Earth-Leakage Protection

### TECHNICAL DATA

- Mode: Electronic
- Type: A for AC/DC current
- Rated operating voltage  $U_e$ : 240V 50/60 Hz
- Insulation voltage  $U_i$ : 500V
- Circuit breaker rated current: according to the table
- Residual current responsiveness: 30mA
- Break time under  $I_{\Delta n}$ :  $\leq 0.1s$
- Circuit breaker tripping curve: C
- Energy limiting class: 3
- Breaking capacity: 6 000A
- Rated impulse withstand voltage(1.5/50)  $U_{imp}$ :  $\geq 4000V$
- Dielectric test voltage at ind.Freq. for 1 min: 2kV
- Pollution degree: 2
- Electrical life: 4 000 cycles
- Mechanical life: 10 000 cycles
- IP code: IP>20
- Indication for operating (switched on) position
- Terminal connection type:
  - Cable
  - Pin-type busbar
  - Terminal size top/bottom for cable: 16 mm<sup>2</sup>
  - Terminal size top/bottom for busbar: 16 mm<sup>2</sup>
  - Tightening torque: 2.5Nm
- Reference temperature for setting of thermal element: 30°C
- Ambient temperature: -10°C + 65°C
- Installation altitude: up to 2000 m



Circuit diagram



Overall and installation dimensions (mm)

Catalogue number	Type	Number of poles	Breaking capacity (kA)	Rated current (A)	Packing / Box (pcs)
Leakage current $I_{\Delta n}$ (mA)					
30					
40500A	JEL9A	DPN (1P+N)	6	6	1/90
40501A	JEL9A	DPN (1P+N)	6	10	1/90
40502A	JEL9A	DPN (1P+N)	6	16	1/90
40503A	JEL9A	DPN (1P+N)	6	20	1/90
40504A	JEL9A	DPN (1P+N)	6	25	1/90
40505A	JEL9A	DPN (1P+N)	6	32	1/90
40506A	JEL9A	DPN (1P+N)	6	40	1/90



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## COMBINED SURGE ARRESTERS TYPE 1 + 2



Type 1+2 for AC current

Combined surge arresters type 1 + 2 are coordinated in advance. They can manage and prevent the high energy during a thunderbolt and to assure the better level of security of electricity of the electrical equipment

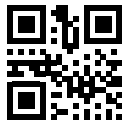
Surge arresters Type 1 is used to catch the energy caused by higher electricity compared to the capacity of direct thunderbolt. The security device has passed a successful test according to the standards with electric wave 10/350 (class 1 test).

Surge arresters Type 2 is used to catch the energy caused by higher electricity, compared to the capacity of indirect strike or commutative overvoltage. The security device has passed a successful test according to the standards with electric wave 8/20 (class 2 test).

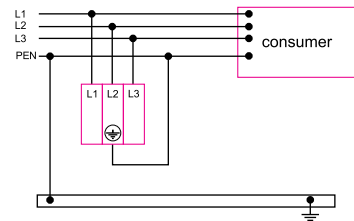
Response time: <25 nS

Voltage protection level: 1,5kV

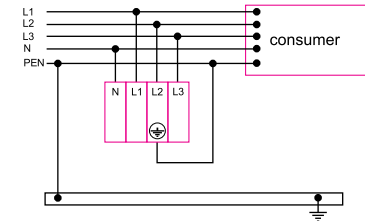
Catalogue number	Type of arrester	Max inpluse current limp (10/350µS)	Max discharge current I <sub>max</sub> (8/20 µS)	Nominal line voltage U <sub>n</sub> (V)	Earthing system
64502	SPD-X/1P+N	12.5kA	50kA	230	TT,TN-S
64503	SPD-X/3P	12.5kA	50kA	230/400	TN-C
64504	SPD-X/3P+N	12.5kA	50kA	230/400	TT,TN-S



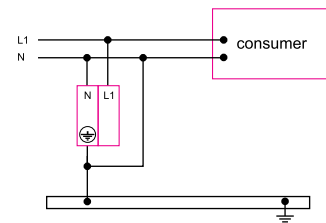
Three phase protection TN-C system



Three phase protection TN-S system



Mono-phase protection TT system



**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

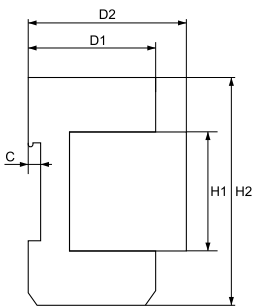
## SURGE ARRESTERS SPD TYPE 2 FOR AC CURRENT

### Documents corresponding to the product:

Standard EN61 643-1



Type 2 for AC current



The surge arrester consists of a semi-conductor valve element that opens at certain conditions. At normal conditions of the system, the surge arrester has infinitely high resistance between the protected conductors and earthing circuit. At voltage increase due to atmospheric nature or system failure, the valve element opens and leads the excessive voltage to the grounded circuit. After reversion of the normal voltage the valve element closes. The arrester can endure high momentary overloading.

### FUNCTIONS

- protection of heavy-loaded electrical circuits from overload
- used to protect not only particular consumers/circuits, but also the whole panel
- remarkable with high reliability of current characteristics
- control: automatic switching off at exit failure and recovery after eliminating the danger

### CONNECTING

- flexible or rigid conductors with corresponding section

### MOUNTING

- on DIN-rail
- mounting position: vertical
- mounting in the distribution box on the front or right before the breaker according to the attached schemes
- Breakers plastic material of UV rays and nonflammable
- Ambient temperature: -10°C + 65°C
- Installation altitude: up to 2000m

### TECHNICAL DATA

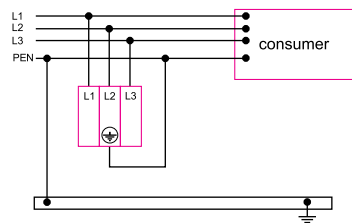
- Rated operating voltage  $U_c$ : - the operating voltage of the surge arrester 275/440V; 50Hz
- Surge voltage  $U_p$ : the voltage created in surge arrester terminals at rated discharge current running: according to the tables
- Rated discharge current  $I_n$  – the rated value of discharge current with a sinusoid 8/20 $\mu$ s, which can be repeatedly led to the ground: according to the tables
- Full discharge current  $I_{max}$  – the peak value of the discharge current with a sinusoid 8/20 $\mu$ s, which the surge arrester can bear once: according to the table
- Constant operating current: up to 800 $\mu$ A for 1P, 2P and 3P; up to 600 $\mu$ A for 1P + N, 3P + N
- Indication for damaged surge arrester
- Offered in types: 1P; 1P + N; 3P; 3P + N

Dimensions (mm)

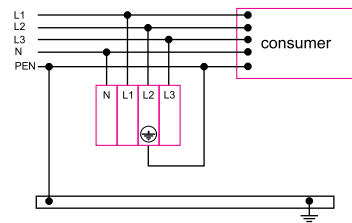
C	H1	H2	D1	D2
5	90	45	43.5	58

**COLOUR CODE** for all types 5kA - yellow; white – 10kA; green – 20 kA and red 40kA

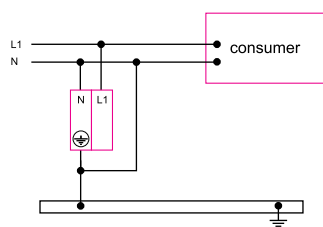
Three phase protection TN-C system



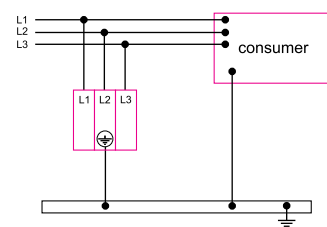
Three phase protection TN-C system



Monophase protection TT system



Three phase protection IT system



**7 YEARS TOTAL WARRANTY**  
+ 7 standard 0 extended  
\* for industrial usage 3 years warranty



The surge arrester selection is made according to the overload risk level or atmosphere activity, named B, C or D (from high to low risk level).

**THE COMPANY OFFERS THE FOLLOWING MODELS OF ARRESTERS**

Model SPD – Bxxxx – for systems with exceptionally high risk level. Mounted mainly in the beginning of the installation or in the main panel.

Model SPD – Cxxxx – for systems with high or average risk level. Mounted in the beginning of the installation or before the breaker.

Model SPD – Dxxxx – for systems with low risk level. Suitable for secondary protection of consumers in combination with SPD – Bxxxx/SPD – Cxxxx



Catalogue number	Type of the arrester	In (kA)	I <sub>max</sub> (kA)	U <sub>c</sub> (V)	U <sub>p</sub> (kV)	Packing/Box (pcs)
64101	SPD-D5/1p	5	10	275	1.2	17/170
64102	SPD-C10/1p	10	20	275	1.2	17/170
64103	SPD-C20/1p	20	40	275	1.8	17/170
64104	SPD-B40/1p	40	60	275	2	17/170



Catalogue number	Type of the arrester	In (kA)	I <sub>max</sub> (kA)	U <sub>c</sub> (V)	U <sub>p</sub> (kV)	Packing/Box (pcs)
64201	SPD-D5/1pN	5	10	275	1.2	8 / 80
64202	SPD-C10/1pN	10	20	275	1.2	8 / 80
64203	SPD-C20/1pN	20	40	275	1.8	8 / 80
64204	SPD-B40/1pN	40	60	275	2	8 / 80

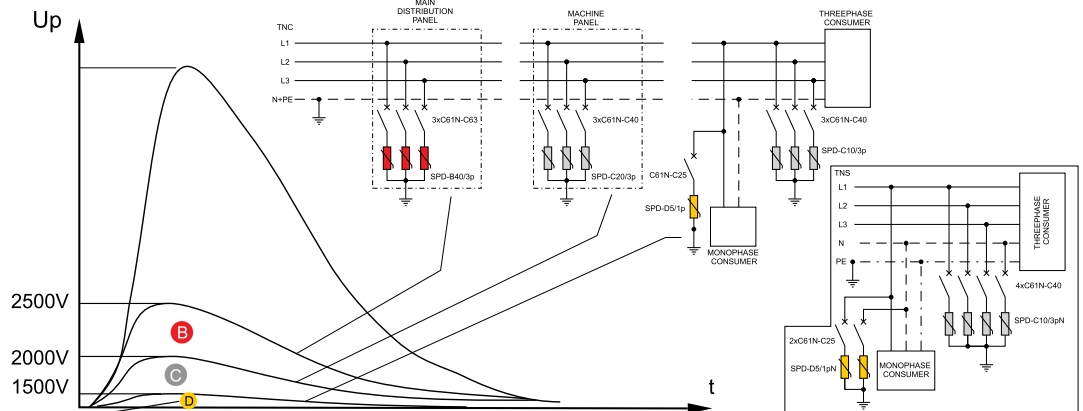


Catalogue number	Type of the arrester	In (kA)	I <sub>max</sub> (kA)	U <sub>c</sub> (V)	U <sub>p</sub> (kV)	Packing/Box (pcs)
64301	SPD-D5/3p	5	10	440	1.2	5 / 50
64302	SPD-C10/3p	10	20	440	1.2	5 / 50
64303	SPD-C20/3p	20	40	440	1.8	5 / 50
64304	SPD-B40/3p	40	60	440	2	5 / 50



Catalogue number	Type of the arrester	In (kA)	I <sub>max</sub> (kA)	U <sub>c</sub> (V)	U <sub>p</sub> (kV)	Packing/Box (pcs)
64401	SPD-D5/3pN	5	10	440	1.2	4 / 40
64402	SPD-C10/3pN	10	20	440	1.2	4 / 40
64403	SPD-C20/3pN	20	40	440	1.8	4 / 40
64404	SPD-B40/3pN	40	60	440	2	4 / 40

Type 2 for AC current



COLOUR CODE for all types 5kA - yellow; white – 10kA; green – 20 kA and red 40kA

**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## COMBINED SURGE ARRESTERS AC/DC, TYPE 2

Specially designed surge arresters providing protection of solar and photo - voltaic systems; designed to protect system against over voltages resulting from indirect light impact. They could be installed in earthed and non - earthed systems. They break photo - voltaic generator electric circuit when voltage reaches or over passes limit threshold value, providing photo - voltaic protection against destroying.



Type 2 for AC/DC current

Catalogue number	Type of the arrester	In (kA)	I <sub>max</sub> (kA)	U <sub>c</sub> (V)	U <sub>p</sub> (kV)	Packing/Box (pcs)
64105	SPD-DC-D5/1p	5	10	275 AC/440 DC	≤ 1.2	17 / 170
64106	SPD-DC-C10/1p	10	20	275 AC/440 DC	≤ 1.5	17 / 170
64107	SPD-DC-C20/1p	20	40	275 AC/440 DC	≤ 1.8	17 / 170
64108	SPD-DC-B40/1p	30	60	275 AC/440 DC	≤ 2.2	17 / 170



Type 2 for AC/DC current

Catalogue number	Type of the arrester	In (kA)	I <sub>max</sub> (kA)	U <sub>c</sub> (V)	U <sub>p</sub> (kV)	Packing/Box (pcs)
64205	SPD-DC-D5/1pN	5	10	275 AC/440 DC	≤ 1.2	8 / 80
64206	SPD-DC-C10/1pN	10	20	275 AC/440 DC	≤ 1.5	8 / 80
64207	SPD-DC-C20/1pN	20	40	275 AC/440 DC	≤ 1.8	8 / 80
64208	SPD-DC-B40/1pN	30	60	275 AC/440 DC	≤ 2.2	8 / 80



Type 2 for AC/DC current

Catalogue number	Type of the arrester	In (kA)	I <sub>max</sub> (kA)	U <sub>c</sub> (V)	U <sub>p</sub> (kV)	Packing/Box (pcs)
64305	SPD-DC-D5/3p	5	10	385 AC/500 DC	≤ 1.2	5 / 50
64306	SPD-DC-C10/3p	10	20	385 AC/500 DC	≤ 1.5	5 / 50
64307	SPD-DC-C20/3p	20	40	385 AC/500 DC	≤ 1.8	5 / 50
64308	SPD-DC-B40/3p	30	60	385 AC/500 DC	≤ 2.2	5 / 50



COLOUR CODE for all types 5kA - yellow; white – 10kA; green – 20 kA and red 40kA

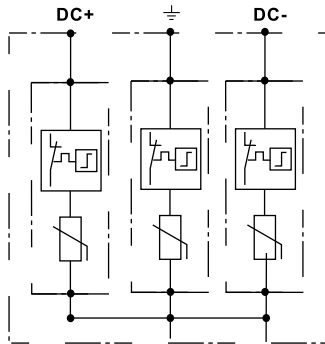
**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty





## DC SURGE PROTECTION DEVICES FOR PHOTOVOLTAGE (PV) SYSTEMS, TYPE 1+2

**Documents corresponding to the product:**  
IEC/EN61643-31



Circuit diagram

T1+T2 three-module photovoltaic surge protective device (SPD) (with three -step DC switching device) features visual indication and optional remote contact signaling (floating changeover contact) for use in PV systems.

**TECHNICAL DATA**

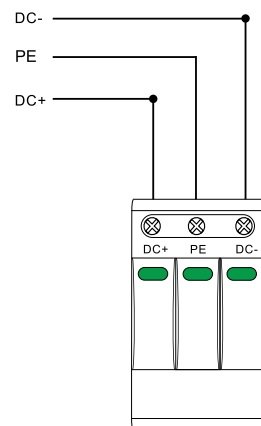
- SPD classification according to IEC/EN61643-31: T1+T2
- Max. continuous operating a.c.voltage  $U_{cpv}$ : 1000 and 1500 VDC
- Impulse Discharge Current  $I_{imp}$  (10/350  $\mu$ s): 6.25kA
- Total Discharge Current  $I_{total}$  (10/350  $\mu$ s): 12.5kA
- Nominal discharge current  $I_n$  (8/20 $\mu$ s): 20kA
- Maximum discharge current  $I_{max}$  (8/20 $\mu$ s): 40kA
- Voltage protection level DC+/DV-to PE:  $\leq 5.2$ kV
- Response time:  $\leq 25$ ns
- Operating temperature range ( $T_u$ ):  $-40^{\circ}\sim 80^{\circ}$
- Operating State/Fault Indication: Green/Red
- Cross-section area (Min.): 4 mm<sup>2</sup>
- Cross-section area (Max.): 35 mm<sup>2</sup>
- Enclosure material: Thermal Plastic UL94-V0
- Ingress Protection: IP20



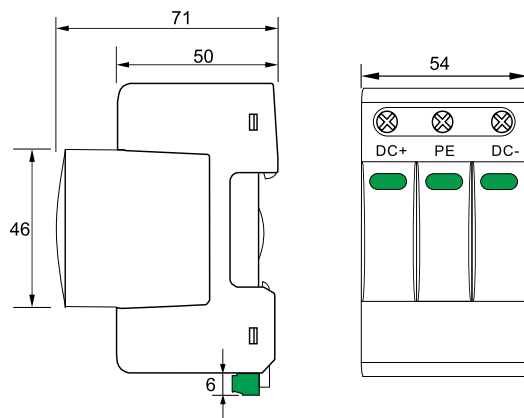
Type 1+2 for DC current



Catalogue number	Number of poles	$I_n$ (kA)	$I_{max}$ (kA)	$U_{cpv}$	Packing/Box (pcs)
64310	3P	20	40	1000	1/40
64311	3P	20	40	1500	1/40



Connection diagram



Overall and installation dimensions

**7 YEARS TOTAL WARRANTY**  
+ 7 standard  
0 extended  
\* for industrial usage  
3 years warranty

## THREE POLE (3P) LOW VOLTAGE CONTACTORS LT1-D/HK

### Documents corresponding to the product:

Standard EN 60947-1; EN 60 947-4-1



Type LT1-D/ 3P



Type LT1-D/ 3P



Type LT1-HK/ 3P

LT 1 D contactors are alternating current contactors for control of circuits and consumers operating in class AC3. It is suitable for consumers with rated current up to 95A. The contactors are offered in a type with 1 NO contact for operating circuit making and the models over 40A also have 1NC operating contactor.

### FUNCTIONS

- switching on/off heavy-loaded electrical circuits at controlling signal to the coil
- making of control systems
- used as an operating element in process control panels
- remarkable with high reliability of current characteristics
- reliable separation of power contactors
- secured cover of the movable part of the contactor

### CONNECTING

- flexible conductors with or without cable terminal
- rigid conductors

### MOUNTING

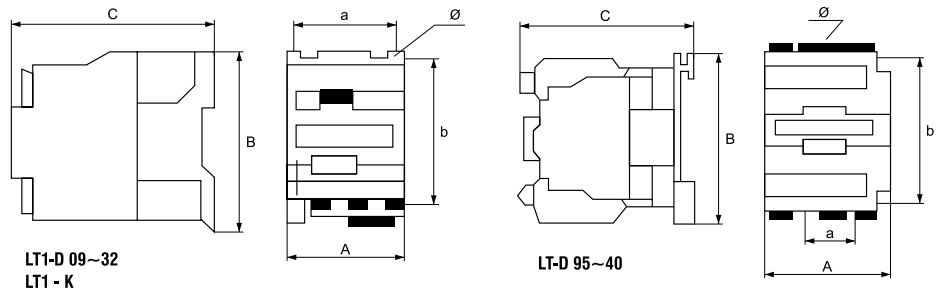
- on DIN-rail
- with bolts to the surface
- mounting position: vertical gradient-max.  $\pm 5^\circ$
- Plastic: wear resistance of UV rays and nonflammable (self-extinguishing material)
- Ambient temperature:  $-10^\circ\text{C} + 65^\circ\text{C}$
- Altitude: up to 2000m

### TECHNICAL DATA

- Number of poles: 3
- Operation class: utilization category AC-3
- Rated operating voltage of power contactors: up to 690V; 50/60Hz
- Composition of the power contact surfaces: unalloyed copper with coating 80% AgSnO
- Surge voltage wear resistance:  $>8000\text{V}$
- Rated voltage of the coil: from 12 to 400V AC
- Coil material: pure copper type QA-1
- Magnetic core material: alloy steel type 360
- Moveable part material: Bakelite
- Limits of the controlling coil voltage: operating range of coil
- Joining terminal: screw terminal
- Electrical wear resistance (number of cycles):  $\geq 1000000$
- Mechanical wear resistance (number of cycles):  $\geq 10000000$
- Number of cycles per hour: 1200 UP TO 32A; 600 for 40-95A
- Pole leaking power: up to 13W
- Pole leaking power: up to 10W

### Overall dimensions (mm)

Type	a	b	$\varnothing$	A	B	C
LT1-HK 06~12/LT-1K	34/35	45	4.5	45	50	50
LT-D 09~12	34/35	50/60	4.5	47	70	82
LT1 D18	34/35	50/60	4.5	47	70	87
LT1 D25	40	48	4.5	57	80	95
LT1 D32	40	48	4.5	57	80	100
LT-D 40~65	40	100/110	6.5	77	126	116
LT-D 80~95	40	100/110	6.5	87	126	127



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

Catalogue number according to the coil voltage (V)		Type number	Rated capacity (kW)					Power consumption of coil (VA)		Rated current in AC-3 440V to up	Tightening moment (N.m)	Section of the power supply conductor	Packing/ Box (pcs)
230V	400V		220V 230V	380V 400V	415V	440V	660V 690V	closed inrush	open hold				
23061E	23062E	LT 1 - HK 0610 1NO	1.5	2.2	2.2	2.2	3	7	60	6A	1.7	0.75-2.5	1/100
23091	23092	LT1 - D0910 1NO	2.2	4	4	4	5.5	7	60	9A	1.7	1-4	1/50
23273	23270	LT1 - D0901 1NC	2.2	4	4	4	5.5	7	60	9A	1.7	1-4	1/50
23121	23122	LT1 - D1210 1NO	3	5.5	5.5	5.5	7.5	7	60	12A	1.7	1-4	1/50
23274	23280	LT1 - D1201 1NC	3	5.5	5.5	5.5	7.5	7	60	12A	1.7	1-4	1/50
23181	23182	LT1 - D1810 1NO	4	7.5	9	9	10	7	60	18A	1.7	1-4	1/50
23275	23286	LT1 - D1801 1NC	4	7.5	9	9	10	7	60	18A	1.7	1-4	1/50
23251	23252	LT1 - D2510 1NO	5.5	11	11	11	15	7.5	90	25A	2.5	2.5-10	1/50
23276	23292	LT1 - D2501 1NC	5.5	11	11	11	15	7.5	90	25A	2.5	2.5-10	1/50
23321	23322	LT1 - D3210 1NO	7.5	15	15	15	18.5	7.5	90	32A	2.5	2.5-10	1/50
23401	23402	LT1 - D4011 1NO+1NC	11	18.5	22	22	30	20	200	40A	5	2.5-16	1/20
23501	23502	LT1 - D5011 1NO+1NC	15	22	25	25	33	20	200	50A	5	6-25	1/20
23651	23652	LT1 - D6511 1NO+1NC	18.5	30	37	37	37	20	200	65A	5	6-25	1/20
23801	23802	LT1 - D8011 1NO+1NC	22	37	45	45	45	20	200	80A	9	10-50	1/15
23951	23952	LT1 - D9511 1NO+1NC	25	45	45	45	45	20	200	95A	9	10-50	1/15

Catalogue number according to the coil voltage (V)					Type number	Rated capacity (kW)					Power consumption of coil (VA)		Rated current in AC-3 440V to up	Tightening moment (N.m)	Section of the power supply conductor	Pack/ Box (pcs)
12V	24V	36V	48V	110V		220V 230V	380V 400V	415V	440V	660V 690V	closed inrush	open hold				
23063E	23064E	23065E	23066E	23067E	LT 1 - HK 0610 1NO	1.5	2.2	2.2	2.2	3	7	60	6A	1.7	0.75-2.5	1/100
23093	23094	23095	23096	23097	LT1 - D0910 1NO	2.2	4	4	4	5.5	7	60	9A	1.7	1-4	1/50
23271	23272	23277	23278	23279	LT1 - D0901 1NC	2.2	4	4	4	5.5	7	60	9A	1.7	1-4	1/50
23123	23124	23125	23126	23127	LT1 - D1210 1NO	3	5.5	5.5	5.5	7.5	7	60	12A	1.7	1-4	1/50
23281	23282	23283	23284	23285	LT1 - D1201 1NC	3	5.5	5.5	5.5	7.5	7	60	12A	1.7	1-4	1/50
23183	23184	23185	23186	23187	LT1 - D1810 1NO	4	7.5	9	9	10	7	60	18A	1.7	1-4	1/50
23287	23288	23289	23290	23291	LT1 - D1801 1NC	4	7.5	9	9	10	7	60	18A	1.7	1-4	1/50
23253	23254	23255	23256	23257	LT1 - D2510 1NO	5.5	11	11	11	15	7.5	90	25A	2.5	2.5-10	1/50
23293	23294	23295	23296	23297	LT1 - D2501 1NC	5.5	11	11	11	15	7.5	90	25A	2.5	2.5-10	1/50
23323	23324	23325	23326	23327	LT1 - D3210 1NO	7.5	15	15	15	18.5	7.5	90	32A	2.5	2.5-10	1/50
23403	23404	23405	23406	23407	LT1 - D4011 1NO+1NC	11	18.5	22	22	30	20	200	40A	5	2.5-16	1/20
23503	23504	23505	23506	23507	LT1 - D5011 1NO+1NC	15	22	25	25	33	20	200	50A	5	6-25	1/20
23653	23654	23655	23656	23657	LT1 - D6511 1NO+1NC	18.5	30	37	37	37	20	200	65A	5	6-25	1/20
23803	23804	23805	23806	23807	LT1 - D8011 1NO+1NC	22	37	45	45	45	20	200	80A	9	10-50	1/15
23953	23954	23955	23956	23957	LT1 - D9511 1NO+1NC	25	45	45	45	45	20	200	95A	9	10-50	1/15

**7 YEARS TOTAL WARRANTY**  
+ 5 standard 2 extended  
\* for industrial usage 3 years warranty

## FOUR POLE (4P) LOW VOLTAGE CONTACTORS LT1-D

**Documents corresponding to the product:**

Standard EN 60947-1; EN 60 947-4-1



LT1 25A-4P



LT1 80A-4P

LT1 D contactors are alternating current contactors for control of circuits and consumers operating in class AC3. It is suitable for consumers with rated current up to 95A. The contactors are offered in a type with 1 NO contact for operating circuit making and the models over 40A also have 1NC operating contactor.

**FUNCTIONS**

- Switching on/off heavy-loaded electrical circuits at controlling signal to the coil
- Making of control systems
- Used as an operating element in process control panels
- Remarkable with high reliability of current characteristics
- Reliable separation of power contactors
- Secured cover of the movable part of the contactor

**CONNECTING**

- Flexible conductors with or without cable terminal
- Rigid conductors

**MOUNTING**

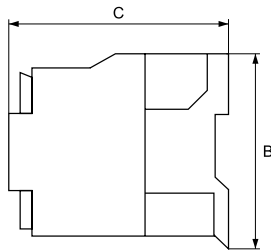
- On DIN-rail
- With bolts to the surface
- Mounting position: vertical gradient-max. ± 5°
- Plastic: wear resistance of UV rays and nonflammable (self-extinguishing material)
- Ambient temperature: -10°C + 65°C
- Altitude: up to 2000m

**TECHNICAL DATA**

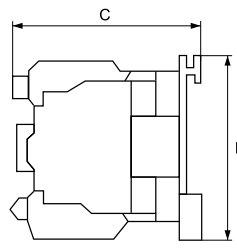
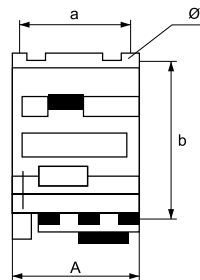
- Number of poles: 4
- Operation class: utilization category AC-3
- Rated operating voltage of power contactors: up to 690V; 50/60Hz
- Composition of the power contact surfaces: unalloyed copper with coating 80% AgSnO
- Surge voltage wear resistance: >8000V
- Rated voltage of the coil: from 12 to 400V AC
- Coil material: pure copper type QA-1
- Magnetic core material: alloy steel type 360
- Movable part material: Bakelite
- Limits of the controlling coil voltage: operating range of coil
- Joining terminal: screw terminal
- Electrical wear resistance (number of cycles): ≥1000000
- Mechanical wear resistance (number of cycles): ≥10000000
- Number of cycles per hour: 1200 UP TO 32A; 600 for 40-95A
- Pole leaking power: up to 13W
- Pole leaking power: up to 10W

**Overall dimensions (mm)**

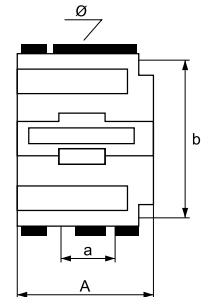
Type	a	b	Ø	A	B	C
LT-D 09~12	34/35	50/60	4.5	47	70	82
LT1 D25	40	48	4.5	57	80	95
LT-D 40~65	40	100/110	6.5	86	126	116/129
LT-D 80~95	40	100/110	6.5	97	126	127/140



LT1-D 09~32  
LT1 - K



LT-D 95~40



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

Catalogue number according to the coil voltage (V)		Type number	Rated capacity (kW)					Power consumption of coil (VA)		Rated current in AC-3 440V to up	Tightening moment (N.m)	Section of the power supply conductor	Packing/ Box (pcs)
230V	400V		220V 230V	380V 400V	415V	440V	660V 690V	closed inrush	open hold				
234091	234092	LT1 - D0910 1NO	2.2	4	4	4	5.5	7	60	9A	1.7	1-4	1/50
234121	234122	LT1 - D1210 1NO	3	5.5	5.5	5.5	7.5	7	60	12A	1.7	1-4	1/50
234251	234252	LT1 - D2510 1NO	5.5	11	11	11	15	7.5	90	25A	2.5	2.5-10	1/50
234401	234402	LT1 - D4011 1NO+1NC	11	18.5	22	22	30	20	200	40A	5	2.5-16	1/20
234501	234502	LT1 - D5011 1NO+1NC	15	22	25	25	33	20	200	50A	5	6-25	1/20
234651	234652	LT1 - D6511 1NO+1NC	18.5	30	37	37	37	20	200	65A	5	6-25	1/20
234801	234802	LT1 - D8011 1NO+1NC	22	37	45	45	45	20	200	80A	9	10-50	1/15
234951	234952	LT1 - D9511 1NO+1NC	25	45	45	45	45	20	200	95A	9	10-50	1/15



Catalogue number according to the coil voltage (V)					Type number	Rated capacity (kW)					Power consumption of coil (VA)		Rated current in AC-3 440V to up	Tightening moment (N.m)	Section of the power supply conductor	Pack/ Box (pcs)
12V	24V	36V	48V	110V		220V 230V	380V 400V	415V	440V	660V 690V	closed inrush	open hold				
234093	234094	234095	234096	234097	LT1 - D0910 1NO	2.2	4	4	4	5.5	7	60	9A	1.7	1-4	1/50
234123	234124	234125	234126	234127	LT1 - D1210 1NO	3	5.5	5.5	5.5	7.5	7	60	12A	1.7	1-4	1/50
234253	234254	234255	234256	234257	LT1 - D2510 1NO	5.5	11	11	11	15	7.5	90	25A	2.5	2.5-10	1/50
234403	234404	234405	234406	234407	LT1 - D4011 1NO+1NC	11	18.5	22	22	30	20	200	40A	5	2.5-16	1/20
234503	234504	234505	234506	234507	LT1 - D5011 1NO+1NC	15	22	25	25	33	20	200	50A	5	6-25	1/20
234653	234654	234655	234656	234657	LT1 - D6511 1NO+1NC	18.5	30	37	37	37	20	200	65A	5	6-25	1/20
234803	234804	234805	234806	234807	LT1 - D8011 1NO+1NC	22	37	45	45	45	20	200	80A	9	10-50	1/15
234953	234954	234955	234956	234957	LT1 - D9511 1NO+1NC	25	45	45	45	45	20	200	95A	9	10-50	1/15

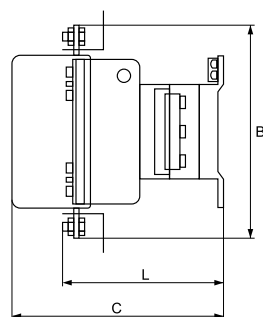
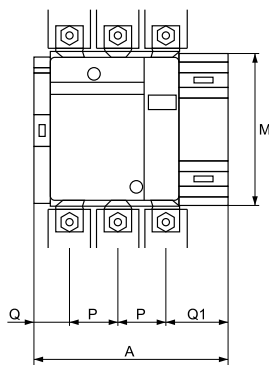


**7 YEARS TOTAL WARRANTY**  
+ 5 standard 2 extended  
\* for industrial usage 3 years warranty

## THREE POLE LOW VOLTAGE CONTACTORS LT1-F

### Documents corresponding to the product:

Standard EN 60947-1; EN 60 947-4-1



The contactors LT 1 - F are alternating current contactors used to control circuits and consumers operating in normal working conditions with switching on /off the consumer and dirty working environment. They are suitable for consumers with electrical power consumption from 115A to 800A.

### FUNCTIONS

- Frequently switching on/off heavy-loaded electrical circuits at controlling signal to the coil
- Making of systems for consumers' control
- Used as an operating element in process control panels
- Remarkable with high reliability of current characteristics
- Reliable separation of power contactors
- Secured cover of the movable part of the contactor

### CONNECTING

- Flexible conductors with or without cable terminal
- Rigid conductors
- rail

### MOUNTING

- With bolts to the surface
- Mounting position: vertical gradient – maximum ± 10°C

### TECHNICAL DATA

- Operation class: utilization category AC-3
- Rated operating voltage of power contactors: up to 1000V; 50/60Hz
- Composition of the power contact surfaces: unalloyed copper with coating 80% AgSnO
- Surge voltage wear resistance: >8000V
- Coil composition: pure coil copper QA-1 type
- Magnetic core composition: steel alloy 360
- Movable part composition: bakelite
- Limits of the controlling coil voltage: operating range of coil
- Joining terminal: screw terminal
- Electrical wear resistance (number of cycles): ≥10000000
- Mechanical wear resistance (number of cycles): ≥10000000
- Number of cycles (switching on) per hour: 200
- Pole leaking power: from 16 to 80W
- Plastic: wear resistance of UV rays and non-flammable (self-extinguishing material)
- Ambient temperature: -10°C + 65°C
- Altitude: up to 2000m

Overall dimensions (mm)

Type	A	B	C	L	M	Q	Q1	P
LT 1 F150	163.5	170	171	107	150	26	57.5	40
LT 1 F225	168.5	197	181	113.5	172	21	51.5	48
LT 1 F265	201.5	203	181	141	178	39	66.5	48
LT 1 F400	213	206	219	145	182	43	74	48
LT 1 F630	309	304	255	155	264	60	89	80
LT 1 F800	309	304	255	155	264	60	89	80



Catalogue number according to the coil voltage (V)					Type number	Motor rated capacity (kW)								Power consumption of coil (VA)		Rated current in AC-3 440V to up	Tightening moment (N.m)	Packing/ Box (pcs)
230V	400V	36V	48V	110V		220V	380V	415V	440V	500V	660V	1000V	closed	open				
23111	23112	23115	23116	23117	LT1 - F115	30	55	59	59	80	60	45	550	115 A	18	1 / 4		
23151	23152	23155	23156	23157	LT1 - F150	40	75	80	80	90	100	65	45	550	150 A	25	1 / 4	
23861	23862	23865	23866	23867	LT1 - F225	63	110	110	110	129	129	100	55	805	225 A	35	1 / 2	
23261	23262	23265	23266	23267	LT1 - F265	75	132	140	140	160	160	147	10	700	265 A	35	1 / 2	
23751	23752				LT1 - F400	110	200	220	250	257	280	185	18	1000	400 A	50	1 / 1	
23771	23772				LT1 - F630	200	335	375	400	400	450	450	25	1500	630 A	50	1 / 1	
23881	23882				LT1 - F800	250	450	450	450	450	475	450	15	1300	800 A	50	1 / 1	

Note: At mounting the containers from the series in control schemes a distance must be provided at the side of the contactor in case of eventual coil change.

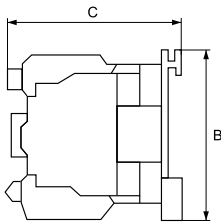
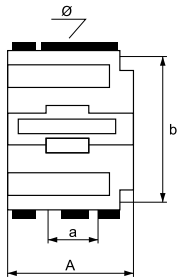
**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty



## LOW VOLTAGE CONTACTORS WITH DIRECT CURRENT COIL LP1-D

### Documents corresponding to the product:

Standard EN60947-1; EN 60947-4-1



LP1-D 09-95



The contactors LP1 D are alternating current contactors with DC operating of coil for control. The power plugs of the contactor are designed for control of alternating current circuits and consumers operating in normal operating class AC-3 with frequently switching on/ off the consumer and dirty working environment. The contactors are suitable for consumers with electrical power consumption from 9A to 225A.

### FUNCTIONS

- Switching on/off alternating current consumers in direct current controlling schemes at controlling signal to the coil
- Making of systems for consumers' control
- Used as an operating element in process control panels
- Remarkable with high reliability of current characteristics
- Reliable separation of power contacts
- Secured cover of the movable part of the contactor

### CONNECTING

- Flexible conductors with or without cable terminal
- Rigid conductors

### MOUNTING

- on DIN-rail
- with bolts to the surface
- mounting position: vertical gradient-max.  $\pm 5^\circ$

### TECHNICAL DATA

- Rated operating voltage of the coil: from 12V DC to 220V DC
- Rated operating voltage of the power circuit: up to 690V DC
- Insulation voltage: 690V
- Surge voltage wear resistance: >8000V
- Limits of the controlling coil voltage: operating range of coil
- Joining terminal: screw terminal
- Electrical wear resistance (number of cycles):  $\geq 10000000$
- Mechanical wear resistance (number of cycles):  $\geq 10000000$
- Number of cycles per hour: 1200 up to 32A; 600 for 40-95A
- Pole leaking power: up to 13W
- Plastic: wear resistance of UV rays and non-flammable (self-extinguishing material)
- Ambient temperature:  $-10^\circ\text{C} + 65^\circ\text{C}$
- Altitude: up to 2000m

Overall dimensions (mm)

Type	A	B	C	a	b
LP 1 D0910	47	76	95	34/35	50/60
LP 1 D1210	47	76	95	34/35	50/60
LP 1 D1810	47	76	95	34/35	50
LP 1 D2510	57	86	101	40	50
LP 1 D3210	57	86	101	40	50
LP 1 D4011	77	129	176	40	100
LP 1 D5011	77	129	176	40	100
LP 1 D6511	77	129	176	40	100
LP 1 D9511	87	129	182	40	100
LP 1 F115	163.5	170	171	40	150
LP 1 F150	163.5	170	171	40	150
LP 1 F225	168.5	197	181	48	172

Catalogue number according to the coil voltage (V DC)						Type	Rated current (A)	Auxiliary contact (pcs.)	Rated capacity of the consumer (kW)					Packing/Box (pcs)
12V	24V	36V	48V	110V	230V	230V			400V	415V	440V	690V		
23962	23098	23130	23971	23980	23139	LP 1 D0910	9	1NO	2.20	4.00	4.00	4.00	5.50	1/40
23963	23128	23131	23972	23981	23140	LP 1 D1210	12	1NO	3.00	5.50	5.50	5.50	7.50	1/40
23964	23188	23132	23973	23982	23141	LP 1 D1810	18	1NO	4.00	7.50	7.50	7.50	10.0	1/30
23925	23258	23133	23974	23983	23142	LP 1 D2510	25	1NO	5.50	11.0	11.0	11.0	15.0	1/20
23966	23328	23134	23975	23984	23143	LP 1 D3210	32	1NO	7.50	15.0	15.0	15.0	18.5	1/30
23967	23408	23135	23976	23985	23144	LP 1 D4011	40	1NO+1NC	11.0	18.5	18.5	18.5	30.0	1/10
23968	23508	23136	23977	23986	23145	LP 1 D5011	50	1NO+1NC	15.0	22.0	22.0	22.0	33.0	1/10
23969	23658	23137	23978	23987	23146	LP 1 D6511	65	1NO+1NC	18.5	30.0	30.0	30.0	37.0	1/10
23970	23958	23138	23979	23988	23147	LP 1 D9511	95	1NO+1NC	25.0	45.0	45.0	45.0	45.0	1/10
		23914	23917	23989	23148	LP 1 F115	115	1NO	30.0	55.0	59.0	59.0	80.0	1/4
		23915	23918	23990	23149	LP 1 F150	150	1NO	40.0	75.0	80.0	80.0	100	1/4
		23916	23919	23994	23201	LP 1 F225	225	1NO	63.0	110	110	110	129	1/2

## LOW VOLTAGE CONTACTORS FOR SWITCHING ON OF CAPACITOR BANKS CJ19-43

### Documents corresponding to the product:

Standard EN60947-1; EN 60947-4-1

The AC contactors CJ19-43 are specially designed electrical devices for commutation of three phase capacitors used for power correction. They are alternating current contactor LT1 Dxx with mounted a group for peak current lowering from the transitional process of the capacitor's switching on/off. This group is a combination of current limiting resistors, switched on in the beginning of the transitional process (switching on/off of the capacitor group). The contactors are suitable for capacitors with rate up to 50 kVAR.

### FUNCTIONS

- Switching on/off of capacitor banks for reactive power compensation
- Making of systems for compensation of the energy reactive component
- Lowering of the peak transitional currents at switching on/off of the capacitor
- Remarkable with high reliability of current characteristics
- Reliable separation of power contacts
- Secured part of the contactor against consumer contact
- do not allow manual operation

### CONNECTING

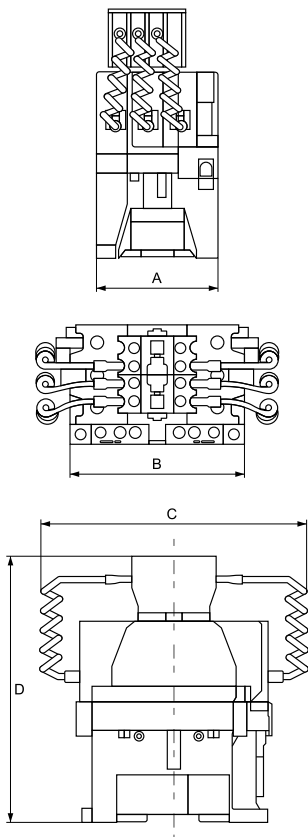
- Flexible conductors with or without cable terminal
- Rigid conductors

### MOUNTING

- On DIN-rail or
- With bolts to the surface
- Mounting position: vertical gradient-max.  $\pm 5^\circ$
- Plastic: wear resistance of UV rays and nonflammable (self-extinguishing material)
- Ambient temperature:  $-10^\circ\text{C} + 65^\circ\text{C}$
- Altitude: up to 2000m

### TECHNICAL DATA

- Operation class: utilization category AC6b
- Rated operating voltage of the controlling coil: 230V AC; 50/60Hz
- Rated operating voltage of the power circuit: up to 690V AC
- Insulation voltage: 690V
- Surge voltage wear resistance:  $>8000\text{V}$
- Limits of the controlling coil voltage: from 0.8 to 1.15 U<sub>c</sub>
- Number of the contacts: 3 NO power contacts + 1NO operative
- Joining terminal: screw terminal
- Electrical wear resistance (number of cycles):  $\geq 300000$
- Mechanical wear resistance (number of cycles):  $\geq 1000000$
- Number of cycles (switching on) per hour: up to 600
- Pole leaking power: up to 13W



Overall dimensions (mm)

Type	A	B	C	D
CJ19-32 DPK	56	74	130	150
CJ19-40 DPK	75	127	180	150
CJ19-65 DPK	85	127	200	157
CJ19-95 DPK	85	127	200	157
CJ19-115DPK	122	165	230	157
CJ19-150DPK	122	165	230	157
CJ19-170DPK	122	165	230	157

Catalogue number	Type	Rated current (A)	Rated capacity of the consumer (kVAR)		Coil voltage (V)	Packing/Box (pcs)
			400/440V	690V		
23932	CJ19-32 DPK	32	8	12.5	230	1/20
23910	CJ19-32 DPK	32	8	12.5	400	1/20
23900	CJ19-40 DPK	40	12.5	15	230	1/16
23940	CJ19-40 DPK	40	12.5	15	400	1/16
23961	CJ19-65 DPK	65	25	30	230	1/16
23965	CJ19-65 DPK	65	25	30	400	1/16
23909	CJ19-95 DPK	95	30	36	230	1/16
23995	CJ19-95 DPK	95	30	36	400	1/16
23991	CJ19-115 DPK	115	35	40	230	1/4
23992	CJ19-150 DPK	150	40	50	230	1/4
23993	CJ19-170 DPK	170	50	60	230	1/4

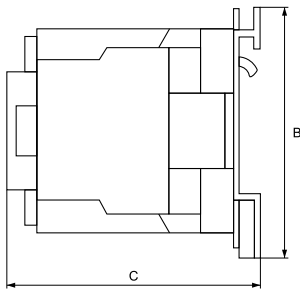
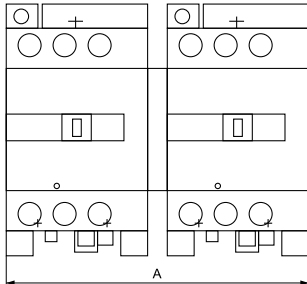
**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## REVERSE CONTACTORS LT4-DXX

### Documents corresponding to the product:

Standard EN60947-1; EN 60947-4-1

LT 4-Dxx series contactors is suitable for across- the line starting and reversing of-3 phase squirrel cage and slip ring motors. It consist of two magnetic contactors LT1D. The contactor is provided whit a built-in interlock safety mechanism. The contactor is used for reverse control of induction motors with shortly rotor. The contactors from the series are offered for consumers up to 95A.



### FUNCTIONS

- Switching on of electrical motors in one direction of rotation and reversing of the rotation direction at outside command
- Making of control systems
- Remarkable with high reliability of current characteristics
- Reliable switching on or separation of power contacts
- Secured part of the contactors against consumer contact
- Secured cover of the movable part of the contactor
- Impossibility for simultaneous switching on of the two contactors from the group due to mechanical locking

### CONNECTING

- Flexible conductors with or without cable terminal
- Rigid conductors

### MOUNTING

- On DIN-rail or with bolts to the surface
- Mounting position: vertical gradient – max.  $\pm 5^\circ$
- Plastic: wear resistance of UV rays and non-flammable (self-extinguishing material)
- Ambient temperature:  $-10^\circ\text{C} + 65^\circ\text{C}$
- Altitude: up to 2000m

### TECHNICAL DATA

- Operation class: AC 3
- Rated operating voltage of the controlling coil: 230V AC; 50/60 Hz
- Rated operating voltage of the power circuit: up to 690V AC
- Insulation voltage: 690V
- Surge voltage wear resistance:  $>8000\text{V}$
- Limits of the controlling coil voltage: from 0.8 to 1.15 U<sub>c</sub>
- Number of plugs: 3 NO power contacts +1NO Operative (for contactors over 40A there is also Additional 1NC contact)
- Joining terminal: screw terminal
- Electrical wear resistance (number of cycles):  $\geq 1\,000\,000$
- Mechanical wear resistance (number of cycles):  $\geq 10\,000\,000$
- Number of cycles (switching on) per hour: up to 600
- Pole leaking power: up to 13W  $\geq 10000000$
- Number of cycles per hour: 1200 up to 32A; 600 for 40-95A
- Pole leaking power: up to 13W

Overall dimensions (mm)

Type	A	B	C
LT 4 - D1810	100	70	83
LT 4 - D2510	130	80	98
LT 4 - D3210	130	80	105
LT 4 - D4011	167	126	116
LT 4 - D6511	167	126	116
LT 4 - D9511	182	127	127

Catalogue number	Type	Rated current (A)	Rated capacity of the consumer (kW)					Packing/Box (pcs)
			230V	400V	415V	440V	690V	
23301	LT 4 D1810	18	4	7.5	7.5	7.5	10	1 / 20
23302	LT 4 D2510	25	5.5	11	11	11	15	1 / 20
23303	LT 4 D3210	32	7.5	15	15	15	18.5	1 / 20
23304	LT 4 D4011	40	11	18.5	18.5	18.5	30	1 / 8
23305	LT 4 D6511	65	18.5	30	30	30	37	1 / 8
23306	LT 4 D9511	95	25	45	45	45	45	1 / 6

Note: The contactors are offered without factory cabling

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## AUXILIARY CONTACTS

### Documents corresponding to the product:

Standard EN 60947-4-1



### AUXILIARY CONTACTS LT01

At necessity the element provide auxiliary number of contacts. They are specially designed for mounting on the movable part of the magnetic core of the contactors LT 1K/D series.

#### FUNCTIONS

- Extending the number of the operative contactors up to 4 in different
- Combinations:
  - > Switches on simultaneously with the other contact system of the contactor

#### CONNECTING

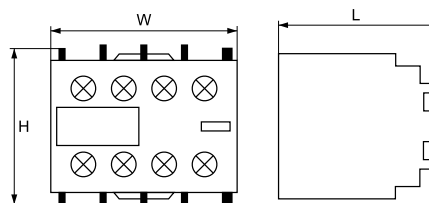
- Flexible conductors with or without cable terminal
- Rigid conductors

#### TECHNICAL DATA

- Operation class: AC 3
- Insulation voltage: 690V
- Joining terminal: screw terminal
- Plastic: wear resistance of UV rays and nonflammable (self-extinguishing material)

#### MOUNTING

- On the movable cover of the contactor through pinching
- Mounting position: vertical gradient - max.  $\pm 5^\circ$



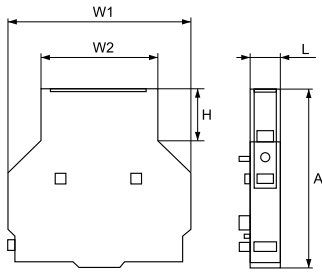
Dimensions (mm)

H	W	L	W1	W2	H2	L1	L2
32	40	35	26	45	48	6.5	37

Catalogue number	Type	For Contactor Series	Number of contacts	Rated current	Section of the conductor (mm <sup>2</sup> )
23002	LT01-DN02	LT1-D & LT1-F	2NC	6A	0,5-1
23011	LT01-DN11	LT1-D & LT1-F	NO+NC	6A	0,5-1
23020	LT01-DN20	LT1-D & LT1-F	2NO	6A	0,5-1
23022	LT01-DN22	LT1-D & LT1-F	2NO+2NC	6A	0,5-1
23040	LT01-DN40	LT1-D & LT1-F	4NO	6A	0,5-1
23004	LT01-DN04	LT1-D & LT1-F	4NC	6A	0,5-1
23001	LT01-KN11	LT1-HK	NO+NC	6A	0,5-1
23003	LT01-KN22	LT1-HK	2NO+2NC	6A	0,5-1



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## AUXILIARY CONTACTS LT03-DN11

Providing on necessity additional number of plug points and are mounted sideward to the movable part of the magnetic cores of contactors of the series LT1D till 65A. Variants with two additional plug points NO and NC are offered.

### FUNCTIONS

- Expanding the number of the operational plug points
- Switching on simultaneously with the rest of the contact system of the contactor

### CONNECTING

- Flexible conductors with or without cable end
- solid conductors

### TECHNICAL DATA

- Environment operational regime: AC 3
- Insulation voltage: 690V
- Double connector: screw connector
- Plastic: resistant to UV and non-burning (self extinguishing material)

### MOUNTING

- Mounting position- sideward to the contactor

Dimensions (mm)

W1	W2	H	L	A
73	48	22	12.5	72

Catalogue number	Type	Rated current	Section of the conductor (mm <sup>2</sup> )
23311	LT03-DN11	6A	0,5-1



## TIME DELAY CONTACT BLOCK LT02-DXX

LT02-Dxx is designed to set time intervals from 0.1 to 180s in different control schemes. It is used most frequently in combination with contactors from LT1-Dxx series to form "star/delta" starters for electrical motor control, as it provides the necessary time for motor winding.



Dimensions (mm)

W	W2	L1	h1	h2	H
33	45	48	22	14	59

Catalogue number	Type	Number of contacts	Time delay	Delay
23901	LT02-DT0	NO+NC	0.1~3s	ON
23902	LT02-DT2	NO+NC	0.1~30s	ON
23903	LT02-DT4	NO+NC	10~180s	ON
239022	LT02-DT22	NO+NC	0.1~30s	OFF



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3 years warranty

## MODULE CONTACTORS K SERIES

### Documents corresponding to the product:

Standard EN 61095



Modular contactors K series are used for commutation of mono-phase and three-phase low power electrical consumers. They provide connection between the consumers in small overall dimensions, silent work, mounting only at DIN-rails.

#### FUNCTIONS

- switching on of consumers
- making of control systems
- remarkable with high reliability of current characteristics
- reliable switching on or separation of power contacts

#### CONNECTING

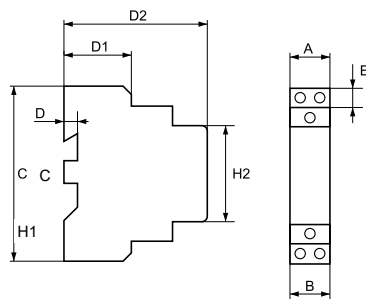
- flexible conductors with or without cable terminal
- rigid conductors

#### MOUNTING

- on DIN-rail or
- mounting position: vertical gradient- max.± 5°

#### TECHNICAL DATA

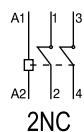
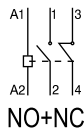
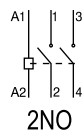
- Operation class: AC 7a
- Rated operating voltage of the controlling coil: 230V AC; 50/60 Hz
- Rated operating voltage of the power circuit: up to 690V AC
- Insulation voltage: 690V
- Surge voltage wear resistance: >8000V
- Joining terminal: screw terminal
- Plastic: wear resistance of UV rays and non-flammable (self-extinguishing material)
- Ambient temperature: -10°C + 65°C
- Altitude: up to 2000m



Dimensions (mm)

H1	C	D1	D2	A	E
81	5	31	66	18	9

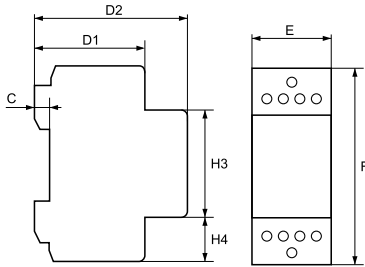
Catalogue number	Type	In	Coil voltage (V)	Contacts	Packing/Box (pcs)
23008	K20	20A	230V	2NO	1/12/120
23007	K20	20A	230V	NO+NC	1/12/120
23009	K20	20A	230V	2NC	1/12/120
23012	K20	25A	230V	NO+NC	1/12/100
23013	K20	25A	230V	2NO	1/12/100
23014	K20	25A	230V	2NC	1/10/100
23015	K20	40A	230V	NO+NC	1/6/60
23016	K20	40A	230V	2NO	1/6/60
23017	K20	40A	230V	2NC	1/6/60
23080	K20	100A	230V	2NO	1/4/40
23083	K20	100A	230V	1NO+1NC	1/4/40
23084	K20	100A	230V	2NC	1/4/40



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty



MODULE CONTACTORS K SERIES

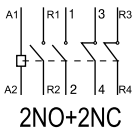
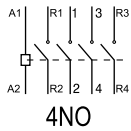


Dimensions (mm)

C	D1	D2	H3	H4	E	F
5	66	48	45	20	35	85



Catalogue number	Type	In	Coil voltage (V)	Contacts	Packing/Box (pcs)
23410	K40	25A	230V	2NO+2NC	1/6/60
23411	K40	25A	230V	3NO+1NC	1/6/60
23412	K40	25A	230V	4NO	1/6/60
23413	K40	25A	230V	4NC	1/6/60
23422	K40	40A	230V	2NO+2NC	1/4/40
23423	K40	40A	230V	3NO+1NC	1/4/40
23409	K40	40A	230V	4NO	1/4/40
23424	K40	40A	230V	4NC	1/4/40
23425	K40	63A	230V	2NO+2NC	1/4/40
23426	K40	63A	230V	3NO+1NC	1/4/40
23427	K40	63A	230V	4NO	1/4/40
23428	K40	63A	230V	4NC	1/4/40
23480	K40	80A	230V	4NO	1/2/20
23483	K40	80A	230V	2NO+2NC	1/2/20
23484	K40	80A	230V	4NC	1/2/20
23485	K40	80A	230V	3NO+1NC	1/2/20

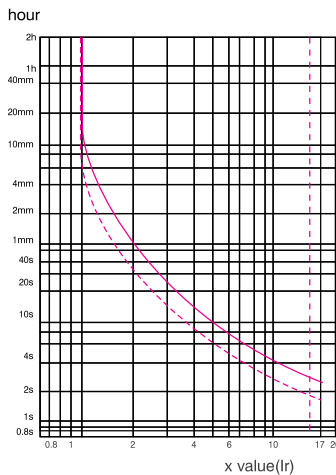
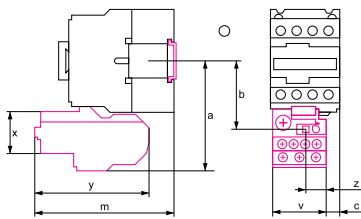
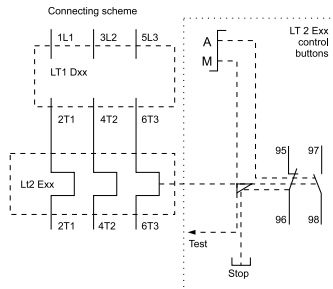


**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## THERMAL OVERLOAD RELAYS

### Documents corresponding to the product:

Standard EN 60947-1  
EN 60947-4-1



LT 2 - E13xx



The thermal relays LT 2 - K/Exx series are three pole relays designed for protection of induction motors from overload or overheat. They are mounted to contactors LT 1 K/Dxx series and an operating circuit for motor control is passed through their NC contacts. They have bimetallic releases /1 per phase/ through them the motors current flows and indirectly mated. The bimetallic releases bend subject to the influence of mating and this results in tripping of the relay. The contacts change switch position. The choice of a suitable protection prevents motor's operation at unusual temperature conditions and guarantees maximum constant operation, increases the effectiveness and prolongs the term of exploitation.

### FUNCTIONS

- Switching off alternating current consumers at current overload.
- Making of control systems for consumers.
- Used as a protective operating element in control panels of induction motors.
- Remarkable with high reliability of current characteristics.

### CONNECTING

- Flexible or rigid conductors with or without cable terminal for joining to the consumer.
- To the contactor through the relay terminals.
- The connecting terminals with the consumer can be adjusted according to the type of the contactor.

### MOUNTING

- Mounting to the contactor: to the terminals of the contactor as it is additionally clamped to its frame through a pin.
- Mounting position: vertical gradient- max.  $\pm 5^\circ$

Note: To protect the consumer from short circuit, before the combination contactor- thermal relay, a suitably measured breaker or safety device should be mounted.

### TECHNICAL DATA

- Rated operating voltage: up to 690V AC; 50/60 Hz
- Rated operating current range: up to 690V AC
- Insulation voltage: >690V
- Surge voltage wear resistance:  $\geq 6000V$
- Joining terminal: screw terminal
- Temperature compensation: -25 +55
- Tripping category: class 10A
- Electrical wear resistance (number of cycles):  $\geq 1000000$
- Mechanical wear resistance (number of cycles):  $\geq 10000000$
- Indication for protection activating
- Possibility for choice of the protection restoring (through the blue button)
- Possibility for range adjustment of the protection activating
- Possibility for operation at higher frequency
- Plastic: wear resistance of UV rays and non-flammable (self-extinguishing material)
- Ambient temperature:  $-10^\circ C + 65^\circ C$
- Installation altitude: up to 2000m

### Dimensions (mm)

Type	a	b	c	m	x	y	v	z
LT 2 - E13xx	86	55	10.7	108	47	92	44	17
LT 2 - Kxx	81	50	0	98	47	92	44	17
LT 2 - E23xx	86	55	9	109	47	92	44	17
LT 2 - E33xx	115	76	9.5	124	54	109	70	30

Catalogue number	For contactor LT1-D9 to LT1-D25 type	Motor capacity (kW)			Rated current (A)	Protection adjustment range	Packing/Box (pcs)
		220V 230V	380V 400V	660V 690V			
13001	LT2-E1301	-	-	-	0.16	0.10 - 0.16	1 / 100
13002	LT2-E1302	-	-	-	0.25	0.16 - 0.25	1 / 100
13003	LT2-E1303	-	-	-	0.40	0.25 - 0.40	1 / 100
13004	LT2-E1304	-	-	0.37	0.63	0.40 - 0.63	1 / 100
13005	LT2-E1305	-	-	0.55	1.00	0.63 - 1.00	1 / 100
13006	LT2-E1306	-	0.37	1.10	1.60	1.0 - 1.60	1 / 100
13007	LT2-E1307	0.37	0.75	1.50	2.50	1.6 - 2.50	1 / 100
13008	LT2-E1308	0.75	1.50	3.00	4.00	2.5 - 4.00	1 / 100
13010	LT2-E1310	1.10	2.20	4.00	6.00	4.0 - 6.00	1 / 100
13012	LT2-E1312	2.00	3.70	5.50	8.00	5.5 - 8.00	1 / 100
13014	LT2-E1314	2.20	4.00	7.50	10.0	7.0 - 10.0	1 / 100
13016	LT2-E1316	3.70	5.50	11.0	13.0	9.0 - 13.0	1 / 100
13021	LT2-E1321	4.00	7.50	15.0	18.0	12.0 - 18.0	1 / 100
13022	LT2-E1322	5.50	9.00	18.5	25.0	17.0 - 25.0	1 / 100
13053	LT2-E1353	9.00	11.0	18.5	33.0	23.0 - 32.0	1 / 100



LT 2 - Kxx

Catalogue number	For contactor LT1-K06 type	Motor capacity (kW)			Rated current (A)	Protection adjustment range	Packing/Box (pcs)
		220V 230V	380V 400V	660V 690V			
13403	LT2-K0303	-	-	-	0.30	0.25 - 0.30	1/100
13406	LT2-K0306	-	0.37	1.10	1.20	1.00-1.60	1/100
13407	LT2-K0307	0.37	0.75	1.50	1.80	1.60-2.50	1/100
13408	LT2-K0308	0.75	1.10	2.20	2.60	2.50-4.00	1/100
13411	LT2-K0312	1.10	2.20	4.00	5.50	3.70 - 5.50	1/100
13412	LT2-K0314	2.20	4.00	5.50	8.00	5.50 - 8.00	1/100
13413	LT2-K0316	3.00	5.00	7.50	11.5	8.00 - 11.5	1/100



LT 2 - E23xx

Catalogue number	For contactor LT1-D32 type	Motor capacity (kW)			Rated current (A)	Protection adjustment range	Packing/Box (pcs)
		220V 230V	380V 400V	660V 690V			
13253	LT2-E2353	11	11	18.5	32	23.0 - 32.0	1 / 100
13255	LT2-E2355	15	15	22.0	36	28.0 - 36.0	1 / 100



LT 2 - E33xx

Catalogue number	For contactor LT1-D40 to LT1-D95 type	Motor capacity (kW)			Rated current (A)	Protection adjustment range	Packing/Box (pcs)
		220V 230V	380V 400V	660V 690V			
13355	LT2-E3355	18.5	18.5	30	40	30.0 - 40.0	1 / 50
13357	LT2-E3357	22	22	30	50	37.0 - 50.0	1 / 50
13359	LT2-E3359	30	30	37	65	48.0 - 65.0	1 / 50
13363	LT2-E3363	45	45	55	80	63.0 - 80.0	1 / 50
13365	LT2-E3365	55	55	75	93	80.0 - 93.0	1 / 50



Catalogue number	For contactor LT1-F115 to LT1-F150	Motor capacity (kW)			Rated current (A)	Protection adjustment range	Packing/Box (pcs)
		220V 230V	380V 400V	660V 690V			
13367	LT2-F4367	40	75	100	150	90-150	1/30



Catalogue number	For contactor LT1-F225 to LT1-F400	Motor capacity (kW)			Rated current (A)	Protection adjustment range	Packing/Box (pcs)
		220V 230V	380V 400V	660V 690V			
13368	LT2-F4368	63	110	129	220	132-220	1/30
13369	LT2-F4369	100	160	220	330	200-330	1/18
13370	LT2-F4370	147	250	335	500	300-500	1/18

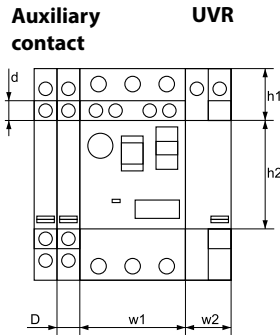
**For contactor LT1-F630**

13371	LT2-F4371	200	335	450	630	380-630	1/18
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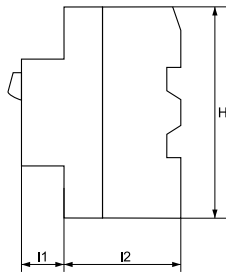


**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## THERMO MAGNETIC AUTOMATIC BREAKERS TM2/TM3



**Dimensions**



The thermomagnetic automatic breakers TM 2-Exx series are devices designed for control and protection of induction motors from overload, overheat or short circuit. The overload motor protection is carried out by the built in the breaker thermal elements, and the short circuit protection is carried out by the magnetic elements. These magnetic elements allow the adjustment of the current leakage which is 13 times the maximum current of the thermal protection. The overload protection elements include automatic compensation for the ambient temperature changes. In combination with under voltage release the thermomagnetic breaker TM 2-Exx also provides protection of the motors from fall out of a phase from the power supply. The choice of a suitable protection prevents motor's operation at unusual temperature conditions and guarantees maximum constant operation, increases the effectiveness and prolongs the term of exploitation.

### FUNCTIONS

- Switching off alternating current consumers at current overload
- Switching off the electrical circuit to the consumer at inlet short circuit
- Protects the motor at lack/lowering of the phase voltage (if there is under voltage release)
- Used as a protective operating element in control panels of induction motors
- Remarkable with high reliability of current characteristics
- Possibility for change/choice of the protection current (according to the operating current of the motor)
- Automatic compensation of the ambient temperature

### CONNECTING

- Flexible or rigid conductors with or without cable terminal for joining to the consumer
- To the contactor through the relay terminals
- The connecting terminals with the consumer can be adjusted according to the type of the contactor

### MOUNTING

- Mounting to DIN-rail
- Mounting position: vertical gradient- max.± 5°

### TECHNICAL DATA

- Rated operating voltage: up to 690V AC; 50/60 Hz
- Rated operating current range: from 0.1 to 80A according to the type in table 1
- Insulation voltage: 690V
- Surge voltage wear resistance: ≥6000V
- Joining terminal: screw terminal
- Electrical wear resistance (number of cycles): ≥1000000
- Mechanical wear resistance (number of cycles): ≥10000000
- Indication for protection activating
- Switching on of the breaker manually with button "I" and switching off with button "O" manually or automatically at failure or after activating of the protection
- Possibility for range adjustment of the protection activating
- Possibility for operation at higher frequency
- Possibility for independent operation or as an element of an automation system
- Tripping category: class 10A
- Plastic: wear resistance of UV rays and non-flammable (self-extinguishing material)
- Ambient temperature: -10°C + 65°C
- Altitude: up to 2000m

Dimensions (mm)

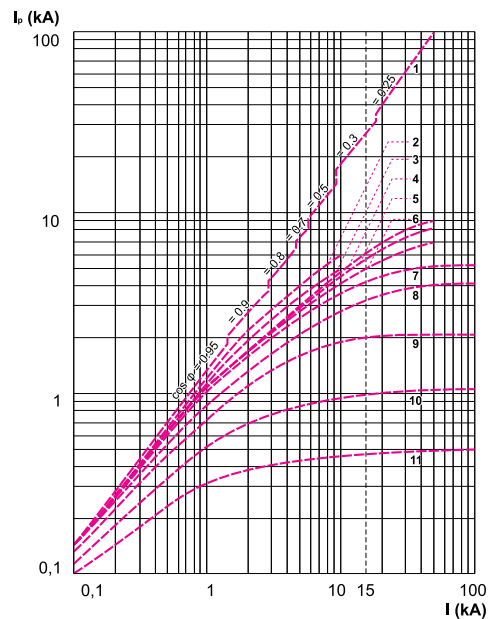
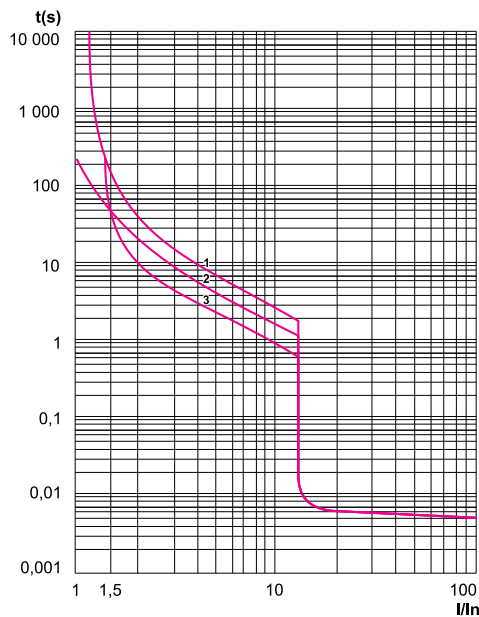
H	l1	l2	d	D	w1	w2	h1	h2
89	16	50	10	9.2	44.5	18	22	45



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty



Catalogue number	Type	Rated capacity of three-phase motor in AC-3 category					Instantaneous short-circuit release (A)	Current setting range (A)	Thermal current I <sub>th</sub> TM2-E (A)	Packing/Box (pcs)
		220V 230V	400V 410V	440V	500V	690V				
48001	TM2-E01	-	-	-	-	-	1.5	0.1 - 0.16	0.16	1 / 50
48002	TM2-E02	-	0.06	0.06	-	-	2.4	0.16 - 0.25	0.25	1 / 50
48003	TM2-E03	0.06	0.09	0.09	-	-	5.0	0.25 - 0.40	0.40	1 / 50
48004	TM2-E04	-	0.12	0.18	-	0.37	8.0	0.40 - 0.63	0.63	1 / 50
48005	TM2-E05	0.09	0.25	0.25	0.37	0.55	13.0	0.63 - 1.00	1	1 / 50
48006	TM2-E06	0.18	0.37	0.37	0.37	0.75	22.5	1 - 1.60	1.6	1 / 50
48007	TM2-E07	0.37	0.75	0.75	1.10	1.50	33.5	1.6 - 2.50	2.5	1 / 50
48008	TM2-E08	0.55	1.10	1.50	1.50	2.20	51.0	2.5 - 4.00	4	1 / 50
48010	TM2-E10	1.10	2.20	2.20	3.00	4.00	78.0	4 - 6.30	6.3	1 / 50
48014	TM2-E14	1.50	3.00	4.00	4.00	5.50	138	6 - 10.0	9	1 / 50
48016	TM2-E16	2.20	5.50	5.50	7.50	9.00	170	9 - 14.0	13	1 / 50
48020	TM2-E20	4.00	7.50	7.50	9.00	15.0	223	13 - 18.0	17	1 / 50
48021	TM2-E21	5.50	9.00	11.0	11.0	18.5	327	17 - 23.0	21	1 / 50
48022	TM2-E22	5.50	11.0	11.0	15.0	22.0	327	20 - 25.0	23	1 / 50
48032	TM2-E32	7.50	15.0	15.0	18.5	22.0	416	24 - 32.0	24	1 / 50
48040	TM3-E40	11.0	18.5	22.0	25.0	33.0	480	25 - 40.0	32	1 / 15
48063	TM3-E63	15.0	30.0	33.0	40.0	55.0	550	40 - 63.0	50	1 / 15
48080	TM3-E80	22.0	40.0	45.0	55.0	63.0	665.5	56 - 80.0	64	1 / 15



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## ACCESSORIES FOR TM2

### Documents corresponding to the product:

Standard EN 60947-1  
EN 60 947-2; EN 60947-4-1



### VOLTAGE RELEASE (VR) FOR TM2

For increasing the effectiveness of the thermomagnetic breakers TM 2-Exx operation, they can be supplied with auxiliary devices, designed for widening the practice range and improving the technical characteristics of the breakers. The release is designed to switch off the thermomagnetic breaker when the controlling voltage falls under breaking level 0.55 to 0.7 UN and does not allow switching on of the breaker unless the voltage is over 0.85 UN.

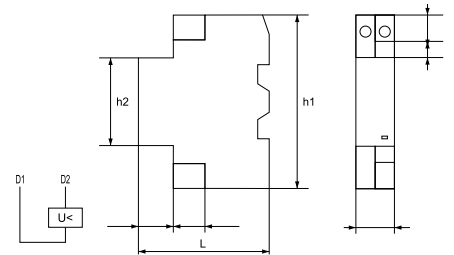
#### FUNCTIONS

- Switching off the breaker at power supply voltage fall under 0.55 – 0.7 Un
- does not allow switching on of the breaker when the power supply voltage is under 0.85 Un
- Prevents unwarranted secondary start of the breaker at falling off and restoring of the power supply voltage
- Protects the motor at lack/lowering of the phase voltage
- Used as a protective operating element in control panels of induction motors
- Remarkable with high reliability of current characteristics

#### MOUNTING

- Laterally to a breaker
- At the side of the breaker through special openings

Catalogue number	Type	Voltage (V)
48099	TM2 AU225	230
48098	TM3 AU385	400



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

### Documents corresponding to the product:

Standard EN 60529  
EN 60 947-2; EN 60947-4-1



### WATERTIGHT BOX FOR TM2-E

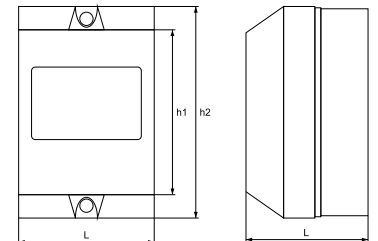
Specially designed plastic box with silicon screen for increasing the IP code from dust and moisture to IP 65. Designed for thermal-magnetic circuit breakers of up to 32A

#### MOUNTING

- Mounting position: vertical gradient, maximum  $\pm 5^\circ$
- Mounted to horizontal surfaces (walls) with bolts
- The breaker TM2 Exx is fixed inside of it on rail material

Plastic wear resistance of UV rays and non flammable (self-extinguishing material)

Catalogue number	Type
8083	TM2 E





### AUXILIARY CONTACT BLOCK TM2 AE11- FRONT MOUNTING

It is designed to switch on operational systems or signalization. Designed with one NO and one NC contact. It changes the position of its contacts according to the position of the breaker (switched on/ off) to which it is mounted.



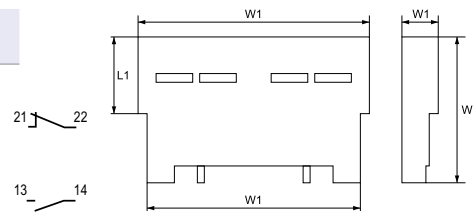
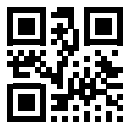
#### TECHNICAL DATA

- Plastic: wear resistance of UV rays and non-flammable (self-extinguishing material)
- Ambient temperature: -10°C + 65°C
- Altitude: up to 2000m

#### MOUNTING

- Laterally to a breaker TM2-Exx

Catalogue number	Type
48912	TM2 AE11



### AUXILIARY CONTACT BLOCK TM2 AE11- SIDE MOUNTING

It is designed to switch on operational systems or signalization. Designed with one NO and one NC contact. It changes the position of its contacts according to the position of the breaker (switched on/ off) to which it is mounted.



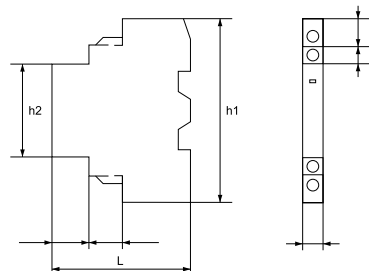
#### TECHNICAL DATA

- Plastic: wear resistance of UV rays and non-flammable (self-extinguishing material)
- Ambient temperature: -10°C + 65°C
- Altitude: up to 2000m

#### MOUNTING

- Laterally to a breaker TM2-Exx

Catalogue number	Type
48911	TM2 AN11
48913	TM3 AN11



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## STARTERS FOR DIRECT START

### Documents corresponding to the product:

Standard EN 60947-1  
EN 60947-4-1



With thermal overload relays

The electromagnetic starters LT 5 Dxx series are devices designed for remote control, direct control and protection of induction motors or other electrical consumers. They are a combination of contactors LT 1 Dxx series and thermal protection LT 2 Exx factory cabled. The starters are offered on the market in metal or plastic boxes with the corresponding IP code from dust and moisture. At mounting there should be provided protection of the device from short circuit through breakers or disconnectors. If necessary, at client's order the factory mounted thermal protection in the pneumatic starter can be substituted. The choice of a suitable protection prevents motor's operation at unusual temperature conditions and guarantees maximum constant operation, increases the effectiveness and prolongs the term of exploitation.

### FUNCTIONS

- Switching on/off alternating current consumers
- Does not allow secondary unwarranted switching on of the starter at transitory lowering of the voltage
- Protects the motor from overload in the range of the corresponding thermal protection
- Remarkable with high reliability of current characteristics

### CONNECTING

- Flexible or rigid conductors with or without cable terminal for joining to the consumer and section according to the motor power
- Two by two inlets/outlets supplied with orifices for the cables

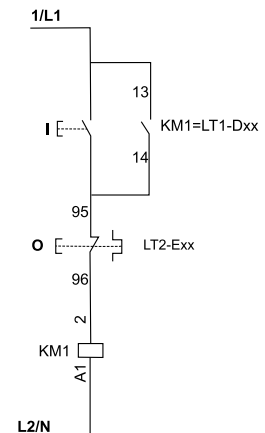
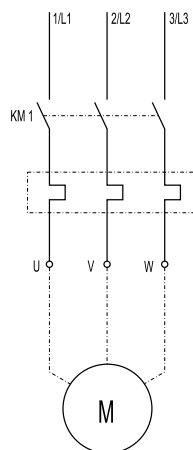
### MOUNTING

- Mounting to a flat surface (wall) with bolts/screws
- Mounting position: vertical gradient, max.  $\pm 5^\circ$

### TECHNICAL DATA

- Rated voltage of the controlling voltage: 230/400V AC; 50/60 Hz
- Rated operating voltage: 690V
- Rated operating current range: from 7 to 93 A AC
- insulation voltage: 690V
- Surge voltage wear resistance:  $\geq 6000V$
- Joining terminal: screw terminal
- Little power consumption and small dimensions
- Possibility for range adjustment of the protection activating
- IP code: IP 44
- Possibility for operation at higher frequency
- Plastic: wear resistance of UV rays and non-flammable (self-extinguishing material)
- Metal corpus: corrosion-proof coating
- Ambient temperature:  $-10^\circ C + 65^\circ C$
- Altitude: up to 2000m

Note: In case you need different controlling coils voltage of the starters you can turn to our regional representatives.

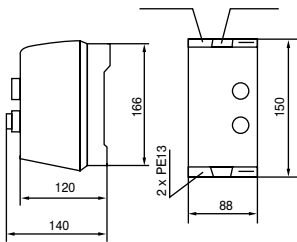


**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty



2 x PE13 2 x Ø5.5

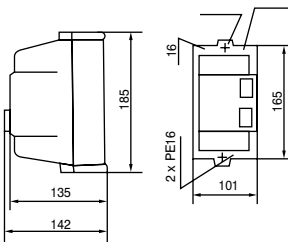


Catalogue number	Type	Rated capacity of motors 50/60Hz AC-3 category			Rated current (A)	Thermal relay adjustment range	Coil voltage (V)	Packing/ Box (pcs)
		220V 230V	380V 400V	415V 440V				
43091	LT5 D093	2.2	4.0	4.0	9	7 .. 10A	230	1/16
43092	LT5 D093	2.2	4.0	4.0	9	7 .. 10A	400	1/16
43121	LT5 D123	3.0	5.5	5.5	12	9 .. 13A	230	1/16
43122	LT5 D123	3.0	5.5	5.5	12	9 .. 13A	400	1/16
43181	LT5 D185	4.0	7.5	9.0	18	12 .. 18A	230	1/16
43182	LT5 D185	4.0	7.5	9.0	18	12 .. 18A	400	1/16

Note: Upon request the thermal relay will be replaced

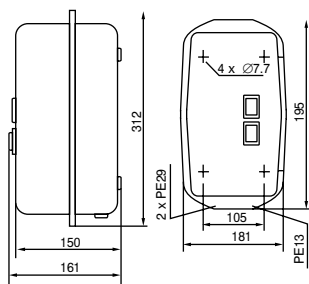


2 x Ø5.5 PE13



Catalogue number	Type	Rated capacity of motors 50/60Hz AC-3 category			Rated current (A)	Thermal relay adjustment range	Coil voltage (V)	Packing/ Box (pcs)
		220V 230V	380V 400V	415V 440V				
43251	LT5 D255	5.5	11	11	25	17 .. 25A	230	1/16
43252	LT5 D255	5.5	11	11	25	17 .. 25A	400	1/16
43321	LT5 D325	7.5	15	15	32	23 .. 32A	230	1/16
43322	LT5 D325	7.5	15	15	32	23 .. 32A	400	1/16

Note: Upon request the thermal relay will be replaced



Catalogue number	Type	Rated capacity of motors 50/60Hz AC-3 category			Rated current (A)	Thermal relay adjustment range	Coil voltage (V)	Packing/ Box (pcs)
		220V 230V	380V 400V	415V 440V				
43401	LT5 D405	11.0	18.5	22	40	30 .. 40A	230	1/6
43402	LT5 D405	11.0	18.5	22	40	30 .. 40A	400	1/6
43651	LT5 D655	18.5	30.0	37	65	48 .. 65A	230	1/6
43652	LT5 D655	18.5	30.0	37	65	48 .. 65A	400	1/6
43951	LT5 D955	25.0	45.0	45	95	80 .. 93A	230	1/6
43952	LT5 D955	25.0	45.0	45	95	80 .. 93A	400	1/6

Note: Upon request the thermal relay will be replaced



## "STAR/DELTA" STARTER

### Documents corresponding to the product:

Standard EN 60947-1  
EN 60947-4-1



The electromagnetic starters LT 3 Dxx series are devices designed for remote control, direct control and protection of induction motors coiled and operating according to a starter scheme "star/delta". They are a combination of three contactors LT 1 Dxx series, time relay and a set of buttons "start" and "stop" factory cabled. They provide the easy motor unwinding giving possibility for setting the time for unwinding in "star" as the time for switching between "star" and "delta" is fixed to 0.5 seconds. The starters are offered on the market in two types:

- closed type – metal boxes providing the corresponding IP code from dust and moisture (IP 54) as at mounting there should be provided protection of the device from short circuit through breakers or disconnectors
- open type – for mounting in distribution boxes as at mounting there should be provided protection of the device from short circuit through breakers or disconnectors.

The starters are offered on the market without mounted thermal protection which is purchased separately according to the motor capacity. The choice of a suitable protection prevents motor's operation at unusual temperature conditions and guarantees maximum constant operation, increases the effectiveness and prolongs the term of exploitation. If necessary, at client's order the power supply operating voltage of the pneumatic starter can be changed.

### FUNCTIONS

- switching on/off alternating current three phase motors operating according to a scheme "star - delta"
- does not allow secondary unwarranted switching on of the starter at transitory lowering of the voltage
- protects the motor from overload in the range of the corresponding thermal protection
- indication of the operating condition through a valve indicator
- possibility for mounting of additional contacts (for the open type)
- remarkable with high reliability of current characteristics

### CONNECTING

- flexible or rigid conductors with or without cable terminal for joining to the consumer and section according to the motor power
- three by three inlets/outlets supplied with orifices for the cables

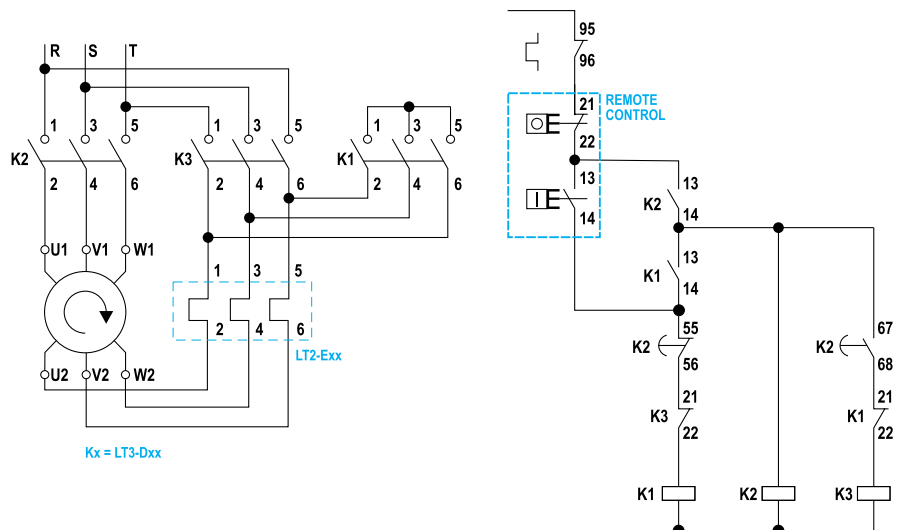
### TECHNICAL DATA

- Rated voltage of the controlling voltage: 400V AC; 50/60 Hz
- Rated operating voltage: 690V
- Rated operating current range: from 7 to 93A AC
- insulation voltage: >690V
- Surge voltage wear resistance: ≥6000V
- Joining terminal: screw terminal
- Little power consumption and small dimensions
- Possibility for operation at higher frequency
- IP code: IP54
- The metal body is covered with corrosion-proof paint
- Ambient temperature: -10°C + 65°C
- Altitude: up to 2000m

### MOUNTING

- mounting to a flat surface (wall) with bolts/screws
- mounting position: vertical gradient, max. ± 5°

*Note: In case you need different controlling coils voltage of the starters you can turn to our regional representatives.*



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## "STAR/DELTA" STARTER WITHOUT BOX



Type designation (without box)	Overall dimensions (mm)		
	height	width	depth
LT3-D25A	135	170	160
LT3-D32A	135	170	160
LT3-D40A	150	285	190
LT3-D65A	150	285	190
LT3-D95A	150	310	190

Catalogue number	Type designation (without a box)	Rated capacity (kW)				Rated current (A)	Coil voltage (V AC)	Packing/Box (pcs)
		220V 230V	380V 400V	415V	440V			
43253	LT3-D25A	11	15	15	15	25	400	1/6
43323	LT3-D32A	15	18.5	18.5	18.5	32	400	1/6
43403	LT3-D40A	18.5	22	22	22	40	400	1/4
43653	LT3-D65A	30	55	55	55	65	400	1/4
43953	LT3-D95A	37	75	75	75	95	400	1/4

*Note: It is necessary that thermal protection with suitable range is mounted to protect the controlled motor. The shown values of magnetic starters are for normal regimes for motor control, for hard operation regimes are chosen starters which correspond to the current rating of the motor.*



## "STAR/DELTA" STARTER WITH BOX



Type designation (with box)	Overall dimensions (mm)		
	height	width	depth
LT 3 -B-D25A	370	240	160

Catalogue number	Type designation (with box)	Rated capacity (kW)				Rated current (A)	Coil voltage (V AC)	Packing/Box (pcs)
		220V 230V	380V 400V	415V	440V			
43254	LT 3 - B - D25A	11	15	15	15	25	400	1/4

*Note: It is necessary that thermal protection with suitable range is mounted to protect the controlled motor. The shown values of magnetic starters are for normal regimes for motor control, for hard operation regimes are chosen starters which correspond to the current rating of the motor.*

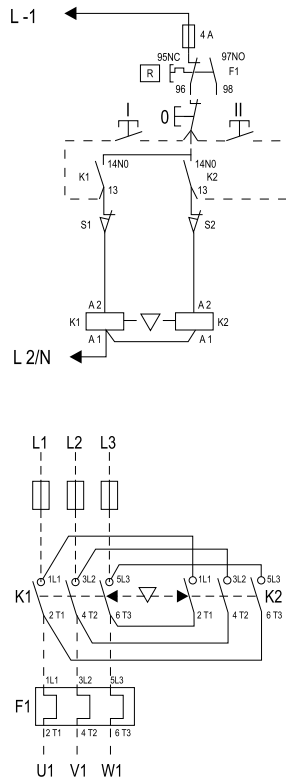


**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended  
\* for industrial usage  
3 years warranty

## REVERSE STARTER

### Documents corresponding to the product:

Standard EN 60947-1  
EN 60947-4-1



scheme "Reverse"

The electromagnetic starters LT4 Dxx series are devices used for direct start, reverse start and protection of induction motors with short connected rotor. They are a combination of two contactors LT1 Dxx series supplied with two buttons "start" and one "stop" factory cabled. They provide the unwinding of the motor in one of the directions with possibility for pushing the button "stop" and giving command from the other "start" for changing the motor winding direction. The two contactors are mechanically blocked and do not allow simultaneous start in both winding directions. The starters are offered – closed type in metal boxes providing the corresponding IP code from dust and moisture (IP54) as at mounting there should be provided protection of the device from short circuit through breakers or disconnectors. The starters are offered with mounted thermal protection which can be substituted according to the motor power. The choice of a suitable protection prevents motor's operation at unusual temperature conditions and guarantees maximum constant operation, increases the effectiveness and prolongs the term of exploitation. If necessary, at order the power supply operating voltage of the pneumatic starter can be changed.

### FUNCTIONS

- Switching on alternating current three phase motors in one winding direction, switching off and change of the winding direction at giving a signal
- Does not allow secondary unwarranted switching on of the starter at transitory lowering of the voltage
- Protects the motor from overload in the range of the corresponding thermal protection
- Remarkable with high reliability of current characteristics through a valve indicator
- Possibility for mounting of additional contacts (for the open type)
- Remarkable with high reliability of current characteristics

### CONNECTING

- Flexible or rigid conductors with or without cable terminal for joining to the consumer and section according to the motor power
- Three by three inlets/outlets supplied with orifices for the cables

### TECHNICAL DATA

- Rated voltage of the controlling voltage: 400V AC;
- 50/60 Hz • Rated operating voltage: 690V
- Rated operating current range: from 7 to 93 A AC
- Insulation voltage: 690V
- Surge voltage wear resistance: ≥6000V
- Joining terminal: screw terminal
- Little power consumption and small dimensions
- Possibility for operation at higher frequency
- IP 44
- The metal body is covered with corrosion-proof paint
- Ambient temperature: -10°C + 65°C
- Altitude: up to 2000m

### MOUNTING

- Mounting to a flat surface (wall) with bolts/screws
- Mounting position: vertical gradient, max. ± 5°

*Note: In case you need different controlling coils voltage of the starters you can turn to our regional representatives.*



with thermal overload relays

Catalogue number	Type designation (with a box)	Rated capacity (kW)				Overall dimensions (mm)			Rated current (A)	Coil voltage (V AC)	Packing/ Box (pcs)
		220V	380V	415V	440V	height	width	depth			
43001	LT 4 - B - D25A	11.0	15.0	15.0	15.0	240	240	160	25	400	1/8
43003	LT 4 - B - D40A	18.5	22.0	22.0	22.0	270	265	160	40	400	1/2
43005	LT 4 - B - D95A	37.0	75.0	75.0	75.0	270	265	160	95	400	1/4
43006	LT 4 - B - D25A	11.0	15.0	15.0	15.0	240	240	160	25	230	1/4
43007	LT 4 - B - D32A	15.0	18.5	18.5	18.5	240	240	160	32	230	1/4
43008	LT 4 - B - D40A	18.5	22.0	22.0	22.0	270	265	160	40	230	1/4
43009	LT 4 - B - D65A	30.0	55.0	55.0	55.0	270	265	160	65	230	1/4
43010	LT 4 - B - D95A	37.0	75.0	75.0	75.0	270	265	160	95	230	1/4

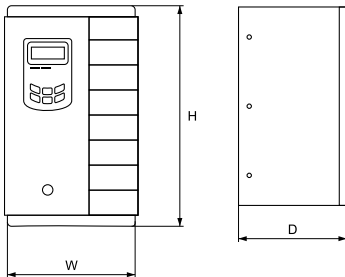




## ELM 2000+ FREQUENCY INVERTERS

### Documents corresponding to the product:

Standard EN61800-3  
EN61800-5-1



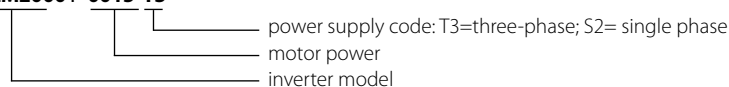
High-tech motor control concept, based on advanced DSP-technology - ready for V/Hz, SENSORLESS VECTOR, CLV and PMM motor control - intelligent AUTOTUNING functions for easy setup.  
Flexible inverter control, dual high resolution analogue inputs, free mappable digital I/O channels. Ready for all commonly used fieldbus systems.  
Universal function-set for all kind of industrial and residential applications, including integrated PID/pump controller routines.  
Smart PC-tools, for inverter control, parametrization and troubleshooting. Parameter-duplication stick.  
Brake chopper integrated.

### TECHNICAL DATA

- Power range:
  - 0,4.....400 kW
- Power input:
  - Rated input voltage- 1-Phase 220V~240V~±15%); 3-Phase 380V-460V (+/-)15%
  - Input frequency- 44...67 Hz
- Motor output:
  - Output frequency- 0-650 Hz
  - Frequency resolution- 0,01 Hz
  - Overload capability- 150% - 60 sec. / 10 min
- Control mode:
  - Motor control algorithm- V/Hz-SpaceVec- tor, SLVSENSORLESS VECTOR,Torque/Speed control
  - mode CLV-Closed loop vector,Permanent Magnet Synchronous Motor
  - Chopper frequency- 0.8... 16 kHz (fixed / random)
  - V/Hz curve- Linear, exponential, and user-programmable curve
  - Starting torque- 150% rated torque at 0,5 Hz (in SLV Mode)
  - Torque compensation- Automatic / Manual
  - Motor data input- Manual, from nameplate / AUTOTUNING
  - Control range- 1:100 in SLV mode,1:1000 in CLV mode,1:20 in PMSM mode
  - Speed precision +/- 0,5% (SLV),+/- 0.02% (CLV)
  - Torque precision +/- 5% (SLV)
  - DC-Brake- User programmable functions
  - Brake chopper- Chopper transistor integrated (up to 90 kW)
- Display:
  - 7 segment, 4 characters
  - Config-Parameters and -value, programmable to display various working parameters
- I/O Channels and control functions:
  - Inverter control- Via terminals / Keypad / Serial link (or combination of all)
  - Digital inputs- 6 (8) Dig. inputs (NPN-PNPselectable) pulstrain-input
  - Speed reference input- Potentiometer (on keypad unit, external), analogue signal (terminals),
  - keypad, internal programmable value, pulsetrain, serial link
  - Analogue channels- analogue channels - 12 BIT: 0...10V, 0...5V, -10V...0...10V, 0..(4)20 mA,
  - all free scalable in gain and offset, and-mathematically concatenable
  - Analogue outputs- 2 analogue outputs, programmable in gain and function (0...10V, 0(4)..20 mA)
  - Digital outputs- 2 digital outputs (free mapping to different functions)
  - Relais output- 1 switchover contact 3A 250VAC/30VDC (programmable assignment)
  - Data link- Serial link RS 485 (MODBUS)
  - Special functions- 24V / 50 mA auxiliary power supply on terminals, 10V potentiometer power
  - supply, 5V/100 mA power supply on modbus connector Simple PTC / KLIXON motor protection
- Protection:
  - Electrical- Overvoltage, undervoltage
  - Overcurrent, overload, motor-overload, output short-circuit
  - Thermal- Heatsink overtemperature, I<sup>2</sup>t motorprotection
- Operating conditions:
  - Protection class IP20
  - Working temperature -10+50 °C
  - Humidity- 0 to 95% RH, non-condensing, noncorrosive
  - Altitude- 1000 m, above 1% derating / 100m
  - Vibration- Max. 0,5 g

### Type of sign

**ELM2000+ 0015 T3**



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended





Scan and watch detailed video with all product functions.



### FREQUENCY INVERTERS ELM 2000

Catalogue number	Type	Input voltage (V)	Maximum output power (kW)	Maximum current output (A)	Dimensions WxDxH (mm)	Weights (kg)
423400P	E2000-0004 S2B	230	0.4	2.5A	80x140x135	1.40
423401P	E2000-0007 S2B	230	0.7	4.5A	80x140x135	1.50
423402P	E2000-0015 S2B	230	1.5	7A	106x180x150	2.00
423403P	E2000-0022 S2B	230	2.2	10A	106x180x150	2.10
423404P	E2000-0007 T3	400	0.7	2A	106x180x150	2.00
423405P	E2000-0015 T3	400	1.5	4.6A	106x180x150	2.10
423406P	E2000-0022 T3	400	2.2	6.5A	106x180x170	2.20
423407P	E2000-0030 T3	400	3.0	7A	138x235x152	2.50
423408P	E2000-0040 T3	400	4.0	9A	138x235x152	3.00
423409P	E2000-0055 T3	400	5.5	12A	156x265x170	3.50
423410P	E2000-0075 T3	400	7.5	17A	156x265x170	4.50
423411P	E2000-0110 T3	400	11.0	23A	205x340x196	4.80
423412P	E2000-0150 T3	400	15.0	32A	205x340x196	8.00
423413P	E2000-0185 T3	400	18.5	38A	205x340x196	8.50
423414P	E2000-0220 T3	400	22.0	44A	270x435x235	9.00
423415P	E2000-0300 T3	400	30.0	60A	315x480x235	22.50
423416P	E2000-0370 T3	400	37.0	75A	315x480x235	24.00
423417P	E2000-0450 T3	400	45.0	90A	360x555x265	24.50
423418P	E2000-0550 T3	400	55.0	110A	360x555x265	41.50
423419P	E2000-0750 T3	400	75.0	150A	410x650x300	42.00
423420P	E2000-0900 T3	400	90.0	180A	410x650x300	56.00
423421P	E2000-1100 T3	400	110.0	220A	516x765x326	56.50
423422P	E2000-1320 T3	400	132.0	265A	560x910x342	87.00
423423P	E2000-1600 T3	400	160.0	320A	560x910x342	123.00
423424P	E2000-1800 T3	400	180.0	360A	400x1310x385	124.00
423425P	E2000-2000 T3	400	200.0	400A	535x1340x380	125.00
423426P	E2000-2200 T3	400	220.0	440A	535x1340x380	185.00
423427P	E2000-2500 T3	400	250.0	480A	600x1465x380	186.00
423428P	E2000-2800 T3	400	280.0	530A	600x1465x380	225.00
423429P	E2000-3150 T3	400	315.0	580A	600x1465x380	230.00
423430P	E2000-3550 T3	400	355.0	640A	600x1600x388	233.00
423431P	E2000-4000 T3	400	400.0	690A	600x1600x388	234.00

### ACCESSORIES FOR FREQUENCY INVERTERS ELM2000 & ELM600



LCD REMOTE FRAME SIZE  
KEYPAD FOR CABINET IP66  
423432P



CABLE FOR REMOTE KEYPAD  
IP66 - 1.5meter  
423433P



PARAMETER  
COPY STICK  
423434P

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## FREQUENCY INVERTERS ELM 600, SERIES



Scan and watch detailed video with all product functions.



### FEATURES

- Best performance/cost ratio, without compromise in reliability and quality.
- Compact design, easy to integrate in your environment: DIN rail mounting, contactor-style I/O.
- Easy to setup: Simple set of optimized parameters for all basic functions and applications.
- PID and HVAC functions - safety integrated - MODBUS - open for networking.
- Internal EMC filter as standard.
- Economical mass production on high automated and dedicated SMT lines.
- General purpose drive - made for the worldwide market.

### TECHNICAL DATA

- Power range:
  - Single phase: from 0.75 to 2.2kW
  - Three phase: from 1.5 to 5.5kW
- Rated voltage:
  - Single phase: 200...240V +/- 15%
  - Three phase: 3-phase 380...460V +/- 15%
- Input frequency: 47 - 57Hz
- EMC filter: Integrated (for 2.environment)
- Output voltage: 0 - V input
- Output frequency: 0.5 - 650Hz
- Resolution of output frequency: 0.01 Hz
- Overload capability: 150% - 60 sec. / 10 Min
- PWM control-modes: V/Hz - Mode
- PWM frequency: 0.8 - 6kHz
- V/Hz characteristic: Linear, quadratic, and user-programmable curve
- Starting torque: 100% rated torque at 1 Hz
- DC-Brake: Freq. threshold, duration and intensity programmable – DC injection
- Brake chopper: Integrated chopper transistor
- LED display: 7 Segment, 4- digit for programming and visualization of different operating parameters
- Inverter control - Start/Stop: To configure: terminals / operation panel / serial link
- Digital control inputs: 4 digital inputs (HIGH/ LOW configurable)
- Speed reference signal: Potentiometer, analogue input (terminals 0-10V, (0)4-20 mA), operating panel keys, serial link
- Reference analogue channels: 1 Analogue channels 0-10V, (0)4-20 mA
- Analogue outputs: 1 analogue output channel programmable in gain, different functions to assign (0-10V)
- Digitale outputs: 1 digital output (OC, different functions to assign)
- Relays output: 1 switchover contact 3 A 230 V (programmable for different functions)
- Interface: Serial link (MODBUS – ASCII/RTU)
- Special function - control options: Jog mode, 12V / 50 mA auxiliary power supply on terminals PI-control Fixed frequency control, programmable cycling frequency sequence AUTORESET/RESTART function
- Electrical protection functions: Overvoltage, Undervoltage Overcurrent, Overload, Motor-Overload, Output-short Analogue reference interruption
- Thermal protection functions: Heatsink overtemperature
- IP code: IP21
- Operating temperature: from -10 to +40°C
- Humidity: Max. 90 % not condensing, no corrosion
- Elavation: 1000 m - 1% derating / 100m above

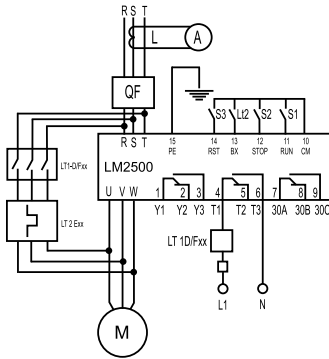
Catalogue number	Type	Input voltage (V)	Maximum output power (kW)	Maximum current output (A)	Dimensions WxDxH (mm)	Weights (kg)
423440	ELM600- 0.75kW 1P/230V	230	0.75	4.5	88x140.5x149	0.48
423441	ELM600- 1.5kW 1P/230V	230	1.5	7	88x140.5x149	0.49
423442	ELM600- 2.2kW 1P/230V	230	2.2	10	106x161x170	0.75
423443	ELM600- 1.5kW 3P/400V	400	1.5	4	106x161x170	1.2
423444	ELM600- 2.2kW 3P/400V	400	2.2	6.5	106x161x170	1.3
423445	ELM600- 3.0kW 3P/400V	400	3.0	7.6	106x161x170	1.3
423446	ELM600- 4.0kW 3P/400V	400	4.0	9	106x161x170	1.45
423447	ELM600- 5.5kW 3P/400V	400	5.5	12	106x161x170	1.45

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## SOFT STARTERS ELM 2500

### Documents corresponding to the product:

Standard EN60947-4-2  
EN 60947-1



Soft starters are designed to control the start of three-phase induction motors with short-circuited rotor. A number of motor control issues are avoided through them, and namely: prolonged start moments, auto-ignition of motor, there is no need of star-delta switching, auto-transformer switching, resistant switching, etc. The ELM 2500 soft starter pertains to the AC53b type of starters as per the standard requirements and it provides rotation of motor and once the operation mode is set, a shunt contactor of the LT 1 D/F series is switched to control motor operation as the soft starter is not designed to control motors in a set mode. Under a stop command in accordance with the selected control scheme, the soft starter can or can not be included in shutting the motor down.

### FUNCTIONS

- System functions:
  - Over-voltage protection – motor will switch off when power supply exceeds the preset limits.
  - Overload protection – protects the motor from overloading.
  - Phase loss protection.
  - Temperature overload protection.
- Control functions:
  - Output faults.
  - Motor faults diagnostics.
  - Keyboard or outward control.
  - Delayed start option.
  - Faults memory.

### MOUNTING

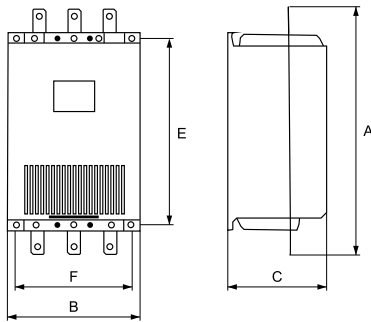
- Mounting to a flat surface through bolts.
- Mounting position – vertical gradient maximum  $\pm 5^\circ$ .

### NOTE

- When more than one soft starter is mounted in a board, it is recommendable to mount them side by side and when this is not possible, the appropriate cooling conditions should be provided.
- Plastic: UV-rays resistant and fire resistant (self-extinguishing material)
  - Altitude : up to 2000 m

### TECHNICAL DATA

- Rated working voltage: 230/400V AC; 50 Hz
- Permissible working voltage deviation:  $\pm 10\%$
- Unbalance of phases:  $< 3\%$
- Frequency fluctuation:  $< 5\%$
- Obligatory bypass contactor installation.



Overall dimensions (mm)

Type	A	B	C	E	F	d
EL M25015	250	153	162	219	140	Ø6
EL M25022	250	153	162	219	140	Ø6
EL M25037	250	153	162	219	140	Ø6
EL M25045	250	153	162	219	140	Ø6
EL M25055	250	153	162	219	140	Ø6
EL M25075	510	260	194	389	232	Ø8

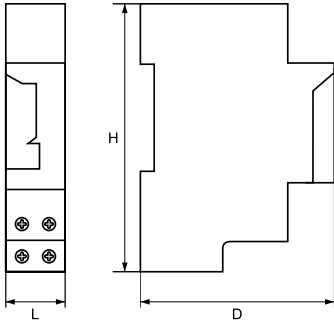


Catalogue number	Type	Power of motor (kW)	Rated current (A)	Type of bypass contactor	Section of power supply conductors	Packing/Box (pcs)
42225015	EL M25015	15	30	LT 1-D 50	10	1/1
42225022	EL M25022	22	45	LT 1-D 50	10	1/1
42225037	EL M25037	37	76	LT 1-D 80	16	1/1
42225045	EL M25045	45	90	LT 1-D 95	25	1/1
42225055	EL M25055	55	110	LT 1-F 115	25	1/1
42225075	EL M25075	75	150	LT 1-F 150	35	1/1



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

TIMERS AND RELAYS



**QUARZ TIME SWITCH WITH POWER RESERVE TM 180 MINI**

The mechanic relay for time is supposed to be used for managing chains with maximum capacity of 3500W. After the setting, the timer executes the functions we required in 24 hours regime. The minimum period for setting is 15 minutes as it is executed within 96 pcs segments which the timing of the work and rest of the consumer is being set. The timer is accomplished with a battery which assures the work by 70 hours after power failure.

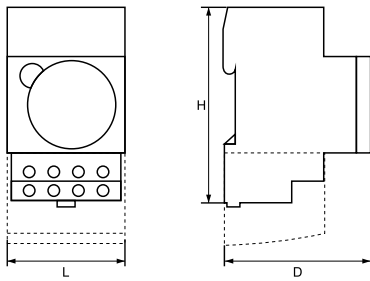
**TECHNICAL DATA**

- Rated voltage: 230-240V AC 50/60Hz
- Time range: 24 hours
- Min. programmable interval: 15 minutes
- Time adjustment: manual
- Battery power reserve: 70 hours
- Time deviation: ± 1s (at 20°C)
- Consumption: 2.5VA
- Contact: 1NO
- Contact capacity:
  - 16A/250V (COSΦ=1)
  - 4A/250V (COSΦ=0.6)
- Electrical endurance: 10<sup>5</sup> times
- Mechanical endurance: 10<sup>7</sup> times
- Section of the conductor: rigid conductors up to 6mm<sup>2</sup>

**MOUNTING**

- DIN-rail

Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		H	L	D	
50137	TM 180	90	18	60	1 / 200



**QUARZ TIME SWITCH WITH POWER RESERVE TM 180**

The mechanic relay for time is supposed to be used for managing chains with maximum capacity of 3500W. After the setting, the timer executes the functions we required in 24 hours regime. The minimum period for setting is 30 minutes as it is executed within 48 pcs segments which the timing of the work and rest of the consumer is being set. The timer is accomplished with a battery which assures the work by 150 hours after power failure.

**TECHNICAL DATA**

- Rated voltage: 110-240V AC 50/60Hz
- Time range: 24 hours
- Min. programmable interval: 30 minutes
- Time adjustment: manual
- Battery power reserve: 150 hours
- Time deviation: ± 1s (at 20°C)
- Consumption: 2.5VA
- Contact: 1NO
- Contact capacity: 16A
- Electrical endurance: 10<sup>5</sup> times
- Mechanical endurance: 10<sup>7</sup> times
- Section of the conductor: rigid conductors up to 6mm<sup>2</sup>

**MOUNTING**

- DIN-rail

Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		H	L	D	
50138	TM 181	90	53.5	65.5	1/100



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
+ 2 extended





### 24 HOURS PLUG-IN MECHANICAL TIMER

Mechanical German type plug-in timer with children protector. Two position switch for permanent and time control.

#### TECHNICAL DATA

- Power supply voltage: 230V; 50Hz
- Min. setting time: 15 min
- Max. setting time: 24 hours
- Active load: up to 16A
- IP20

Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		L	W	H	
50140	EL-PMT-1	82	84	56	1/24/48



**2 YEARS TOTAL WARRANTY**  
+ 2 standard  
0 extended



### PROGRAMMABLE WEEKLY TIMER

The product according to the time set by the user, automatically turn On/Off the variety of electrical equipment.

Included Li-ion battery

#### MOUNTING

- With bolts to the surface

#### TECHNICAL DATA

- Power supply voltage: 220-250V; 50/60Hz
- Adjustment range: 1 min
- Active load: up to 30A
- Operations: 17 switching ON/OFF per day, up to 119 ON/OFF per week
- Operating temperature: 0 ÷ +55°C

Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		L	W	H	
50139	EL-PWT-1	60	32.5	60	1/200



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



### WEEKLY PLUG-IN DIGITAL TIMER

Digital German type plug-in timer with children protector and rechargeable NI-MH battery. Two outlets for permanent and time control.

#### TECHNICAL DATA

- Power supply voltage: 230V; 50Hz
- Min. setting time: 1 min or 1 sec
- Max. setting time: 7 days
- Program per day: 8 or 20 ON/OFF
- Active load: up to 16A
- IP20

Catalogue number	Type	Size (mm)	Packing/Box (pcs)
50142	EL-WDT-3	130x75x70	1/24/48



### WEEKLY PLUG-IN DIGITAL TIMER

Digital German type plug-in timer with countdown function and rechargeable NI-MH battery. Two outlets for permanent and time control.

#### TECHNICAL DATA

- Power supply voltage: 230V; 50Hz
- Min. setting time: 1 min
- Max. setting time: 7 days
- Program per day: 16 ON/OFF
- Active load: up to 16A
- IP20

Catalogue number	Type	Size (mm)	Packing/Box (pcs)
50141	EL-WDT-2	68.4x73x77.2	1/24/48





## SINGLE- FUNCTION TIME RELAY, ELR-2A 2C- ON DELAY

Single function time relays are suitable for applications where there is a clear function requirement in advance and are suitable for universal use in automation, control and regulation or in house installations.

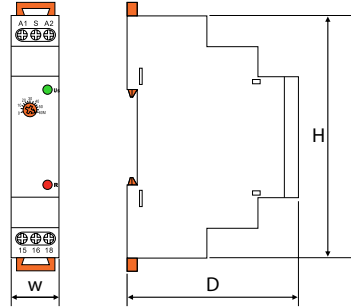
ELR-2A is easy for operation and has range of input voltage- from 24 till 240V AC/DC. Time setting is available from front panel.

### APPLICATION

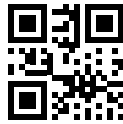
- Control of electrical appliances
- Control of lights, heating, motors, pump, fan and etc.

### TECHNICAL DATA

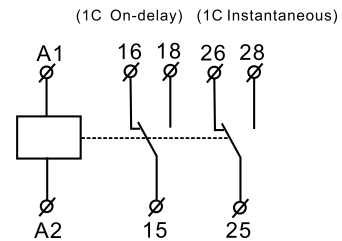
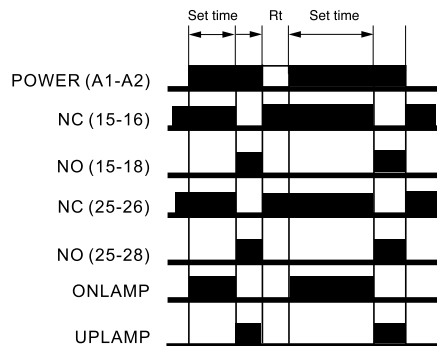
- Voltage range: 24-240V; 50/60Hz
- Output current: 2x5A
- Function: 2C-On delay
- Output type: 2xSPDT
- Time ranges: 1s-3m
- Time setting: via 1 potentiometer
- Time deviation:  $< \pm 5\%$
- Repeat accuracy:  $< \pm 5\%$
- Ingress protection: IP20
- Mechanical life:  $1 \times 10^7$
- Electrical life (AC1):  $1 \times 10^5$
- Max. cable size: solid wire max.  $2.5 \text{ mm}^2$  and flexible wire  $1.5 \text{ mm}^2$
- Size: 90x18x64 mm



Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		W	H	D	
50151	ELR-2A	18	90	64	1/100



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



## SINGLE- FUNCTION TIME RELAY, ELR-2B 1C-ON DELAY & 1C INSTANTANEOUS

Single function time relays are suitable for applications where there is a clear function requirement in advance and are suitable for universal use in automation, control and regulation or in house installations.

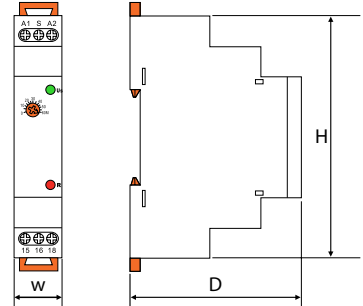
ELR-2B is easy for operation and has range of input voltage- from 24 till 240V AC/DC. Time setting is available from front panel.

### APPLICATION

- Control of electrical appliances
- Control of lights, heating, motors, pump, fan and etc.

### TECHNICAL DATA

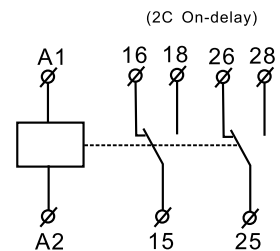
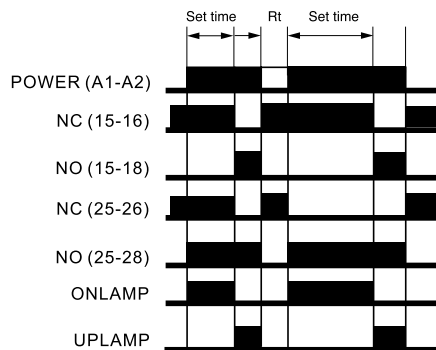
- Voltage range: 24-240V; 50/60Hz
- Output current: 2x5A
- Function: 1C-On delay and 1C-Instantaneous
- Output type: 2xSPDT
- Time ranges: 3s-10m
- Time setting: via 1 potentiometer
- Time deviation:  $<\pm 5\%$
- Repeat accuracy:  $<\pm 5\%$
- Ingress protection: IP20
- Mechanical life:  $1 \times 10^7$
- Electrical life (AC1):  $1 \times 10^5$
- Max. cable size: solid wire max. 2.5 mm<sup>2</sup> and flexible wire 1.5 mm<sup>2</sup>
- Size: 90x18x64mm

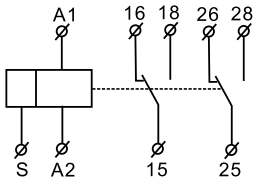


Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		W	H	D	
50152	ELR-2B	18	90	64	1/100



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
+ 2 extended





### SINGLE- FUNCTION TIME RELAY, ELR-3A 2C-ON DELAY

Single function time relays are suitable for applications where there is a clear function requirement in advance and are suitable for universal use in automation, control and regulation or in house installations.

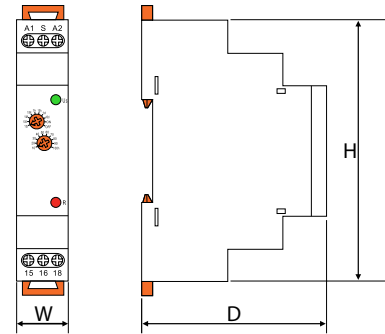
ELR-3A is easy for operation and has range of input voltage- from 12 till 240V AC/DC. Time setting is available from front panel.

#### APPLICATION

- Control of electrical appliances
- Control of lights, heating, motors, pump, fan and etc.

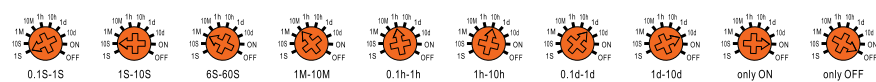
#### TECHNICAL DATA

- Voltage range: 12-240V; 50/60Hz
- Output current: 2x16A (AC1)
- Function: 2C-On delay
- Output type: 2xSPDT
- Time ranges: 0.1s-240h
- Time setting: via 2 potentiometers
- Time deviation: 10% mechanical setting
- Repeat accuracy: 0.2% set value stability
- Min. breaking capacity DC: 500mW
- Reset time: max. 200ms
- Over voltage category: III
- Output indication: red LED
- Ingress protection: IP20
- Mechanical life: 1x10<sup>7</sup>
- Electrical life (AC1): 1x10<sup>5</sup>
- Max. cable size: solid wire max. 2.5 mm<sup>2</sup> and flexible wire 1.5 mm<sup>2</sup>
- Size: 90x18x64 mm



Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		W	H	D	
50153	ELR-3A	18	90	64	1/100

#### TIME RANGE



### SINGLE- FUNCTION TIME RELAY, ELR-3B 2C-OFF DELAY

Single function time relays are suitable for applications where there is a clear function requirement in advance and are suitable for universal use in automation, control and regulation or in house installations.

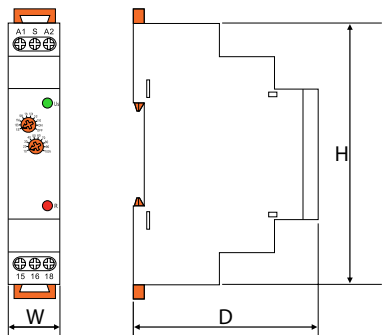
ELR-3B is easy for operation and has range of input voltage- from 12 till 240V AC/DC. Time setting is available from front panel.

#### APPLICATION

- Control of electrical appliances
- Control of lights, heating, motors, pump, fan and etc.

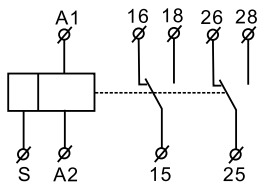
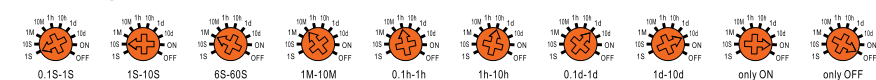
#### TECHNICAL DATA

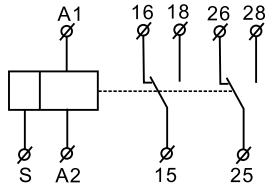
- Voltage range: 12-240V; 50/60Hz
- Output current: 2x16A (AC1)
- Function: 2C-Off delay
- Output type: 2xSPDT
- Time ranges: 0.1s-240h
- Time setting: via 2 potentiometers
- Time deviation: 10% mechanical setting
- Repeat accuracy: 0.2% set value stability
- Min. breaking capacity DC: 500mW
- Reset time: max. 200ms
- Over voltage category: III
- Output indication: red LED
- Ingress protection: IP20
- Mechanical life: 1x10<sup>7</sup>
- Electrical life (AC1): 1x10<sup>5</sup>
- Max. cable size: solid wire max. 2.5 mm<sup>2</sup> and flexible wire 1.5 mm<sup>2</sup>
- Size: 90x18x64 mm



Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		W	H	D	
50154	ELR-3B	18	90	64	1/100

#### TIME RANGE





### MULTI- FUNCTION TIME RELAY, ELR-4

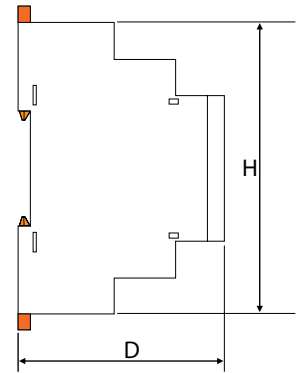
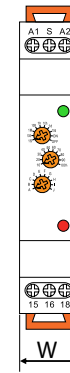
Multi function time relays are suitable for applications where there is need more additional functions requirement and are suitable for universal use in automation, control and regulation or in house installations. ELR-4 is easy for operation and has range of input voltage - up 12 to 240V AC/DC. This relay increase 10 functions: 5 time functions controlled by supply voltage, 4 functions controlled by control input and 1 function of latching relay.

**APPLICATION**

- Control of industrial and home electrical appliances
- Control of lights, heating, motors, pump, fan and etc.

**TECHNICAL DATA**

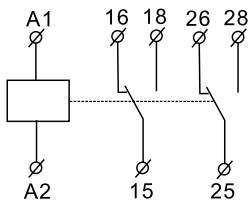
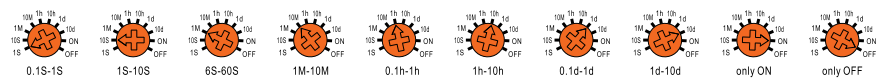
- Voltage range: 12-240V; 50/60Hz
- Output current: 2x16A (AC1)
- Function: 10
- Output type: 2xSPDT
- Time ranges: 0.1s-240h, ON, OFF
- Function setting: via 3 potentiometers on front panel
- Time deviation: 10% mechanical setting
- Repeat accuracy: 0.2% set value stability
- Min. breaking capacity DC: 500mW
- Reset time: max. 200ms
- Over voltage category: III
- Output indication: red LED
- Ingress protection: IP20
- Mechanical life: 1x10<sup>7</sup>
- Electrical life (AC1): 1x10<sup>5</sup>
- Max. cable size: solid wire max. 2.5 mm<sup>2</sup> and flexible wire 1.5 mm<sup>2</sup>
- Size: 90x18x64 mm



Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		W	H	D	
50155	ELR-4	18	90	64	1/100



**TIME RANGE**



### MULTI- FUNCTION TIME RELAY, ELR-5

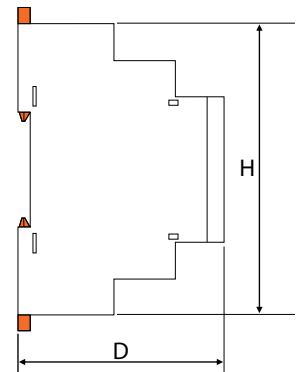
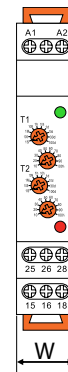
Multi function time relays are suitable for applications where there is need more additional functions requirement and are suitable for universal use in automation, control and regulation or in house installations. ELR-5 is easy for operation and has range of input voltage- from 24 till 240V AC/DC. This relay have 6 time delay functions.

**APPLICATION**

- Control of industrial and home electrical appliances
- Control of lights, heating, motors, pump, fan and etc.

**TECHNICAL DATA**

- Voltage range: 24-240V; 50/60Hz
- Output current: 5A
- Function: 6
- Output type: 1C-On delay and 1C-Instantaneous
- Time ranges: 0.1s-100h
- Function setting: via 4 potentiometers on front panel
- Time deviation: <5%±50ms
- Repeat error: <0.2% ±10ms
- Voltage error: <±0.5%
- Min. breaking capacity DC: 500mW
- Insulation resistance: 100mΩ (500VDCmge)
- Over voltage category: III
- Output indication: red LED
- Protection degree: IP20
- Mechanical life: 1x10<sup>7</sup>
- Max. cable size: solid wire max. 2.5 mm<sup>2</sup> and flexible wire 1.5 mm<sup>2</sup>
- Size: 94x18x64 mm



Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		W	H	D	
50156	ELR-5	18	94	64	1/100



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



## ASYMMETRIC CYCLER TIMER, ELR-6

Asymmetric cycle timer can be used for cycle delay control, providing periodic energizing, lighting control, regular room ventilation, pumps, heating control for electric circuit and etc.

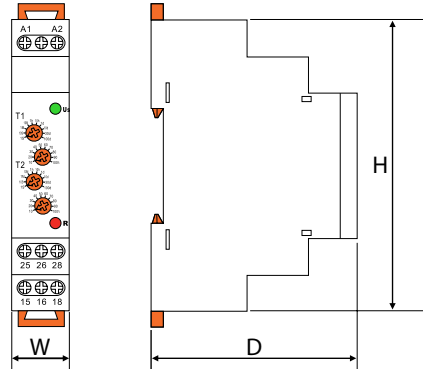
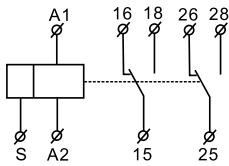
ELR-6 is easy for operation and has range of input voltage- from 24 till 240V AC/DC. This relay have 2 time functions- Cycle beginning with pulse and cycle beginning with pause.

### APPLICATION

- Control of industrial and home electrical appliances.
- Control of lights, heating, motors, pump, fan and etc.

### TECHNICAL DATA

- Voltage range: 12-240V; 50/60Hz
- Output current: 2x16A (AC1)
- Function: 2 time functions
- Output type: 2xSPDT
- Time ranges: 0.1s-2400h
- Function setting: via 4 potentiometers on front panel
- Time deviation: 10% mechanical setting
- Repeat accuracy: 0.2% set value stability
- Min. breaking capacity DC: 500mW
- Reset time: max. 200ms
- Over voltage category: III
- Output indication: LED
- Ingress protection: IP20
- Mechanical life: 1x10<sup>7</sup>
- Electrical life (AC1): 1x10<sup>5</sup>
- Max. cable size: solid wire max. 2.5 mm<sup>2</sup> and flexible wire 1.5 mm<sup>2</sup>
- Size: 90x18x64 mm



Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		W	H	D	
50157	ELR-5	18	90	64	1/100



## INTERMEDIATE RELAYS, ELR-7 SERIES

Intermediate Relays are used for switching larger load output, strengthen or multiplying contacts of the existing device or send signals to the relevant control elements concurrently.

Relays from ELR-7 series are easy for operation and has different input voltages- from 12V DC, 24V AC/DC and 240V AC.

### FUNCTIONS

- Instead of small contactors.
- Increase the number of contacts.
- Increase contact capacity.
- Switch contact type.
- Used as a switch.
- Eliminate interference in the circuit.

### TECHNICAL DATA

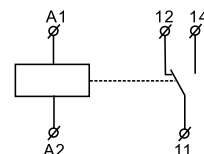
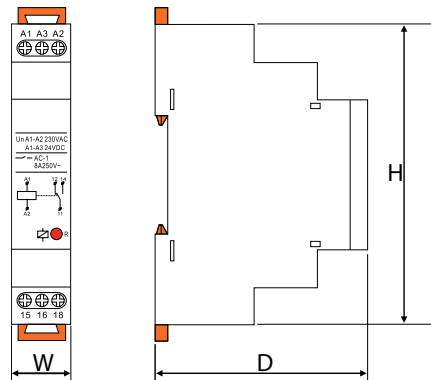
- Voltage range: 24V AC/DC and 230V AC
- Output current: 16A (AC1)
- Output type: 1xSPDT and 3xSPDT
- Supply voltage tolerance: -15% +10%
- Max. change over time: 40ms
- Min. breaking capacity DC: 500mW
- Over voltage category: III
- Output indication: red LED
- Protection degree: IP20
- Mechanical life: 1x10<sup>7</sup>
- Electrical life (AC1): 1x10<sup>5</sup>
- Max. cable size: solid wire max. 2.5 mm<sup>2</sup> and flexible wire 1.5 mm<sup>2</sup>
- Size (HxWxD): 90x18x64 mm



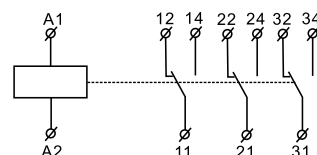
ELR-A/ ELR-B



ELR-C/ ELR-D



ELR-A/ ELR-B



ELR-C/ ELR-D

Catalogue number	Type	Number of contact	Voltage	Packing/Box (pcs)
50158	ELR-A	1xSPDT	24V AC/DC	1/100
50159	ELR-B	1xSPDT	230V AC	1/100
50160	ELR-C	3xSPDT	24V AC/DC	1/100
50161	ELR-D	3xSPDT	230V AC	1/100

## WI-FI SMART CONTROL RELAY WITH BUILT-IN ANTENNA, ELR-1W



ELR-1W is widely used in smart homes and industrial intelligent control. It adopts the most popular Wi-Fi 2.4GHz control chip, and cooperates with powerful APP and mainstream voice assistants. Realize WLAN local control (even if the network is disconnected, you can also use APP local control and remote control, allowing users to fully experience the convenient life brought by modern intelligent technology. Using mobile phone APP or voice control device to control ON and OFF of the output of this product to realize the purpose of remotely starting or turning off the load electrical appliances.

The product cooperates with the corresponding APP to realize the following functions:

Support Smart Config for fast networking.

Support multiple control types: switch, timing start and stop, cycle control, etc.

Support WLAN local control and remote control.

Access to mainstream voice assistants such as Tmall Genie, DuerOS, Xiao Ai (Xiao Mi), Alexa, Google, etc., voice control.

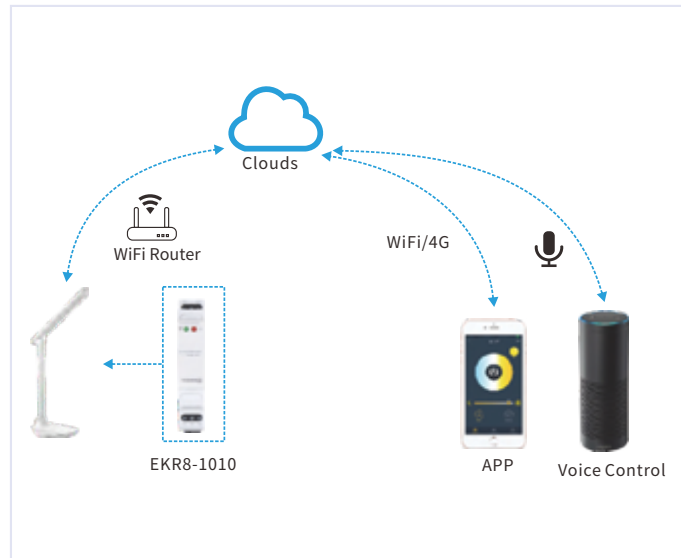
Intranet device sharing and cloud account device sharing function.

APP supports Android and iOS systems.

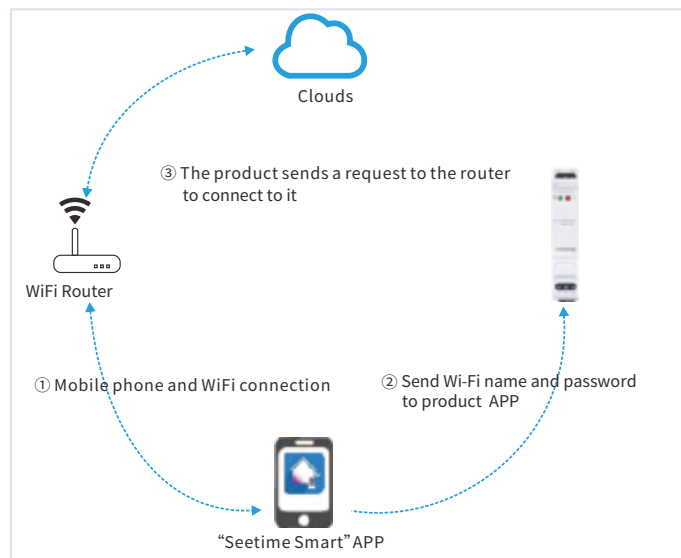
Download Seetime Smart Application.

Full info for the products, instructions can be found at [www.elmarkholding.eu](http://www.elmarkholding.eu)

Build-in antenna



Structure block diagram of Intelligent control system



Distribution network block diagram of standard configuration

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended





**APPLICATION**

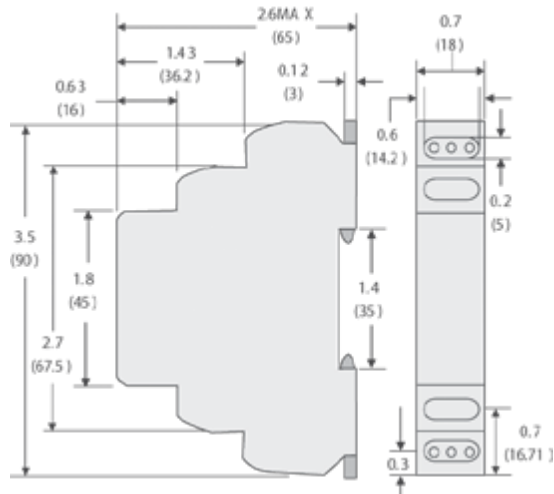
- Home control system
- Building automation
- Industrial control systems
- Industrial automation
- Mechanical and electrical equipment

**TECHNICAL DATA**

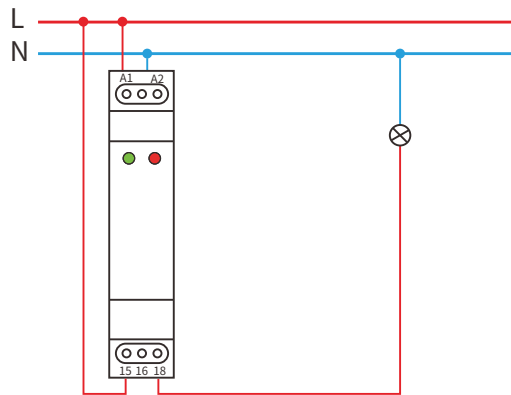
- Voltage Range: 85-240V AC/DC
- Rated Current: 10A
- Standard: IEEE 802.11b/g/n
- Working mode: STA/AP/STA+AP
- Wireless Security Support: WPA/WPA2
- Encryption Type: WEP/TKIP/AES
- Working Frequency: 2.4GHz-2.5GHz (2400M-2483.5M)
- Transmit Power:
  - > 802.11b (CCK): 19+/-1dBm
  - > 802.11g (OFDM): 14+/-1dBm
  - > 802.11n(HT20@MCS7): 13+/-1dBm
- Wireless Transmission Distance: General Indoor: 45M, Outdoor: 150M (Note: It depends on the environment.)
- Application: Seetime Smart
- Standby Power Consumption: Less than 0.5W
- Working Temperature: -10-60°C
- Working Humidity: 5%-95% (Non-condensing)
- Size WxHxD: 18x90x65 mm

Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		W	H	D	
50150	ELR-1W	18	90	65	1/100

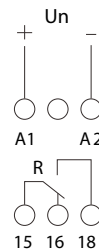
Scan and watch detailed video with all product functions.



Dimensions (mm)



Product wiring diagram



Wiring diagram

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## MULTI- FUNCTION TIME RELAY, ELR-8

Multi function time relays are suitable for applications where there is need more additional functions requirement and are suitable for universal use in automation, control and regulation or in house installations.

ELR-8 is easy for operation and has range of input voltage- from 24 till 240V AC/DC. This relay increase 6 time delay functions.



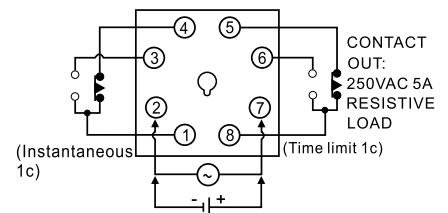
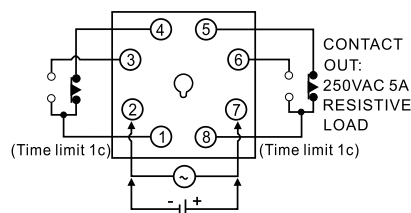
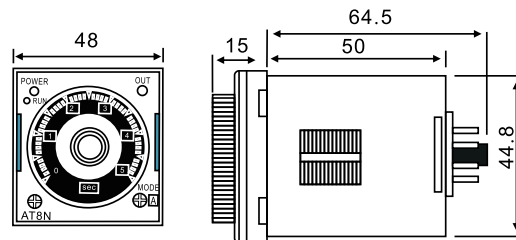
### APPLICATION

- Control of industrial and home electrical appliances
- Control of lights, heating, motors, pump, fan and etc.

### TECHNICAL DATA

- Voltage range: 24-240V; 50/60Hz
- Output current: 5A (AC1)
- Function: 6
- Output type: DPDT
- Time ranges: 0.1s-100h
- Time deviation: <math><5\% \pm 50\text{ms}</math>
- Repeat error: <math><0.2\% \pm 10\text{ms}</math>
- Reset time: max. 200ms
- Insulation resistance: 100m $\Omega$  (500VDCmge)
- Ingress protection: IP20
- Mechanical life:  $1 \times 10^7$
- Max. cable size: solid wire max. 2.5 mm<sup>2</sup> and flexible wire 1.5 mm<sup>2</sup>
- Size: 79.5x48x48 mm

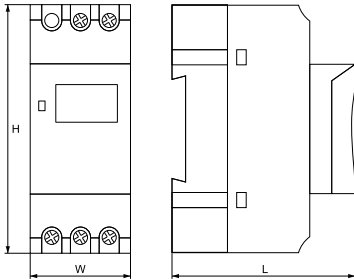
Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		W	H	D	
50162	ELR-8	48	48	79.5	1/100
50163	Base for ELR-8				1/100



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## PROGRAMMABLE DIGITAL ONE-CHANNEL TIMER TE 15A

The timer is manufactured under the CMOS technology with a quartz mini controller which makes it reliable for operation. The timer is adjusted for DIN-rail mounting. It can memorize up to eight ON/OFF programs (ON/OFF cycles). Each program setting is done through the push buttons. Programming starts with selection of the days of the week (you can choose among a whole week cycle, workdays cycle, weekend cycle, or a specific day of the week); then the cycle start time and end time are set. If you have selected workdays cycle, then the program will start and stop at the set times each workday of the week. This is one ON/OFF program. Where necessary, other programs can be memorized up to the limit of eight possible programs. If you continue setting new programs the first memorized program will be deleted. The minimal interval for cycle programming is 1 minute.



### TECHNICAL DATA

- Display: LCD
- Power supply voltage: 230V; 50Hz
- Operations: 16 switching ON/OFF
- Minimum setting unit: 1 min
- Time setting range: 1 min- 168 hours
- Time deviation: <2s (at 25°C)
- Battery for programmer storing: up to 15 days
- Power consumption: <4.5VA
- Switched on indicator
- Electrical wear resistance: 105 cycles
- Mechanical wear resistance: 107 cycles
- Operating temperature: -10°C ÷ +65°C
- Humidity: 35 – 85%RH
- Number of contacts: 1NO + 1NC
- Commutating capacity:
  - > Active load: up to 16A
- Weight: 125g



### MOUNTING

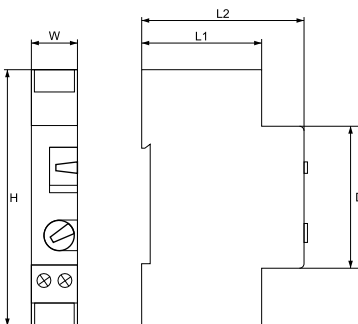
- DIN-rail

Catalogue number	Type	Dimensions (mm)			Packing/Box (pcs)
		H	W	L	
50036	TE 15A	85	36	64	1/100



## STAIRCASE DELAY TIMER

The timer is adjusted for DIN-rail mounting. Provide control of lighting circuits with automatic switch Off after reset time. Two position switch for permanent and time lighting control and choice for time delay setting from 30 sec to 10 minutes. Compact 1-mode design- 17.5mm



### TECHNICAL DATA

- Power supply voltage: 230V; 50Hz
- Adjustment range: 0.5 to 10 min
- Power consumption: <2.5VA
- Operating temperature: -10 ÷ +60°C
- Humidity: 45 – 95%RH
- Number of contacts: 1NO
- Commutating capacity:
  - Active load: up to 16A
  - Inductive load: up to 10 A

### MOUNTING

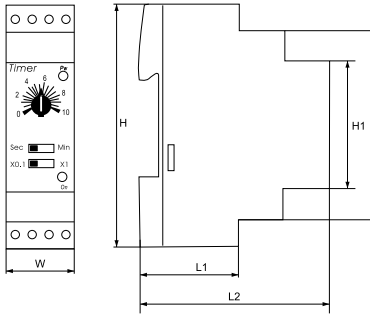
- DIN-rail

Catalogue number	Type	Dimensions (mm)					Packing/Box (pcs)
		H	W	L1	L2	D	
35007	TE 17	82	17.5	40	65	45	1/240



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

### TIME RELAY "STAR/DELTA" TE 19



The time relay is manufactured under the most modern methods of qualitative and reliable materials. The timer is adjusted for DIN-rail mounting. It is used to provide reliable and safe time hold at "star/delta" starters and it is used for setting fixed time intervals. Programming is done through selection of the time unit (seconds or minutes) and rate (x 0.1 or x1) by the slide switches, and then selection of a value from the timer knob (from 0 to 10). Whenever timer circuit receives a signal, it executes the set cycle and then stops until a new signal is available. It gives possibility for time adjustment for motor unwinding in star up to 600s and time change to delta according to the consumer's need.

**TECHNICAL DATA**

- Power supply voltage: 230V; 50Hz
- Adjustment range for operation in star: 1 to 600 seconds
- Repetition accuracy: ±5% from the whole scale
- Adjustment accuracy: ±5% from the whole scale
- Zeroing time: <0.5s
- Power consumption: <5VA
- Electrical wear resistance: 100 000 cycles
- Mechanical wear resistance: 1 000 000 cycles
- Operating temperature: -10 ÷ +65°C
- Humidity: 45 – 85%RH
- Commutating capacity: up to 5A
- Indication:
  - > at operation in "star": red indication
  - > at operation in "delta": green indication
- Weight: 150g

**MOUNTING**

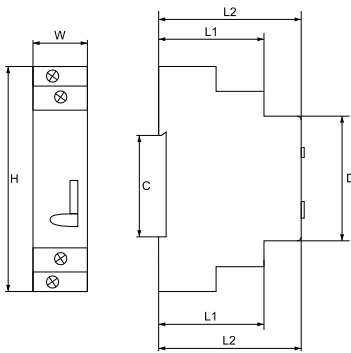
- DIN-rail

Catalogue number	Type	Dimensions (mm)						Packing/Box (pcs)
		H	W	L1	L2	H1	H2	
50102	TE19	85	24	34	66	45	60	1/200



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

### IMPULSE RELAY, EPN510- SINGLE POLE



Impulse relays allow circuit remote control. They can be operated manually, remotely, from several control points, or by impulses. Impulse relays are most frequently used for the control of lighting circuits in various public places with multiple control points.

**TECHNICAL DATA**

- Control voltage: 230V
- Rated current of the power circuit: 16A
- Electrical endurance: 200000 cycles
- Maximum switching frequency: 5 operations/minute
- Impulse duration: 50ms

**CONNECTION**

- Tunnel terminals

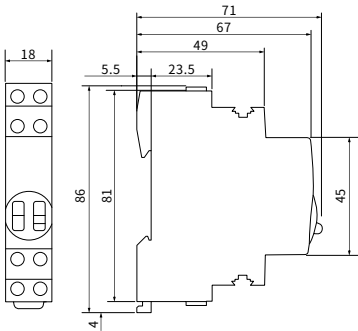
Catalogue number	Type	Dimensions (mm)						Packing/Box (pcs)
		H	W	C	D	L1	L2	
50300	EPN510	85	24	36	45	34	66	8 / 160



## IMPULSE RELAYS (REMOTE-CONTROL SWITCHES)- 2P & 4P

Impulse relays, also known as bi-stable relays, Impulse relays are a form of latching relay that transfers the contacts with each pulse.

ELMARK impulse relays are made up of a magnetic latch relay and a solid-state steering circuit that, upon application of power, determines which position the relay is in and energizes the opposite coil.



### APPLICATION

- The impulse relays are used to control, by means of pushbuttons, lighting circuits consisting of:
  - Incandescent lamps, low-voltage halogen lamps, etc. (Resistive loads)
  - Fluorescent lamps, discharge lamps, etc. (Inductive loads)
- Closing of the impulse relay pole(s) is triggered by an impulse on the coil.

- Having two stable mechanical positions, the pole(s) will be opened by the next impulse. Each impulse received by the coil reverses the position of the pole(s).
- Can be controlled by an unlimited number of pushbuttons.
- Zero energy consumption.

### TECHNICAL DATA

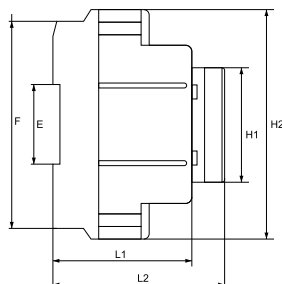
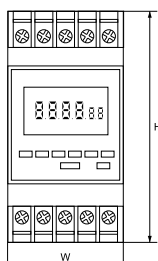
- Rating: 16A
- Frequency: 50 or 60Hz
- Insulation voltage (Ui): 440V AC
- Pollution degree: 3
- Rated impulse withstands voltage (Uimp): 6kV
- Dissipated power (during the impulse): 19VA
- Illuminated PB control: Max. current 3mA (if > use an ATLz)
- Operating threshold: Min.85% of Un in conformance with IEC/EN60669-2-2

- Duration of the control order: 50 ms to 1s (200ms recommended)
- Over voltage category: IV
- Ingress protection: IP20
- Electrical life: 200,000 cycles (AC21); 100 000 cycles (AC22)
- Max. cable size: solid wire 0.5-4 mm<sup>2</sup> and flexible wire 1-4 mm<sup>2</sup>
- Tightening torque: 1 N.m
- Size: 86x18x67 mm

Catalogue number	Type	Number of poles	Contact type	Voltage	Dimensions (mm)			Packing/Box (pcs)
					W	H	D	
50301	ELR-1620	2P/ 1 mod	2NO	230VAC/110VDC	18	86	67	1/180
50302	ELR-1610	2P/ 1 mod	1NO+1NC	230VAC/110VDC	18	86	67	1/180
50303	ELR-1621	2P/ 1 mod	2NO	24VDC/48VAC	18	86	67	1/180
50304	ELR-1611	2P/ 1 mod	1NO+1NC	24VDC/48VAC	18	86	67	1/180
50305	ELR-1622	2P/ 1 mod	2NO	12VDC/24VAC	18	86	67	1/180
50306	ELR-1612	2P/ 1 mod	1NO+1NC	12VDC/24VAC	18	86	67	1/180
50307	ELR-1640	4P/ 2 mod	4NO	230VAC/110VDC	36	86	67	1/90
50308	ELR-1630	4P/ 2 mod	2NO+2NC	230VAC/110VDC	36	86	67	1/90
50309	ELR-1641	4P/ 2 mod	4NO	24VDC/48VAC	36	86	67	1/90
50310	ELR-1631	4P/ 2 mod	2NO+2NC	24VDC/48VAC	36	86	67	1/90
50311	ELR-1642	4P/ 2 mod	4NO	12VDC/24VAC	36	86	67	1/90
50312	ELR-1632	4P/ 2 mod	2NO+2NC	12VDC/24VAC	36	86	67	1/90



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



### TIMER TE8A – 1A, TE8A – 2A

The timer is manufactured under the most modern technology CMOS with a quartz mini controller which makes it precise, qualitative and reliable. It has a built in battery which allows operation of the timers without charging up to 150 hours. The timer is adjusted for DIN-rail mounting. Timer programming is done through selection of the operational day(s) of the week, followed by selection of the start time and end time. You may choose out of ten modes (one for each day of the week, one for the work days, one for the weekends and one for the whole week). When setting the time, you should start first with the hours and then continue with the minutes. TE8A - 1a - Up to eight programs can be memorized. The on/off time resolution is 1 minute. TE8A - 2a - It has two operating channels, each of which can adjust four programmes for a day or a week with minimal interval of 1 minute for switching on and off. Indication on LCD display with high resolution and showing the time in hours, minutes and seconds.

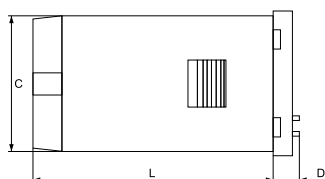
#### TECHNICAL DATA

- Power supply voltage: 230V; 50Hz
- Power consumption: <5VA
- Electrical wear resistance: 107 cycles
- Mechanical wear resistance: 105 cycles
- Operating temperature: -10°C ÷ +65°C
- Temperature of storage: up to 70°C
- Humidity: 45 – 85%RH
- Commutating capacity: up to 16A
- Two outlet relays
- Li-Ion battery: 150h
- Weight: 150g

#### MOUNTING

- DIN-rail

Catalogue number	Type	Dimensions (mm)								Packing/Box (pcs)
		H	H1	H2	W	E	L1	L2	F	
50113	TE8A - 1a	100	50	68	50	36	60	74	90	1/75
50114	TE8A - 2a	100	50	68	50	36	60	74	90	1/75



### TIMER TE6B

The timer is manufactured under the most modern technology CMOS with a quartz mini controller which makes it precise, qualitative and reliable. The timer is modulated to be mounted on the front panel of boards. The direction of operation is adjusted – direct or reverse. There is possibility to adjust the time range from 0.01 second to 99 hours 59 minutes, possibility for correction of the set values during operation. Indication on LCD display with high resolution and showing the time in hours, minutes and seconds.

#### TECHNICAL DATA

- Power supply voltage: 230V; 50Hz
- Possibility for choice of operating range:
  - > from 0.01 second to 99.99 seconds
  - > from 1 second to 99.59 minutes
  - > from 1 minute to 99.59 hours
- Error: <0.01% ±0.05s
- Minimal duration of the input pulse: 20ms
- Power consumption: <5VA
- Electrical wear resistance: 107 cycles
- Mechanical wear resistance: 105 cycles
- Operating temperature: -10 ÷ +65°C
- Temperature of storage: up to 70°C
- Humidity: 45 – 85%RH
- Commutating capacity at active load: 3A
- Weight: 300g

#### MOUNTING

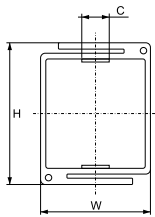
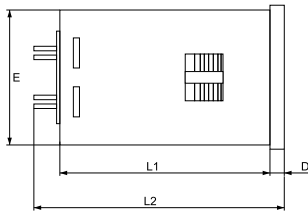
- On the front panel of the board

Catalogue number	Type	D	Dimensions (mm)		Packing/Box (pcs)
			W	L	
50104	TE6B	8.5	45	80	1/100



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
+ 2 extended





### TIMER TE48S-S

The timer is manufactured under the most modern technology CMOS with a quartz mini controller which makes it precise, qualitative and reliable. The timer is modulated to be mounted on the front panel of boards. The direction of operation is adjusted – direct or reverse. It represents two separate operating channels, each of which can operate independently with time range adjustment from 1 second to 99 minutes. Possibility for correction of the set values during operation. First, select the time unit (seconds or minutes) and then set the time. Depending on the timer coupling, it can be used as a cyclic timer relay, i.e. it initially counts the first time set, then counts the second time set, then starts counting over the first time again, etc. until a stop signal is received. In another mode, the timer can count the set time and stop until a new signal is received to count the next cycle. Indication on LCD display with high resolution and showing the time in hours, minutes and seconds.

#### TECHNICAL DATA

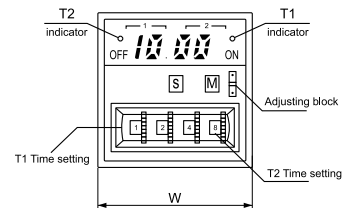
- Power supply voltage: 230V; 50Hz
- Admissible variation of the input voltage: 85-110%U
- Possibility for choice of operating range:
  - from 1 to 99 seconds
  - from 1 minute to 99 minutes
- Error: <0.01% ±0.05s
- Minimal duration of the input pulse: 20ms
- Power consumption: <5VA
- Electrical wear resistance: 107 cycles
- Mechanical wear resistance: 105 cycles

- Operating temperature: -10 ÷ +65°C
- Temperature of storage: up to 70°C
- Humidity: 45 – 85%RH
- Commutating capacity at load: 3A
- Weight: 300g

#### MOUNTING

- on the front panel of the board

Catalogue number	Type	Dimensions (mm)							Packing/Box (pcs)
		D	E	L1	L2	C	H	W	
50105	TE48S-S	5	44.8	74	95	15	58	48	84



### TIMER TE 19M

Timer is developed using modern technologies from quality and reliable materials and is adapted for mounting on DIN rail. It is used for providing time intervals in eight-time programs, which are assigned by combinations of the keys. There is an option for it to operate in time ranges (assigned by the keys K4, K5, K6): seconds, minutes or hours depending on the necessity of the user. Power contact up to 3A.

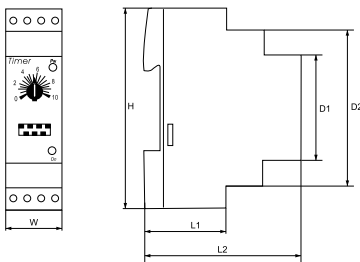
#### TECHNICAL DATA

- Input voltage: 230V; 50Hz
- Range of setting: from 0.6 sec to 100 hours
- Accuracy of setting: ± 5% from the whole scale
- Time for nullifying: <0.5 seconds
- Consumed capacity: < 5VA
- Electrical endurance (number of cycles): 100 000 cycles
- Mechanical endurance (number of cycles): 1 000 000 cycles

- Operation temperature: -10 ÷ +65°C
- Humidity: 45 - 85%RH
- Computing option: up to 5A
- Indication:
  - on power supply: red indication
  - on operational output relay: green indication
- Weight: 150 gr.
- Time functions: according to the programming guide

#### MOUNTING

- DIN rail



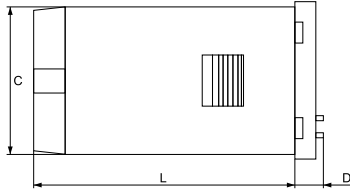
Catalogue number	Type	Dimensions (mm)						Packing/Box (pcs)
		H	w	h1	h2	l1	L2	
50102M	TE 19M	85	24	45	60	34	66	1/200



## COUNTERS

**Documents corresponding to the product:**

Standard EN 61010-1



### UNIVERSAL DIGITAL COUNTER CE2J

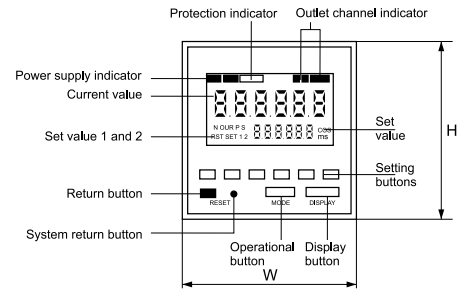
The device is manufactured under the modern technology CMOS which allows high speed of counting and high counting reliability. It has a built-in battery which allows data storing for more than 10 years. It is supplied with a digital display with black lighting digits, providing excellent visibility at different lighting. The counter is to be mounted on the front panel of the boards. It is used for impulse sequence counting with accumulation or deduction. There is possibility for relay outlet operation at reaching beforehand set value, and a possibility for changing the position of the decimal point.

**TECHNICAL DATA**

- Display: LCD
- Power supply voltage: 230V; 50Hz
- Counting range: 0 - 99999
- Counting speed: 30/3k cps
- Zeroing: outside impulse
- Battery for programmer storing: up to 10 years
- Power consumption: <5VA
- Operating temperature: -10 ÷ +65°C
- Humidity: 35 – 85%RH
- Commutating capacity: relay outlet with active load: up to 3A
- Weight: 250g

**MOUNTING**

- On the front panel
- Opening with dimensions: 45x45



Catalogue number	Type	Dimensions (mm)					Packing/Box (pcs)
		H	W	C	D	L	
50111	CE2J	68	68	65	8.5	90	1/45



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

**Documents corresponding to the product:**

Standard EN 60831-1  
EN 60831-2

**COMBINED DIGITAL COUNTER/TIMER CE10J**

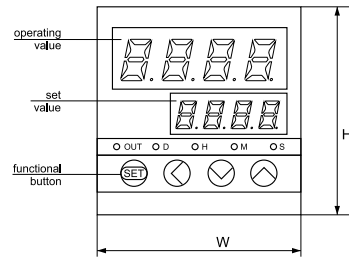
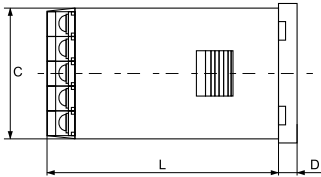
The device is for front mounting in the board. It can be used as a counter or timer choosing a definite combination from keys. It is manufactured under the modern technology CMOS which allows high speed of counting, precision at operation as a timer and high reliability. It has a built-in battery which allows data storing for more than 10 years. It is supplied with a digital display providing excellent visibility at different lighting. It is used for impulse sequence counting with accumulation or deduction. There is possibility for relay outlet operation at reaching beforehand set value, and a possibility for changing the position of the decimal point.

**TECHNICAL DATA**

- Display: LCD
- Power supply voltage: 230V; 50Hz
- Counting range: 0 – 999
- Timer range: 0.01 – 99h99min
- Counting speed: 30/500 cps
- Zeroing: outside impulse
- Battery for programmer storing: up to 10 years
- Power consumption: <3VA
- Mechanical wear resistance: 107 cycles
- Operating temperature: -5 ÷ +65°C
- Humidity: 35 – 85%RH
- Commutating capacity: relay outlet with active load: up to 3A
- Weight: 120g

**MOUNTING**

- On the front panel
- Opening with dimensions: 45x45



Catalogue number	Type	Dimensions (mm)					Packing/Box (pcs)
		h	W	c	D	L	
50120	CE10J	68	68	65	6	90	1/45



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

**Documents corresponding to the product:**

EN 61010-1



**TOTAL DIGITAL COUNTER CE15J**

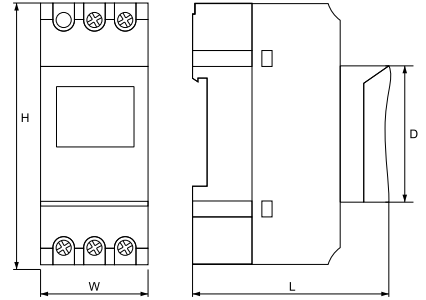
The device is to be mounted on DIN-rail. It is used as an impulse counter with no outside power supply. For that purpose there is a Li battery built in the device which provides data storing and operation of the device for 5 years. It has eight digital lighting display providing excellent visibility at different lighting. It is used for impulse sequence counting with accumulation.

**TECHNICAL DATA**

- Display: LCD
- Power supply voltage: built in battery
- Inlet signal: 100-230V AC/DC
- Counting accuracy: <0.002%
- Data storing battery: up to 5 years
- Operating temperature: -5 ÷ +65°C
- Humidity: 35 – 85%RH
- Weight: 120g

**MOUNTING**

- DIN-rail



Catalogue number	Type	Dimensions (mm)				Packing/Box (pcs)
		H	W	D	L	
50112	CE15J	86	36	45	64	1/100



**Documents corresponding to the product:**

EN 61010-1



**TOTAL DIGITAL COUNTER CE15L**

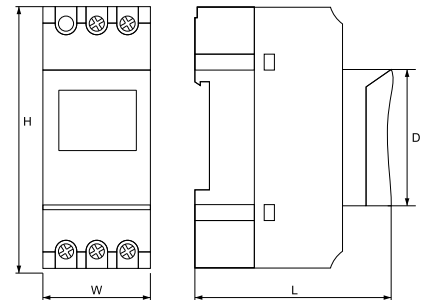
The device is to be mounted on DIN-rail. It is used as a time impulse counter with no outside power supply. For that purpose there is a Li battery built in the device which provides data storing and operation of the device for 5 years. It has eight digital lighting display providing excellent visibility at different lighting. It is used for time impulse sequence counting with accumulation. It displays the operated time.

**TECHNICAL DATA**

- Display: LCD
- Power supply voltage: built in battery
- Inlet signal: 100-230V AC/DC
- Counting accuracy: <0.002%
- Battery for data storing: up to 5 years
- Operating temperature: -5 ÷ +65°C
- Humidity: 35 – 85%RH
- Weight: 120g

**MOUNTING**

- DIN rail



Catalogue number	Type	Dimensions (mm)				Packing/Box (pcs)
		H	W	D	L	
50115	CE15L	86	35	45	64	1/100



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

**Documents corresponding to the product:**

EN 61010-1

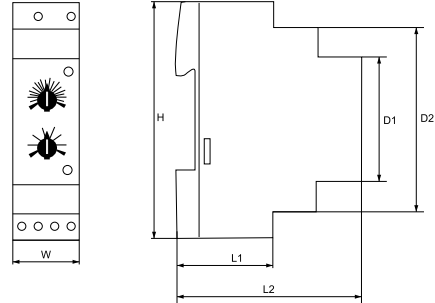


**PHASE SEQUENCE INDICATOR EK - RSTB**

The device is to be mounted on DIN-rail. It is used for control and indication of the presence, sequence and quality of the phases. The device indicates the following fault: lack of one or several phases; change in the sequence of the phases; lowering of the power supplying voltage: under 10%; increasing of the power supplying voltage: over 10%; phase asymmetry of the power supplying voltage:  $\pm 10\%$ . In the presence of one of the conditions above a relay starts operating in the device which breaks the controlling circuit. The time between fault indication and outlet relay switching on can be adjusted in order to prevent unwilling stops at very short breaks. When the voltage is back to normal limits, the device receives energy (indication lights) according to the hysteresis values. At phase sequence fault the device operates immediately.

**TECHNICAL DATA**

- Power supply voltage: 400V; 50Hz
- Possibility for operation range adjustment: 0.1 – 10 seconds
- Possibility for working range adjustment: from 300 to 480 V
- Electrical wear resistance: 1 000 000 cycles
- Mechanical wear resistance: 10 000 000 cycles
- Indication: green LED – indication for a change in the condition; red LED - failure
- Operating temperature:  $-5 \div +65^{\circ}\text{C}$
- Humidity: 35 – 85%RH
- Weight: 120g



**MOUNTING**

- DIN-rail

Catalogue number	Type	Dimensions (mm)						Packing/Box (pcs)
		h	w	d1	d2	l1	l2	
50103	EK - RSTB	85	24	45	60	34	66	1/200



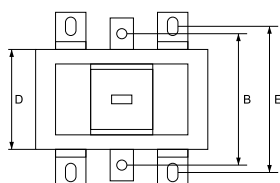
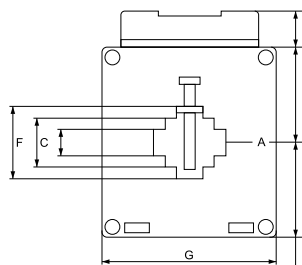
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



## CURRENT MEASUREMENT TRANSFORMERS

### Documents corresponding to the product:

Standard EN 61010-1;  
EN 60044-1; EN 60044-6



### CURRENT MEASUREMENT TRANSFORMERS MES - XX/X5 TYPE

The measurement transformers find application at current measuring, current regulation, systems for current characteristics watching, systems for reactive energy compensation, signalling, etc. They are with x/5 gear ratio as X is the inlet range of the transformer.

#### TECHNICAL DATA

- Maximum operating voltage: 720V; 50Hz
- Admissible deviation of the operating current: 1.2x In
- Inlet current: 50 – 1200A
- Outlet current: 5A
- Impulse voltage wear resistance: 4000V; 50Hz (1 min)
- Operating temperature: -5 ÷ +65°C
- Humidity: 35 – 85%RH
- Precision class: 0.5
- Weight kg: 0.60 kg

#### MOUNTING

- Current transformers can be DIN rail mounted;
- Vertically or horizontally to the power supplying rails according to the opening of the transformer
- Current transformers can be mounted on flat surfaces by use of fixing clamps.

Catalogue number	Type	Range	Capacity VA	Overall dimensions (mm)							Packing/Box (pcs)
				A	B	C	D	E	F	G	
45050A	MES - 75/30	50/5	1	88	52	52	41	77	31	31	1/40
45075A	MES - 75/30	75/5	1.5	88	52	52	41	77	31	31	1/40
45103A	MES - 75/30	100/5	1.5	88	52	52	41	77	31	31	1/40
45153A	MES - 75/30	150/5	2.5	88	52	52	41	77	31	31	1/40



Catalogue number	Type	Range	Capacity VA	Overall dimensions (mm)							Packing/Box (pcs)
				A	B	C	D	E	F	G	
45204A	MES - 75/40	200/5	3.75	88	52	52	41	77	41	41	1/40
45254A	MES - 75/40	250/5	3.75	88	52	52	41	77	41	41	1/40
45304A	MES - 75/40	300/5	5	88	52	52	41	77	41	41	1/40
45404A	MES - 75/40	400/5	5	88	52	52	41	77	41	41	1/40
45504A	MES - 75/40	500/5	5	88	52	52	41	77	41	41	1/40
45604A	MES - 75/40	600/5	5	88	52	52	41	77	41	41	1/40



Catalogue number	Type	Range	Capacity VA	Overall dimensions (mm)							Packing/Box (pcs)
				A	B	C	D	E	F	G	
45406A	MES - 86/60	400/5	3.75	117	57	57	184	77	61	61	1/40
45506A	MES - 86/60	500/5	5	117	57	57	184	77	61	61	1/40
45606A	MES - 86/60	600/5	10	117	57	57	184	77	61	61	1/40
45806A	MES - 86/60	800/5	10	117	57	57	184	77	61	61	1/40
45906A	MES - 86/60	1000/5	10	117	57	57	184	77	61	61	1/32
45916A	MES - 86/60	1200/5	10	117	57	57	184	77	61	61	1/32

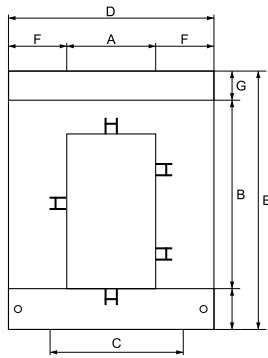


**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



**Documents corresponding to the product:**

Standard EN 60044-1



**CURRENT TRANSFORMERS, TYPE CP**

Current measuring transformers of duct type. Specially designed to be installed in measuring circuits without removing cables in current measuring circuit. CP Transformers save installation time and decrease installation costs.

**TECHNICAL DATA**

- Small size table:
- Secondary coil rated current 5A
- Rated voltage 720V
- Frequency 50Hz
- Rated load: up to 30VA
- Safety coefficient:  $f_s \leq 5$
- Secondary coil connection: cable shoe terminal

Overall dimensions (mm)

Type	A	B	C	D	E	F	G
CP 23	20	30	51	89	111	34	47
CP 58	50	80	78	114	145	32	32
CP 88	80	80	108	144	145	32	32

Catalogue number	Type	Range	Precision class	Capacity VA	Weight kg	Packing/Box (pcs)
452320	CP 23	200/5	1	1.5	0.74	1/45
452325	CP 23	250/5	1	2.5	0.74	1/45
452330	CP 23	300/5	0.5	2.5	0.74	1/45



Catalogue number	Type	Range	Precision class	Capacity VA	Weight kg	Packing/Box (pcs)
455825	CP 58	250/5	0.5	1.5	0.87	1/36
455830	CP 58	300/5	0.5	2.5	0.87	1/36
455840	CP 58	400/5	0.5	2.5	0.87	1/36
455850	CP 58	500/5	0.5	5	0.87	1/36
455860	CP 58	600/5	0.5	5	0.87	1/36



Catalogue number	Type	Range	Precision class	Capacity VA	Weight kg	Packing/Box (pcs)
458850	CP 88	500/5	0.5	2.5	1	1 / 20
458860	CP 88	600/5	0.5	5	1	1 / 20
458875	CP 88	750/5	0.5	2,5	1	1 / 20
458880	CP 88	800/5	0.5	3.75	1	1 / 20
458890	CP 88	1000/5	0.5	5	1	1 / 20



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



## INDUSTRIAL RELAYS AND BASES

### Documents corresponding to the product:

EN 60947-5-1;  
EN 61810

Devices intended for construction of automation and signalling boards. They are mainly used for command transfer towards the executive mechanisms. Currents of comparatively heavy values enabling the direct control of industrial executive mechanisms are commuted in comparatively small sizes. The contact surfaces are made from silver-coated electrolytic copper. The entire contact system is closed within a lid of colourless fire-proof plastic with a test-button installed to it. The base provides a safe electric connection of the conductors of the electric installation and the relays and is used to install the relay to the DIN busbar.

### TECHNICAL DATA

- Supply voltage: from 12 to 230V AC, 50 Hz and from 12 to 110V DC
- Acceptable deviation of the supply voltage: 85 -110% Un
- Rated current of the sockets: 10A AC
- Electrical endurance: 1 000 000 cycles
- Isolation resistance: 500 mΩ /min (500V)
- Impulse tension resistance: 2000V, 50Hz
- Dielectric strength: 1000V AC/1 min
- Turn-out time: 25ms
- Working temperature: -5 ÷ + 65°C
- Humidity: 35 - 85% RH indicator
- possibility for mounting of additional contacts (for the open type)
- remarkable with high reliability of current characteristics

### MOUNTING

- on a DIN rail by means of a socket



Catalogue number	Relay type	Voltage of the coil (V)	Socket type	Resistance of the coil (Ω)	Number of contacts	Packing/Box (pcs)
57141	ELM - 14FC	12 VDC	ELM-RT624-B	260	NO+NC	100/1000
57142	ELM - 14FC	24 VDC	ELM-RT624-B	1080	NO+NC	100/1000
57143	ELM - 14FC	48 VDC	ELM-RT624-B	4260	NO+NC	100/1000



Type ELM-90.2

Catalogue number	Relay type	Voltage of the coil (V)	Socket type	Resistance of the coil (Ω)	Number of contacts	Packing/Box (pcs)
57601N	ELM-90.2	12VDC	ELM-90.22	90	2NO+2NC	10/200
57602N	ELM - 90.2	24 VDC	ELM - 90.22	360	2NO+2NC	10/200
57603N	ELM - 90.2	48 VDC	ELM - 90.22	1440	2NO+2NC	10/200
57605N	ELM - 90.2	230 VAC	ELM - 90.22	6800	2NO+2NC	10/200
57606N	ELM-90.2	24VAC	ELM-90.22	72	2NO+2NC	10/200
57611N	ELM-90.3	12VDC	ELM-90.23	90	3NO+3NC	10/200
57612N	ELM - 90.03	24 VDC	ELM - 90.23	360	3NO+3NC	10/200
57613N	ELM - 90.03	48 VDC	ELM - 90.23	1440	3NO+3NC	10/200
57614N	ELM - 90.03	110 VAC	ELM - 90.23	1650	3NO+3NC	10/200
57615N	ELM-90.3	230 VAC	ELM-90.23	6800	3NO+3NC	10/200
57616N	ELM-90.3	24VAC	ELM-90.23	72	3NO+3NC	10/200



Type ELM-90.3

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



Type ELM-36.02



Type ELM-36.04

Catalogue number	Relay type	Voltage of the coil (V)	Socket type	Resistance of the coil (Ω)	Number of contacts	Packing/Box (pcs)
57521N	ELM-36.02	12VDC	ELM-RT702-B	60	2NO+2NC	20/500
57522N	ELM-36.02	24VDC	ELM-RT702-B	640	2NO+2NC	20/500
57523N	ELM-36.02	48 VDC	ELM-RT702-B	2560	2NO+2NC	20/500
57525N	ELM-36.02	230VAC	ELM-RT702-B	15000	2NO+2NC	20/500
57526N	ELM-36.02	24VAC	ELM-RT702-B	168	2NO+2NC	20/500
57541N	ELM-36.04	12VDC	ELM-RT704-B	160	4NO+4NC	20/500
57542N	ELM-36.04	24VDC	ELM-RT704-B	640	4NO+4NC	20/500
57543N	ELM-36.04	48 VDC	ELM-RT704-B	2560	4NO+4NC	20/500
57544N	ELM-36.04	110 VAC	ELM-RT704-B	4000	4NO+4NC	20/500
57545N	ELM-36.04	230 VAC	ELM-RT704-B	15000	4NO+4NC	20/500
57546N	ELM-36.04	24VAC	ELM-RT704-B	192	4NO+4NC	20/500



57901

57902  
57912

Catalogue number	Socket type	Dimensions (mm)	Number of terminals (pcs.)	Packing/Box (pcs)
57901	ELM - RT624-B	76 x 15	5	20 / 600
57902	ELM - RT702-B	76 x 27	11	10 / 240
57912	ELM - RT704-B	76 x 27	14	10 / 240
57904	ELM - 90.22	68 x 38	8	10 / 400
57905	ELM - 90.23	68 x 38	11	10 / 400



57904  
57905

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## INTERFACE RELAYS EL-14F-LS SERIES

### INTERFACE RELAYS EL-14F-LS SERIES

ELMARK interface relays provide reliable voltage conversion in control systems. Our relays ensure reliable signal switching and provide electrical isolation for sensitive electronics in all kinds of machinery in industry.

#### FEATURES

- Good response control
- Slim size
- With LED indicator
- With lockable test button and inspection window
- High rated load

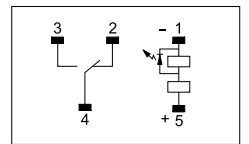
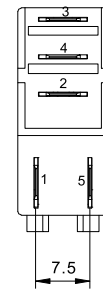
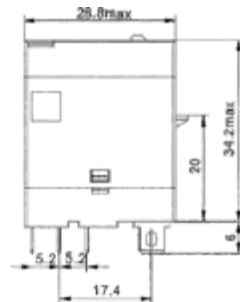
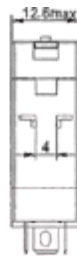
#### TECHNICAL DATA

- Rated load: 1Z-12A; 2Z-8A
- Rated voltage: 12V DC; 24V DC; 230V AC
- Insulation resistance:  $\leq 500M\Omega$
- Operating power: 0.53W/0.9VA
- Dielectric strength
  - > Between open contacts:  $\geq 1000V$  AC/1 min
  - > Between poles:  $\geq 1500V$  AC/1 min
  - > Between contact and coil:  $\geq 4000V$  AC/1 min
- Operate/ release time:  $\leq 15ms/15ms$
- Terminal type: Plug-in
- Contact material: AgSnO<sub>2</sub>
- Electrical life: 10<sup>5</sup> times
- Mechanical life: 10<sup>7</sup> times
- Size LxHxD: 28.8 x 34.2 x 12.6 mm



Type EL-14F-LS/ 1Z

Catalogue number	Relay type	Voltage of the coil (V)	Drop out voltage	Resistance of the coil ( $\Omega$ )	Socket type	Contact form	Packing/Box (pcs)
57100	EL-14F-LS	12V DC	1.2	270	EL05A-E	1Z	20/300
57101	EL-14F-LS	24V DC	2.4	1100	EL05A-E	1Z	20/300
57102	EL-14F-LS	230V AC	69.0	23000	EL05A-E	1Z	20/300

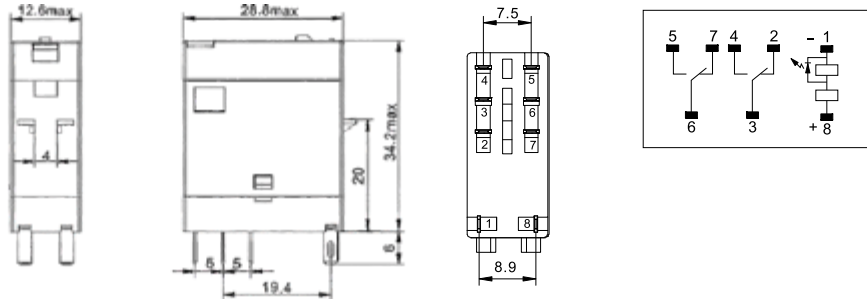


**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



Type EL-14F-LS/ 2Z

Catalogue number	Relay type	Voltage of the coil (V)	Drop out voltage	Resistance of the coil (Ω)	Socket type	Contact form	Packing/Box (pcs)
57103	EL-14F-LS	12V DC	1.2	270	EL08A-E	2Z	20/300
57104	EL-14F-LS	24V DC	2.4	1100	EL08A-E	2Z	20/300
57105	EL-14F-LS	230V AC	69.0	23000	EL08A-E	2Z	20/300



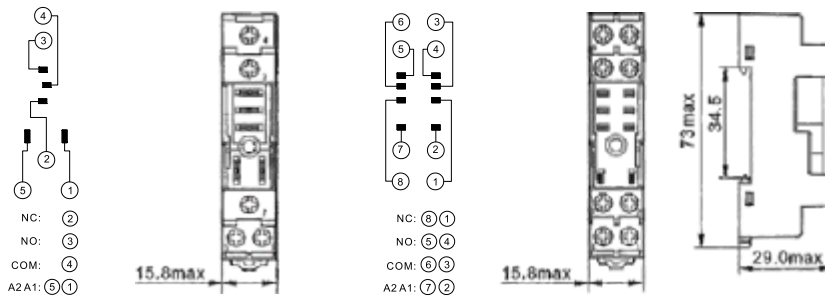
## BASES FOR INTERFACE RELAYS EL-14F-LS SERIES

### TECHNICAL DATA

- Rated load:
  - EL05A-E: 10A
  - EL08A-E: 16A
- Rated voltage: 300V AC
- Wire size: 0.5-2.5mm<sup>2</sup>
- Tightening torque: 0.8Nm



Catalogue number	Socket type	Dimensions (mm)	Number of terminals (pcs.)	Number of contacts	Packing/Box (pcs)
57106	EL05A-E	15.8x73x29	1NO+1NC	5	10/240
57107	EL08A-E	15.8x73x29	2NO+2NC	8	10/240



Type EL05A-E/ 5

Type EL05A-E/ 8

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

POWER RELAYS



EL-40F

**POWER RELAY TYPE EL-40FN, 40A**

Power relays are reliable problem solvers when it comes to switching high currents. They have an electromagnet to open or close a circuit when the input (coil) is correctly excited.

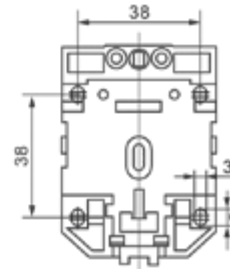
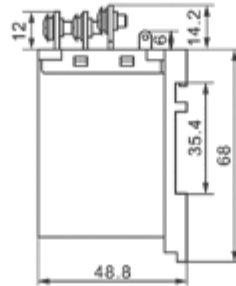
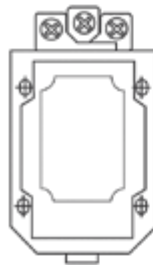
**FEATURES**

- Slim size.
- With LED indicator.
- Two type mounting: On DIN rail or quick screw connection.

**TECHNICAL DATA**

- Rated load: 40A.
- Rated voltage: 12V DC; 24V DC; 230V AC
- Insulation resistance:  $\leq 1000M\Omega$
- Dielectric strength
  - > Between open contacts:  $\geq 1200V AC/1 \text{ min}$
  - > Between contact and coil:  $\geq 2500V AC/1 \text{ min}$
- Operate/ release time:  $\leq 25ms/25ms$
- Contact material: AgSnO<sub>2</sub>
- Electrical life:  $10^5$  times
- Mechanical life:  $10^7$  times
- Size LxHxD: 40A: 48.8 x 68 x 48.8mm

Catalogue number	Relay type	Voltage of the coil (V)	Rated load (A)	Drop out voltage	Resistance of the coil ( $\Omega$ )	Contact form	Number of contacts	Packing/ Box (pcs)
57120	EL-40F	12V DC	40	1.2	72	1Z	1NO+1NC	20/300
57121	EL-40F	24V DC	40	2.4	288	1Z	1NO+1NC	20/300
57122	EL-40F	250V DC	40	72.0	19400 at 220V	1Z	1NO+1NC	20/300



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended





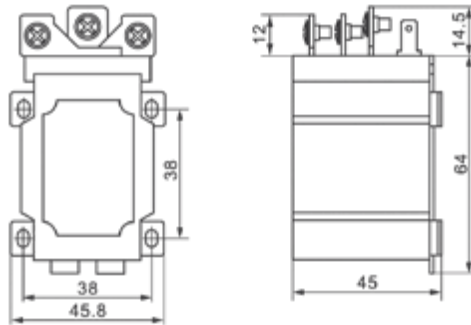
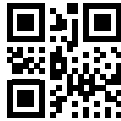
EL-60F

## POWER RELAY TYPE EL-60F, 60A

### TECHNICAL DATA

- Rated load: 60A.
- Rated voltage: 12V DC; 24V DC; 230V AC
- Insulation resistance:  $\leq 1000M\Omega$
- Dielectric strength
  - > Between open contacts:  $\geq 1200V AC/1 \text{ min}$
  - > Between contact and coil:  $\geq 2500V AC/1 \text{ min}$
- Operate/ release time:  $\leq 25ms/25ms$
- Contact material: AgSnO<sub>2</sub>
- Electrical life:  $10^5$  times
- Mechanical life:  $10^7$  times
- Size LxHxD: 45.8 x 64 x 45mm

Catalogue number	Relay type	Voltage of the coil (V)	Rated load (A)	Drop out voltage	Resistance of the coil ( $\Omega$ )	Contact form	Number of contacts	Packing/ Box (pcs)
57123	EL-60F	12V DC	60	1.2	72	1Z	1NO+1NC	20/300
57124	EL-60F	24V DC	60	2.4	288	1Z	1NO+1NC	20/300
57125	EL-60F	250V DC	60	72.0	19400 at 220V	1Z	1NO+1NC	20/300

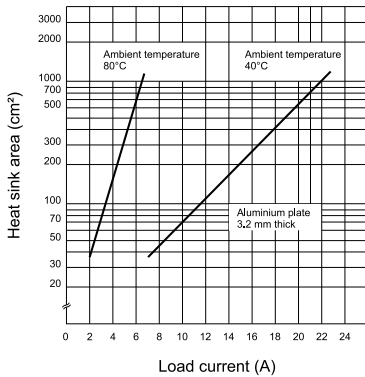


**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## INDUSTRIAL SOLID STATE RELAYS (SSR)

**Documents corresponding to the product:**

EN 60947-5-1;  
EN 61810



Industrial SSR are intended for mounting in power and control cabinets as an output switch devices with reliable ON/OFF performance. The SSR are based on the CMOS technology. The non-contact electronic switch is optically separated from the input signal by a photoelectric coupler. This allows use of switch currents of up to 50A despite of the devices small overall size. Another important feature of the relay is that output load can be regulated depending on the input signal value. The relay is mainly used to transmit control signals to actuating mechanisms since it can work at comparatively high currents making it possible to directly control actuators. SSR have transparent plastic covers to additionally improve their safety level. The SSR use is connected with considerable heat emissions, so measures must be taken to dispense the excessive thermal energy in the atmosphere. This is achieved through application of specially designed radiators. The correct definition of radiator parameters is of critical importance. It is made by calculating the heat generation capacity with the formula: Heat generation = active load current x 3.0 W/A. The heat removal surface is estimated with the help of the graphic:

**TECHNICAL DATA**

- Load/output voltage: 30/400V 50 Hz or the solid state voltage regulators
- Rated output current: from 10A to 60A
- Insulating voltage: 1000 MΩ /min (500V)
- Impulse voltage stability: 2000V, 50Hz
- Dielectric Strength: < 2500VAC / 1 min
- Leakage current: <2mA
- Turn-on time: <10ms
- Operating temperature: -5°C + 65°C
- Relative Humidity: 35 - 85%RH

*Note: The relay output must be supplied with a varistor to ensure its over-voltage protection, whenever RRS is used to control inductive loads.*

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



Catalogue number	Type	Relay Type	Control Voltage (V)	Output Voltage (V)	Number of phases	Output Current (A)	Packing/Box (pcs)
57710	ZG3NC - 2 - 10B	SSR	3-32VDC	230VAC	1	10	10 / 100
57720	ZG3NC - 2 - 20B	SSR	3-32VDC	230VAC	1	20	10 / 100
57725	ZG3NC - 2 - 25B	SSR	3-32VDC	230VAC	1	25	10 / 100
57740	ZG3NC - 2 - 40B	SSR	3-32VDC	230VAC	1	40	10 / 100
57760	ZG3NC - 2 - 60B	SSR	3-32VDC	230VAC	1	60	10 / 100
57713	ZG3NC - 3 - 10B	SSR	3-32VDC	400VAC	2	10	10 / 100
57723	ZG3NC - 3 - 20B	SSR	3-32VDC	400VAC	2	20	10 / 100
57735	ZG3NC - 3 - 25B	SSR	3-32VDC	400VAC	2	25	10 / 100
57743	ZG3NC - 3 - 40B	SSR	3-32VDC	400VAC	2	40	10 / 100
57763	ZG3NC - 3 - 60B	SSR	3-32VDC	400VAC	2	60	10 / 100



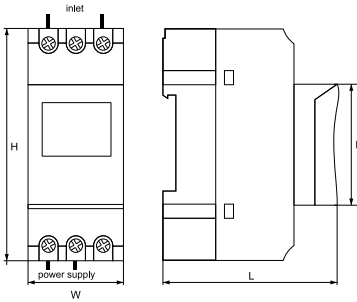
Catalogue number	Type	Relay Type	Control Voltage (V)	Output Voltage (V)	Number of phases	Output Current (A)	Packing/Box (pcs)
57831	ZG33 - 3 - 10B	SSR	3-32VDC	400VAC	3	10	1 / 30
57832	ZG33 - 3 - 20B	SSR	3-32VDC	400VAC	3	20	1 / 30
57833	ZG33 - 3 - 25B	SSR	3-32VDC	400VAC	3	25	1 / 30
57834	ZG 33 - 3 - 40B	SSR	3-32VDC	400VAC	3	40	1 / 30



## MEASUREMENT DEVICES

### Documents corresponding to the product:

Standard EN 61010-1



### DIGITAL VOLTMETER/AMPEREMETER EKDP 15 A/V

Digital device adjusted for DIN-rail mounting and offered in two types:

- Ampere meter
- Voltmeter

It is supplied with LCD display where the measurement quantity is displayed with numbers with 3 1/2 size. It has high accuracy of analogue-digital transfer, measurement precision and electromagnetic interference stability. There is possibility for adjustment of the measurement range through built in micro switches. Adjusted to measure constant current (AD,DV) and alternating current (AA,VA) quantities.

#### TECHNICAL DATA

- Power supply voltage: 100 - 240V; 50Hz
- Inlet signal:
  - > Operating as voltmeter: 2 – 700V (the range is adjusted from inside)
  - > Operating as ampere meter: 5 – 2000A (the range is adjusted from inside)
- Impulse voltage wear resistance: 4000V; 50Hz (1min)

- Consumption: <4VA
- Operating temperature: -5 ÷ +65°C
- Humidity: 35 – 85%RH
- Precision: 0.5% from the whole scale
- Display: LCD
- Weight: 150gr

#### MOUNTING

- DIN-rail

*Note: At current range over 5A a current measurement transformer should be used*

Catalogue number	Type	Dimensions (mm)				Packing/Box (pcs)
		H	W	L	D	
50117A	EKDP-15AA	88	36	64	45	1 / 100
50117D	EKDP-15DA	88	36	64	45	1 / 100
50116A	EKDP-15AV	88	36	64	45	1 / 100
50116D	EKDP-15DV	88	36	64	45	1 / 100

### DIN-RAIL SINGLE PHASE DIGITAL VOLTAGE METER, EL-V1/500R

Digital Voltmeter abbreviated as DVM is an instrument used to measure the electrical potential difference between two points in a circuit.

It measures the input voltage after converting the analog voltage to digital voltage and displays it in number format using a converter.

#### FEATURES

- You do not have to figure out the readings manually to get the voltage, ohm or ampere reading unlike the analogue voltmeters.
- Digital voltmeters provide a precise and computer-generated reading on the screen which eliminates the errors that might occur in the case of human reading.
- They provide accurate and fast readings when compared to the readings extracted from an analogue voltmeter.
- Digital voltmeters do not require you to make calculations and are more stable, dependable and reliable.
- Digital voltmeters provide accurate results and do not depend on the competency of the readers as in the case of reading analogue voltmeter.
- Digital voltmeters are cost-effective and smaller in size, which makes them easy to handle and use.

#### TECHNICAL DATA:

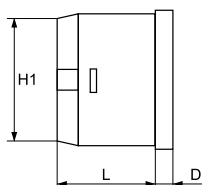
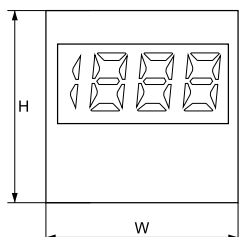
- Measurement voltage range: 80-500V AC
- Terminal for wiring: Single phase L+N
- Rated frequency: 50/60Hz
- Working current: ≤20mA
- Measuring accuracy: 1
- Measuring rate: >200MS/time
- IP Code: IP20
- Electrical Life: ≥15000 hours
- Digital colour: Red
- Working temperature: from -5° to 40°C
- Air relative humidity: 10-80% (no condensation)
- Work pressure: 80-160 kPa
- Terminal for wiring: 1.5mm<sup>2</sup>
- Mounting: On DIN rail EN60715(35mm) by means of fast clip device
- Dimensions (LxWxH): 18x66x81 mm



Catalogue number	Type	Range	Phase	Packing / Box (pcs)
50143	Voltmeter	80-500V AC	Single	1/100

**Documents corresponding to the product:**

Standard EN 61010-1



## DIGITAL VOLTMETER/ AMPERE METER AND FREQUENCY METER EKDP7

Digital device adjusted for mounting on the front panel of electrical boards and offered in the following types:

- Ampere meter: EKDP7 – AA – ampere meter for alternating current
- EKDP7 – DA – ampere meter for direct current
- Voltmeter: EKDP7 – AV – voltmeter for alternating current
- EKDP7 – DV – voltmeter for direct current
- Frequency meter: EKDP7 – Hz – frequency meter

**TECHNICAL DATA**

- Power supply voltage: 100 - 240V; 50Hz
- Inlet signal:
  - > Operating as voltmeter: 2 – 700V (the range is adjusted from inside)
  - > Operating as ampere meter: 5 – 2000A (the range is adjusted from inside)
- Consumption: <5A
- Impulse voltage wear resistance: 4000V; 50Hz

It is supplied with LCD display where the measurement quantity is displayed with numbers with 31/2 size. It has high accuracy of analogue-digital transfer, measurement precision and electromagnetic interference stability. There is possibility for adjustment of the measurement range through built in micro switches. Adjusted to measure direct current and alternating current quantities.

(1min)

- Operating temperature: -5 ÷ +65°C
- Humidity: 35 – 85%RH
- Precision: 0.5% from the whole scale
- Display: LCD
- Weight: 130gr

**MOUNTING**

- On the front pane

*Note: For high current range a current measurement transformer should be used for alternating current device and a measurement shunt for direct current.*

Catalogue number	Type	Dimensions (mm)					Packing/Box (pcs)
		H	W	H1	D	L	
50106	EKDP7-AV	72	72	68	6	42	1/84
50107	EKDP7-AA	72	72	68	6	42	1/84
50108	EKDP7-DV	72	72	68	6	42	1/84
50109	EKDP7-DA	72	72	68	6	42	1/84
50110	EKDP7-HZ	72	72	68	6	42	1/84



## POWER METER WITH LCD DISPLAY

**TECHNICAL DATA**

- Rated voltage: 230V AC
- Frequency: 50Hz
- Battery: 3.6V NI-MH, rechargeable
- Max.load: 16A, 3680W
- Measure accuracy: ±2%
- Socket type: German
- Size: 62 x 130 x 77mm

**MEASUREMENT FUNCTIONS**

- Power (W)
- Energy (KWh)
- Voltage (V)
- Current (A)
- Frequency (Hz)
- Power factor (cos φ)
- Electricity consumption monitoring



Catalogue number	Type	Max. load	Phase	Socket type	Packing / Box (pcs)
50144	Power meter	16A/3680W	Single	German	1



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

### DIGITAL ROUND VOLTMETER/ AMPERE METER AND FREQUENCY METER EL-ED16R



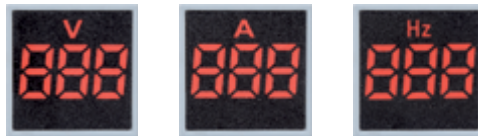
Catalogue number	Type	Range	Diameter (mm)	Packing / Box (pcs)
401553	Voltmeter	12-500V AC	22	10/500
401554	Ampere meter	0-100A	22	10/500
401555	Frequency meter	35-99 HZ	22	10/500



### DIGITAL SQUARE VOLTMETER/ AMPERE METER AND FREQUENCY METER EL-ED16S



Catalogue number	Type	Range	Diameter (mm)	Packing/ Box (pcs)
401556	Voltmeter	12-500V AC	22	10/500
401557	Ampere meter	0-100A	22	10/500
401558	Frequency meter	35-99 HZ	22	10/500



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## DIN RAIL MOUNTED KWH METERS

**Documents corresponding to the product:**

Standard IEC 62052-11; IEC 62053-21; IEC 62056-21

Electronic single and three phase kWh meters intended for DIN rail mounting and active energy measurement. Meters are suitable for home and commercial applications. They perform direct measurement of the real consumption of electric power and the results are shown on the LCD display. The system doesn't need any additional adjustment or calibration. The range includes single and multi-tariff models.



Catalogue number	Type	Measuring range	Number of Tariffs	Meter constant (imp/kWh)	Voltage (V)	Overall dimensions H/W/D (mm)	Packing/Box (pcs)
50213	EL-45SA	5A(40A)	1	2000	230	116 /18/ 59	1/10



Catalogue number	Type	Measuring range	Number of Tariffs	Meter constant (imp/kWh)	Voltage (V)	Overall dimensions H/W/D (mm)	Packing/Box (pcs)
50216	EL-100SA-U	10A(100A)	1	1600	230	100 /76/ 65	1/60



Catalogue number	Type	Measuring range	Number of Tariffs	Meter constant (imp/kWh)	Voltage (V)	Overall dimensions H/W/D (mm)	Packing/Box (pcs)
50217	EL-024	3x20A (100A)	1	400	3x220/380	100/76/65	1/60



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



## SINGLE PHASE MULTI TARIFF ELECTRIC/ENERGY METER 10(80)A, ADL200

ADL200 single-phase electric meter is designed for single-phase energy measurement on low voltage system. The meter meets the related technical requirements of electronic meter in the IEC62053-21, IEC62053-22 standards.



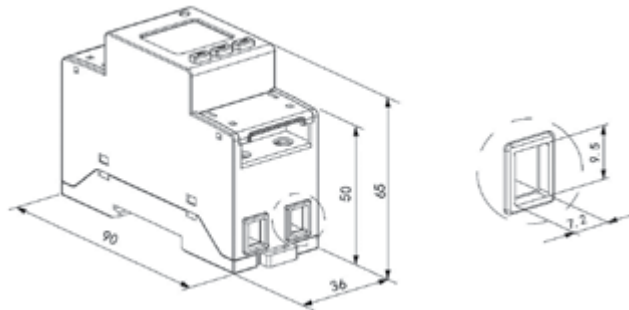
### FUNCTIONS

- Measurement:
  - > kWh,
  - > Voltage,
  - > Current;
  - > Active power;
  - > Reactive power;
  - > Apparent power;
  - > Power factor;
  - > Frequency
- LED display: 8 bits section
- Communication interface: RS485
- Communication protocol: MODBUS-RTU

### TECHNICAL DATA

- Rated voltage: 220-264 V AC / 50Hz
- Nominal input current: 10A
- Maximum current: 80A
- Power consumption: <10VA
- Measuring accuracy: Class 1
- Tariff numbers: 4
- Measuring range: 000000.00~999999.99kWh
- Size LxWxH: 36x90x65mm
- Working temperature: -25°C~55°C
- Relative humidity: ≤95% ( No condensation)
- Altitude: up to 2500m
- Brand: Acrel

Catalogue number	Type	Measuring range	Voltage (V)	Overall dimensions (mm)			Packing/Box (pcs)
				L	W	H	
50219	ADL200	10A(80A)	154-264V AC	36	90	65	1/36



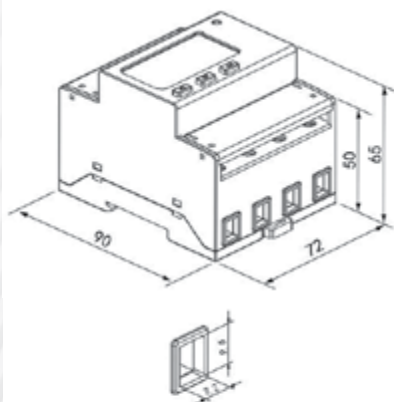
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## THREE PHASE MULTI TARIFF ELECTRIC ENERGY METER 10(80)A, ADL400

ADL400 is a smart meter designed for power supply system, industrial and mining enterprises and utilities to calculate the electricity consumption and manage the electric demand. It features the high precision, small size and simple installation. It integrates the measurement of all electrical parameters with the comprehensive electricity metering and management provides various data on previous 48 months, checks the 31st harmonic content and the total harmonic content. It is fitted with RS485 communication port and adapted to MODBUS-RTU. ADL400 can be used in all kinds of control systems, SCADA systems and energy management systems.

### FUNCTIONS

- Measurement of electrical parameters: kWh; voltage; current; active power ( positive and negative); reactive power ( positive and negative); apparent power; power factor and frequency
- Measurement of harmonics: 2-31st voltage and current harmonic
- Number of tariffs: 4
- LED display: 12 bits section
- Key programming: 3keys to communication and set parameters
- Multi-tariff and functions: adapt 4 time zones, 2 time interval list, 14 time interval by day and 4 tariff rates
- Max. demand and occurrence time
- Frozen data on last 48 months, last 90 days
- Communication interface: RS485
- Communication protocol: MODBUS-RTU



### TECHNICAL DATA

- Rated voltage: 3x100V; 3x380V; 3x57.7/100V; 3x220/380V
- Frequency: 45-65Hz, error±0.2%
- Nominal input current: 3x1(6)A; 3x10(80)A
- Power consumption: < 1VA Single phase rated current
- Energy pulse output: 1 active photocoupler output
- kWh Class: 0.5
- Accuracy class: Error±0.2%
- Time error: ≤0.5s/d
- Width of pulse: 80±20ms
- Pulse constant: 400imp/kWh, 10000imp/kWh (Correspond with the basic current)
- Range of communication address: Modbus-RTU: 1~247
- Baud rate: 1200~19200bps
- Size LxWxH: 72x65x90 mm
- Working temperature: -25°C~55°C
- Relative humidity: ≤95% ( No condensation)
- Altitude: up to 2500m
- Brand: Acrel



Catalogue number	Type	Measuring range	Voltage (V)	Overall dimensions (mm)			Packing/Box (pcs)
				L	W	H	
50212	ADL400	3x1(6)A / 3x10(80)A	3x220/380V	72	65	90	1/36

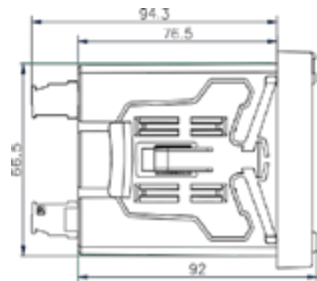
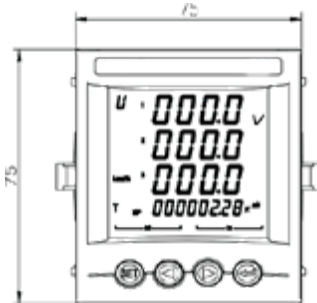


**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## MULTI FUNCTIONAL/TARIFF PROGRAMMABLE METER AMC96L-E4/KC FOR BUILD-IN MOUNTING

AMC series AC multi-function meter is commonly found in larger homes and businesses, our Three Phase Panel Meter is a three-phase power meter with a data logger function for real-time and long-term three-phase power measurement of currents. It integrates the measurement of power parameters as well as power monitoring and evaluation management in one unit. When it is installed in your home, the power consumed in your home remains the same and it can be used with smaller and cheaper wiring systems for stable monitoring in environments with lower voltages. It is therefore widely used in power systems, industrial and mining enterprises, intelligent buildings, and other areas with power monitoring needs.

Programmable meter AMC96L-E4/KC also have a wide range of peripheral interface functions, allowing you to choose your own according to your needs. They are also designed with switching inputs and relay outputs for easy remote control of circuit breakers, making them very easy to use. The product meets the related technical requirements of electronic power meter in the IEC62053-21, IEC62053-22 standards.



### FUNCTIONS

- Measurement of electrical parameters: kWh, voltage, current; active power ( positive and negative); reactive power ( positive and negative); apparent power; power factor and frequency
- Measurement of harmonics: 2-31st voltage and current harmonic
- Number of tariffs: 4
- True RMS Measurements
- Max/Min Log with Timestamp
- 12 bits section LSD display
- Internal Optional 4DI&2DO or 2DI&2DO&2AO
- Standard one Energy Pulse Output
- Communication interface: RS485
- Communication protocol: MODBUS-RTU

### TECHNICAL DATA

- Rated input voltage:
  - > Single phase AC 100V; 400V AC
  - > Three phases: AC 3x57.7V/100V(100V); 3x220V/380V(400V); 3x380V/660V(660V) (96 size only)
  - > 72 profile not suitable for high voltage applications
- Connection:
  - > Single phase: 2-wire
  - > Three phases: 3 and 4-wire
- Input Frequency: 45-65Hz
- Switching input: Dry contact input, built-in power supply
- Nominal input current: 1A; 5A
- Power consumption: < 0.5VA
- Insulation resistance: Input, output end to machine enclosure >100MΩ
- kWh Class: 0.5
- Accuracy: Class 0.5
- Analog output: 1-5V, 4-20mA
- Pulse constant: 10000imp/kWh(settable)
- Communication: R S485port, Modbus -RTU protocol, DLT645 protocol (versions 07 and 97)
- Baud rate: 1200 ~ 38400 bps
- Housing size WxHxD: 90x90x77.8mm
- Faceplate size WxHxD: 96x96x90mm
- Cut-out size WxH: 92x92mm
- Working temperature: -25°C~65°C
- Relative humidity: ≤93% (No condensation)
- Altitude: up to 2000m
- Brand: Acrel



Catalogue number	Type	Input current (A)	Input voltage (V)	Housing size (mm)			Packing/Box (pcs)
				W	H	D	
50218	AMC96L-E4/KC	5	100/400/660	90	90	77.8	1/74



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## SINGLE PHASE PREPAID AND POST-PAID ENERGY METER 10(60)A, ADL100-EYZ/F



ADL100-EYZ/F is single phase pre-paid meters with intro-control is used for calculating the single phase active energy. The multi-tariff meter has functions of pre-paid, load controlling and RS485 communication meet the related technical requirements of electronic power meter in the IEC62053-21, IEC62053-22 standards.

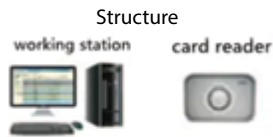
**CONTROL:** with ACREL-RFMS

### FUNCTIONS

- Measurement of electrical parameters: kWh; voltage; current; active power ( positive and negative); reactive power ( positive and negative); apparent power; power factor and frequency
- Pre-paid mode: Through RS485 communication prepaid recharge, data encryption.
- Power input type: IC card
- Number of tariffs: 4 tariff rates, 14 time interval by day
- LED display: 8 bits section
- Control: Built-in high-capacity sub-holding relay to achieve load on-off control
- Communication interface: RS485
- Communication protocol: MODBUS-RTU

### TECHNICAL DATA

- Rated voltage: 220V
- Frequency: 45-65Hz
- Nominal input current: 10(60)A
- Power consumption: < 4VA
- kWh Class: 1
- Clock accuracy: Error ≤ 0.5s/d
- Width of pulse: 80±20ms
- Pulse constant: 1600imp/kWh
- Communication interface: RS485(A+, B-)
- Pre-paid system application: ACREL-RFMS
- Size LxWxH: 72x70x88 mm
- Working temperature: from -25 to 55°C
- Relative humidity: ≤95%



ACREL-RFMS  
No recharging device



Scan and watch detailed video with all product functions.



### OPERATE DETAILS

The power is input into the meter through RF card. When the available power in the meter decreases to zero, the meter will automatically cut off the power supply. Only after the new available power is input through the RF card, the meter can resume power supply. After the user pays each time, the computer system of the power supply management department can calculate the value of the available electricity that should be recharged to the electricity meter this time according to the user's zero-crossing electricity and the remaining available electricity in the current electricity meter.

- Each end user will have an RF card, that RF card will be used for charging and depositing.
- After finishing the re-charging, the end-user or managers need to use an RF card to touch KWH meter.
- Prepaid meter electricity price can be set by RF card. Officer can record the electricity price and multi-tariff price inside the RF card. Once the RF card touches the KWH meter itself, this information will be recorded into the prepaid meter.

### RF CARD FUNCTIONS

RF cards will not only be used for end-user but also will be used for managers. Managers can use one blank RF card and give that card a specified function by the Acrel-RFMS system. The most common functions are:

- Charging & Deposit
- Replacement for the Lost card
- Energy Consumption Reset
- Forced opening and closing circuit

Catalogue number	Type	Input current	Input voltage (V)	Dimensions (mm)			Packing/Box (pcs)
				L	W	H	
50222	ADL100-EYZ/F	10A(60A)	154-264V AC	72	70	88	1/84

### ACCESSORIES:

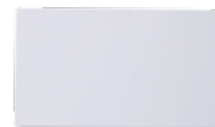
RF CARD READER FOR PREPAID AND POST-PAID KWH METERS



Catalogue number:  
50225

NOTE: Comes with 1.5m length USB cable

RF CARD



Catalogue number:  
50224

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## THREE PHASE PREPAID AND POST-PAID ENERGY METER 10(80) A, ADL300-EYZ/F



ADL300-EYZ/F is three phase pre-paid meters with intro-control is used for calculating the three phase active energy. The multi-tariff meter has functions of pre-paid, load controlling and RS485 communication meet the related technical requirements of electronic power meter in the IEC62053-21, IEC62053-22 standards.

**CONTROL:** with ACREL-RFMS

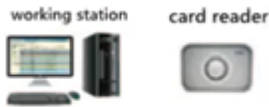
### FUNCTIONS

- Measurement of electrical parameters: kWh; voltage; current; active power ( positive and negative); reactive power ( positive and negative); apparent power; power factor and frequency
- Pre-paid mode: Through RS485 communication prepaid recharge, data encryption.
- Power input type: IC card
- Number of tariffs: 4 tariff rates, 14 time interval by day
- LED display: 8 bits section
- Control: Built-in high-capacity sub-holding relay to achieve load on-off control
- Communication interface: RS485
- Communication protocol: MODBUS-RTU

### TECHNICAL DATA

- Rated voltage: 3x220/380V- 465V AC
- Frequency: 45-65Hz
- Nominal input current: 10(80)A
- Power consumption: < 4VA
- kWh Class: 1
- Clock accuracy: Error ≤ 0.5s/d
- Width of pulse: 80±20ms
- Pulse constant: 6400imp/kWh, 400 imp/kWh
- Communication interface: RS485(A+, B-)
- Pre-paid system application: ACREL-RFMS
- Size LxWxH: 144x70x88 mm
- Working temperature: from -25 to 55°C
- Relative humidity: ≤95%

### Structure



ACREL-RFMS  
No recharging device



### OPERATE DETAILS

The power is input into the meter through RF card. When the available power in the meter decreases to zero, the meter will automatically cut off the power supply. Only after the new available power is input through the RF card, the meter can resume power supply.

After the user pays each time, the computer system of the power supply management department can calculate the value of the available electricity that should be recharged to the electricity meter this time according to the user's zero-crossing electricity and the remaining available electricity in the current electricity meter.

- Each end user will have an RF card, that RF card will be used for charging and depositing.
- After finishing the re-charging, the end-user or managers need to use an RF card to touch KWH meter.
- Prepaid meter electricity price can be set by RF card. Officer can record the electricity price and multi-tariff price inside the RF card. Once the RF card touches the KWH meter itself, this information will be recorded into the prepaid meter.

### RF CARD FUNCTIONS

RF cards will not only be used for end-user but also will be used for managers. Managers can use one blank RF card and give that card a specified function by the Acrel-RFMS system. The most common functions are:

- Charging & Deposit
- Replacement for the Lost card
- Energy Consumption Reset
- Forced opening and closing circuit

Scan and watch detailed video with all product functions.



Catalogue number	Type	Input current	Input voltage (V)	Dimensions (mm)			Packing/Box (pcs)
				L	W	H	
50223	ADL300-EYZ/F	10A(80A)	3x220/380V	144	70	88	1/84

### ACCESSORIES:

RF CARD READER FOR PREPAID AND POST-PAID KWH METERS



Catalogue number:  
50225

RF CARD



Catalogue number:  
50224

NOTE: Comes with 1.5m length USB cable

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



## ANALOGUE (POINTER) PANEL METERS SD72 TYPE FOR BUILD-IN

**Documents corresponding to the product:**

Standard EN 60051-1

Analogue devices adjusted for mounting on the front panel of electrical boards. Designed for frequency measurement, capacity, alternating or direct voltage and current of the power supply grid, with overall dimensions 72x72mm. They are manufactured based on bridge measurement schemes. There is possibility for display change for the higher scopes of measuring.



### ANALOGUE AMPERE METER

Catalogue number	Type	Type of the measurement system	Precision class	Range	Note	Packing/Box (pcs)
654010	Ampere meter AC	MEMSI	1.5	0-100A	Current transfer 100/5	1/100
654020	Ampere meter AC	MEMSI	1.5	0-200A	Current transfer 200/5	1/100
654040	Ampere meter AC	MEMSI	1.5	0-400A	Current transfer 400/5	1/50
654060	Ampere meter AC	MEMSI	1.5	0-600A	Current transfer 600/5	1/50
654100	Ampere meter AC	MEMSI	1.5	0-1000A	Current transfer 1000/5	1/50
654150	Ampere meter AC	MEMSI	1.5	0-1500A	Current transfer 1500/5	1/50
50128	Ampere meter DC	MEMC	1.5	0-5A	-	1/50
50129	Ampere meter DC	MEMC	1.5	0-50A	Outer resistor 60mV	1/50

Note: MEMSI - magnetic-electrical movable steel instrument;  
MEMC - magnetic-electrical movable coil



### ANALOGUE VOLTMETER

Catalogue number	Type	Type of the measurement system	Precision class	Range	Packing/Box (pcs)
50125	Voltmeter AC*	MEMSI	1.5	0-500V	1/50
50130	Voltmeter DC	MEMC	1.5	0-50V	1/50
50131	Voltmeter DC	MEMC	1.5	0-100V	1/20

\* Possibility for supplying with voltage transformer X/100V for range expanding

Note: MEMSI - magnetic-electrical movable steel instrument;  
MEMC - magnetic-electrical movable coil



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



### ANALOGUE FREQUENCY METER



Catalogue number	Type	Type of the measurement system	Precision class	Range	Packing/Box (pcs)
50126	Frequency meter**	ME	0.5	45-65Hz	1/50

\*\* Possibility for voltage 110V, 230V , 400V

Note: MEMSI - magnetic-electrical movable steel instrument;  
MEMC - magnetic-electrical movable coil



### ANALOGUE COSΦ METER



Catalogue number	Type	Type of the measurement system	Precision class	Range	Packing/Box (pcs)
50127	Cosφ meter	MEMSI	1.5	3P 400V	1/50

Note: MEMSI - magnetic-electrical movable steel instrument;  
MEMC - magnetic-electrical movable coil



### ANALOGUE WATT METER



Catalogue number	Type	Type of the measurement system	Precision class	Range	Packing/Box (pcs)
50132	Watt meter	MEMSI	1.5	0-3000W 1P240V	1/25
50133	Watt meter	MEMSI	1.5	0-3000W 3P 3 line	1/25
50134	Watt meter	MEMSI	1.5	0-3000W 3P 4 line	1/25

Note: MEMSI - magnetic-electrical movable steel instrument;  
MEMC - magnetic-electrical movable coil



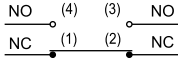
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## ALL-PURPOSE LIMIT SWITCH – SERIES CSA-XXX

**Product conformity documentation:**

Standard: EN 60947-1;  
EN 60947-5-1

Type of contact system



The all-purpose limit switches are devices used in automatic systems as a control element. They are used for setting of gearing limits. They are mounted on transport lines, conveyors and other linear progressive motion machines. They feature a vibration-resistant metal shell.

**TECHNICAL DATA**

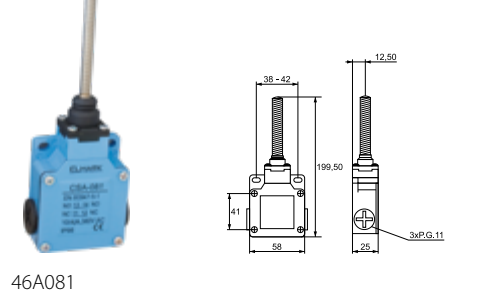
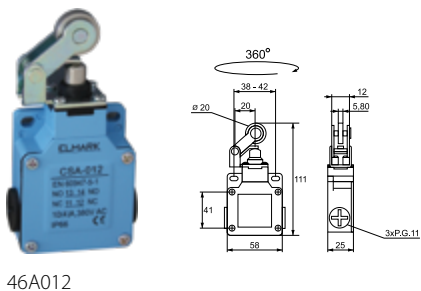
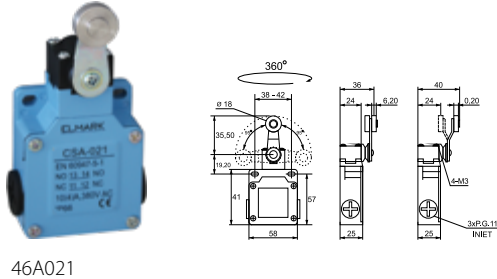
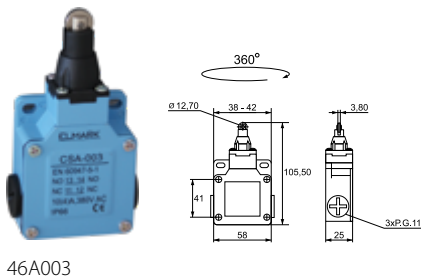
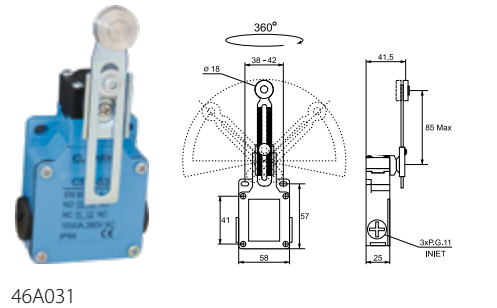
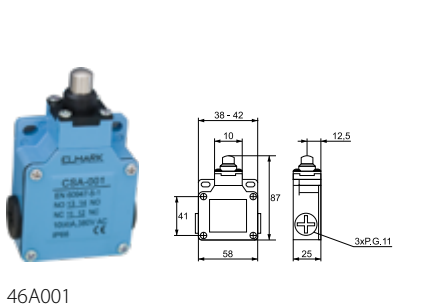
- Dielectric strength: 1000V AC
- Rated current: 10A active; 4A inductive
- Insulating resistance: 100mΩ
- Electrical endurance (number of cycles): 500 000 with active load
- Mechanical endurance (number of cycles): 1 000 000

- Gearing speed: 5mm/s to 0.5 m/s
- Rated voltage: 230V
- Rated current: up to 10A
- IP code: IP66
- Cable input: cable gland PG11
- Section of power supply conductor: up to 2mm<sup>2</sup>
- Fastening strength of terminals: 6-8kgf/cm

Catalogue number	Type	Type of the head	Power of starting (g)	Power of release (g)	Switching position	General movement	Packing/Box (pcs)
46A001	CSA - 001	Metal cylinder	800	400	2.0mm	5.8mm	10/90
46A003	CSA - 003	Cylinder with metal roll	800	400	2.0mm	5.8mm	10/90
46A012	CSA - 012	Horizontal lever with metal roll	800	400	2.0mm	5.8mm	10/90
46A031	CSA - 031	Adjustable lever with metal roll	400	100	22.5°	95°	10/80
46A021	CSA - 021	Lever with metal roll	400	100	22.5°	95°	10/80
46A081	CSA - 081	Spring lever	150	50	22.5°	50mm	10/80



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended

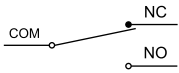


## ALL-PURPOSE LIMIT SWITCH – SERIES TZ-6XXX

### Product conformity documentation:

Standard: EN 60947-1;  
EN 60947-5-1

Type of contact system



The all-purpose limit switches are installed on transport lines, conveyors and other linear progressive motion machines. The miniature limit switch is mounted in an aluminium shell, resistant to vibrations, lubricants and water.

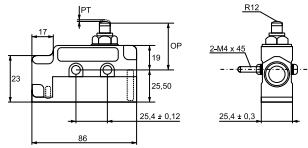
### TECHNICAL DATA

- Dielectric strength: 1000V AC
- Rated current: 15A active; 5A inductive
- Insulating resistance: 100mΩ
- Contact resistance: 15mΩ
- Electrical endurance (number of cycles): 500 000 with active load
- Mechanical endurance (number of cycles): 10 000 000
- Gearing speed: 0.1mm/s to 0.5 m/s
- Rated voltage: 230V
- IP code: IP65
- Cable input: cable gland PG11
- Section of power supply conductor: up to 1.5mm<sup>2</sup>

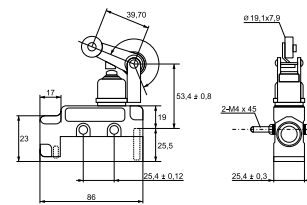
Catalogue number	Type	Type of the head	Power of starting (g)	Power of release (g)	Switching position	General movement	Packing/Box (pcs)
466001	TZ-6001	Metal cylinder	350	115	0.5mm	5.5mm	1/50
466101	TZ-6101	Oil-resistant metal cylinder	800	240	2mm	5mm	1/50
466102	TZ-6102	Oil-resistant cylinder with metal roll	500	100	1mm	3.5mm	1/50
466104	TZ-6104	Oil-resistant horizontal lever with metal roll	640	230	5mm	6mm	1/50
466143	TZ-6143	Oil-resistant vertical lever with metal roll	640	230	5mm	6mm	1/50
466106	TZ-6106	Spring lever	150	-	20°	-	1/50



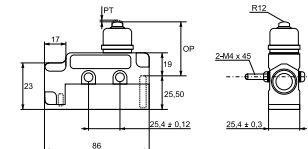
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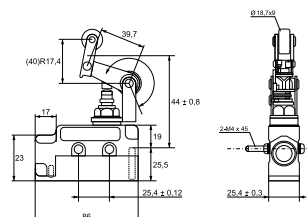
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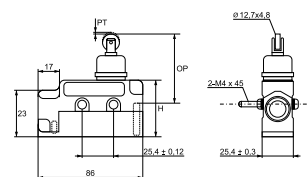
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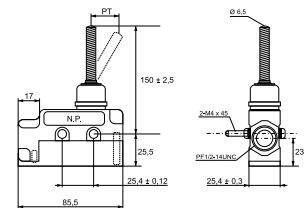
466143



466102



466106



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended



## UNIVERSAL LIMIT SWITCH – SERIES CM-1XXX

**Product conformity documentation:**

Standard: EN 60947-1;  
EN 60947-5-1

Limit switches of the CM series are used mainly as replacement of the limit switches of the TZ series or for setting the movement limits of some types of equipment. The switches are supplied with screw cable terminals. They can work at resistance loads as high as 15A, and are of single circuit type. Limit switches have high accuracy and can operate at wide variety of speeds.

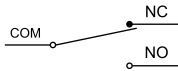
**TECHNICAL DATA**

- Dielectric Strength: 1000V AC
- Rated current: 15A active; 5A inductive
- Insulation Resistance: 100mΩ min. (at 500VDC)
- Contact Resistance: 5mΩ
- Electrical Life (No. of cycles): 500 000 with non-inductive load
- Mechanical Life (No. of cycles): 5 000 000
- Operating frequency: 20 electrical operations/

minute

- Operating speed: 0.1mm/s to 1.0m/s
- Rated voltage: 230V
- IP code: IP40
- Fastening strength of terminals: 6-8kgf/cm

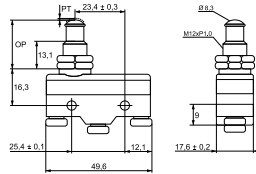
Type of contact system



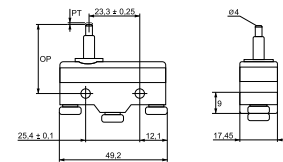
Catalogue number	Type	Type of the head	Power of starting (g)	Power of release (g)	Switching position	General movement	Packing/Box (pcs)
468105	CM -1307	Metal cylinder	350	114	0.4mm	5.5mm	1/480
468106	CM -1309	Cylinder and transverse metal roll	350	114	0.4mm	5.5mm	1/480
468109	CM -1308	Cylinder longitudinal metal roll	350	114	0.4mm	5.5mm	1/480
468110	CM -1305	Metal cylinder	350	114	0.4mm	1.6mm	1/480
468113	CM -1703	Extended metal roll	160	22	7.1mm	1.02mm	1/480
468117	CM -1705	Spring lever	10	3	20mm	5.6mm	1/480



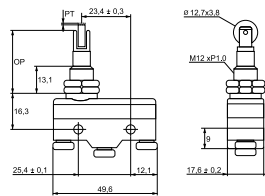
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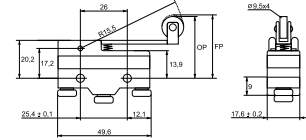
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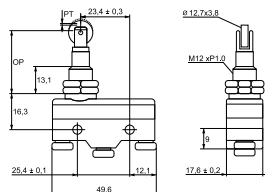
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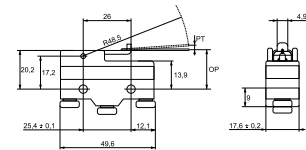
468113



468109



468117



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended

## ALL-PURPOSE LIMIT SWITCH – SERIES TZ-8XXX

**Product conformity documentation:**

Standard: EN 60947-1;  
EN 60947-5-1

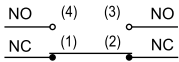
The all-purpose limit switches are devices used for setting gearing limits. They are mounted on transport lines, conveyors and other linear progressive motion machines. They have small dimensions and a vibration-resistant metal shell with plastic lid, resistant to oil and water.

**TECHNICAL DATA**

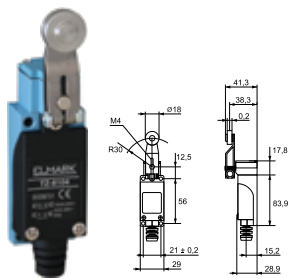
- Dielectric strength: 1000V AC
- Rated current: 5A active; 3A inductive
- Insulating resistance: 100MΩ
- Contact Resistance: 25mΩ
- Electrical endurance (number of cycles): 500 000 with active load
- Mechanical endurance (number of cycles): 5 000 000

- Gearing speed: 5mm/s to 0.5 m/s
- Rated voltage: 230V
- IP code: IP65
- Cable input: cable gland PG11
- Section of power supply conductor: up to 2mm
- Fastening strength of terminals: 6-8kgf/cm

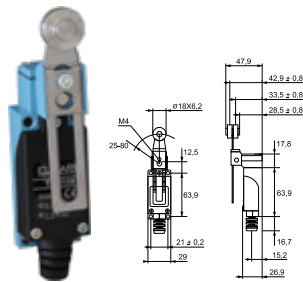
Type of contact system



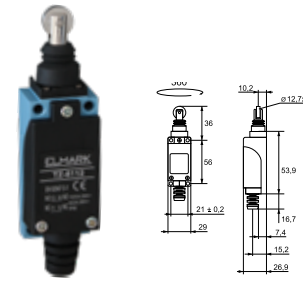
Catalogue number	Type	Type of the head	Power of starting (g)	Power of release (g)	Switching position	General movement	Packing/Box (pcs)
468104	TZ -8104	Lever with metal roll	750	100	20°	50°	10/100
468108	TZ -8108	Adjustable lever with metal roll	750	100	20°	50°	10/100
468112	TZ -8112	Cylinder with metal roll	900	150	1.5mm	4.0mm	10/100
468111	TZ -8111	Metal cylinder	900	150	1.5mm	4.0mm	10/100
468107	TZ -8107	Metal rod	750	100	20°	50°	10/100
468167	TZ -8167	Spring lever	150	-	30mm	-	10/100



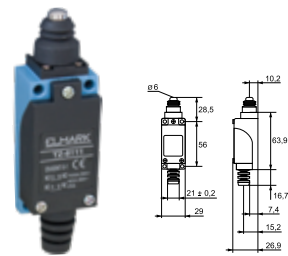
468104



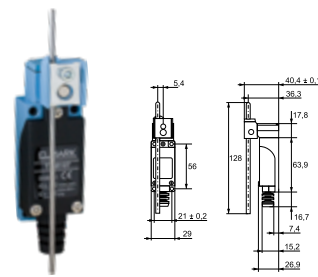
468108



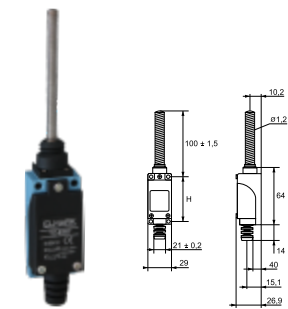
468112



468111



468107



468167

**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended



## ALL-PURPOSE LIMIT SWITCH – SERIES CWL-XXX

**Product conformity documentation:**

Standard: EN 60947-1;  
EN 60947-5-1

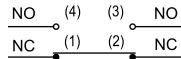
The all-purpose limit switches are devices used for setting gearing limits. They are mounted on transport lines, conveyors and other linear progressive motion machines. They have aluminium shell of high mechanic strength and resistance to oil, water and pressure.

**TECHNICAL DATA**

- Dielectric strength: 1000V AC
- Rated current: 10A active; 3A inductive
- Insulating resistance: 100mΩ
- Contact resistance: 15mΩ
- Electrical endurance (number of cycles): 500 000 with active load
- Mechanical endurance (number of cycles): 10 000 000

- Gearing speed: 1mm/s to 2 m/s
- Rated voltage: 230V
- IP code: IP66
- Cable input: cable gland
- Metal shell
- Vibration-resistant

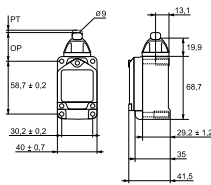
Type of contact system



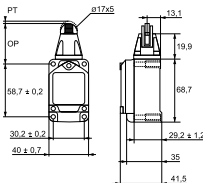
Catalogue number	Type	Type of the head	Power of starting (g)	Power of release (g)	Switching position	General movement	Packing/Box (pcs)
46LD	CWLD	Metal cylinder	2720	910	2.0mm	6.4mm	1 / 50
46LD2	CWLD2	Cylinder with metal roll	2720	910	2.0mm	5.6mm	1 / 50
46LCA2-2	CWLCA2-2	Lever with metal roll	1360	227	20°	50°	1 / 50
46LCA12-2Q	CWLCA12-2-Q	Adjustable lever with metal roll	2720	910	20°	50°	1 / 50
46LCA32-41	CWCA32-41	Fork	1200	-	55°	90±10°	1 / 50
46LNJ	CWLNJ	Oil-resistant spring lever	150	-	28mm	90±10°	1 / 50
46LCL	CWLCL	Metal rod	142	28	20°	50°	1 / 50



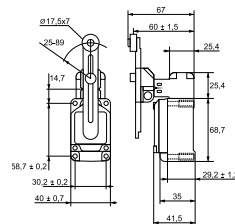
46LD



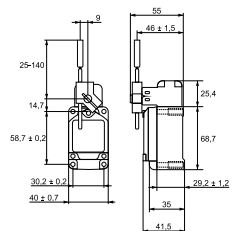
46LD2



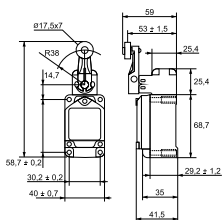
46LCA12-2Q



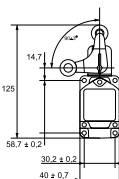
46LCL



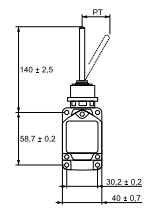
46LCA2-2



46LCA32-41



46LNJ



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended



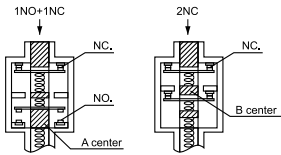


## UNIVERSAL LIMIT SWITCH – SERIES CZ93-XX

### Product conformity documentation:

Standard: EN 60947-1;  
EN 60947-5-1

### Type of the contact system

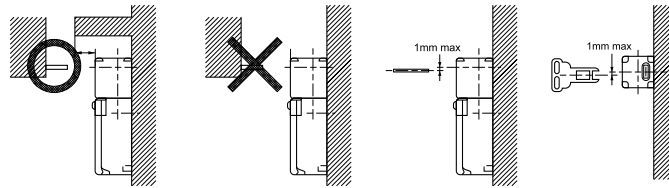


Limit switches of the CZ 93 series are Safety Key Interlock Switches. They are used in object control systems with high safety requirements. The limit switch body is mounted to the fixed system component, while the safety key is mounted to the movable system component. System operation cannot start, unless a full interlocking is achieved. Safety key interlock switches can operate at up to 10A non-inductive resistance load, 3A lamp load and 5A inductive load. They have high operating accuracy at wide variety of speeds. These limit switches are available in two versions depending on the operating contacts number: 2NC and NO+NC

### TECHNICAL DATA

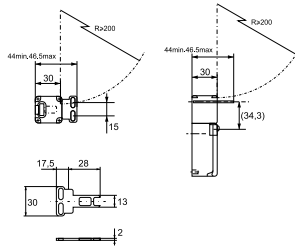
- Dielectric Strength: 2500V AC
- Rated current: 10A active; 3A inductive
- Insulation Resistance: 100mΩ min. (at 500VDC)
- Contact Resistance: 25mΩ
- Electrical Life (No. of cycles): 50 000 with non-inductive load

- Mechanical Life (No. of cycles): 2 000 000
- Operating frequency: 30 electrical operations/minute
- Operating speed: 0.1 mm/s to 0.5m/s
- Rated voltage: 230V
- IP code: IP65

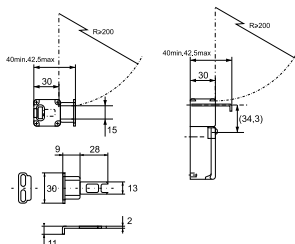


Catalogue number	Type	Key type	Power of starting (g)	Power of release (g)	Switching position	General movement	Key Actuating	Packing/Box (pcs)
46CZ08	CZ-93BPG01	CZ93-K1	147N	29.4N	6 mm	28mm	Horizontal	10 / 100
46CZ09	CZ-93CPG01	CZ93-K1	147N	29.4N	6 mm	28mm	Horizontal	10 / 100
46CZ10	CZ-93BPG02	CZ93-K2	147N	29.4N	6 mm	28mm	Vertical	10 / 100
46CZ11	CZ-93CPG02	CZ93-K2	147N	29.4N	6 mm	28mm	Vertical	10 / 100
46CZ12	CZ-93BPG03	CZ93-K3	147N	29.4N	6 mm	28mm	Adjustable	10 / 100
46CZ13	CZ-93CPG03	CZ93-K3	147N	29.4N	6 mm	28mm	Adjustable	10 / 100

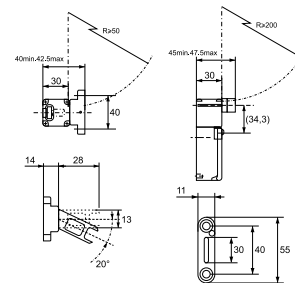
Catalogue number	Type	Key Actuating	Packing/Box (pcs)
46CZ931	CZ93-K1	Horizontal	1/100
46CZ932	CZ93-K2	Vertical	1/100
46CZ933	CZ93-K3	Adjustable	1/100



46CZ08 / Key type CZ93-K1  
46CZ09/ Key type CZ93-K1



46CZ10/ Key type CZ93-K2  
46CZ11/ Key type CZ93-K2



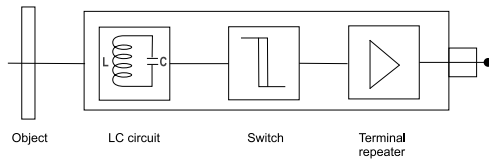
46CZ12/ Key type CZ93-K3  
46CZ13/ Key type CZ93-K3



**3 YEARS TOTAL WARRANTY**  
+ 3 standard 0 extended

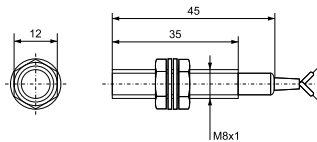
## ALL-PURPOSE PROXIMITY SWITCH – SERIES LM XX

Proximity induction sensors are all-purpose switches used in machine systems and equipment for no contact surveillance of metal elements motion. They can also be used in other machine systems applications as no contact control sensors for level of liquids, control sensors for the speed and position of rotating chains, etc. They are developed on the base of PNP and NPN transition. They have small dimensions and feature a metal cylindrical shell resistant to vibrations and a plastic lid which is oil and water resistant.



### TECHNICAL DATA

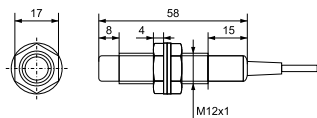
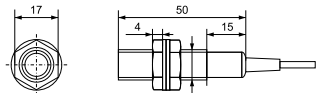
- Insulating resistance:  $\geq 50 \text{ M}\Omega$
- Gearing distance: from 2 mm to 7 mm
- Precision of repetition: 0.01
- Ambient temperature:  $-25^\circ\text{C}$  to  $+65^\circ\text{C}$
- Gearing speed: 5mm/s
- Rated voltage: 6~36VDC; 90~230VAC
- IP code: IP 67



EL-LM8



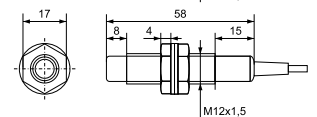
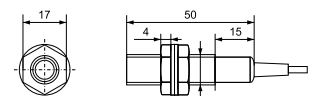
Catalogue number	Type	Start distance (mm)	Power supply voltage	Type of transition	Type of contact	Output load	Packing / Box (pcs)
46LM 8-32NA	EL-LM8-3002NA	2	15~30 VDC	NPN	NO	130 mA	2 / 200
46LM 8-32NB	EL-LM8-3002NB	2	15~30 VDC	NPN	NC	130 mA	2 / 200
46LM 8-32PA	EL-LM8-3002PA	2	15~30 VDC	PNP	NO	130 mA	2 / 200
46LM 8-32PB	EL-LM8-3002PB	2	15~30 VDC	PNP	NC	130 mA	2 / 200
46LM 8-22A	EL-LM8-2002A	2	90~230VAC	SCR	NO	150 mA	2 / 200



EL-LM12



Catalogue number	Type	Start distance (mm)	Power supply voltage	Type of transition	Type of contact	Output load	Packing / Box (pcs)
46LM 12-34NA	EL-LM12-3004NA	4	15~30 VDC	NPN	NO	200 mA	2 / 200
46LM 12-34NB	EL-LM12-3004NB	4	15~30 VDC	NPN	NC	200 mA	2 / 200
46LM 12-34PA	EL-LM12-3004PA	4	15~30 VDC	PNP	NO	200 mA	2 / 200
46LM 12-34PB	EL-LM12-3004PB	4	15~30 VDC	PNP	NC	200 mA	2 / 200
46LM 12-24A	EL-LM12-2004A	4	90~230VAC	SCR	NO	300 mA	2 / 200

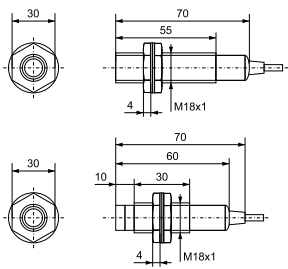


EL-LM12



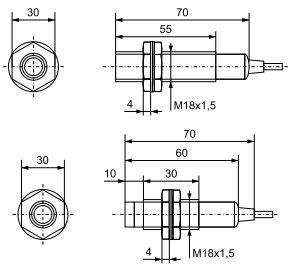
Catalogue number	Type	Start distance (mm)	Power supply voltage	Type of transition	Type of contact	Output load	Packing / Box (pcs)
46LM 12-44A	EL-LM12-4002A	2	230VAC	Inductive	NO	100 mA	2 / 200
46LM 12-46A	EL-LM12-4004A	4	230VAC	Inductive	NO	300 mA	2 / 200

**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended



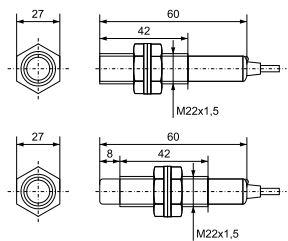
EL-LM18

Catalogue number	Type	Start distance (mm)	Power supply voltage	Type of transition	Type of contact	Output load	Packing / Box (pcs)
46LM 18-38NA	EL-LM18-3008NA	8	15~30 VDC	NPN	NO	200 mA	1 / 100
46LM 18-38NB	EL-LM18-3008NB	8	15~30 VDC	NPN	NC	200 mA	1 / 100
46LM 18-38PA	EL-LM18-3008PA	8	15~30 VDC	PNP	NO	200 mA	1 / 100
46LM 18-38PB	EL-LM18-3008PB	8	15~30 VDC	PNP	NC	200 mA	1 / 100
46LM 18-28A	EL-LM18-2008A	8	90~230VAC	SCR	NO	300 mA	1 / 100



EL-LM18

Catalogue number	Type	Start distance (mm)	Power supply voltage	Type of transition	Type of contact	Output load	Packing / Box (pcs)
46LM 18-44A	EL-LM18-4006A	5	230VAC	Inductive	NO	100 mA	1 / 100
46LM 18-48A	EL-LM18-4008A	8	230VAC	Inductive	NO	300 mA	1 / 100



EL-LM22

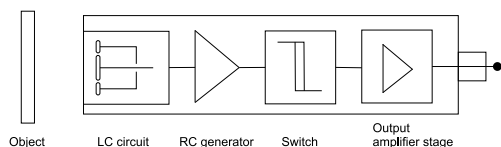
Catalogue number	Type	Start distance (mm)	Power supply voltage	Type of transition	Type of contact	Output load	Packing / Box (pcs)
46LM 22-30NA	EL-LM22-3010NA	10	15~30 VDC	NPN	NO	200 mA	1 / 100
46LM 22-30NB	EL-LM22-3010NB	10	15~30 VDC	NPN	NC	200 mA	1 / 100
46LM 22-30PA	EL-LM22-3010PA	10	15~30 VDC	PNP	NO	200 mA	1 / 100
46LM 22-30PB	EL-LM22-3010PB	10	15~30 VDC	PNP	NC	200 mA	1 / 100
46LM 22-20A	EL-LM22-2010A	10	90~230VAC	SCR	NO	300 mA	1 / 100



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended

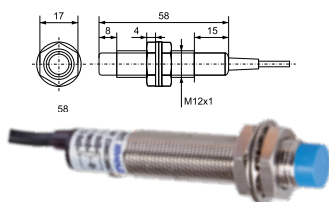
## CAPACITIVE SENSORS – SERIES CM XX

Capacitive sensors are used in machine systems and equipment for no-contact motion surveillance. They consist of two coaxial electrodes, a condenser and RC generator. This type of sensors reacts to both metal and non-metal objects, as the gearing distance for non-metal objects depends on their dielectric constants. They allow gearing distance adjustment for non-magnetic conductive materials. They are developed on the base of PNP and NPN transition. They have small dimensions and feature a metal cylindrical shell resistant to vibrations and a plastic lid which is oil and water resistant.



### TECHNICAL DATA

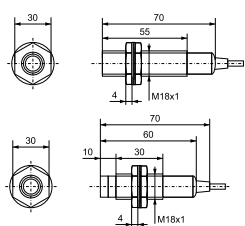
- Insulating resistance:  $\geq 50 \text{ M}\Omega$
- Gearing distance: from 2 mm to 15 mm
- Precision of repetition: 0.01
- Ambient temperature:  $-25^\circ\text{C}$  to  $+65^\circ\text{C}$
- Gearing speed: 5mm/s
- Rated voltage: 6~36VDC; 90~230VAC
- IP code: IP 54



EL-CM12



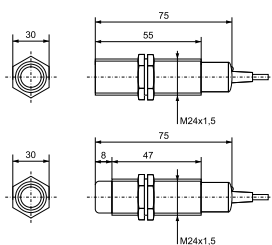
Catalogue number	Type	Start distance (mm)	Power supply voltage	Type of transition	Type of contact	Output load	Packing / Box (pcs)
46CM 12-32NA	EL-CM12-3004NA	0~4	15~30 VDC	NPN	NO	200 mA	1/100
46CM 12-32NB	EL-CM12-3004NB	0~4	15~30 VDC	NPN	NC	200 mA	1/100
46CM 12-32PA	EL-CM12-3004PA	0~4	15~30 VDC	PNP	NO	200 mA	1/100
46CM 12-32PB	EL-CM12-3004PB	0~4	15~30 VDC	PNP	NC	200 mA	1/100



EL-CM18



Catalogue number	Type	Start distance (mm)	Power supply voltage	Type of transition	Type of contact	Output load	Packing / Box (pcs)
46CM 18-38NA	EL-CM18-3008NA	0~8	15~30 VDC	NPN	NO	200 mA	1/100
46CM 18-38NB	EL-CM18-3008NB	0~8	15~30 VDC	NPN	NC	200 mA	1/100
46CM 18-38PA	EL-CM18-3008PA	0~8	15~30 VDC	PNP	NO	200 mA	1/100
46CM 18-38PB	EL-CM18-3008PB	0~8	15~30 VDC	PNP	NC	200 mA	1/100
46CM 18-28A	EL-CM18-2008A	0~8	90~230VAC	SCR	NO	300 mA	1/100

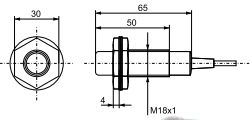
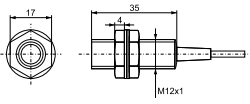


EL-CM24



Catalogue number	Type	Start distance (mm)	Power supply voltage	Type of transition	Type of contact	Output load	Packing / Box (pcs)
46CM 24-12NA	EL-CM24-3012NA	8	15~30 VDC	NPN	NO	200 mA	1/100
46CM 24-12NB	EL-CM24-3012NB	8	15~30 VDC	NPN	NC	200 mA	1/100
46CM 24-12PA	EL-CM24-3012PA	8	15~30 VDC	PNP	NO	200 mA	1/100
46CM 24-12PB	EL-CM24-3012PB	8	15~30 VDC	PNP	NC	200 mA	1/100
46CM 24-12A	EL-CM24-2012A	8	90~230VAC	SCR	NO	300 mA	1/100

**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended



EL-SM12

Catalogue number	Type	Start distance (mm)	Power supply voltage	Type of transition	Type of contact	Output load	Packing / Box (pcs)
46SM 12-31NA	EL-SM12-3110NA	10	15~30 VDC	NPN	NO	200 mA	2/200
46SM 12-31NB	EL-SM12-3110NB	10	15~30 VDC	NPN	NC	200 mA	2/200
46SM 18-31PA	EL-SM18-3110PA	10	15~30 VDC	PNP	NO	200 mA	1/100
46SM 18-31PB	EL-SM18-3110PB	10	15~30 VDC	PNP	NC	200 mA	1/100
46XM 18-35A	EL-XM18-305PMI	5	15~30 VDC	Inductive	NO	100 mA	1/100
46XM 18-35B	EL-XM18-305PMU	5	15~30 VDC	Inductive	NC	100 mA	1/100

Note: Sensor of Hall



EL-XM24

Catalogue number	Type	Start distance (mm)	Power supply voltage	Type of transition	Type of contact	Output load	Packing / Box (pcs)
46XM 24-38A	EL-XM24-308PMI	8	15~30 VDC	Inductive	NO	300 mA	1/100
46XM 24-38B	EL-XM24-308PMU	8	15~30 VDC	Inductive	NC	300 mA	1/100

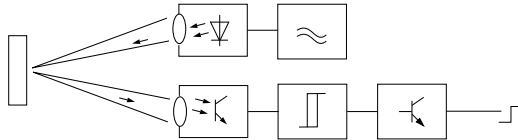
Note: MI - current type; MU - voltage type



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended

## PHOTO-ELECTRICAL SENSOR

Photo-electrical sensors of the Gxx series are all-purpose switches used in machine systems and equipment for no contact surveillance of motion of elements. They are based on the photoelectric principle of operation – inside the sensor there is a photo signal emitter and receiver of the returned signal. There are three types of sensors: diffuse sensors, reflector sensors and emitter-receiver sensors. These types of sensors differ in the way of returning the signal. They allow for gearing distance adjustment. They are developed on the base of PNP and NPN transition. They have small dimensions and feature a cylindrical metal shell resistant to vibrations and a plastic lid which is oil and water resistant.



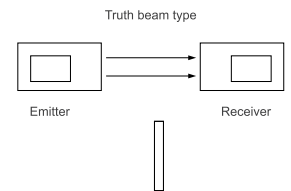
### TECHNICAL DATA

- Power supply voltage: 15~30 VDC
- Insulating resistance:  $\geq 50 \text{ M}\Omega$
- Gearing distance: from 2 mm to 7 mm
- Precision of repetition: 0.01
- Ambient temperature:  $-25^\circ\text{C}$  to  $+65^\circ\text{C}$
- Gearing speed: 5mm/s
- Rated voltage: 6~36VDC; 90~230VAC
- IP code: IP 67



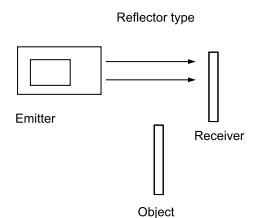
EL-G12

Catalogue number	Type	Start distance	Type of transition	Type of contact	Type of sensor	Packing / Box (pcs)
46G12A071	EL-G12-3A07NA	70 mm	NPN	$\varnothing 12; l=50$	Diffuse	1/100
46G12A072	EL-G12-3A07PA	70 mm	PNP	$\varnothing 12; l=50$	Diffuse	1/100



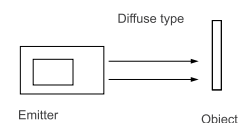
EL-G18

Catalogue number	Type	Start distance	Type of transition	Type of contact	Type of sensor	Packing / Box (pcs)
46G18A101	EL-G18-3A10NA	100 mm	NPN	$\varnothing 18; l=70$	Diffuse	1/100
46G18A102	EL-G18-3A10PA	100 mm	PNP	$\varnothing 18; l=70$	Diffuse	1/100
46G183B11	EL-G18-3B2NA	2 m	NPN	$\varnothing 18; l=70$	Reflector	1/100
46G183B12	EL-G18-3B2PA	2 m	PNP	$\varnothing 18; l=70$	Reflector	1/100
46G185C11	EL-G18-3C5NA	5 m	NPN	$\varnothing 18; l=70$	Truth beam	1/100
46G185C12	EL-G18-3C5PA	5 m	PNP	$\varnothing 18; l=70$	Truth beam	1/100



EL-G30

Catalogue number	Type	Start distance	Type of transition	Type of contact	Type of sensor	Packing / Box (pcs)
46G30A101	EL-G30-3A70NA	500 mm	NPN	$\varnothing 22; l=70$	Diffuse	1/100
46G30A102	EL-G30-3A70PA	500 mm	PNP	$\varnothing 22; l=70$	Diffuse	1/100
46G305C11	EL-G30-3C101NA	10 m	NPN	$\varnothing 22; l=70$	Truth beam	1/52
46G305C12	EL-G30-3C101PA	10 m	PNP	$\varnothing 22; l=70$	Truth beam	1/52



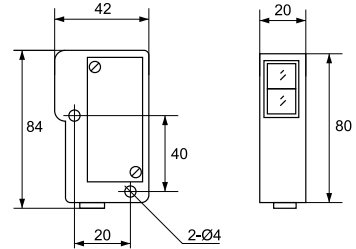
**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended





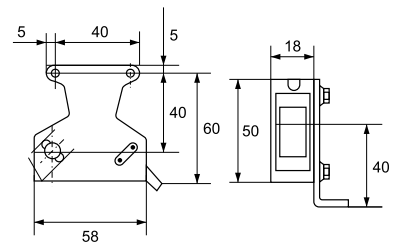
EL-G35

Catalogue number	Type	Start distance	Type of transition	Type of contact	Type of sensor	Packing/ Box (pcs)
46G35A102	EL-G35-3A50PA	500 mm	PNP	NO	Diffuse	1/100
46G353B11	EL-G35-3B3NA	3 m	NPN	NO	Reflector	1/100
46G353B12	EL-G35-3B3PA	3 m	PNP	NO	Reflector	1/100



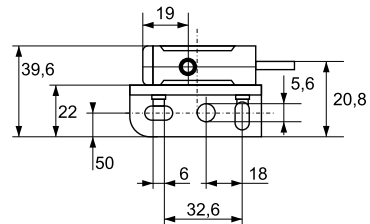
EL-G50

Catalogue number	Type	Start distance	Type of transition	Type of contact	Type of sensor	Packing/ Box (pcs)
46G50A101	EL-G50-3A30NA	500 mm	NPN	NO	Diffuse	1/100
46G50A102	EL-G50-3A30PA	500 mm	PNP	NO	Diffuse	1/100
46G503B11	EL-G50-3B4NA	4 m	NPN	NO	Reflector	1/100
46G503B12	EL-G50-3B4PA	4 m	PNP	NO	Reflector	1/100
46G505C11	EL-G50-3C5NA	5 m	NPN	NO	Truth beam	1/50
46G505C12	EL-G50-3C5PA	5 m	PNP	NO	Truth beam	1/50



EL-BZJ

Catalogue number	Type	Start distance	Type of transition	Type of contact	Type of sensor	Packing/ Box (pcs)
46BZJ211	EL-BZJ-211	10 mm	Reflector	NO	Colour detector	1/50
46BZJ311	EL-BZJ-311	9mm	Reflector	NO	Colour detector	1/50
46BZJ411	EL-BZJ-411	9mm	Reflector	NO	Colour detector	1/50



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended

POWER SUPPLIES

The DRP-xx-xx series of power supplies are voltage reduction and rectification units ideally suited to provide stable power supply of systems and equipment for contact-free movement monitoring elements (such as inductive, capacity and photo sensors, logic elements and systems, etc.). They have small overall dimensions and can be installed on a DIN rail. The power units have metal or plastic cases resistant to vibrations and plastic oil and waterproof covers. They can provide stable output voltage at comparatively fluctuating input voltage. Devices have built-in overload and short circuit protection, allowing short time overload of up to 130%. Power supplies are available with various output voltages (5, 12, 15 and 24 V DC) and different output power rates.

TECHNICAL DATA

- Input voltage: 80 ~ 230V AC
- Over-voltage: 115 ~ 135% of the rated output voltage
- Overload: 120 ~ 120% of the rated output power
- Terminals: Input – 2 screw terminals; Output: 4 screw terminals;
- IP code: IP44
- Power indicator
- Installation: DIN rail
- Cooling: Free air-cooling convection



DR - 45

Catalogue number	Type	Output Voltage (V)	Output Load (A)	Tolerance	Power (W)	Dimensions W/H/L (mm)	Packing / Box (pcs)
46DR455	DR - 45 - 5	5	5	±2%	25	78 / 93 / 56	1/50
46DR4512	DR - 45 - 12	12	3.5	±1%	42	78 / 93 / 56	1/50
46DR4515	DR - 45 - 15	15	2.8	±1%	42	78 / 93 / 56	1/50
46DR4524	DR - 45 - 24	24	2	±1%	48	78 / 93 / 56	1/16



DRP-240-24

Catalogue number	Type	Output Voltage (V)	Output Load (A)	Tolerance	Power (W)	Dimensions W/H/L (mm)	Packing / Box (pcs)
46DR7512	DR - 75 - 12	12	6.3	±2%	75	55.5 / 125.3 / 100	1/18
46DR7524	DR - 75 - 24	24	3.2	±1%	75	55.5 / 125.3 / 100	1/18
46DR2424	DRP - 240 - 24	24	10	±1%	240	125.5 / 125.3 / 100	1/12



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## FLOAT SWITCHES

The automatic level control units of the DHC1Y-xx series are intended for mounting on pumping control panels. They do not use any additional sensors, but conductive probes to contact the liquid. The unit sends low (harmless) voltage signals to the probes and once a contact between a probe and liquid is established, the unit changes its contactors' state. Units are available in three variants with different number of control contacts suitable for different applications. Each contact can transfer current of up to 5A, which is enough to ensure control over the powerful pumps' contactors or to directly control pumps with mounted power of 1 kW. The automatic level control units can be installed on a DIN rail.

Float switches of the type QW-xx-xx are sealed units for direct pump control. They are intended for continuous liquid level maintenance in pools, tanks or ponds exercised through direct control of the pumping in or out process in the respective reservoir. They are pre-wired and depending on the chosen configuration can control either the pumping in or pumping out of the reservoir. They allow direct control of single-phase pumps with mounted power of 1 kW. Float switches are waterproof.



DHC1Y

Catalogue number	Type	Number of probes (No. of levels)	Output Load (A)	Accuracy	Operating Voltage (V)	Packing / Box (pcs)
46DW001	DHC1Y - S	1	5	±1%	230	1/100
46DW002	DHC1Y - SD	3	5	±1%	230	1/100
46DW003	DHC1Y - T*	1	5	±1%	230	1/100

*\*Note: 2 pumps control*



QW - M 15 - 3



QW - 70AB

Catalogue number	Type	Number of probes (No. of levels)	Output Load (A)	Accuracy	Operating Voltage (V)	Packing / Box (pcs)
46DW004	QW - M 15 - 3	2	6	±1%	230	1 / 30
46DW005	QW - 70AB	2	4	±1%	230	1 / 20



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended

## ROTARY SWITCHES LW26 SERIES

### Documents corresponding to the product:

Standard: EN 60947-1;  
EN 60947-3-1

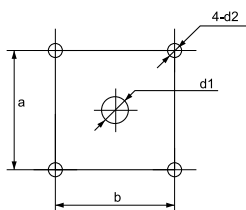
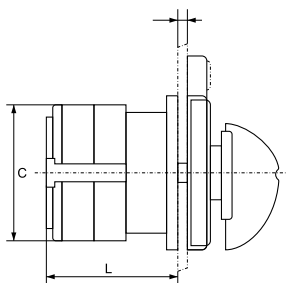
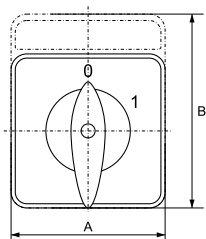
The rotary switches LW26 series are produced for switching on/off electrical circuits with commutated current from 20 to 160A. They are designed on the bases of the rotor-eccentric switching on which is realized through turning of the handle to 60 or 90 degrees. The normal operation is used for commutation of two, three or four conductor systems. There are special rotary switches that switch on under given connection schemes and are used to control motors, electric welding machines and other consumers.

### TECHNICAL DATA

- Power supply voltage: 230/400V; 50Hz
- Insulation voltage: 690V
- Impulse voltage wear resistance: 6000V
- Mechanical wear resistance: 3x10<sup>5</sup> commutation cycles
- Operating temperature: -10 ÷ +65°C
- Humidity: 35 – 85% RH
- Commuting capacity: up to 160A according to the tables
- Plastic: UV rays wear resistance

### • IP code:

- > IP42 for the ordinary breakers mounted in a panel
- > IP65 for the breakers offered in a box
- Cable connection: screw joining
- Tightening moment of the bolt: 1.33N
- Maximum section of the power supply conductors: according to the dimensions table
- Weight: according to the number of the contacts



### MOUNTING

- directly to the control panel
- thickness of the surface to which it is mounted: max 5mm

Type	Front panel	Joining conductor (mm <sup>2</sup> )	Overall dimensions (mm)				Mounting dimensions (mm)			
			A	B	C	L	a	b	d1	d2
LW26-20	M1 panel	1x2.5	48	48	43	22 + 9.6n	36	36	Ø8.5	Ø4.5
	M1 panel with inscription field		48	60	43	22 + 9.6n	36	36	Ø8.5	Ø4.5
LW26-25	M1 panel	1x4.0	48	48	45.2	23+12.8n	36	36	Ø8.5	Ø4.5
LW26-32	M2 panel	1x6.0	64	64	58	29.2 + 12.8n	48	48	Ø10	Ø4.5
LW26-63	M2 panel	1x16	64	64	66	29.2 + 21.5n	48	48	Ø10	Ø4.5
LW26-125	M3 panel	1x35	88	88	84	35 + 26.5n	68	68	Ø13	Ø6
LW26-160	M3 panel	1x50	88	88	88	35 + 32.5n	68	68	Ø13	Ø6

\* n - number of modules

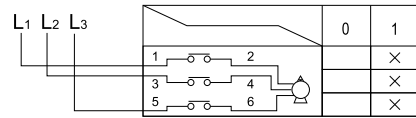
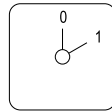
Catalogue number	Type	Scheme	In (A)	Levels	Packing / Box (pcs)
492101	LW26 - 10Q	Q10	10	2	1/100
492161	LW26 - 16Q	three-poles switching on; motor starting and stopping; voltage turning on/off to the consumers	16	2	1/100
492201	LW26 - 20Q		20	2	1/100
492251	LW26 - 25Q		25	2	1/100
492321	LW26 - 32Q		32	2	1/72
492631	LW26 - 63Q		63	2	1/30
492951	LW26 - 125Q		125	2	1/24
492961	LW26 - 160Q		160	2	1/27



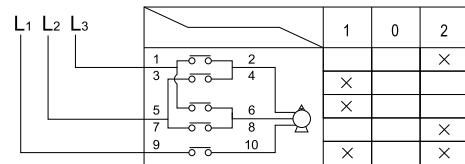
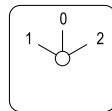
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



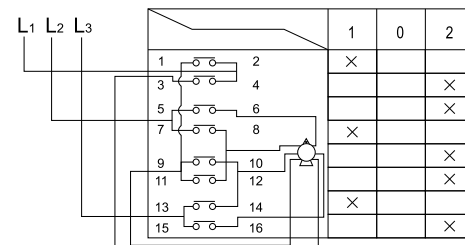
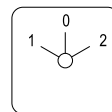
Catalogue number	Type	Scheme	In (A)	Levels	Packing/Box (pcs)
492207	LW26GS - 20/04	Q11	20	2	1/100
492257	LW26GS - 25/04	three-poles switching over; motor starting and stopping; voltage	25	2	1/100
492327	LW26GS - 32/04	turning on/off to the consumers;	32	2	1/72
492637	LW26GS - 63/04	possibility for access control	63	1/30	



Catalogue number	Type	Scheme	In (A)	Levels	Packing / Box (pcs)
492202	LW26 - 20N	N11	20	3	1/100
492252	LW26 - 25N	3-position – 2 start positions and 1 stop; for motor reversing	25	3	1/100
492322	LW26 - 32N		32	3	1/64
492632	LW26 - 63N		63	3	1/48
492952	LW26 - 125N		125	3	1/24
492962	LW26 - 160N		160	3	1/18



Catalogue number	Type	Scheme	In (A)	Levels	Packing / Box (pcs)
492253	LW26 - 25S	S19	25	4	1 / 100
492633	LW26 - 63S	3-position – 2 start positions and 1 stop; for two speed motor control;	63	4	1 / 30
492953	LW26 - 125S	switching over between charging*	125	4	1 / 24
492963	LW26 - 160S		160	4	1 / 18

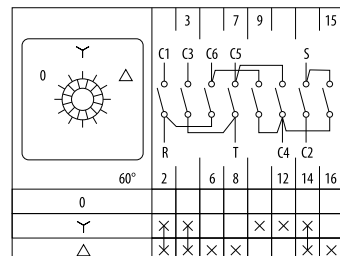


Note: It is necessary that additional bridges be placed at switching over between charging

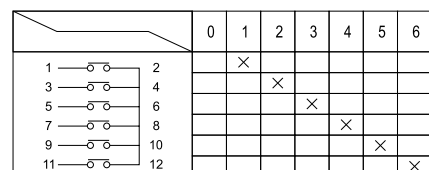
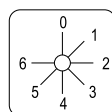
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



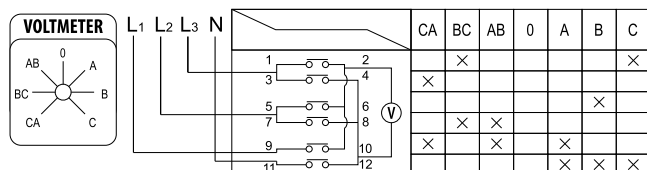
Catalogue number	Type	Scheme	In (A)	Levels	Packing/Box (pcs)
492025	LW26 - 25 SD	S21	25	4	1/100
492063	LW26 - 63 SD	3-position switching on star/delta	63	4	1/30



Catalogue number	Type	Scheme	In (A)	Levels	Packing/Box (pcs)
492324	LW26 - 32H 5881/3	H5881/3 – 85 for welding transformer windings	32	3	1/64
492634	LW26 - 63H 5881/3	switching over	63	3	1/48



Catalogue number	Type	Scheme	In (A)	Levels	Packing/Box (pcs)
492205	LW26 - 20 YH5/3	YH5/3 - 66 for voltage switching over	20	3	1/72



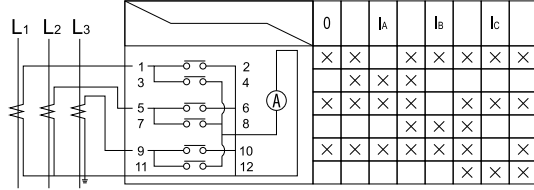
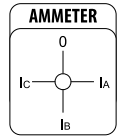
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



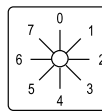
Catalogue number	Type	Scheme	In (A)	Levels	Packing/ Box (pcs)
492206	LW26 - 20 LH3/3	LH3/3 - 58 for ampere meter switching on to current transformers	20	3	1/100



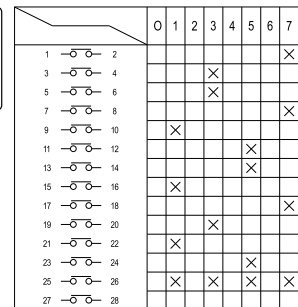
Catalogue number	Type	Scheme	IP code:	Packing/ Box (pcs)
492037	LW26 - 20-25-Q	Box for LW26-20/25	IP 42	1/68
492038	LW26 - 32-Q	Box for LW26-32	IP 42	1/30
492039	LW26 - 20-25-DIN	Adaptor for DIN-rail for LW26-20/25		15/1500



Catalogue number	Type	Scheme	In (A)	Levels	Packing / Box (pcs)
492028	LW26 4.I7168/7	4.I7168/7	20	7	1/100

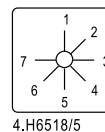


4.I7168/7

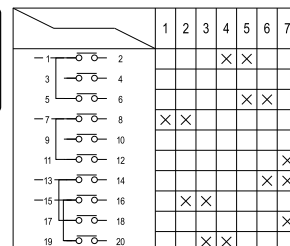




Catalogue number	Type	Scheme	In (A)	Levels	Packing/ Box (pcs)
492029	LW26 4.H6518/5	4.H6518/5	25	5	1/100



4.H6518/5

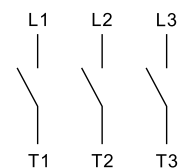


Catalogue number	Type	Scheme	In (A)	Levels	Packing / Box (pcs)
492030	LW30-20	LW30-20	20	3	1 / 32
492031	LW30-32	LW30-32	32	3	1 / 32
492033	LW30-40	LW30-40	40	3	1 / 32
492034	LW30-63	LW30-63	63	3	1 / 32

\* Note: Possibility for access control



LW30-20-100A  
ON/OFF switch 3 poles

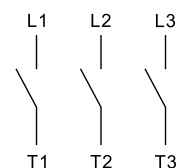


Catalogue number	Type	Scheme	IP code:	In (A)	Levels	Packing / Box (pcs)
492032	LW30-32	LW30-32	IP54	32	3	1 / 30

\* Note: Possibility for access control



LW30-20-100A  
ON/OFF switch 3 poles

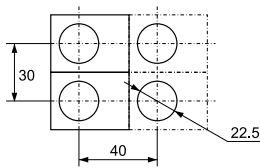
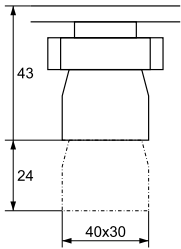


**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## BUTTONS AND LED INDICATORS

### Documents corresponding to the product:

Standard: EN 60947-1;  
EN 60947-5-1



Overall dimensions  
Diagram for drill the openings

These are devices used in control and indication systems, command boards and panels in industrial automation systems. They are manufactured to commutate controlling circuits and to control the switching on or off executive mechanisms such as relays, contactors, etc. The signal lamps and indicators find broad application in all industrial fields. The devices endure short time current overload up to 10A, and normally they can commutate thermal current up to 6A in their contact system. The connection to the contact terminals is through screw terminals to which operational conductors with section up to 2.5mm<sup>2</sup> can be joined.

### TECHNICAL DATA

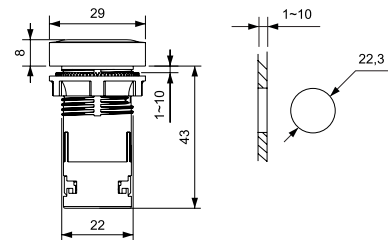
- Insulation voltage: 660V; 50/60Hz
- Impulse voltage wear resistance: 6000V;
- Rated current: 6A (230V AC); 0.3A (230V DC)
- Short circuit protection: safety device 10A gG outside in the circuit
- Mechanical wear resistance: 1x10<sup>6</sup> commutation cycles
- Power of mechanical compression:
  - > at closing: 20N
  - > at opening: 8N
- Operating temperature: -20 - +65°C
- Humidity: 35 - 85%RH
- Tightening moment of the joining conductors: 0.15Nm
- Section of the conductor: 1x0.5; 1x0.75; 1x1; 1x1.5; 1x2.5mm<sup>2</sup>

### MOUNTING

- to a flat metal or plastic surface with thickness: max 4mm
- opening with size: Ø 22.5mm5mm

### BUTTON ROUND WITH SPRING REVERSE

Catalogue number	Type	Type of contacts	Rated current (A) at 400V	Colour	Packing / Box (pcs)
401025	EL-EA25	NO+NC	6	Black	10/500
401030	EL-EA31	NO	6	Green	10/500
401040	EL-EA42	NC	6	Red	10/500



### BUTTON ROUND WITH SPRING REVERSE AND SILICON LID- IP44

Catalogue number	Type	Type of contacts	Rated current (A) at 400V	Colour	Packing / Box (pcs)
401026	EL-EA25	NO+NC	6	Black	10/500
401033	EL-EA31	NO	6	Green	10/500
401041	EL-EA42	NC	6	Red	10/500

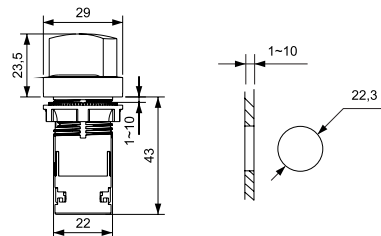


**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



### SWITCH WITH ARREST

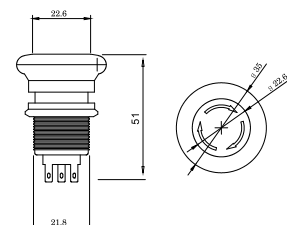
Catalogue number	Type	Type of contacts	Rated current (A) at 400V	Colour	Packing / Box (pcs)
401425	EL-ED25	NO+NC	6	Black	10/500



### BUTTON WITH HEAD "MUSHROOM" TYPE

Catalogue number	Type	Type of contacts	Rated current (A) at 230V	Colour	Diameter (mm)	Packing/ Box (pcs)
401546	EL-2211T	1NO+1NC	5	Red	22	20/800

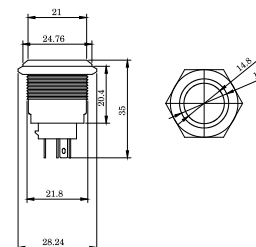
Material: Stainless steel | Chromium plated brass | IP65  
\* Note: release with spinning



### ROUND BUTTONS WITH LED INDICATOR- LATCHING

Catalogue number	Type	Type of contacts	Rated current (A) at 230V	Colour	Diameter (mm)	Packing/ Box (pcs)
401547	EL-2211DZR	1NO+1NC	5	Red	22	20/800
401548	EL-2211DZG	1NO+1NC	5	Green	22	20/800

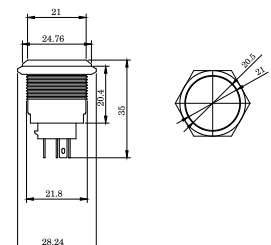
Material: Stainless steel | Chromium plated brass | IP65



### ROUND MOMENTARY BUTTON

Catalogue number	Type	Type of contacts	Rated current (A) at 230V	Diameter (mm)	Packing/Box (pcs)
401549	EL-2211F	1NO+1NC	5	22	20/800

Material: Stainless steel | Chromium plated brass | IP65



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

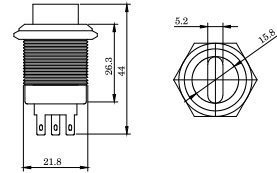


### TWO POSITION SWITCH WITH ARREST

Catalogue number	Type	Type of contacts	Rated current (A) at 230V	Colour	Diameter (mm)	Packing/ Box (pcs)
401550	EL-22X2	1NO+1NC	5	Red	22	20/800

Material: Stainless steel | Chromium plated brass | IP65

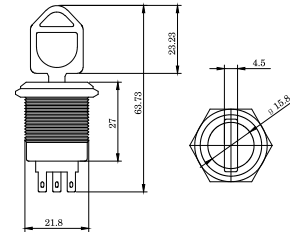
\* Note: release with spinning



### TWO POSITION KEY SWITCHES WITH ARREST

Catalogue number	Type	Type of contacts	Rated current (A) at 230V	Colour	Diameter (mm)	Packing / Box (pcs)
401551	EL-22Y2	1NO+1NC	5	Red	22	20/800
401552	EL-22Y3	2NO+2NC	5	Green	22	20/800

Material: Stainless steel | Chromium plated brass | IP65



### TOGGLE SWITCH ON-OFF SPST

Catalogue number	Type	Voltage (V)	Rated current (A)	LED colour	Dimensions (mm)	Packing / Box (pcs)
M519114	ASW-13	12 VDC	20	Red	30.5x13.5x22	1

- Function: ON/OFF
- Leads: 3
- Mounting hole diameter - 12 mm
- Toggle height - 27 mm
- Operating temperature: up - 25 °C to + 85 °C



\*Warranty: 2 years



### SWITCH ON-OFF

Catalogue number	Type	Voltage (V)	Rated current (A)	Colour	Dimensions (mm)	Packing / Box (pcs)
M300001	V 144/B	250 VAC	5	White	26.2x12x14.5	1

- Function: ON/OFF
- Leads: 3
- Mounting hole: 29x11 mm
- Operating temperature: up to 105°C



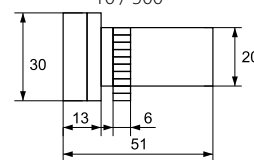
\*Warranty: 2 years

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



### LED INDICATORS

Catalogue number	Type	Voltage (V)	Colour	Packing / Box (pcs)
401123	AD56-22-W-230	230V AC	White	10 / 500
401111	AD56-22-W-110	110V AC	White	10 / 500
401124	AD56-22-W-24	24V AC/DC	White	10 / 500
401211	AD56-22-A-110	110V AC	Amber	10 / 500
401224	AD56-22-A-24	24V AC/DC	Amber	10 / 500
401223	AD56-22-A-230	230V AC	Amber	10 / 500
401323	AD56-22-PG-230	230V AC	Green	10 / 500
401311	AD56-22-PG-110	110V AC	Green	10 / 500
401324	AD56-22-PG-24	24V AC/DC	Green	10 / 500
401523	AD56-22-B-230	230V AC	Blue	10 / 500
401511	AD56-22-B-110	110V AC	Blue	10 / 500
401524	AD56-22-B-24	24V AC/DC	Blue	10 / 500
401723	AD56-22-Y-230	230V AC	Yellow	10 / 500
401711	AD56-22-Y-110	110V AC	Yellow	10 / 500
401724	AD56-22-Y-24	24V AC/DC	Yellow	10 / 500
401423	AD56-22-R-230	230V AC	Red	10 / 500
401411	AD56-22-R-110	110V AC	Red	10 / 500
401424	AD56-22-R-24	24V AC/DC	Red	10 / 500

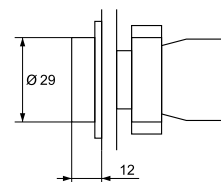


**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



### ROUND BUTTONS WITH SPRING REVERSE

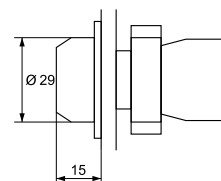
Catalogue number	Type	Type of contacts	Rated current (A) at 400V	Colour	Packing / Box (pcs)
401021	EL 2- BA 21	NO	6	Black	20 / 300
401031	EL 2- BA 31	NO	6	Green	20 / 300
401051	EL 2- BA 51	NO	6	Yellow	20 / 300
401061	EL 2- BA 61	NO	6	Blue	20 / 300
401042	EL 2- BA 42	NC	6	Red	20 / 300



### ROUND BUTTONS WITH SPRING REVERSE

Catalogue number	Type	Type of contacts	Rated current (A) at 400V	Colour	Packing / Box (pcs)
401032	EL 2- BP 31	NO	6	Green	20 / 300
401043	EL 2- BP 42	NC	6	Red	20 / 300

\*Note: IP65 - Provided from silicon lid

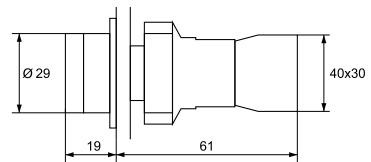






### ROUND BUTTONS WITH SPRING REVERSE AND LED INDICATOR

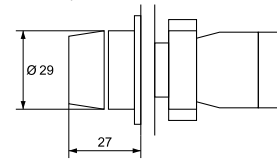
Catalogue number	Type	Voltage (V)	Rated current (A) at 400V	Colour	Packing / Box (pcs)
401474	EL 2- BW3471	24V	6	Red	20 / 200
401374	EL 2- BW3371	24V	6	Green	20 / 200
401574	EL 2- BW3571	24V	6	Yellow	20 / 200
401674	EL 2- BW3671	24V	6	Blue	20 / 200
401473	EL 2- BW3471	110V	6	Red	20 / 200
401373	EL 2- BW3371	110V	6	Green	20 / 200
401573	EL 2- BW3571	110V	6	Yellow	20 / 200
401673	EL 2- BW3671	110V	6	Blue	20 / 200
401471	EL 2- BW3471	230V	6	Red	20 / 200
401371	EL 2- BW3371	230V	6	Green	20 / 200
401571	EL 2- BW3571	230V	6	Yellow	20 / 200
401671	EL 2- BW3671	230V	6	Blue	20 / 200



### SWITCHES WITH ARREST



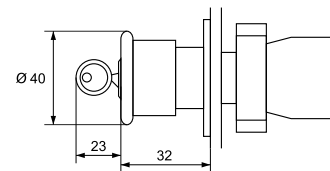
Catalogue number	Type	Type of contacts	Rated current (A) at 400V	Colour	Note	Packing / Box (pcs)
401421	EL 2- BD 21	1NO	6	Black	Two-positions	20 / 200
401433	EL 2- BD 33	2NO	6	Black	Three-positions	20 / 200



### BUTTONS WITH HEAD "MUSHROOM" TYPE AND WITH KEY



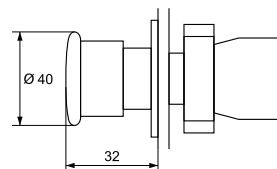
Catalogue number	Type	Type of contacts	Rated current (A) at 400V	Colour	Note	Packing / Box (pcs)
401142	EL2-BS 142	NC	6	Red	Release with spinning	15/150



### BUTTONS WITH HEAD "MUSHROOM" TYPE



Catalogue number	Type	Type of contacts	Rated current (A) at 400V	Colour	Note	Packing / Box (pcs)
401642	EL 2- BC 42	1NC	6	Red	Spring reverse	15 / 150





### BUTTON WITH HEAD "MUSHROOM" TYPE

Catalogue number	Type	Type of contacts	Rated current (A) at 400V	Colour	Packing/Box (pcs)
401545	EL 2- BS 545	1NC + 1NO	6	Red	15 /150

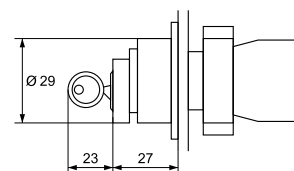
*\*Note: release with spinning*



### CHANGE-OVER SWITCH WITH KEY

Catalogue number	Type	Type of contacts	Rated current (A) at 400V	Packing/Box (pcs)
401121	EL 2- BG 21	1NO	6	20/200

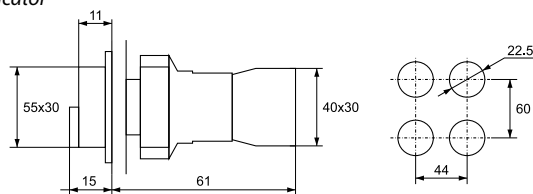
*\*Note: two-position with switch*



### DOUBLE BUTTONS

Catalogue number	Type	Type of contacts	Rated current (A) at 400V	Voltage (V)	Packing/ Box (pcs)
401844	EL 2- BW8475	1NO+1NC	6	24 AC	20/200
401845	EL 2-BW8475	1NO+1NC	6	230 AC	20/200

*\*Note: Green and red button + LED indicator*



### AUXILIARY CONTACTS

Catalogue number	Type	Type of contacts	Colour	Packing/ Box (pcs)
401001	EL02 - BE101	1 NO	Green	100/1000
401002	EL02 - BE102	1 NC	Red	100/1000



### GLIM INDICATOR LAMP

Catalogue number	Type	Voltage (V)	Dimensions (mm)	Base diameter (mm)	Packing / Box (pcs)
M030015	EL-1035	220 VAC	10x30	10	1

- Shape and color of the indicator - oval, red
- Case colour: red
- Conductor length: 20mm



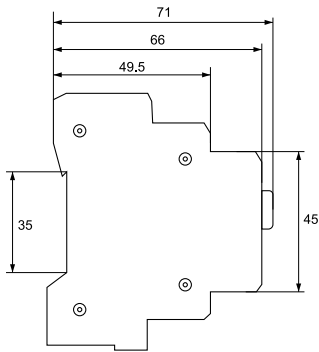
*\*Warranty: 2 years*

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## DIN-RAIL BUTTONS AND LED INDICATORS

### Documents corresponding to the product:

Standard EN 60947-1  
EN 60 947-5-1 t



These are devices used in control and indication systems adjusted for mounting in command boards and panels directly on DIN-rail. They are manufactured to commutate controlling circuits and to control the switching on or off executive mechanisms such as relays, contactors, etc. The signal lamps and indicators find broad application in all industrial fields. The devices endure short time current overload up to 20A, and normally they can commutate current up to 10A with their contact system. The connection to the contact terminals is through screw terminals to which operational conductors with section up to 2.5mm<sup>2</sup> can be joined. There are also designed buttons combined with lamps.

#### TECHNICAL DATA

- Insulation voltage: 660V; 50/60Hz
- Impulse voltage wear resistance: 6000V;
- Rated current: up to 10A (230V AC)
- Short circuit protection: safety device 10A gG outside in the circuit
- Rated consumed current (for indicators and buttons combined with indicators): <20mA
- Wear resistance (indicators): >2000h
- Mechanical wear resistance (buttons): 1x10<sup>6</sup> commutation cycles
- Power of mechanical compression:
  - At closing: 20N
  - At opening: 8N

- Operating temperature: -20 - +65°C
- Humidity: 35 – 85%RH
- Tightening moment of the joining conductors: 0.15Nm
- Section of the conductor: 1x0.5; 1x0.75; 1x1; 1x1.5; 1x2.5mm<sup>2</sup>
- Plastic: UV rays wear resistance conductors: 0.15Nm
- Section of the conductor: 1x0.5; 1x0.75; 1x1; 1x1.5; 1x2.5mm<sup>2</sup>

#### MOUNTING

- To a DIN-rail
- Altitude: up to 2000m



Catalogue number	Type	Description	Voltage (V)	Rated current (A) at 400V	Colour	Packing/ Box (pcs)
401559	ELD-RG-DIN	Lamp	230V	<20	Red/Green	12/240



Catalogue number	Type	Description	Voltage (V)	Rated current (A) at 400V	Colour	Packing/ Box (pcs)
401560	ELD-RGB-DIN	Lamp	230V	<20	Red/Green/Blue	12/240



Catalogue number	Type	Description	Voltage (V)	Rated current (A) at 400V	Colour	Packing/ Box (pcs)
401500	ELD - G - DIN	Lamp	230V	<20	Green	12/240
401501	ELD - R - DIN	Lamp	230V	<20	Red	12/240
401502	ELD - Y - DIN	Lamp	230V	<20	Yellow	12/240
401503	ELD - B - DIN	Lamp	230V	<20	Blue	12/240
401504	ELD - W - DIN	Lamp	230V	<20	White	12/240



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



## BUTTONS AND SWITCHES WITH BOX



### SWITCHING ON 0-1

Catalogue number	Type	IP code	Overall dimensions (mm)			Type of the contact	Colour	Packing/Box (pcs)
			L	H	W			
401134	EL1-B134	IP44	68	68	50	1 NO	Black	1/100



### 1 BUTTON WITH SPRING RETURN

Catalogue number	Type	IP code	Overall dimensions (mm)			Type of the contact	Colour	Packing/Box (pcs)
			L	H	W			
401102	EL1-B102	IP44	68	68	50	1 NO	Green	1/100
401132	EL1-BP102	IP65	68	68	50	1 NO	Green	1/100



### 2 BUTTONS WITH SPRING RETURN

Catalogue number	Type	IP code	Overall dimensions (mm)			Type of the contact	Colour	Packing/Box (pcs)
			L	H	W			
401213	EL1-B213	IP44	104	68	50	1 NC 1 NO	1 - Red 1 - Green	1/100
401233	EL1-BP213	IP65	104	68	50	1 NC 1 NO	1 - Red 1 - Green	1/100



### 3 BUTTONS WITH SPRING RETURN

Catalogue number	Type	IP code:	Overall dimensions (mm)			Type of the contact	Colour	Packing/Box (pcs)
			L	H	W			
401339	EL1-B339	IP44	134	68	50	1 NO 1 NC 1 NO	1 - Green 1 - Red 1 - Green	1/50
401349	EL1-BP339	IP65	134	68	50	1 NO 1 NC 1 NO	1 - Green 1 - Red 1 - Green	1/50



### EMERGENCY BUTTON WITH HEAD "MUSHROOM" TYPE Ø40

Catalogue number	Type	IP code:	Overall dimensions (mm)			Type of the contact	Colour	Packing /Box (pcs)
			L	H	W			
401174	EL1-B174	IP44	68	68	50	1 NC	Red	1 / 100

- Release through turning



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## DEVICES FOR TELPHER CONTROL MBP TYPE

They represent different combinations of START and STOP buttons mounted in plastic boxes in different sizes. They are connected to the operating circuits of cranes or telfhers and serve as a remote control of their movement. They are connected directly to the operating cable of the telfher and send commands directly to the executive mechanisms. They are designed to provide protection from dust and moisture IP65.

### TECHNICAL DATA

- Supplying voltage: 230V; 50/60Hz
- Electrical wear resistance: 1x10<sup>5</sup> cycles
- Operating temperature: -10 +65°C
- Humidity: 35 – 85% RH
- Number of contacts: according to the number of the buttons

- Commuting capacity: up to 6A
- Plastic: UV rays wear resistance
- IP code: IP65
- Weight: according to the number of the contacts

**MBP-Axxxx** — stop button type  
 — button type:  
 — one-speed (x81)  
 — or two-speed (x91)  
 — number of buttons

### MOUNTING

- directly to the control cable of the telfher (crane)



Catalogue number	Type	Number of buttons	Contact block and scheme		Packing / Box (pcs)
			Emergency	For the directions	
46281	MBP-A281	2	-	NO+NC	1/20
46291	MBP-A291 two speed	2	-	NO+NC	1/20
46283	MBP-A2813	2+1	Emergency button	NO+NC	1/20
46283K	MBP-A2813K	2+1	Emergency button with switch	NO+NC	1/20
46294	MBP-A2913 two speed	2+1	Emergency button	NO+NC	1/20
46294K	MBP-A2913K two speed	2+1	Emergency button with switch	NO+NC	1/20
46481	MBP-A481	4	-	NO+NC	1/20
46491	MBP-A491 two speed	4	-	NO+NC	1/20
46483	MBP-A4813	4+1	Emergency button	NO+NC	1/20
46483K	MBP-A4813K	4+1	Emergency button with switch	NO+NC	1/20
46493	MBP-A4913 two speed	4+1	Emergency button	NO+NC	1/20
46493K	MBP-A4913K two speed	4+1	Emergency button with switch	NO+NC	1/20
46681	MBP-A681	6	-	NO+NC	1/20
46691	MBP-A691 two speed	6	-	NO+NC	1/20
46683	MBP-A6813	6+1	Emergency button	NO+NC	1/20
46683K	MBP-A6813K	6+1	Emergency button with switch	NO+NC	1/20
46693	MBP-A6913 two speed	6+1	Emergency button	NO+NC	1/20
46693K	MBP-A6913K two speed	6+1	Emergency button with switch	NO+NC	1/20
46881	MBP-A881	8	-	NO+NC	1/20
46891	MBP-A891 two speed	8	-	NO+NC	1/20
46883	MBP-A8813	8+1	Emergency button	NO+NC	1/20
46883K	MBP-A8813K	8+1	Emergency button with switch	NO+NC	1/20
46893	MBP-A8913 two speed	8+1	Emergency button	NO+NC	1/20
46893K	MBP-8913K two speed	8+1	Emergency button with switch	NO+NC	1/20

**5 YEARS TOTAL WARRANTY**  
 + 3 standard  
 2 extended

## WARNING LIGHTS AND TOWERS

The revolving warning lights and towers are devices intended for use as status indicators in the human-machine control systems. They are suitable for installation on control cabinets and panels or directly on machines. They are manufactured in different colour combinations to attract attention of operators working in a given production sector. Warning lights and towers are widely used in almost any industrial branch. They can be mounted on movable components or such, creating potential danger and can warn all workers for a critical situation with their blinking light and siren. These devices are electrically connected through cables, protruding out of the lamp casing.

### TECHNICAL DATA

- Rated voltage: 12 VAC/230VAC; 50/60 Hz;
- Isolation voltage: 660V; 50/60 Hz;
- Impulse voltage stability: 6000V
- Rated power: see the tables below
- Short circuit protection: 1A gG external fuse
- Operating Temperature: - 20°C + 65°C
- Humidity: 35 – 85% RH
- Plastic cover: UV resistant polycarbonate not considered as being harmful to human health

### INSTALLATION

- Warning lights are fixed to the respective machine body with the studs protruding from the light plastic casing.



Catalogue number	Type	Description	Voltage (VAC)	Rated Power (W)	Colour	Packing / Box (pcs)
401525R	LTE1101 - R	Warning light	12	10	Red	1 / 30
401525G	LTE1101 - G	Warning light	12	10	Green	1 / 30
401525Y	LTE1101 - Y	Warning light	12	10	Yellow	1 / 30
401526R	LTE1101J - R	Warning light + siren	12	11	Red	1 / 30
401526G	LTE1101J - G	Warning light + siren	12	11	Green	1 / 30
401526Y	LTE1101J - Y	Warning light + siren	12	11	Yellow	1 / 30
402525R	LTE1101 - R	Warning light	230	8	Red	1 / 30
402525G	LTE1101 - G	Warning light	230	8	Green	1 / 30
402525Y	LTE1101 - Y	Warning light	230	8	Yellow	1 / 30
402526R	LTE1101J - R	Warning light + siren	230	9	Red	1 / 30
402526G	LTE1101J - G	Warning light + siren	230	9	Green	1 / 30
402526Y	LTE1101J - Y	Warning light + siren	230	9	Yellow	1 / 30
401527R	LTE1161 - R	Warning light	12	35	Red	1 / 8
401527G	LTE1161 - G	Warning light	12	35	Green	1 / 8
401527Y	LTE1161 - Y	Warning light	12	35	Yellow	1 / 8
402527R	LTE1161 - R	Warning light	230	28	Red	1 / 8
402527G	LTE1161 - G	Warning light	230	28	Green	1 / 8
402527Y	LTE1161 - Y	Warning light	230	28	Yellow	1 / 8
401528	LTA205 - 1	Tower / flashing	12	4	1 - Red	1 / 20
401529	LTA205 - 2	Tower / flashing	12	8	2 - Red/Green	1 / 20
401530	LTA205 - 3	Tower / flashing	12	12	3 - Red/Yellow/Green	1 / 20
401531	LTA205 - 3J	Tower / flashing + siren	12	12	3 - Red/Yellow/Green	1 / 20
401532	LTA205 - 5	Tower / flashing	12	18	5 - Red/Yellow/Green/Blue/Transparent	1 / 20
402528	LTA205 - 1	Tower / flashing	230	6	1 - Red	1 / 20
402529	LTA205 - 2	Tower / flashing	230	8	2 - Red/Green	1 / 20
402530	LTA205 - 3	Tower / flashing	230	10	3 - Red/Yellow/Green	1 / 20
402531	LTA205 - 3J	Tower / flashing + siren	230	11	3 - Red/Yellow/Green	1 / 20
402532	LTA205 - 5	Tower / flashing	230	14	5 - Red/Yellow/Green/Blue/Transparent	1 / 20

**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended





### METAL/PLASTIC SIREN

Catalogue number	Type	Voltage (V)	Rated Power (W)	Sound level (dB)	Material	Packing/ Box (pcs)
401533	MS-290A	230	60	100	Metal	1/24
401541	MS-290B	230	60	100	Plastic	1/24



### SIREN

Catalogue number	Type	Voltage (V)	Rated Power (W)	Sound level (dB)	Packing / Box (pcs)
401534	MS-390	230	160	120	1 / 10



### ALARM BELLS

Catalogue number	Type	Voltage (V)	Sound level (dB)	Packing / Box (pcs)
401535	CB-4	12	85	1 / 50
401536	CB-4	24	85	1 / 50
401537	CB-4	110	85	1 / 50
401538	CB-4	230	85	1 / 50



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended



### FIRE ALARM

Catalogue number	Type	Voltage (V)	Sound level (dB)	Packing / Box (pcs)
401540	FA-01	230	120	1 / 100



## AUTOMATION CATEGORY

Select a language and scan the code with any code scanner to read the catalog in:



# INSTALLATION

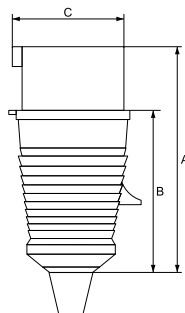
- Industrial plugs and sockets
- Industrial boards
- Modular distribution enclosures
- Distribution boards
- Cable insulation systems
- Cable trunking
- Insulating conduits & Cable support systems
- Lighting protection
- Distribution boxes
- Cable terminals & Cable accessories
- Ex-proof installation systems
- Reels, multi-plugs & accessories
- Cables



## INDUSTRIAL PLUGS HT/HTN TYPE

**Documents corresponding to the product:**

Standard EN 60309-1; EN 60309-2



Made of special high quality plastic with alloys against aging at sun light exposing and for increasing the mechanical strength. They are designed in accordance with standard EN 60309 and provide reliable connection and high protection level against electrical current. They provide IP protection not less than IP 44/67. They are designed for surface or flush mounting, movable or fixed type.

**TECHNICAL DATA**

- Rated voltage: 500V
- Rated short circuit current: according to the mounted protection in the boards
- Impulse voltage wear resistance: 8kV
- Mechanical wear resistance: 3000 cycles
- IP code: IP 44/67
- Plastic: UV rays wear resistance
- Ambient temperature: -5 to +65°C
- Altitude: up to 2000m
- Plugs and sockets: 6h



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37013	HT-013	16	1P+N+E	230	121	84	53	44	2/10/100
37023	HT-023	32	1P+N+E	230	138	92	63	44	2/10/60



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37014	HT-014	16	3P+E	400	121	84	51	44	2/10/100
37024	HT-024	32	3P+E	400	138	92	63	44	2/10/60
37034	HT-034	63	3P+E	400	230	109	36	44	2/10
37044	HT-044	125	3P+E	400	295	124	50	44	2/10

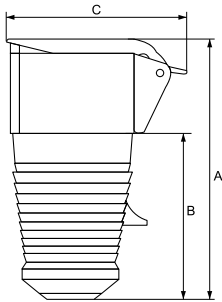


Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37015	HT-015	16	3P+N+E	400	129	92	62	44	2/10/60
37025	HT-025	32	3P+N+E	400	149	97	70	44	2/10/60
37035	HT-035	63	3P+N+E	400	230	109	36	44	2/10
37045	HT-045	125	3P+N+E	400	295	124	50	44	2/10



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

## MOVABLE INDUSTRIAL SOCKETS HT TYPE IP44



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37213	HT-213	16	1P+N+E	230	130	96	44	2/10/100
37223	HT-223	32	1P+N+E	230	149	90	44	2/10/60



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37214	HT-214	16	3P+E	400	131	96	44	2/10/100
37224	HT-224	32	3P+E	400	149	90	44	2/10/60
37234	HT-234	63	3P+E	400	230	109	44	2/10
37244	HT-244	125	3P+E	400	290	124	44	2/10

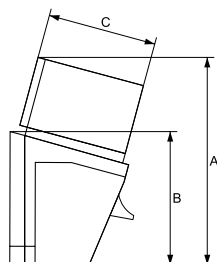


Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37215	HT-215	16	3P+N+E	400	139	90	44	2 / 10 / 60
37225	HT-225	32	3P+N+E	400	154	100	44	2 / 10 / 60
37235	HT-235	63	3P+N+E	400	230	100	44	2 / 10
37245	HT-245	125	3P+N+E	400	290	124	44	2 / 10



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

FIXED INDUSTRIAL PLUGS HT TYPE IP44



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37513	HT-513	16	1P+N+E	230	121	79	44	2/10/60
37523	HT-523	32	1P+N+E	230	131	83	44	2/10/60



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37514	HT 514	16	3P+E	400	121	76	44	2/10/60
37524	HT 524	32	3P+E	400	131	83	44	2/10/60



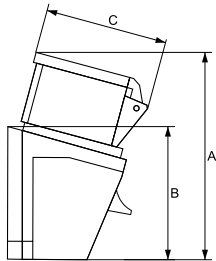
Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37515	HT 515	16	3P+N+E	400	123	79	44	2/10/60
37525	HT 525	32	3P+N+E	400	132	84	44	2/10/60




**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended




FIXED INDUSTRIAL SOCKETS HT TYPE IP44




Catalogue number	Model	In (A)	Poles 	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37113	HT-113	16	1P+N+E	230	126	86	44	2/10/60
37123	HT-123	32	1P+N+E	230	141	97	44	2/10/60



Catalogue number	Model	In (A)	Poles 	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37114	HT-114	16	3P+E	400	132	91	44	2/10/60
37124	HT-124	32	3P+E	400	141	96	44	2/10/60
37134	HT-134	63	3P+E	400	193	122	44	2/10
37144	HT-144	125	3P+E	400	220	140	44	2/10

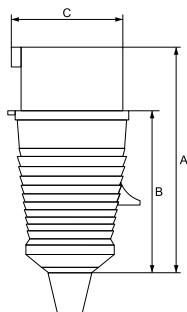


Catalogue number	Model	In (A)	Poles 	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37115	HT-115	16	3P+N+E	400	129	96	44	2/10/60
37125	HT-125	32	3P+N+E	400	141	98	44	2/10/60
37135	HT-135	63	3P+N+E	400	193	122	44	2/10
37145	HT-145	125	3P+N+E	400	220	140	44	2/10



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

MOVABLE INDUSTRIAL PLUGS HTN TYPE IP67



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37131	HTN 0131	16	1P+N+E	230	120	71	12	67	1 / 60
37231	HTN 0231	32	1P+N+E	230	150	93	17	67	1 / 40



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37141	HTN 0141	16	3P+E	400	125	79	12	67	2/60
37241	HTN 0241	32	3P+E	400	150	93	17	67	2/40
37341	HTN 0341	63	3P+E	400	230	109	36	67	10
37441	HTN 0441	125	3P+E	400	230	109	36	67	10

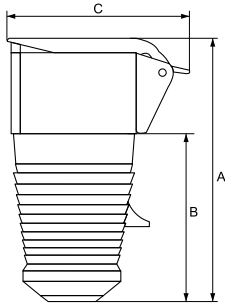


Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37151	HTN 0151	16	3P+N+E	400	133	87	12	67	2/60
37251	HTN 0251	32	3P+N+E	400	155	99.5	17	67	2/40
37351	HTN 0351	63	3P+N+E	400	230	109	36	67	10
37451	HTN 0451	125	3P+N+E	400	295	124	50	67	10



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

## MOVABLE INDUSTRIAL SOCKET HTN TYPE IP67



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37831	HTN 2131	16	1P+N+E	230	131	90	67	2/60
37931	HTN 2231	32	1P+N+E	230	149	90	67	2/40



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37841	HTN 2141	16	3P+E	400	131	76	67	2/60
37941	HTN 2241	32	3P+E	400	149	90	67	2/40
37942	HTN 2341	63	3P+E	400	271	115	67	10
37943	HTN 2441	125	3P+E	400	295	137	67	6

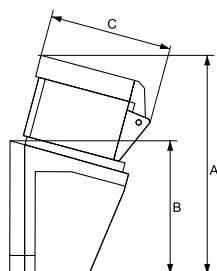


Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)		IP code	Packing/Box
					A	C		
37851	HTN 2151	16	3P+N+E	400	139	90	67	2/60
37951	HTN 2251	32	3P+N+E	400	154	100	67	2/40
37952	HTN 2351	63	3P+N+E	400	240	112	67	10
37953	HTN 2451	125	3P+N+E	400	300	126	67	6



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

FIXED INDUSTRIAL SOCKET HTN TYPE IP67



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37731	HTN 1131	16	1P+N+E	230	101	150	93.5	67	2/40
37631	HTN 1231	32	1P+N+E	230	114	162	93.5	67	2/40



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37741	HTN 1141	16	3P+E	400	104	150	93.5	67	2/40
37641	HTN 1241	32	3P+E	400	116	162	93.5	67	2/40
37842	HTN 1341	63	3P+E	400	171	170	230	67	1/10
37844	HTN 1441	125	3P+E	400	171	170	230	67	1/6



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37751	HTN 1151	16	3P+N+E	400	107	150	93.5	67	2/40
37651	HTN 1251	32	3P+N+E	400	116	162	93.5	67	2/40
37852	HTN 1351	63	3P+N+E	400	171	170	230	67	10
37854	HTN 1451	125	3P+N+E	400	171	170	230	67	6



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

## INDUSTRIAL SOCKETS FOR FLUSH MOUNTING HT TYPE IP44



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37413	HT-413	16	1P+N+E	230	70	60	67	44	2/10/60
37423	HT-423	32	1P+N+E	230	80	95	79	44	2/10/60



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37414	HT-414	16	3P+E	400	75	86	75	44	2/10/60
37424	HT-424	32	3P+E	400	80	95	79	44	2/10/60



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37415	HT-415	16	3P+N+E	400	75	85	70	44	2/10/60
37425	HT-425	32	3P+N+E	400	98	98	83	44	2/10/60



Catalogue number	Model	In (A)	Poles	Un (V)	Dimensions (mm)			IP code	Packing/Box
					A	B	C		
37105	HT-105SR	16	German type	230	50	63	42	44	500



### GERMAN TYPE SOCKET FOR DIN RAIL MOUNTING

It provides plug presence in electric boards and easy cabling.

- Supply voltage: 230V
- Computing option: up to 16A

- Operation temperature: from -10 up to +65°C
- Humidity: up to 85%RH

- Mounting method:
- DIN rail

Catalogue number	Type	Poles	Packing / Box (pcs)
37004	German type socket for DIN rail	German type	5/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

## INDUSTRIAL BOARD SYSTEM EC690 SERIES

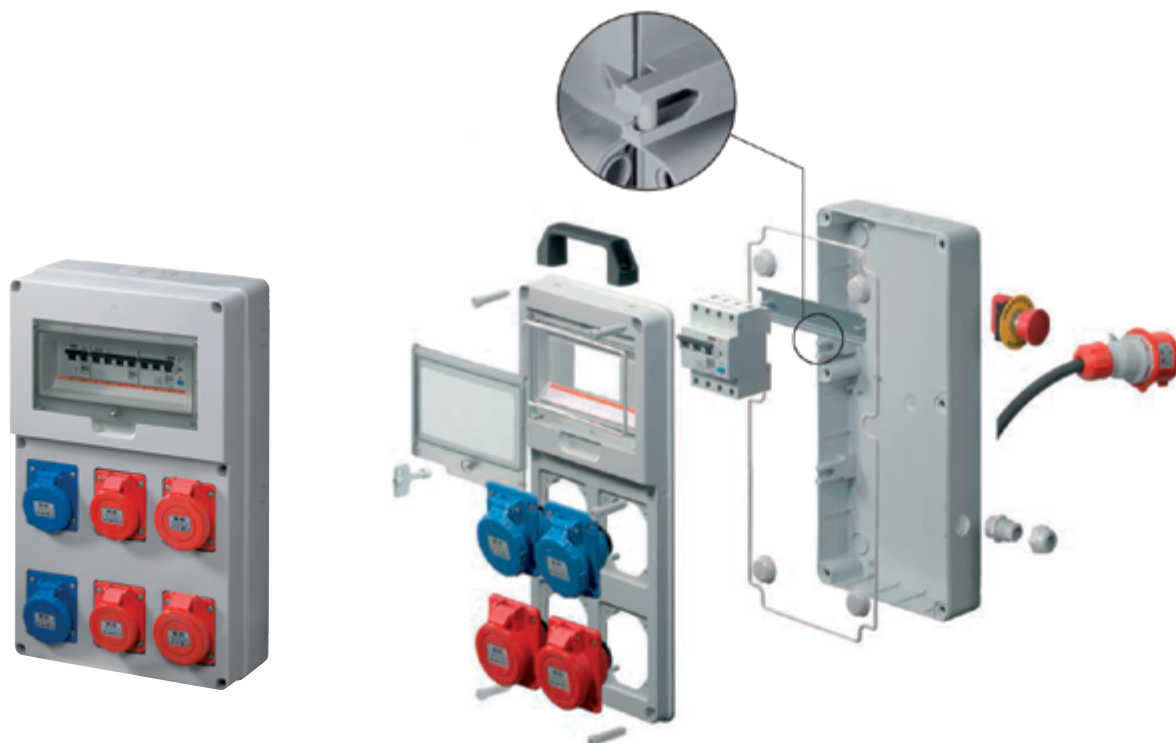
### Documents corresponding to the product:

Standard IEC60670; CEI 23-48; CEI 23-49; EN 50102

Distribution boards 690 series can be safely used for temporary installation such as construction sites, markets, fairs, etc. They are entirely made up of UV-resistant halogen free technopolymer on ABS- base. They are suitable for outdoor use, thanks to the high impact resistance. The distribution boards are fit to use in different options- movable with handle or fixed on the wall. The distribution boards are suitable with sockets with mounting flange with screw hole center distance 60x60mm.

### TECHNICAL DATA

- Material: shock resistant, halogen free technopolymer on ABS base with resistance to UV rays.
- Colour: grey RAL 7035
- IP code: IP65
- Resistance to mechanical shock: IK08-IK10(shocks up to 6-20j)
- Resistance to abnormal heat: up to 650°C( Glow Wire Test, Reference Standard IEC 695-2-1
- Installation temperature range: min-15°C, max+60°C
- DIN rail material: galvanized steel
- Pre-cuts for conduit or cable inlet of different sizes.
- Standards: IEC60670; CEI 23-48; CEI 23-49; EN 50102
- RoHS 2002/95/CE



**5 YEARS TOTAL WARRANTY**  
 + 5 standard  
 0 extended





### EMPTY DISTRIBUTION BOARD EC690 SERIES 2 VERTICAL SOCKETS

Catalogue number	Type	Number of modules	IP code	Dimensions (mm)			Packing pcs/box
				W	H	D	
53EC69021	EC69021	4	65	105	337	95	1/15



### EMPTY DISTRIBUTION BOARD EC690 SERIES 3 VERTICAL SOCKETS

Catalogue number	Type	Number of modules	IP code	Dimensions (mm)			Packing pcs/box
				W	H	D	
53EC69022	EC69022	4	65	105	430	95	1/13



### EMPTY DISTRIBUTION BOARD EC690 SERIES 4 SOCKETS

Catalogue number	Type	Number of modules	IP code	Dimensions (mm)			Packing pcs/box
				W	H	D	
53EC69023	EC69023	8	65	200	430	95	1/10



### EMPTY DISTRIBUTION BOARD EC690 SERIES 6 SOCKETS

Catalogue number	Type	Number of modules	IP code	Dimensions (mm)			Packing pcs/box
				W	H	D	
53EC69025	EC69025	12	65	320	510	135	1



\* All boards are not compatible with all industrial plugs and sockets we offer. Some of the equipment requires additional adaptation, for this we recommend ordering an equipped panel, according to your needs, published on the next two pages of the catalog.  
For sockets with 60x60mm hole center distance.

**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



**ASSEMBLED DISTRIBUTION BOARD 690 SERIES 2 VERTICAL SOCKETS, 4 MODULES**

Catalogue number	Empty board type					IP code
		German type	1P+N+E	3P+N	3P+N+E	
53EC690212A1	EC69021		1x16A+1x32A			44
53EC690212A2	EC69021		1x16A		1x16A	44
53EC690212A3	EC69021		1x16A	1x16A		44
53EC690212A4	EC69021	2x16A				44
53EC690212B1	EC69021		1x16A+1x32A			67
53EC690212B2	EC69021		1x16A		1x16A	67
53EC690212B3	EC69021		1x16A	1x16A		67

• Dimensions W x H x D: 105 x 337 x 95mm



**ASSEMBLED DISTRIBUTION BOARD 690 SERIES 3 VERTICAL SOCKETS, 4 MODULES**

Catalogue number	Empty board type					IP code
		German type	1P+N+E	3P+N	3P+N+E	
53EC690223A1	EC69022		1x16A+1x32A		1x16A	44
53EC690223A2	EC69022		1x32A		1x16A+1x32A	44
53EC690223A3	EC69022		1x16A+1x32A	1x16A		44
53EC690223A4	EC69022		1x32A	1x16A+1x32A		44
53EC690223A5	EC69022	2x16A	1x16A			44
53EC690223B1	EC69022		1x16A+1x32A		1x16A	67
53EC690223B2	EC69022		1x32A		1x16A+1x32A	67
53EC690223B3	EC69022		1x16A+1x32A	1x16A		67
53EC690223B4	EC69022		1x32A	1x16A+1x32A		67

• Dimensions W x H x D: 105 x 430 x 95mm



**ASSEMBLED DISTRIBUTION BOARD 690 SERIES 4 SOCKETS, 8 MODULES**

Catalogue number	Empty board type					IP code
		German type	1P+N+E	3P+N	3P+N+E	
53EC690234A1	EC69023		1x16A+1x32A		1x16A+1x32A	44
53EC690234A2	EC69023		2x32A		2x16A	44
53EC690234A3	EC69023		1x16A+1x32A	1x16A+1x32A		44
53EC690234A4	EC69023		2x32A	2x16A		44
53EC690234A5	EC69023	2x16A	1x16A+1x32A			44
53EC690234A6	EC69023	2x16A		1x16A+1x32A		44
53EC690234B1	EC69023		1x16A+1x32A		1x16A+1x32A	67
53EC690234B2	EC69023		2x32A		2x16A	67
53EC690234B3	EC69023		1x16A+1x32A	1x16A+1x32A		67
53EC690234B4	EC69023		2x32A	2x16A		67





• Dimensions W x H x D: 200 x 430 x 95mm

\* If you need equipment with items other than those listed in the kits, please contact your sales representative or send an inquiry on [info@elmarkholding.eu](mailto:info@elmarkholding.eu), to prepare an individual offer, according to your needs.

**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### ASSEMBLED DISTRIBUTION BOARD 690 SERIES 6 SOCKETS, 12 MODULES

Catalogue number	Empty board type					IP code
		German type	1P+N+E	3P+N	3P+N+E	
53EC690256A1	EC69025		2x16A+1x32A		2x16A+1x32A	44
53EC690256A2	EC69025		1x16A+2x32A		1x16A+2x32A	44
53EC690256A3	EC69025		2x16A+1x32A	2x16A+1x32A		44
53EC690256A4	EC69025		1x16A+2x32A	1x16A+2x32A		44
53EC690256A5	EC69025	3x16A	2x16A+1x32A			44
53EC690256A6	EC69025	2x16A	1x16A	2x16A+1x32A		44
53EC690256B1	EC69025		2x16A+1x32A		2x16A+1x32A	67
53EC690256B2	EC69025		1x16A+2x32A		1x16A+2x32A	67
53EC690256B3	EC69025		2x16A+1x32A	2x16A+1x32A		67
53EC690256B4	EC69025		1x16A+2x32A	1x16A+2x32A		67



Dimensions W x H x D: 320 x 510 x 135mm

*\* If you need equipment with items other than those listed in the kits, please contact your sales representative or send an inquiry on info@elmarkholding.eu, to prepare an individual offer, according to your needs.*

### SPARE FLANGE WITH SCREWS AND GASKETS

Catalogue number	Type	Dimensions (mm)		Packing pcs/box
		W	H	
53EC690F1	EC690F1	85	74	1/10



The flange mounted is used for closing of the factory maid openings, in case there is no switch for it at the moment, and assures the necessary IP of the board. Another function is assuring the possibility for mounting of great number of additional appliances within assembling the board when making a suitable opening in the flange.



Spare flange with mounted limit switch



Limit switch page 153



Spare flange with mounted stop button



Stop button page 161

### HANDLE WITH SCREWS

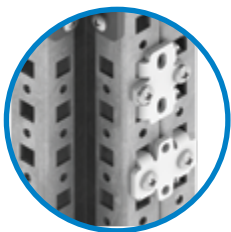
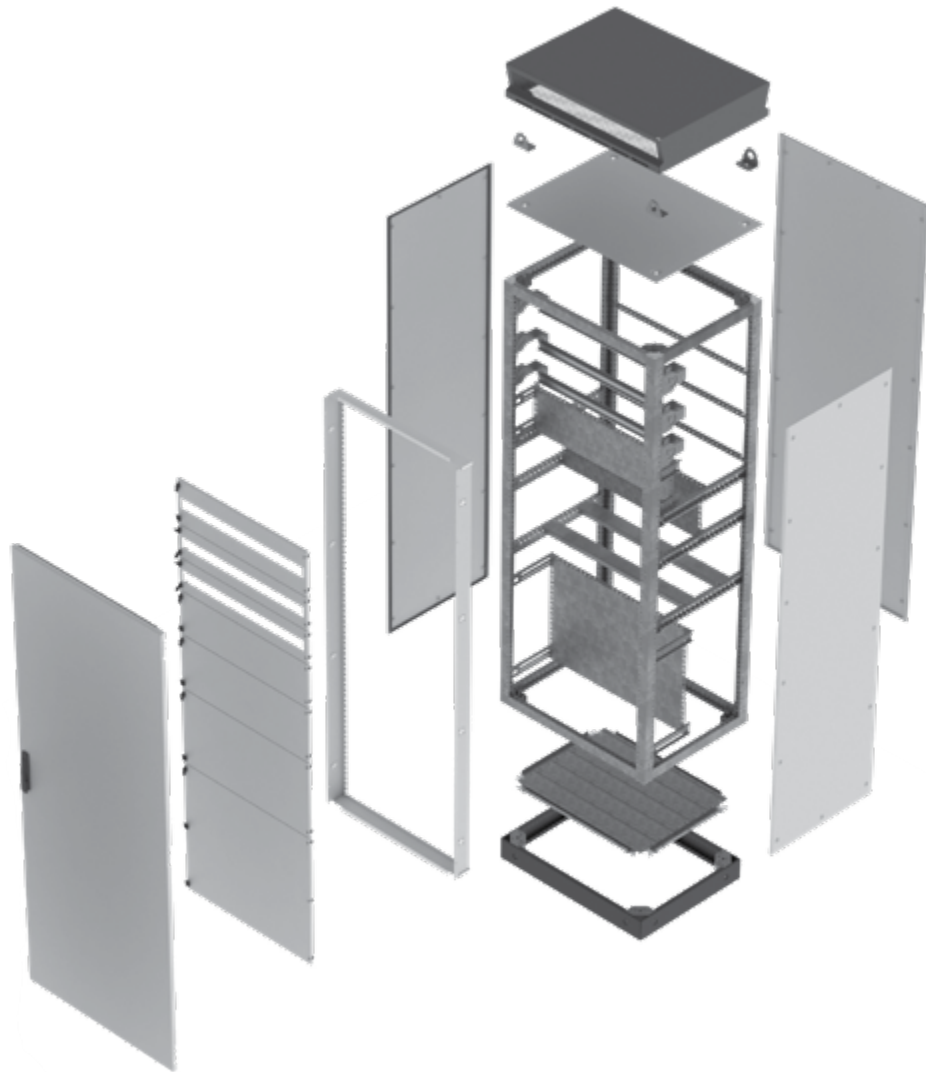
Catalogue number	Type	Dimensions (mm)			Packing pcs/box
		W	H	D	
53EC690MA	EC690MA	134	42	25.6	1/10



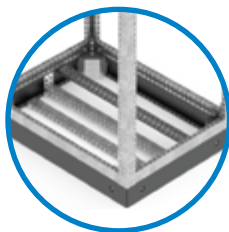
It assures a convenience when carrying the board.

**5 YEARS TOTAL WARRANTY**  
+ 5 standard 0 extended

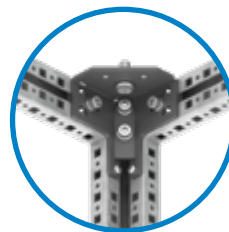
ASSEMBLED MODULAR DISTRIBUTION ENCLOSURES MATRIX, SERIES



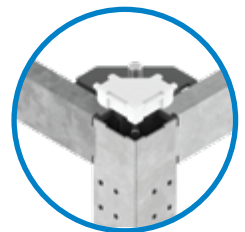
Enclosure connection system (with Nails).



Helps easier cable entrance from under plinth.



Corner, 4mm thickness for much stronger and useful for all sizes.



Vertical profiles set - Top stopper for much higher sealing.

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## ASSEMBLED MODULAR DISTRIBUTION ENCLOSURES WITHOUT MOUNTING PLATES SET MATRIX, SERIES

### FEATURES

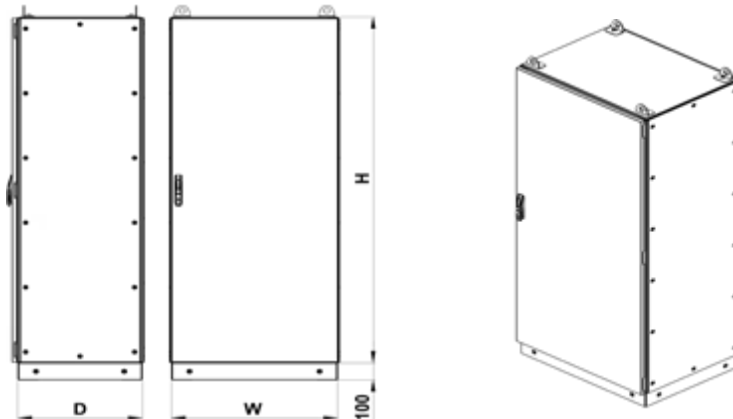
- Latest moduler system
- Possibility to dismantled after initial assembling
- Easy montage. Installation in 8 - 10 minute.
- Base covers can be removed from 4 corners. This feature provides ease of transportation and assembly.
- Mounting plate with adjustable depth, specially designed for automation

### MAIN INFORMATION

- Series: MATRIX
- Application: Multi-purpose
- Mounting: Floor-standing
- Items included in the set
  - > Vertical profiles, SET
  - > Tor cover panel
  - > Front door
  - > Back panel
  - > Enclosure ground plint
  - > Housing for ground mounting
- Dimensions WxHxD:
  - > 600x2000x600mm
  - > 800x2000x600mm



Catalogue number	Type	Dimensions (mm)			Packing/Box
		W	H	D	
53SET6060	Matrix-600	600	2000	600	1
53SET8060	Matrix-800	800	2000	600	1



### DETAILED DESCRIPTION OF ASSEMBLED MODULAR DISTRIBUTION ENCLOSURES WITHOUT MOUNTING PLATES, INCLUDED IN THE SET:

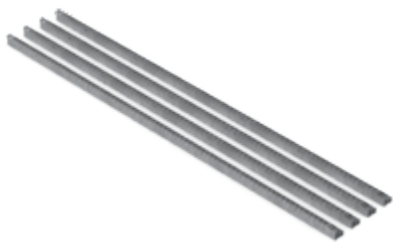
#### 53SET6060

- > 53DPT200: DPT-Vertical profiles 2000 (mm): 1 set
- > 53UKT6060: UKT- top panel set for 600x2000x600 (mm): 1 set
- > 53OKT60200: OKT- Front door for 600x2000x600 (mm): 1 set
- > 53SKT60200: SKT- Side/back panel SET for 600X2000 (mm)- 1 set
- > 53BTZ6060: BZT- Housing for ground mounting 600X2000X600: 1 set

#### 53SET8060

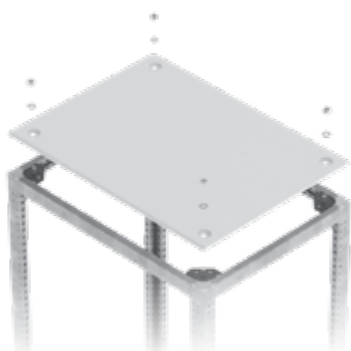
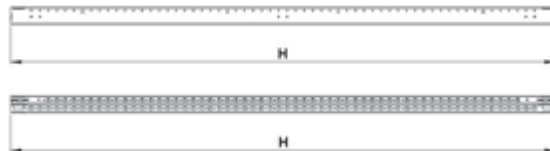
- > 53DPT200: DPT-Vertical profiles 2000 (mm): 1 set
- > 53UKT8060: UKT- top panel set for 800x2000x600 (mm): 1 set
- > 53OKT80200: OKT- Front door for 800x2000x600 (mm): 1 set
- > 53SKT80200: SKT- Back panel SET for 800X2000 (mm)- 1 set
- > 53BTZ8060: BZT- Housing for ground mounting 800X2000X600: 1 set

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



### DPT- VERTICAL PROFILES, SET

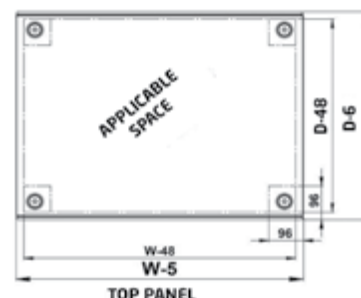
Catalogue number	Type	Length (mm)	QTY in the SET	Packing/SET
53DPT200	DPT-2000	2000	4	1



### UKT- TOP PANELS, SET

Catalogue number	Type	Dimensions (mm)		Packing/ SET
		W	D	
53UKT6060	UKT-600	600	600	1
53UKT8060	UKT-800	800	600	1

- The set includes: Panel and all fixing elements



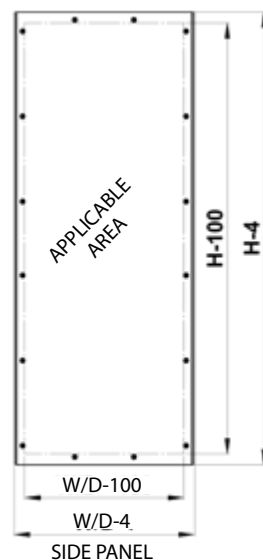
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



### SKT- SIDE AND BACK PANELS

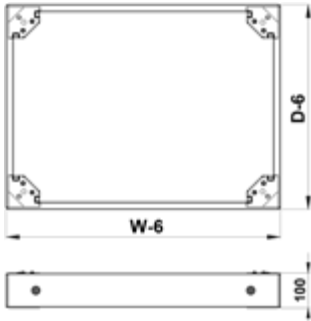
Catalogue number	Type	Dimensions (mm)		Packing/ SET
		H	W	
53SKT60200	SKT-600	2000	600	1
53SKT80200	SKT-800	2000	800	1

- Panel with dimensions 600x2000mm is suitable for side and back cover for enclosures with width of 600mm
- Panel with dimensions 800x2000mm is suitable only for back cover for enclosures with width of 800mm
- The set includes: Panel and all fixing elements





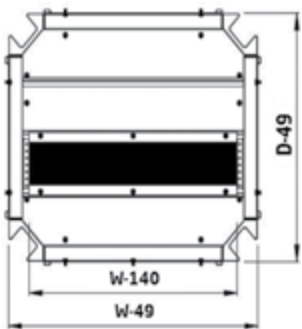
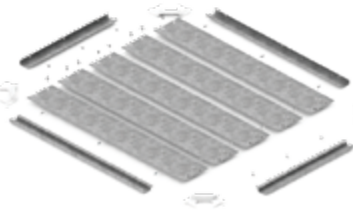
### BZT- HOUSING (PLINTH) FOR GROUND MOUNTING



Catalogue number	Type	Dimensions (mm)		Packing/ SET
		W	H	
53BTZ6060	BZT-600	600	600	1
53BTZ8060	BZT-800	800	600	1

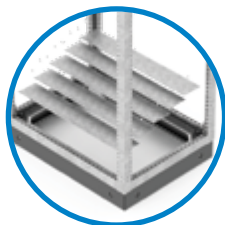


### AOT- BOTTOM PLATE SET

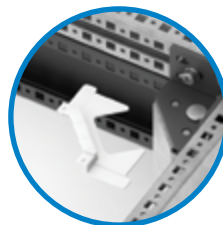


Catalogue number	Type	Dimensions (mm)		Packing/ SET
		W	D	
53AOT6060	AOT-600	600	600	1
53AOT8060	AOT-800	800	600	1

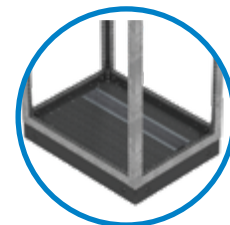
- The set includes all needed elements and fixing accessories:
  - > Bottom plate rail;
  - > Bottom plate corner;
  - > Bottom plate brushes.



Bottom plate rail and itself can be put on enclosure anytime.



Bottom Plate Corner Plastic can be attached after assembly.



Bottom Plate Brushes can be added after assembly.

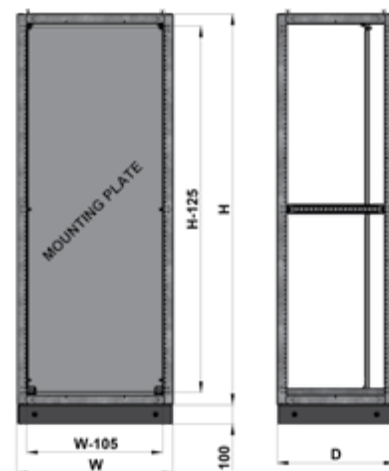
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



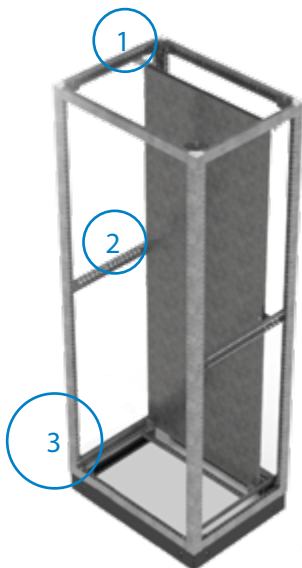
**MPT- MOUNTING PLATE SET**

Catalogue number	Type	Dimensions (mm)		Packing/ SET
		W	H	
53MPT60200	MPT-600	600	2000	1
53MPT80200	MPT-800	800	2000	1

- The set includes:
  - > Mounting plate;
  - > Fixing accessories.



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

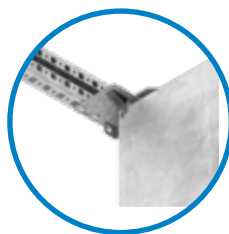


**MPR- MOUNTING PLATE RAIL SET**

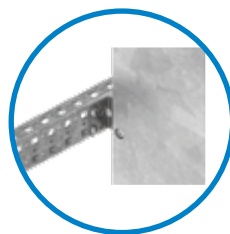
Catalogue number	Type	Depth (mm)	Packing/ SET
53MPR60	MPR-600	600	1



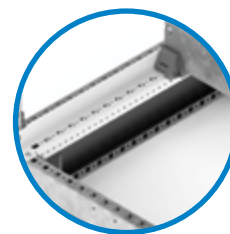
**MPR- Mounting Plate Fixings**



1



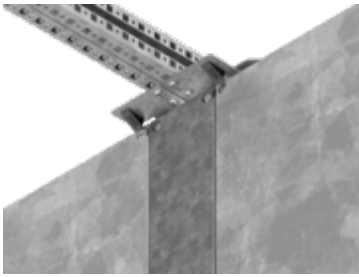
2



3

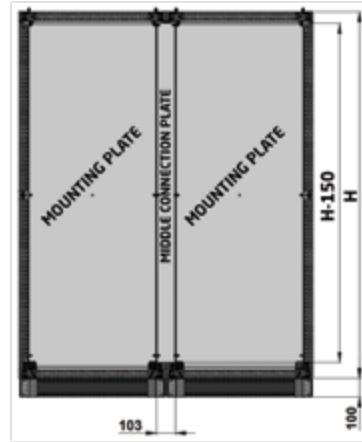
Rail and wheel system makes mounting plate installation easier.

**MAT- MIDDLE CONNECTION PLATE**

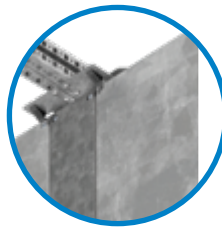
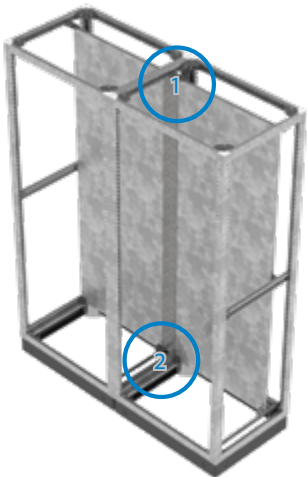


Catalogue number	Type	Height (mm)	Packing/ SET
53MAT200	MAT-2000	2000	1

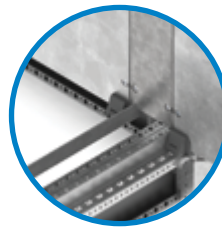
- The set includes:
  - Middle connection plate;
  - Fixing accessories for fastening.



**MAT- Middle Connection Plate Fixings**



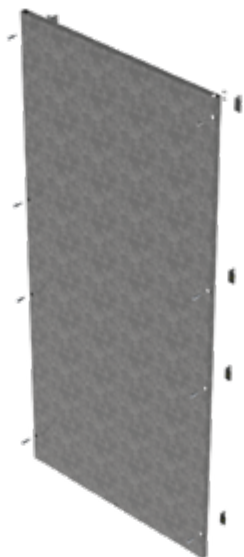
1



2

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

### OTT- AUTOMATION MOUNTING PLATES

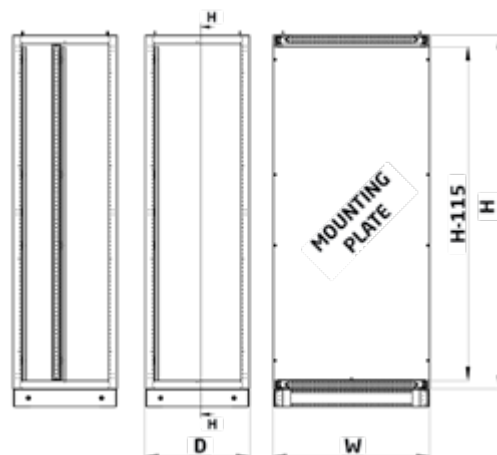
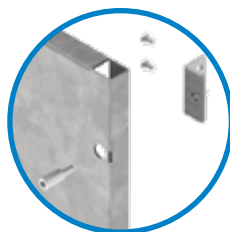


Catalogue number	Type	Dimensions (mm)		Packing/ SET
		W	H	
53OTT60200	OTT-600	600	2000	1
53OTT80200	OTT-800	800	2000	1

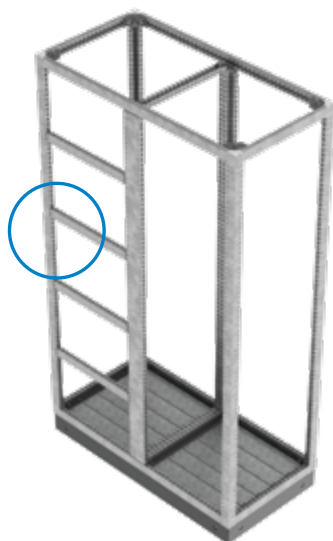
- The set includes:
  - Automation mounting plate;
  - Fixing accessories for fastening.



#### OTT- Automation Plate Fixings



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



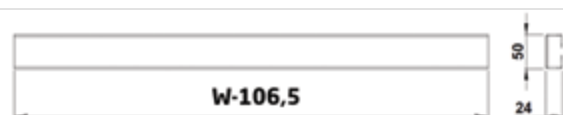
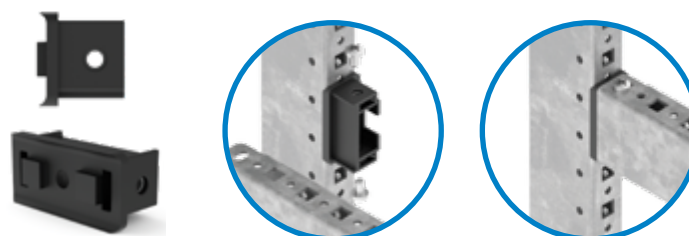
### YBT- HORIZONTAL SPLITTING SET

Catalogue number	Type	Width (mm)	Packing/ SET
53YBT60	YBT-600	600	1
53YBT80	YBT-800	800	1

- The set includes:
  - Horizontal splitting element;
  - Fixing accessories.



#### YBT- Horizontal Splitting Fixings



Side Gaskets for higher protection at the point of connect.

### DBT- VERTICAL SPLITTING SET

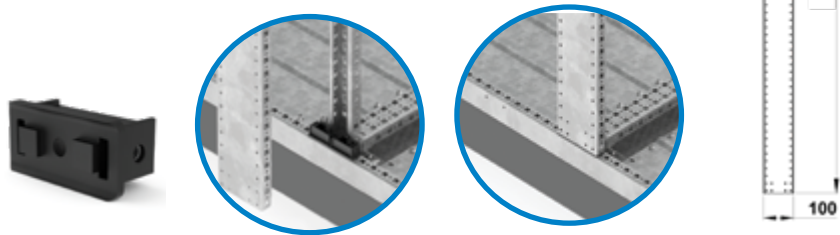


Catalogue number	Type	Height (mm)	Packing/ SET
53DBT200	DBT-2000	2000	1

- The set includes:
  - > Vertical splitting element;
  - > Fixing accessories.



#### DBT- Vertical Splitting Fixing Sets



Gaskets for higher protection and tightness at the point of connect.

### PPT- COVER PLATE MOUNTING SET

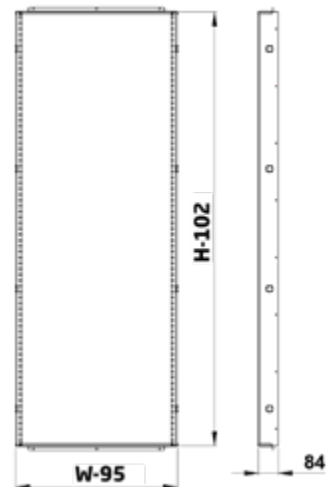
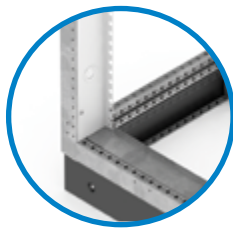


Catalogue number	Type	Dimensions (mm)		Packing/ SET
		W	H	
53PPT60200	PPT-600	600	2000	1
53PPT80200	PPT-800	800	2000	1

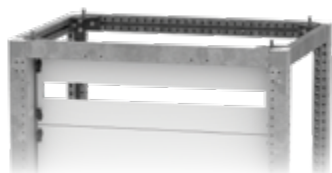
- The set includes:
  - > Cover plate;
  - > Fixing accessories.



#### PPT - Cover Plate Mounting Set



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

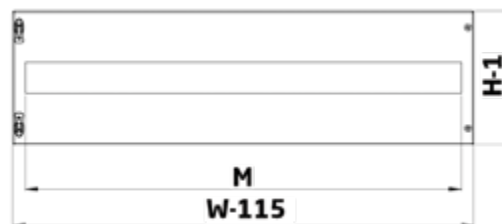


PWT- Cover plate for MCB's

**PWT- COVER PLATES FOR 24/36 MODULES, SET**

Catalogue number	Type	Number of modules	Dimensions (mm)		Packing/ SET
			W	H	
53PWT6020	PWT-600	24	600	200	1
53PWT8020	PWT-800	36	800	200	1

- The set includes:
  - Cover plate;
  - Fixing accessories.



Special design locking system for cover plates.



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



PRT- Blank cover plate set

**PRT- COVER PLATES, SET**

Catalogue number	Type	Dimensions (mm)		Packing/ SET
		W	H	
53PRT6020	PRT-600/200	600	200	1
53PRT8020	PRT-800/200	800	200	1
53PRT6050	PRT-600/500	600	500	1
53PRT8050	PRT-800/500	800	500	1

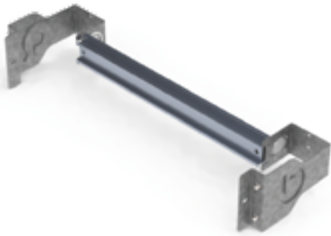
- The set includes:
  - Cover plate;
  - Fixing accessories.



Special design locking system for cover plates.





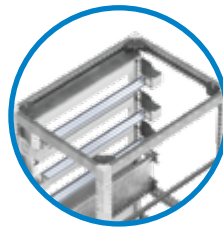
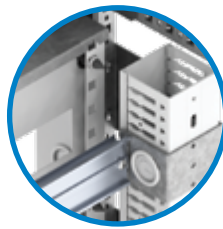


Rail Fixing Set

### RAT- DIN RAIL FIXING, SET

Catalogue number	Type	Width (mm)	Packing/ SET
53RAT60	RAT-600	600	1
53RAT80	RAT-800	800	1

- The set includes:
  - > DIN rail;
  - > Fixing accessories.

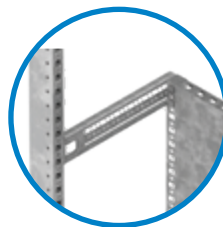
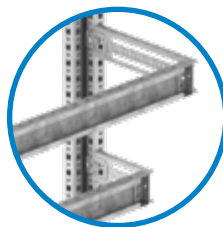
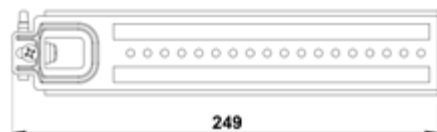
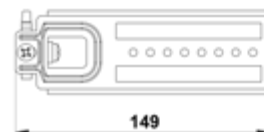


DAT- Depth Adjustment Set

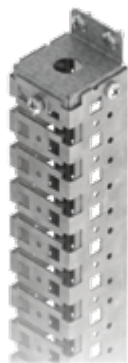
### DAT- DEPTH ADJUSTMENT, SET

Catalogue number	Type	Length (mm)	Packing/ SET
53DAT12	DAT-12	149	1
53DAT22	DAT-22	249	1

- The set includes:
  - > Depth adjustment element;
  - > Fixing accessories.



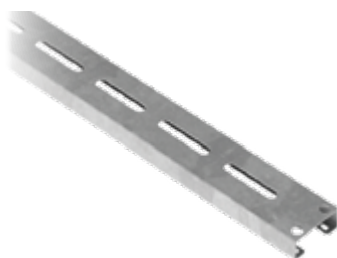
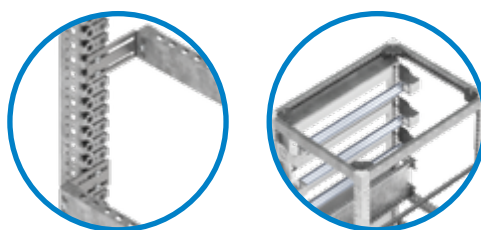
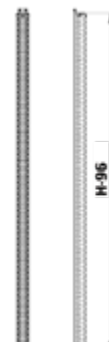
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



### TDT- INTERNAL VERTICAL CARRIER PROFILE, SET

Catalogue number	Type	Height (mm)	Packing/ SET
53TDT200	TDT-2000	2000	1

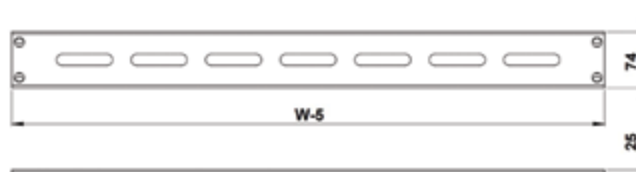
- The set includes:
  - > Internal profile;
  - > Fixing accessories.



### AET- HEAVY EQUIPMENT, SET

Catalogue number	Type	Width (mm)	Packing/ SET
53AET60	AET-600	600	1
53AET80	AET-800	800	1

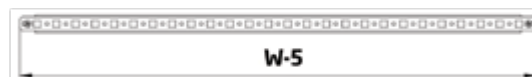
- The set includes:
  - > Internal profile;
  - > Fixing accessories.



### KTT- CABLE FIXING, SET

Catalogue number	Type	Width (mm)	Packing/ SET
53KTT60	KTT-600	600	1
53KTT80	KTT-800	800	1

- The set includes:
  - > Cable fixing element;
  - > Fixing accessories.



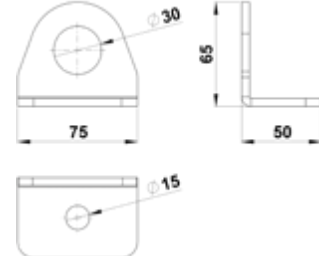
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

**ATT-1 SINGLE LIFTING LUG, SET**

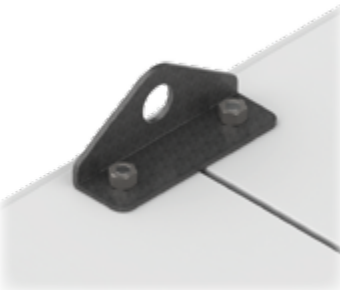


Catalogue number	Type	Dimensions (mm)			Packing/ SET
		W	H	D	
53ATT001	ATT-1	75	65	50	1

- The set includes:
  - > Single lifting lug;
  - > Fixing accessories.

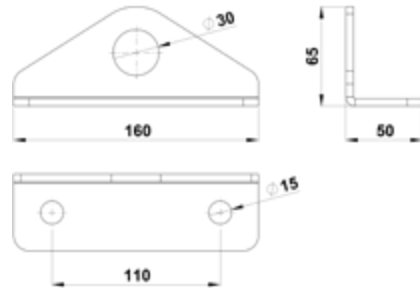


**ATT-2 DOUBLE LIFTING LUG, SET**

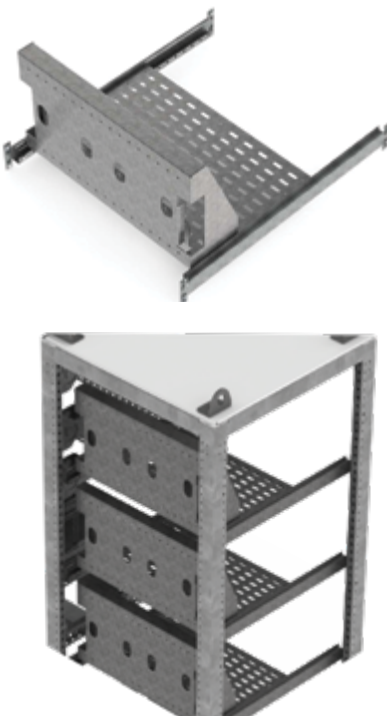


Catalogue number	Type	Dimensions (mm)			Packing/ SET
		W	H	D	
53ATT002	ATT-2	160	65	50	1

- The set includes:
  - > Double lifting lug;
  - > Fixing accessories.

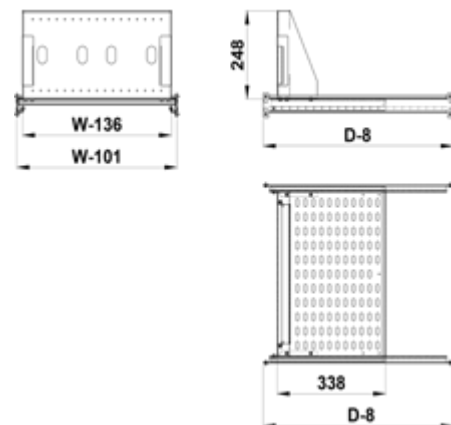


**CMT- DRAWER MODULE, SET**



Catalogue number	Type	Dimensions (mm)		Packing/ SET
		W	D	
53CMT6060	CMT-600	600	600	1
53CMT8060	CMT-800	800	600	1

- The set includes:
  - > Drawer module;
  - > Fixing accessories.



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



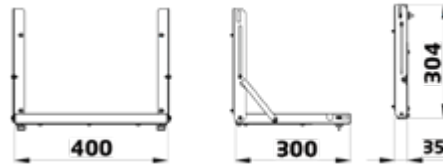
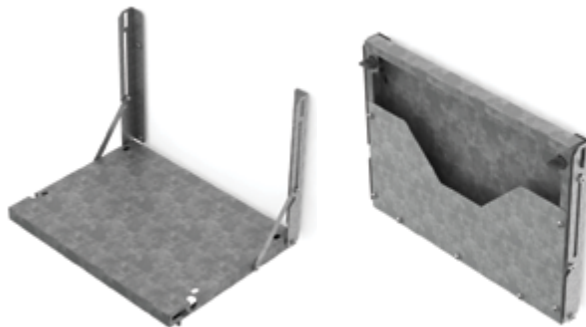
**LPT- LAPTOP TABLES, SET**

Catalogue number	Type	Dimensions (mm) W	Packing/ SET
53LPT60	LPT-600	600	1
53LPT80	LPT-800	800	1

- The set includes:
  - > Laptop table;
  - > Additional accessories.



LPT - Laptop table set



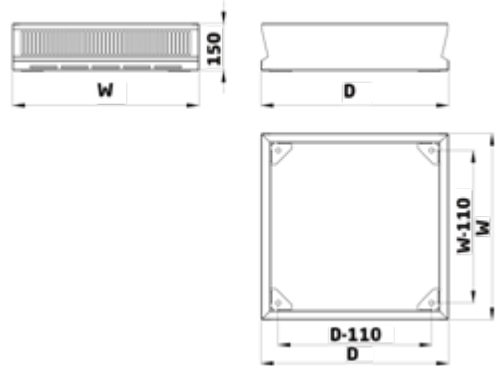
**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended



### UHT- ROOF VENTILATION, SET

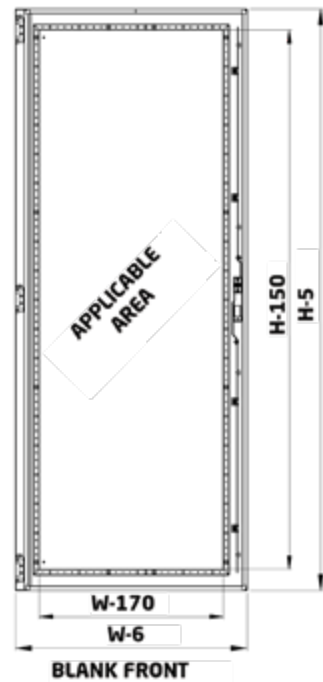
Catalogue number	Type	Dimensions (mm)		Packing/ SET
		W	D	
53UHT6060	UHT-600	600	600	1
53UHT8060	UHT-800	800	600	1

- The set includes:
  - > Ventilation roof;
  - > Additional accessories.



### OKT- BLANK FRONT DOORS

Catalogue number	Type	Dimensions (mm)		Packing/ SET
		W	H	
53OKT60200	OKT-600	600	2000	1
53OKT80200	OKT-800	800	2000	1



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

ACCESSORIES FOR MODULAR DISTRIBUTION ENCLOSURES

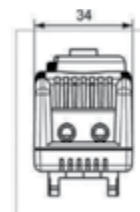
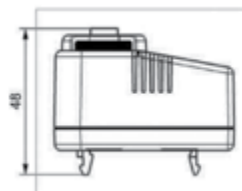
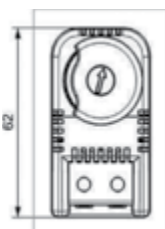


**MECHANICAL THERMOSTAT FOR HEATERS**

**TECHNICAL DATA**

- Rated voltage: 250V AC
- Rated current: 10A
- Temperature setting range: 0-60°C
- Type of switch function: NC
- Contact type: Snap action
- Colour of potentiometer: Red
- Sensor type: Bi-metal
- Electrical connection: 2-Pole terminal
- Material: UL94 V0 ABS flame retardant
- Protection degree: IP20
- Working temperature: -25~+80°C
- Mounting: On DIN rail
- Installation position: Variable
- Sizes (HxWxD): 61x34x38 mm

Catalogue number	Rated current (A)	Contact function	Temperature range (C°)	Potentiometer colour	Packing/Box
53300	10	NC	0-60°	Red	1



**3 YEARS TOTAL WARRANTY**  
+ 2 standard  
1 extended

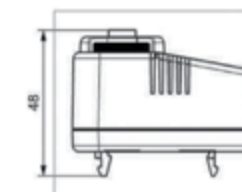
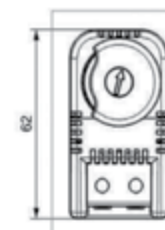


**MECHANICAL THERMOSTAT FOR FANS**

**TECHNICAL DATA**

- Rated voltage: 250V AC
- Rated current: 15A
- Temperature setting range: 0-60°C
- Type of switch function: NO
- Contact type: Snap action
- Colour of potentiometer: Blue
- Sensor type: Bimetal
- Electrical connection: 2-Pole terminal
- Material: UL94 V0 ABS flame retardant
- Protection degree: IP20
- Working temperature: -25~+80°C
- Mounting: On DIN rail
- Installation position: Variable
- Sizes (HxWxD): 61x34x38 mm

Catalogue number	Rated current (A)	Contact function	Temperature range (C°)	Potentiometer colour	Packing/Box
53301	10	NO	0-60°	Blue	1





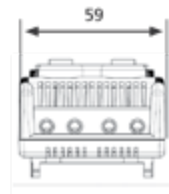
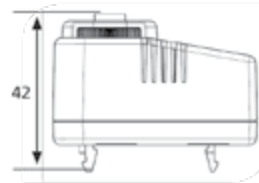
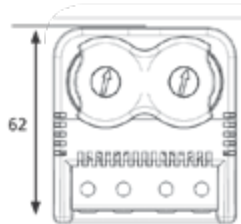


### DUAL THERMOSTAT FOR FANS

#### TECHNICAL DATA

- Rated voltage: 250V AC
- Rated current: 10A
- Temperature setting range: 0-60°C
- Type of switch function: NC+NO
- Contact type: Snap action
- Colour of potentiometer: Red + Blue
- Sensor type: Bi-metal
- Electrical connection: 4-Pole terminal
- Material: UL94 V0 ABS flame retardant
- Protection degree: IP20
- Working temperature: -25~+80°C
- Mounting: On DIN rail
- Installation position: Variable
- Sizes (HxWxD): 65x59x42 mm

Catalogue number	Rated current (A)	Contact function	Temperature range (C°)	Potentiometer colour	Packing/Box
53302	10	NC+NO	0-60°	Red+Blue	1

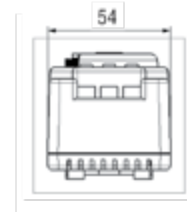
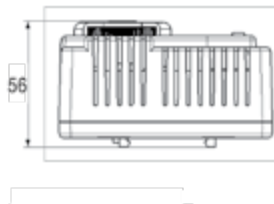
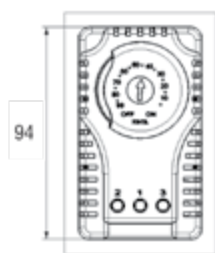


### MECHANICAL HYGROSTAT

#### TECHNICAL DATA

- Setting range: 10-90% RH
- Colour of potentiometer: Black
- Sensor type: Polyamide ribbon
- Differential: 5%
- Electrical connection: 3-Pole terminal
- Protection degree: IP20
- Working temperature: -25~+60°C
- Mounting: On DIN rail
- Sizes (HxWxD): 94x56x54 mm

Catalogue number	Rated current (A)	Humidity range (% RH)	Potentiometer colour	Packing/Box
53303	5	10-90	Black	1



**3 YEARS TOTAL WARRANTY**  
+ 2 standard  
1 extended

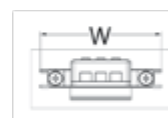
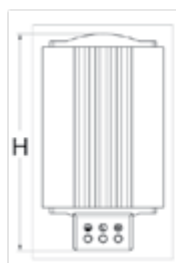


### PTC SLIM HEATERS

#### TECHNICAL DATA

- Rated voltage: 100-250V AC/DC
- Heating element type: PTC resistor, self regulating
- Over current protection: Electronic thermal overload
- Electrical connection: 3-Pole terminal
- Protection class: II
- Protection degree: IP20
- Working temperature: -25~+70°C
- Radiator: Aluminum profile, anodized
- Mounting: On DIN rail
- Installation position: Best efficiency in vertical position

Catalogue number	Power (W)	Rated current (A)	Dimensions (mm)			Packing/Box
			H	W	D	
53318	30	2	148	80	27	1
53319	50	2	148	80	27	1
53320	100	4	166	80	27	1



**3 YEARS TOTAL WARRANTY**  
+ 2 standard  
1 extended

### FANS WITH FILTERS

#### TECHNICAL DATA

- Rated voltage: 250V AC, 50/60Hz
- Over current protection: Impedance
- Electrical connection: Lead wire
- IP Degree: IP54
- Working temperature: -10~+70°C
- Flow direction: Outside-in
- Plastic material: UL94 V0 ABS flame retardant
- RAL: 7035
- Mounting: via clips (fast clip on)



Catalogue number	Power (W)	Air flow rate (m³/h)	Current consumption (A)	Noise level (dB)	Dimensions (mm)			Packing/Box
					H	W	D	
53314	14	30	0.08	28	120	120	58.5	1
53315	26	100	0.14	42	160	160	69	1
53316	26	125	0.14	42	210	210	98	1
53317	37	240	0.23	52	260	260	103	1





## FILTERS

### TECHNICAL DATA

- IP Degree: IP54
- Working temperature: -10~+70°C
- Plastic material: UL94 V0 ABS flame retardant
- RAL: 7035
- Mounting: via clips (fast clip on)

Catalogue number	Dimensions (mm)			Packing/Box
	H	W	D	
53310	120	120	20.5	1
53311	160	160	31	1
53312	210	210	31	1
53313	260	260	31	1



**3 YEARS TOTAL WARRANTY**  
+ 2 standard  
1 extended

COMMUNICATION CABINET RACKS - DATA SERIES

**WALL MOUNT CABINET RACKS, DATA SERIES**

Premium rack enclosure cabinet, DATA series is suitable for quick and easy deployment in secure, high-density server, telecommunication and IT networking environments.



**TECHNICAL DATA**

- Material: High quality cold rolled steel
- Steel thickness: 1.5mm of profiles and 1.0mm of others
- Front door material: tempered glass
- Door thickness: 5.0mm
- Colour: Black RAL 9004

Wall mounted rack cabinet includes:

- 1 cabinet
- 1 layer board
- 1 bag of nuts and bolts
- 1 set of universal keys

*NOTE: All cabinets are delivered disassembled.*

Catalogue number	Type	Layer QTY	Dimensions (mm)		
			L	H	W
53350	Wall mount cabinet rack 4U	1	300	226	95
53351	Wall mount cabinet rack 9U	1	500	226	95
53352	Wall mount cabinet rack 12U	1	650	226	95
53353	Wall mount cabinet rack 15U	1	855	226	95



**FREE STANDING CABINET RACK, DATA SERIES**

Premium rack enclosure cabinet, DATA series is suitable for quick and easy deployment in secure, high-density server, telecommunication and IT networking environments.



**TECHNICAL DATA**

- Material: SPCC high quality cold rolled steel
- Steel thickness: 1.5mm of profiles and 1.0mm of others
- Front door material: tempered glass
- Door thickness: 5.0mm
- Colour: Black RAL 9004
- Static load: 800kg
- IP code: IP23

Free standing rack cabinet includes:

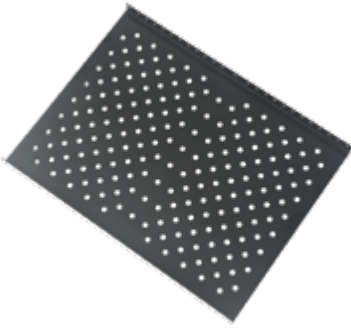
- 1 cabinet
- 1-3 layer board
- 1 bag of nuts and bolts
- 1 set of universal keys

*NOTE: All cabinets are delivered disassembled.*

Catalogue number	Type	Layer QTY	Dimensions (mm)		
			L	H	W
53354	Free standing cabinet rack 22U	1	600	600	1200
53355	Free standing cabinet rack 32U	2	600	600	1600
53356	Free standing cabinet rack 42U	3	600	600	1600
53357	Free standing cabinet rack 42U	3	600	800	2000



**3 YEARS TOTAL WARRANTY**  
+ 2 standard  
1 extended



### LAYERS FOR CABINET RACK, DATA SERIES

Catalogue number	Type	Dimensions (mm)	
		L	H
53358	4U / 9U / 12U	600	450
53359	15U / 22U / 32U / 42U with cat. number 53356	600	600
53360	42U with cat. number 53357	600	800

Bolts and nuts are not included

Compatible bolt and nut SET: 53362 (1 SET included 1 bolt and 1 nut. For mounting of 1 layer, must be used 4 SET's)



### WHEELS FOR CABINET RACK, DATA SERIES

Catalogue number: 53361

\* Catalogue number included 1 wheel.  
For 1 cabinet must be used 4 PCS



### BOLTS AND NUTS, SET

Catalogue number: 53362

**THE SET INCLUDES:**

- Bolt - 1 pc.
- Nut - 1 pc.



**3 YEARS TOTAL WARRANTY**  
+ 2 standard  
1 extended

# METAL DISTRIBUTION BOARDS AND BOXES





## METAL DISTRIBUTION BOXES FOR SURFACE MOUNTING- DELTA SERIES

**Documents corresponding to the product:**

Standard IEC60439-3

The metal distribution boxes have wide range of application for mounting in buildings under construction or new communal objects, offices, shops, house facilities. Inside the box, could be mounted circuit elements for protection in the electrical installation. They are made of high quality electro-galvanized steel sheet and provide proper prevention from fire. They are shock-proof as well. The box is also equipped with zero and ground terminals.

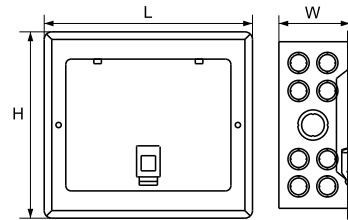
**TECHNICAL DATA**

- Material: High quality electro-galvanized steel sheet
- Maximum insulation voltage: 690V; 50Hz
- Single phase: 4; 8; 12; 16 modules
- Triple phase: 4; 6; 8; 10; 12 modules
- Steel thickness: 1,0mm
- MCB mounting design: Din-rail
- Main switch rated current: MCB125A
- Mounting type: Surface
- Colour of body: grey
- IP code: IP40
- Fire resistance: 960°C/30s
- Humidity: Max.95%
- Storage temperature: -40+75°C
- Specification: CE, ROHS, BS, EN,EIC60439-3

### SINGLE PHASE METAL DISTRIBUTION BOXES, DELTA SERIES



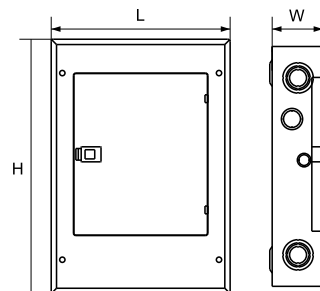
Catalogue number	Type	Number of poles	Module capacity	Material	Dimensions (mm)			Packing/Box
					L	H	W	
600104N	Delta 1/4	1	4	Metal	226	226	95	1/10
600108N	Delta 1/8	1	8	Metal	298	226	95	1/10
600112N	Delta 1/12	1	12	Metal	370	226	95	1/10
600116N	Delta 1/16	1	16	Metal	442	226	95	1/10



### THREE PHASE METAL DISTRIBUTION BOXES, DELTA SERIES



Catalogue number	Type	Number of poles	Module capacity	Material	Dimensions (mm)			Packing/Box
					L	H	W	
600304N	Delta 3/4	3	4	Metal	506	350	105	1/10
600306N	Delta 3/6	3	6	Metal	560	350	105	1/10
600308N	Delta 3/8	3	8	Metal	614	350	105	1/10
600310N	Delta 3/10	3	10	Metal	668	350	105	1/10
600312N	Delta 3/12	3	12	Metal	722	350	105	1/10



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## METAL CONSUMER UNITS - ZETA SERIES

**Documents corresponding to the product:**

Standard IEC60439-3

The metal distribution boxes have wide range of application for mounting in buildings under construction or new communal objects, offices, shops, house facilities. Inside the box, could be mounted circuit elements for protection in the electrical installation. They are made of high quality electro-galvanized steel sheet and provide proper prevention from fire. They are shock-proof as well. The box is also equipped with zero and ground terminals.

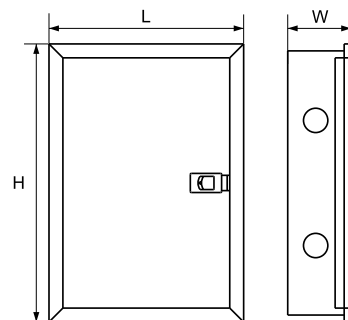
**TECHNICAL DATA**

- Material: High quality electro-galvanized steel sheet
- Modules: 30; 36; 45; 60; 72
- Steel thickness: 1,2mm
- Rated voltage In (A): 100A
- Mounting type: Surface
- Colour of body: White RAL7035
- Colour of door: White RAL7035
- IP code: IP40
- Fire resistance: 960°C/30s
- Humidity: Max.95%
- Storage temperature: -40+75°C
- Specification: CE, ROHS, IEC60439-3



### METAL CONSUMER UNIT ENCLOSURES, ZETA SERIES

Catalogue number	Type	Number of ways	Number of rows	Material	Dimensions (mm)		
					L	H	W
55030	Zeta 30	30	2	Metal	428	428	110
55036	Zeta 36	36	2	Metal	482	428	110
55045	Zeta 45	45	3	Metal	428	578	110
55060	Zeta 60	60	4	Metal	428	728	110
55072	Zeta 72	72	4	Metal	482	728	110



Zero and ground terminals included

**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## METAL DISTRIBUTION BOARDS JXF SERIES, IP65

**Documents corresponding to the product:**

Standard EN 62208;  
EN 60439-1; EN 60 439-3



Supplied with a special lock, metal plate for fixing of electrical devices, lid for the input-output conductors, grounded dowel pin, gaskets, etc. Option to change the opening direction. Made of single steel sheet, treated with decorative powder coating.

**TECHNICAL DATA**

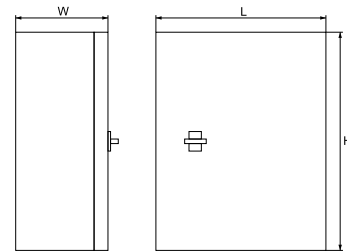
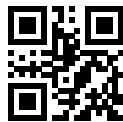
- Rated voltage: up to 1000V
- Maximum current: up to 1250A
- Material: steel
- Mounting plate: Galvanized
- RAL 7032
- Coating: powder style painting
- IP code: IP 65

**MOUNTING**

- Vertically on flat surface

Catalogue number	Type	Thickness of metal sheet (mm)	Nominal working current In (A)	Dimensions (mm)			Packing/ Box
				L	H	W	
53025	JXF 25/25/15	1.0	80	250	250	150	1
53026	JXF 25/30/15	1.0	100	300	250	150	1
53030	JXF 30/25/15	1.0	100	250	300	150	1
53031	JXF 30/40/20	1.0	160	400	300	200	1
53040	JXF 40/30/20	1.0	160	300	400	200	1
53041	JXF 40/50/20	1.2	250	500	400	200	1
53044	JXF 40/40/20	1.2	250	400	400	200	1
53050	JXF 50/40/20	1.2	250	400	500	200	1
53051	JXF 40/60/20	1.2	250	600	400	200	1
53060	JXF 60/40/20	1.2	250	400	600	200	1
53066	JXF 60/60/20	1.2	250	600	600	200	1
53070	JXF 70/50/20	1.2	350	500	700	200	1
53080	JXF 80/60/25	1.5	400	600	800	250	1
53100	JXF 100/80/30	1.5	630	800	1000	300	1
53120	JXF 120/80/30	1.5	630	800	1200	300	1
53140	JXF 140/80/30	1.5	800	800	1400	300	1
53188	JXF 180/80/30	1.5	1000	800	1800	300	1
53180	JXF 180/100/30*	1.5	1250	1000	1800	300	1

Note: \*Metal boxes with double door



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## STAINLESS STEEL METAL BOARDS SXF SERIES

**Documents corresponding to the product:**

Standard EN 62 208;  
EN 60439-1; EN 60 439-3

Supplied with a special lock, metal plate for fixing of electrical devices, lid for the input-output conductors, grounded dowel pin, gaskets, etc. Option to change the opening direction. Made of single stainless steel sheet. The mounting plate is treated with anti-corrosion and decorative powder coating. They are used in case of special requirements regarding the exposure of corrosion.

**TECHNICAL DATA**

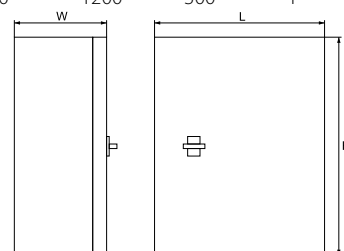
- Rated voltage: up to 1000V
- Maximum current: up to 800A
- Material: stainless steel
- IP code: IP 65

**MOUNTING**

- Vertically on flat surface



Catalogue number	Type	Thickness of metal sheet (mm)	Dimensions (mm)			Packing / Box
			L	H	W	
54025	SXF 25/25/15	1.0	250	250	150	1
54030	SXF 30/25/15	1.0	250	300	150	1
54040	SXF 40/30/20	1.0	300	400	200	1
54050	SXF 50/40/20	1.2	400	500	200	1
54060	SXF 60/40/20	1.2	400	600	200	1
54070	SXF 70/50/20	1.2	500	700	200	1
54080	SXF 80/60/25	1.5	600	800	250	1
54100	SXF 100/80/30	1.5	800	1000	300	1
54120	SXF 120/80/30	1.5	800	1200	300	1



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## ELECTRIC SWITCHBOARDS WITH TYPE-APPROVAL CERTIFICATES

**Documents corresponding to the product:**

Standard EN 60439-1;  
EN 60 439-3

The company has produced and successfully passed the type-approval procedures for the following metal and plastic electric control boxes and boards with ELMARK automation:

- Tower Mounted Switchgear
- Low Voltage Meter Box
- Low Voltage Main Switchboard
- Distribution Switchboard
- Power Compensation System



Low Voltage Meter Box Type TEPO



Low Voltage Main Switchboard Type GRT



Tower Mounted Switchgear Type MTT



Power Compensation System Type CCU



Distribution Switchboard Type KRSH



PLASTIC DISTRIBUTION BOXES FOR SURFACE AND FLUSH MOUNTING, IP40

**Documents corresponding to the product:**  
Standard EN 60670-24



**PLASTIC DISTRIBUTION BOXES FOR SURFACE MOUNTING  
MINI SERIES, IP40**

Catalogue number	Type	Number of rows	Module capacity (number of devices)	Dimensions (mm)			Packing/Box
				L	H	W	
60106	Mini 1	1	1	40	150	65	1/120
60107	Mini 2	1	2	55	150	65	1/84
60108	Mini 4	1	4	95	150	65	1/48



**Documents corresponding to the product:**  
Standard EN 60670-24



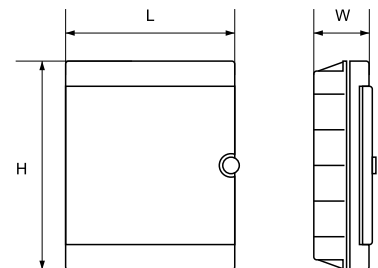
**PLASTIC DISTRIBUTION BOXES FOR FLUSH MOUNTING  
ATTIS SERIES, IP40**

The distribution boxes are designed for mounting in newly built buildings or buildings in reconstruction. They are a module box with mounted protective devices of the given flats electrical current circuit circles. They are supplied with transparent door for each row opening upwards to 90°. They are made of white self-extinguishing plastic, resistant to heat and high temperature with IP code: IP 40. The mounted device in the box is protected from direct contact to the current leading parts. They are offered with DIN-rail for device mounting and terminal strips for the neutral and earthing conductor joining. Mounted directly on the walls with screws.

**TECHNICAL DATA**

- Maximum insulation voltage: 690V; 50Hz
- Door colour: Transparent
- Mounting type: Surface; Flush
- Number of modules: 6; 9; 12; 16; 24; 36
- IP code: IP40
- Number of rows:
  - Single row for 6, 9, 12 and 16 modules
  - Double rows for 16; 24 and 36 modules
- Material: ABS for body and PC for door
- Fire resistance: 360°C/30s

Catalogue number	Type	Number of rows	Module capacity (number of devices)	Dimensions (mm)			Packing/Box
				L	H	W	
60026	Attis 6	1	6	185	140	90	1/30
60096	Attis 9	1	9	220	164	90	1/20
60126	Attis 12	1	12	305	205	90	1/16
60166	Attis 16	1	16	355	220	90	1/16
60176	Attis 16	2	16	231	285	90	1/16
60246	Attis 24	2	24	313	345	96	1/8
60366	Attis 36	3	36	315	440	96	1/5



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended



## PLASTIC DISTRIBUTION BOXES FOR SURFACE AND FLUSH MOUNTING PDB1 SERIES, IP40

The distribution boxes are designed for mounting in newly built buildings or buildings in reconstruction. They are a module box with mounted protective devices of the given flats electrical current circuit circles. They are supplied with transparent door for each row opening upwards to 90°. They are made of white self-extinguishing plastic, resistant to heat and high temperature with IP rate IP 40. The mounted device in the box is protected from direct contact to the current leading parts. They are offered with DIN-rail for device mounting and terminal strips for the neutral and earthing conductor joining. Mounted directly on the walls with screws.

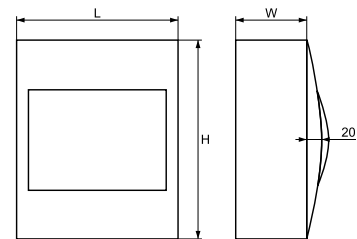
### TECHNICAL DATA

- Maximum insulation voltage: 690V; 50Hz
- fire resistance rate: UL 94
- IP code: IP 40
- Class of current limiting: 2

### BOXES FOR SURFACE MOUNTING, PDB1 SERIES, IP40



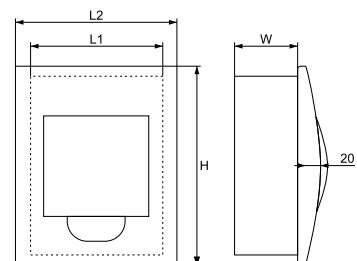
Catalogue number	Type	Number of rows	Module capacity (number of devices)	Dimensions (mm)			Packing/Box
				L	H	W	
60040	PDB1 4	1	4	110	205	75	1/20
60060	PDB1 6	1	6	150	205	75	1/20
60080	PDB1 8	1	8	190	205	75	1/20
60120	PDB1 12	1	12	260	205	75	1/10
60180	PDB1 18	1	18	365	220	75	1/10
60240	PDB1 24	2	24	270	330	75	1/10



### BOXES FOR FLUSH MOUNTING, PDB1 SERIES, IP40



Catalogue number	Type	Number of rows	Module capacity (number of devices)	Dimensions (mm)			Packing / Box
				L	H	W	
60041	PDB1 4	1	4	110	205	75	1/20
60061	PDB1 6	1	6	150	205	75	1/20
60081	PDB1 8	1	8	190	205	75	1/20
60121	PDB1 12	1	12	260	205	75	1/10
60181	PDB1 18	1	18	365	220	75	1/10
60241	PDB1 24	2	24	270	330	75	1/10



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## PLASTIC DISTRIBUTION BOXES FOR SURFACE AND FLUSH MOUNTING IP40, BLUE SERIES

### Documents corresponding to the product:

Standard EN 62 208;  
EN 60439-1; EN 60 439-3

The distribution boxes are designed for mounting in newly built buildings or buildings in reconstruction. They are a module box with mounted protective devices of the given flats electrical current circuit circles. They are supplied with transparent door for each row opening upwards to 90°. They are made of white self-extinguishing plastic, resistant to heat and high temperature with IP rate IP 40. The mounted device in the box is protected from direct contact to the current leading parts. They are offered with DIN-rail for device mounting and terminal strips for the neutral and earthing conductor joining. Mounted directly on the walls with screws.

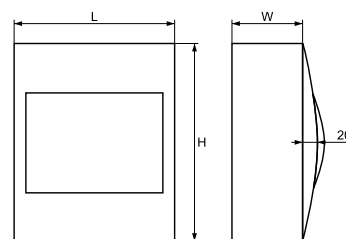
### TECHNICAL DATA

- Door colour: Transparent blue
- Mounting type: Surface; Flush
- Number of modules: 12; 18; 24; 28; 36
- IP code: IP40
- Number of rows:
  - Single row for 12 and 18 modules
  - Double rows for 24; 28 and 36 modules
- Material: ABS for body and PC for door
- Fire resistance: 650°C/30s
- Ambient temperature(°C): -5 +65°C, max. 95% humidity
- Colour: White RAL 9003
- Storage temperature(°C): -40 +75°C

### BOXES FOR SURFACE MOUNTING, BLUE SERIES



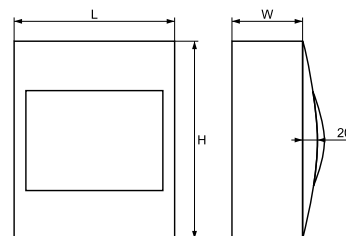
Catalogue number	Type	Number of rows	Module capacity (number of devices)	Dimensions (mm)			Packing/Box
				L	H	W	
60122	Blue 12	1	12	300	204	102	1/10
60182	Blue 18	1	18	410	204	102	1/10
60242	Blue 24	2	24	300	294	109	1/5
60282	Blue 28	2	28	310	354	109	1/5
60362	Blue 36	2	36	410	294	109	1/5



### BOXES FOR FLUSH MOUNTING, BLUE SERIES



Catalogue number	Type	Number of rows	Module capacity (number of devices)	Dimensions (mm)			Packing/Box
				L	H	W	
60123	Blue 12	1	12	317	220	102	1/10
60183	Blue 18	1	18	426	220	102	1/10
60243	Blue 24	2	24	317	310	109	1/5
60283	Blue 28	2	28	294	338	109	1/5
60363	Blue 36	2	36	426	310	109	1/5



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## MOISTURE-PROOF DISTRIBUTION BOXES FOR SURFACE MOUNTING HK SERIES, IP65

### Documents corresponding to the product:

Standard EN 62 208;  
EN 60439-1; EN 60 439-3

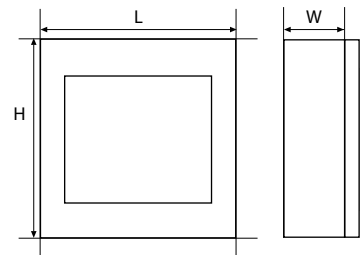
The distribution boxes are designed for mounting in newly built buildings or buildings in reconstruction. They are a module box with mounted protective devices of the given flats electrical installation current circles. They are supplied with transparent door for each row opening upwards to 90°. They are made of white non self-extinguishing plastic, resistant to heat and high temperature. The special design of the lids and gaskets provides IP code: IP65. The mounted device in the box is protected from indirect contact to the current leading parts. They are offered with DIN-rail for device mounting and terminal strips for the neutral and earthing conductor joining. For direct wall mounting with screws.

### TECHNICAL DATA

- Rated voltage: 690V; 50Hz
- Cover material: PC
- Body material: ABS
- IP code: IP65
- Colour: RAL7035
- Mounting type: Surface
- Supplied with removable earth/neutral bar

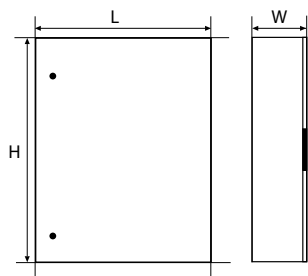


Catalogue number	Type	Number of rows	Module capacity (number of devices)	IP code	Dimensions (mm)			Packing/Box
					L	H	W	
60001	ELM-HK05	1	5	65	140	100	140	1
60002	ELM-HK08	1	8	65	195	103	195	1
60003	ELM-HK12	1	12	65	270	103	195	1
60005	ELM-HK18	1	18	65	375	103	195	1



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

PLASTIC DISTRIBUTION BOARDS, IP65



Plastic distribution boards of various sizes. Intended for extension or distribution of cable lines. Boards are made of ABS and polyester. They are resistant to chemical agents, thermal and UV rays.

**TECHNICAL DATA**

- Resistance: chemical agents, weak acids, alkali, oils, salts, etc.
- Rated Voltage: up to 690V
- Maximum Current: up to 800A
- Thermal Deformation: over 240°C
- Operating Temperature: -35°C + 65°C
- Material: ABS & Polyester
- IP code: IP65
- Colour: RAL7035 grey
- Recyclable
- Adjustable mounting plate position

**MOUNTING**

- Vertically on flat surface



ABS DISTRIBUTION BOARDS CP SERIES ECONOMIC - GRAY DOOR

Catalogue number	Board Type	Material	IP code	Dimensions (mm)			Packing/Box
				L	H	W	
5312821130	CP5001	ABS	IP65	210	280	130	1
5313525150	CP5002D	ABS	IP65	250	330	150	1
5313040165	CP5003	ABS	IP65	300	400	165	1
5313040195	CP5003D	ABS	IP65	300	400	195	1
5313550195	CP5007	ABS	IP65	350	500	195	1
5314050245	CP5004D	ABS	IP65	400	500	245	1
5314060200	CP5005	ABS	IP65	400	600	200	1



ABS DISTRIBUTION BOARDS CP SERIES-TRANSPARENT DOOR

Catalogue number	Board Type	Material	IP code	Dimensions (mm)			Packing/Box
				L	H	W	
5312128130T	CP5011	ABS	IP65	210	280	130	1
5312535150T	CP5012D	ABS	IP65	250	330	150	1
5313040165T	CP5013	ABS	IP65	300	400	165	1
5313040195T	CP5013D	ABS	IP65	300	400	195	1
5313550195T	CP5017	ABS	IP65	350	500	195	1
5314050245T	CP5014D	ABS	IP65	400	500	245	1
5314060200T	CP5015	ABS	IP65	400	600	200	1



POLYESTER DISTRIBUTION BOARDS CP SERIES - GRAY DOOR

Catalogue number	Board Type	Material	IP code	Dimensions (mm)			Packing / Box
				L	H	W	
5333020150	CP501	Polyester	IP65	200	300	150	1
5333040180	CP504	Polyester	IP65	300	400	180	1
5334050190	CP505	Polyester	IP65	400	500	190	1
5334060200	CP506	Polyester	IP65	400	600	200	1
5335080255	CP507	Polyester	IP65	500	800	285	1

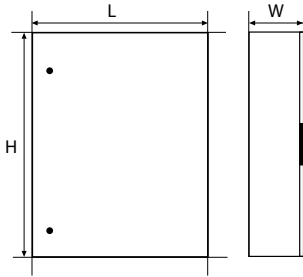


**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## PLASTIC DISTRIBUTION BOARDS ABS - PP SERIES, IP65

### Documents corresponding to the product:

Standard EN 60439 -1  
EN 60439 -5



Plastic distribution boards of various sizes. Intended for extension or distribution of cable lines. They can also be used as meter boxes. They are resistant to chemical agents, thermal and UV rays.

### TECHNICAL DATA

- Resistance: chemical agents, weak acids, alkali, oils, salts, etc.
- Rated Voltage: up to 690V
- Maximum Current: up to 800A
- Thermal Deformation: over 240°C
- Operating Temperature: -35°C + 65°C
- Colour: RAL7035 grey
- Recyclable
- Adjustable mounting plate position

### MOUNTING

- Vertically on flat surface



### ABS DISTRIBUTION BOARDS PP SERIES- GRAY DOOR

Catalogue number	Board Type	Material	IP code	Dimensions (mm)			Packing / Box
				L	H	W	
5312030130	PP 3001	ABS	IP65	200	300	130	1
5312535150	PP 3002	ABS	IP65	250	350	150	1
5313040170	PP 3004	ABS	IP65	300	400	170	1
5313040220	PP 3005	ABS	IP65	300	400	220	1
5313550190	PP 3006	ABS	IP65	350	500	190	1
5314050240	PP 3007	ABS	IP65	400	500	240	1
5314060190	PP 3008	ABS	IP65	400	600	200	1

Note: Open door angle 180°



### ABS DISTRIBUTION MODULE BOARDS PP SERIES- TRANSPARENT DOOR

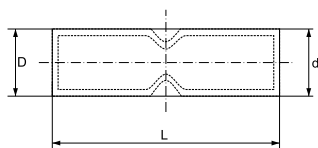
Catalogue number	Board Type	Material	IP code	Dimensions (mm)			Packing / Box
				L	H	W	
5322535150	PP 3112-18modules	ABS	IP65	250	350	150	1
5323040170	PP 3114-24modules	ABS	IP65	300	400	170	1
5323550190	PP 3116-45modules	ABS	IP65	350	500	190	1
5324060190	PP 3118-60modules	ABS	IP65	400	600	200	1

Note: Transparent door



**5 YEARS TOTAL WARRANTY**  
+ 3 standard  
2 extended

## NON-ISOLATED CONNECTION TUBES



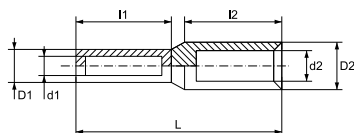
### CONNECTION TUBES - GTY TYPE

Copper pipes with galvanic tin coating, used for joining of copper rigid or multicore conductors with different sections. The assembling is made by mechanical pressing with crimping tool.

#### TECHNICAL DATA

- Material: copper alloy
- Coating: tin
- Application: general

Catalogue number	Type	Length L (mm)	Outer diameter D (mm)	Inner diameter d (mm)	Cable cross section (mm <sup>2</sup> )	Packing/ Box (pcs)
59213	GTY-4	20	5	3	4	1000/16000
59201	GTY-6	25	5.3	3.7	6	500/1500/12000
59202	GTY-10	30	6.3	4.5	10	500/1500/12000
59203	GTY-16	35	7.5	5.7	16	100/200/4800
59204	GTY-25	40	9	7.2	25	100/500/2000
59205	GTY-35	45	10.8	8.5	35	100/200/1600
59206	GTY-50	50	12.5	9.8	50	20/200/1600
59207	GTY-70	55	14.5	11.5	70	10/100/800
59208	GTY-95	60	17	13.7	95	10/80/640
59209	GTY-120	65	19	15	120	10/60/480
59210	GTY-150	70	21	16.7	150	10/50/400
59211	GTY-185	75	23	18.5	185	10/40/320
59212	GTY-240	80	26	21	240	10/30/240



### BIMETALLIC CONNECTION TUBE - GTL TYPE

Pipes made of two metals – copper and aluminum without galvanic coating. They are designed for joining copper and aluminum conductors – rigid or multicore conductors with different section. The connection is accomplished through crimping pliers, through mechanical pressing of the butt terminals and the conductor. They are used for protection against electrochemical corrosion got at two metals contact with different chemical properties and conductivity at electrical current feed. They are manufactured under modern technology and have high quality and long exploitation period.

#### TECHNICAL DATA

- Material: copper aluminum alloy
- Coating: none
- Application: general for joining of two types of conductors

Catalogue number	Type	D1	d1	D2	L	Packing/Box(pcs)
59214	GTL-16	9	6	10	69	20/200/1200
59215	GTL-25	10	6.8	11	71	20/400/1500
59216	GTL-35	11	8	13	79	20/300/1000
59217	GTL-50	12	8.5	15	83	20/800
59218	GTL-70	14	10	18	93	10/600
59219	GTL-95	16	12	20	102	10/500
59220	GTL-120	19	14	23	113	10/400
59221	GTL-150	21	15	24	117	10/350
59222	GTL-185	23	17	27	123	10/300
59223	GTL-240	25	19	30	129	10/200

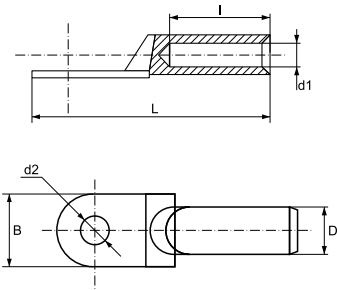




## NON-ISOLATED CABLE TERMINALS

### CABLE TERMINALS NON-ISOLATED - SC TYPE

They are used for joining copper conductors - multicore conductors with different section to electrical devices or connections to combine all cores of the conductor, to provide safe connection at tightening in terminals and safe connection at the base of the terminal. Thus the connection stability against vibrations is increased and the possibility for short circuit is decreased. They are made of copper alloy with galvanic tin coating. The connection is realized through crimping pliers, through mechanic pressing of the terminal and conductor. Two types are offered with standard length SC and extended base SC. They are manufactured under modern technology and have high quality and long exploitation period.



#### TECHNICAL DATA

- Material: copper alloy
- Coating: tin
- Application: general for joining conductors to electrical devices.

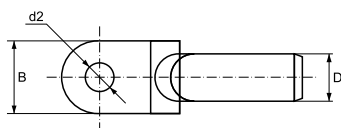
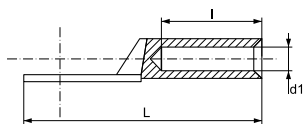


Catalogue number	Type	d1 (mm)	D (mm)	d2 (mm)	L (mm)	Packing / Box (pcs)
59240	SC - 2.5/6	2.2	4.5	6	24	1000/3000/24000
59241	SC - 4/6	3.0	4.8	6	24	1000/2000/16000
59060	SC - 6/5	3.8	5.5	5	24	500/2000/16000
59035	SC - 6/6	3.8	5.5	6	24	500/2000/16000
59059	SC - 6/8	3.8	5.5	8	24	500/2000/16000
59066	SC - 6/10	3.8	5.5	10	24	500/2000/16000
59061	SC - 10/5	4.8	6.8	5	25.5	500/1500/12000
59036	SC - 10/6	4.8	6.8	6	25.5	100/1500/12000
59067	SC - 10/10	4.8	6.8	10	25.5	100/1500/12000
59037	SC - 10/8	4.8	6.8	8	25.5	500/1500/12000
59038	SC - 16/6	5.5	7.5	6	30.5	400/800/6400
59039	SC - 16/8	5.5	7.5	8	30.5	400/800/6400
59040	SC - 16/10	5.5	7.5	10	30.5	400/800/6400
59068	SC - 16/12	5.5	7.5	12	30.5	400/800/6400
59062	SC - 25/6	7	9	6	34	100/500/4000
59041	SC - 25/8	7	9	8	34	100/500/4000
59042	SC - 25/10	7	9	10	34	250/500/4000
59069	SC - 25/12	7	9	12	34	100/500/4000
59063	SC - 35/6	8.2	10.5	6	38	200/400/3200
59043	SC - 35/8	8.2	10.5	8	38	200/400/3200
59044	SC - 35/10	8.2	10.5	10	38	200/400/3200
59045	SC - 35/12	8.2	10.5	12	38	200/400/3200
59064	SC - 50/6	9.8	12.5	6	45	100/200/1600
59046	SC - 50/8	9.8	12.5	8	45	100/200/1600
59047	SC - 50/10	9.8	12.5	10	45	100/100/1600
59048	SC - 50/12	9.8	12.5	12	45	100/200/1600
59065	SC - 70/6	11.5	14.5	6	50	80/100/1280
59049	SC - 70/10	11.5	14.5	10	50	80/100/1280
59050	SC - 70/12	11.5	14.5	12	50	80/100/1280
59051	SC - 95/10	13.8	17.5	10	55.5	50/200/800
59052	SC - 95/12	13.8	17.5	12	55.5	50/200/800
59053	SC - 120/10	15.5	19.5	10	63	30/60/480
59054	SC - 120/12	15.5	19.5	12	63	30/60/480
59055	SC - 150/12	16.5	21	12	71	10/50/400
59056	SC - 185/12	18.8	23.5	12	78	10/40/320
59057	SC - 185/16	18.8	23.5	16	78	10/40/320
59058	SC - 240/16	21.3	26.5	16	92	10/30/240



NON-ISOLATED CABLE TERMINALS

**BIMETALIC NON-ISOLATED CABLE TERMINALS FOR CRIMPING DTL**



They are used for joining aluminum conductors - multicore conductors with different section to electrical devices or connections to combine all cores of the conductor, to provide safe connection at tightening in terminals and safe connection at the base of the terminal. Thus the connection stability against vibrations is increased and the possibility for short circuit is decreased. They are made of copper and aluminum alloys as in the aluminum billet is made under special technology the copper terminal formed like an ear. The connection is realized through crimping pliers, through mechanic pressing of the terminal and conductor.

**TECHNICAL DATA**

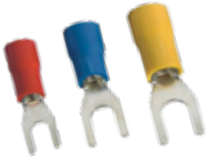
- Material: copper aluminum;
- Application: general for joining conductors to electrical devices.



Catalogue number	Type	d1 (mm)	D (mm)	d2 (mm)	L (mm)	l (mm)	B (mm)	Packing / Box (pcs)
59224	DTL - 1 - 16	6	11	8	70	30	16	20 /200 /1440
59225	DTL - 1 - 25	7	12	8	75	34	18	20 /180 /1080
59226	DTL - 1 - 35	8.5	14	10	85	38	20.5	20 /100 /600
59227	DTL - 1 - 50	9.8	16	10	90	40	23	20 /70 /420
59228	DTL - 1 - 70	11.5	18	12	102	48	26	10 /60 /360
59229	DTL - 1 - 95	13.5	21	12	112	50	28	10 /40 /180
59230	DTL - 1 - 120	15	23	14	120	53	30	10 /30 /120
59231	DTL - 1 - 150	16.5	25	14	126	56	34	5 /25 /120
59232	DTL - 1 - 185	18.5	27	16	133	58	37	5 /20 /120
59233	DTL - 1 - 240	21	30	16	140	60	40	4 /12 /72



## ISOLATED CABLE TERMINALS



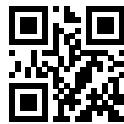
### COPPER CABLE WIRE FORK TERMINAL CONNECTOR

Catalogue number	Type	Length (mm)	Colour	Conductor (mm <sup>2</sup> )	Packing (pcs.)	Packing / Box (pcs.)
59080	SVS1.25-4	21.2	Red	0.5-1.0	100	10/240
59081	SVS1.25-5	21.2	Red	0.5-1.0	100	15/180
59082	SVS1.25-6	21.2	Red	0.5-1.0	100	15/180
59083	SVS 2-4	21.0	Blue	1.5-2.5	100	15/180
59084	SVS 2-5	22.5	Blue	1.5-2.5	100	15/180
59085	SVS 2-6	27.6	Blue	1.5-2.5	100	10/120
59086	SVS 5.5-4	24.5	Yellow	4.0-6.0	100	5/60
59087	SVS 5.5-5	27.9	Yellow	4.0-6.0	100	5/60
59088	SVS 5.5-6	27.9	Yellow	4.0-6.0	100	5/60



### ISOLATED CABLE TERMINALS - CHS TYPE

Catalogue number	Type	Length (mm)	Conductor (mm <sup>2</sup> )	Packing / Box (pcs.)	Packing / Box (pcs.)
59115	CHS3	18.1	0.25-1.5	100	250
59116	CHS4	20.1	1.5-2.5	100	200
59117	CHS5	25.5	4.0-6.0	100	200
59118	CHS6	27.3	8.0	100	100



### ISOLATED CABLE JOINTS

Metal pipes with outside PVC insulation. They are used for joining/extending multicore conductors with section up to 6mm<sup>2</sup>. It increases the connection stability against vibrations and decreases the possibility for short circuit. The connection is realized through crimping pliers, through mechanic pressing of the terminal and conductor. The different insulation colour corresponds to different conductor sections.

#### TECHNICAL DATA

- Material: copper alloy
- Coating: polyvinylchloride
- Application: general for joining of copper conductors



Catalogue number	Type	Length (mm)	Colour	Conductor (mm <sup>2</sup> )	Packing (pcs.)	Packing / Box (pcs.)
59015	PVT 1.25	16	Red	0.5-1.0	100	15/300
59001	BV 1.25	25	Red	0.5-1.0	100	10/120
59034	PVT 2	16	Blue	1.5-2.5	100	15/300
59002	BV 2	25	Blue	1.5-2.5	100	10/60
59014	PVT 5.5	20	Yellow	4.0-6.0	100	5/60
59003	BV 5.5	25	Yellow	4.0-6.0	100	5/60





### ISOLATED CABLE TERMINALS - MDD/FDD TYPES

They represent a cable terminal made of brass alloy with galvanic tin coating and insulated with polyvinyl chloride. They are used as non-insulated terminals, as the insulated part protects the cores from bending and breaking in the joining point and at the same time it protects the staff from direct contact to the current - carrying parts. They are used for conductors with section up to 6 mm. The connection is realized through crimping pliers, through mechanic pressing of the terminal and cable. The different insulation colour corresponds to different conductor sections. They are manufactured under modern technology and have high quality and long exploitation period. All insulated cable terminals are being offered in 100 pcs. packing

#### TECHNICAL DATA

- Material: copper alloy
- Coating: polyvinyl chloride
- Application: general for joining copper conductors
- Ambient temperature: -10 to +75°C

Catalogue number	Type	Shape	Colour	Conductor (mm <sup>2</sup> )	Packing (pcs.)	Packing / Box (pcs.)
59012	MDD 1.25 - 187	Male	Red	0.5-1.0	100	10 / 240
59009	MDD 1.25 - 250	Male	Red	0.5-1.0	100	10 / 240
59013	MDD 2 - 187	Male	Blue	1.5-2.5	100	10 / 240
59011	MDD 2 - 250	Male	Blue	1.5-2.5	100	10 / 180
59010	MDD 5.5 - 250	Male	Yellow	4.0-6.0	100	10 / 120
59008	FDD 1.25 - 187	Female	Red	0.5-1.0	100	20 / 240
59006	FDD 1.25 - 250	Female	Red	0.5-1.0	100	15 / 180
59007	FDD 2 - 187	Female	Blue	1.5-2.5	100	20 / 240
59004	FDD 2 - 250	Female	Blue	1.5-2.5	100	10 / 180
59005	FDD 5.5 - 250	Female	Yellow	4.0-6.0	100	10 / 120



### ISOLATED CABLE TERMINALS - E TYPE

Catalogue number	Type	Colour	Terminal length (mm)	Conductor (mm <sup>2</sup> )	Packing (pcs.)	Packing/ Box (pcs.)
59023	E0508	White	8	0.5	100	50/600
59024	E7508	Blue	8	0.75	100	50/600
59025	E1008	Red	8	1.0	100	50/600
59026	E1510	Black	10	1.5	100	30/360
59027	E2512	Grey	12	2.5	100	30/300
59028	E4012	Orange	12	4.0	100	20/240
59029	E6018	Green	18	6.0	100	5/120
59030	E10-18	Dark green	18	10	100	8/96
59031	E16-18	Milky yellow	18	16	100	6/60
59032	E25-16	Black	16	25	100	5/36
59033	E35-25	Grey-yellow	25	35	100	2/24



### TWIN ISOLATED CABLE TERMINALS- TE TYPE



Catalogue number	Type	Colour	Terminal length (mm)	Conductor (mm <sup>2</sup> )	Packing (pcs.)	Packing / Box (pcs.)
59023TE	TE0508	White	8	2x0.5	100	50/600
59024TE	TE7508	Blue	8	2x0.75	100	50/600
59025TE	TE1008	Red	8	2x1.0	100	50/600
59026TE	TE1508	Black	8	2x1.5	100	30/360
59027TE	TE2510	Grey	10	2x2.5	100	30/300
59028TE	TE4010	Orange	10	2x4.0	100	20/240
59029TE	TE6014	Green	14	2x6.0	100	5/120
59030TE	TE10-14	Dark green	14	2x10.0	100	8/96
59031TE	TE16-14	Milky yellow	14	2x16.0	100	6/60



### ISOLATED CABLE TERMINALS - PTV TYPE



Metal pipes with outside PVC insulation. They are used for joining/extending multicore conductors with section up to 6mm<sup>2</sup>. It increases the connection stability against vibrations and decreases the possibility for short circuit. The connection is realized through crimping pliers, through mechanic pressing of the terminal and conductor. The different insulation colour corresponds to different conductor sections.

#### TECHNICAL DATA

- Material: copper alloy
- Coating: polyvinyl chloride
- Application: general for joining of copper conductors

Catalogue number	Type	Shape	Colour	Conductor (mm <sup>2</sup> )	Shoe width	Packing (pcs.)	Packing / Box (pcs.)
59101	PTV 1.25 - 10	Male	Red	0.25-1.0	1.9	100	20/240
59102	PTV 1.25 - 12	Male	Red	0.25-1.0	1.9	100	20/240
59103	PTV 2 - 10	Male	Blue	1.5-2.5	1.9	100	20/240
59104	PTV 2 - 12	Male	Blue	1.5-2.5	1.9	100	15/180
59105	PTV 5.5 - 13	Male	Yellow	4.0-6.0	2.9	100	8/96



### ISOLATED CABLE TERMINALS - RVL TYPE



Catalogue number	Type	Size of the opening (mm)	Colour	Conductor (mm <sup>2</sup> )	Packing (pcs.)	Packing / Box (pcs.)
59021	RVL 1.25-4	4	Red	0.5-1.0	100	20/240
59022	RVL 1.25-5	5	Red	0.5-1.0	100	15/180
59018	RVL 2-4	4	Blue	1.5-2.5	100	15/180
59019	RVL 2-5	5	Blue	1.5-2.5	100	10/120
59020	RVL 5.5-4	4	Yellow	4.0-6.0	100	8/96
59016	RV 5.5-5	5	Yellow	4.0-6.0	100	8/96
59017	RV 5.5-6	6	Yellow	4.0-6.0	100	8/96



### ISOLATED CABLE TERMINALS - PBDD TYPE



Catalogue number	Type	Shape	Colour	Conductor (mm <sup>2</sup> )	Shoe width	Packing (pcs.)	Packing/Box (pcs.)
59106	PBDD 1.25 - 250	Male	Red	0.25-1.0	6.3	100	5/60
59107	PBDD 2 - 250	Male	Blue	1.5-2.5	6.3	100	5/60
59108	PBDD 5.5 - 250	Male	Yellow	4.0-6.0	6.3	100	5/60



### ISOLATED CABLE TERMINALS - MPD TYPE



Catalogue number	Type	Shape	Colour	Conductor (mm <sup>2</sup> )	Shoe width	Packing (pcs.)	Packing /Box (pcs.)
59109	MPD 1.25 - 156	Male	Red	0.25-1.0	6.3	100	10/240
59110	MPD 2 - 195	Male	Blue	1.5-2.5	6.3	100	10/120
59111	MPD 5.5 - 195	Male	Yellow	4.0-6.0	6.3	100	10/120



### ISOLATED CABLE TERMINALS - FRD



Catalogue number	Type	Shape	Colour	Conductor (mm <sup>2</sup> )	Packing (pcs.)	Packing /Box (pcs.)
59119	FRD 1.25 - 156	Female	Red	0.25-1.0	100	10/200
59120	FRD 2 - 195	Female	Blue	1.5-2.5	100	10/200
59121	FRD 5.5 - 195	Female	Yellow	4.0-6.0	100	10/200



### ISOLATED CABLE TERMINALS - MDFN/DFNY



Catalogue number	Type	Shape	Colour	Conductor (mm <sup>2</sup> )	Shoe width	Packing (pcs.)	Packing /Box (pcs.)
59112	MDFN 1.0 - 250	Male	Red	0.25-1.0	4	100	5/60
59113	MDFN 2 - 250	Male	Blue	1.5-2.5	4	100	5/60
59114	MDFN 5 - 250	Male	Yellow	4.0-6.0	5	100	4/48
59242	DFNY 1.0 - 250	Female	Red	0.25-1.0	4	100	10/60
59243	DFNY 2 - 250	Female	Blue	1.5-2.5	4	100	10/60
59244	DFNY 5 - 250	Female	Yellow	4.0-6.0	5	100	10/60





## PLASTIC CABLE TRUNKING



### PLASTIC CABLE TRUNKING CT2

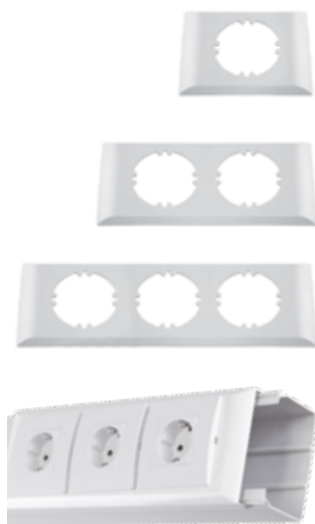
Cable trunking are practical solution of organizing power and communication cables in office and residential buildings. They increase the reliability in operation of the electrical systems and allow quick adaptation if necessary to rearrange the interior. Fast and simple installation. In combination with a wide range of accessories, building irregularities are quickly overcome. Non-flammable material, easy to cut and paint.

Catalogue number	Type	Size (mm)	Length	Colour	Packing (pcs)
5621212	Plastic cable trunking CT2	12x12	2m	White	100
5621510	Plastic cable trunking CT2	15X10	2m	White	100
5621616	Plastic cable trunking CT2	16X16	2m	White	100
5622010	Plastic cable trunking CT2	20X10	2m	White	100
5622516	Plastic cable trunking CT2	25X16	2m	White	80
5623016	Plastic cable trunking CT2	30X16	2m	White	70
5622525	Plastic cable trunking CT2	25X25	2m	White	50
5624016	Plastic cable trunking CT2	40X16	2m	White	50
5624025	Plastic cable trunking CT2	40X25	2m	White	50
5624040	Plastic cable trunking CT2	40X40	2m	White	40
5626040	Plastic cable trunking CT2	60X40	2m	White	30
5626060	Plastic cable trunking CT2	60X60	2m	White	32
5628040	Plastic cable trunking CT2	80X40	2m	White	18
5628060	Plastic cable trunking CT2	80X60	2m	White	24
56210040	Plastic cable trunking CT2	100X40	2m	White	16
56210060	Plastic cable trunking CT2	100X60	2m	White	16



### SWITCHES AND SOCKETS FRAMES FOR CABLE TRUNKING

Cable trunking frames are decorative solution for installation of switches and sockets on places where their normal mounting is not possible. The assembly set includes subframe and main white frame. Universal sizes, suitable for mounting of switches and sockets from different manufacturers. Single, double and triple frames are offered.



Catalogue number	Type	Used for cable trunking	Colour	Packing (pcs)
562100441	Single frame	100X40/100X60	White	20
562100442	Double frame	100X40/100X60	White	14
562100443	Triple frame	100X40/100X60	White	5



\* These frames are suitable with switches and sockets CITY and RHYME series on page 320 and page 369.



CITY series switch



RHYME series socket

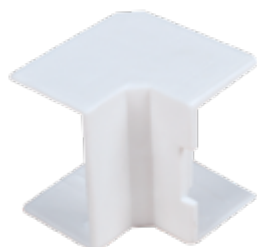
### OUTSIDE CORNER



Catalogue number	Type	Used for cable trunking	Colour	Packing (pcs)
56212121	Outside corner	12x12	White	50
56215101	Outside corner	15X10	White	50
56216161	Outside corner	16X16	White	50
56225161	Outside corner	25X16	White	30
56230161	Outside corner	30X16	White	48
56225251	Outside corner	25X25	White	30
56240161	Outside corner	40X16	White	30
56240251	Outside corner	40X25	White	30
56240401	Outside corner	40X40	White	30
56260401	Outside corner	60X40	White	10
56260601	Outside corner	60X60	White	10
56280401	Outside corner	80X40	White	8
56280601	Outside corner	80X60	White	8
562100401	Outside corner	100X40	White	6
562100601	Outside corner	100X60	White	6



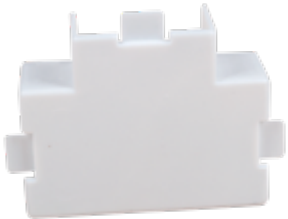
### INSIDE CORNER



Catalogue number	Type	Used for cable trunking	Colour	Packing (pcs)
56212122	Inside corner	12x12	White	50
56215102	Inside corner	15X10	White	50
56216162	Inside corner	16X16	White	50
56225162	Inside corner	25X16	White	30
56230162	Inside corner	30X16	White	35
56225252	Inside corner	25X25	White	30
56240162	Inside corner	40X16	White	30
56240252	Inside corner	40X25	White	30
56240402	Inside corner	40X40	White	30
56260402	Inside corner	60X40	White	10
56260602	Inside corner	60X60	White	10
56280402	Inside corner	80X40	White	8
56280602	Inside corner	80X60	White	8
562100402	Inside corner	100X40	White	6
562100602	Inside corner	100X60	White	6



### T- CORNER



Catalogue number	Type	Used for cable trunking	Colour	Packing (pcs)
56212123	T- corner	12x12	White	50
56215103	T- corner	15X10	White	50
56216163	T- corner	16X16	White	50
56225163	T- corner	25X16	White	20
56230163	T-corner	30X16	White	40
56225253	T- corner	25X25	White	20
56240163	T- corner	40X16	White	30
56240253	T- corner	40X25	White	30
56240403	T- corner	40X40	White	30
56260403	T- corner	60X40	White	16
56260603	T- corner	60X60	White	16
56280403	T- corner	80X40	White	8
56280603	T- corner	80X60	White	8
562100403	T- corner	100X40	White	8
562100603	T- corner	100X60	White	8



### L- CORNER



Catalogue number	Type	Used for cable trunking	Colour	Packing (pcs)
56212124	L- corner	12x12	White	50
56215104	L- corner	15X10	White	50
56216164	L- corner	16X16	White	50
56225164	L- corner	25X16	White	30
56230164	L-corner	30X16	White	50
56225254	L- corner	25X25	White	30
56240164	L- corner	40X16	White	30
56240254	L- corner	40X25	White	30
56240404	L- corner	40X40	White	30
56260404	L- corner	60X40	White	16
56260604	L- corner	60X60	White	16
56280404	L- corner	80X40	White	12
56280604	L- corner	80X60	White	12
562100404	L- corner	100X40	White	8
562100604	L- corner	100X60	White	8





### CONNECTOR

Catalogue number	Type	Used for cable trunking	Colour	Packing (pcs)
56212125	Connector	12x12	White	50
56215105	Connector	15X10	White	50
56216165	Connector	16X16	White	50
56225165	Connector	25X16	White	30
56230165	Connector	30X16	White	100
56225255	Connector	25X25	White	30
56240165	Connector	40X16	White	30
56240255	Connector	40X25	White	30
56240405	Connector	40X40	White	30
56260405	Connector	60X40	White	25
56260605	Connector	60X60	White	25
56280405	Connector	80X40	White	50
56280605	Connector	80X60	White	50
562100405	Connector	100X40	White	50
562100605	Connector	100X60	White	30



### END CAP



Catalogue number	Type	Used for cable trunking	Colour	Packing (pcs)
56212126	End cap	12x12	White	50
56215106	End cap	15X10	White	50
56216166	End cap	16X16	White	50
56225166	End cap	25X16	White	50
56230166	End cap	30X16	White	100
56225256	End cap	25X25	White	50
56240166	End cap	40X16	White	30
56240256	End cap	40X25	White	30
56240406	End cap	40X40	White	30
56260406	End cap	60X40	White	50
56260606	End cap	60X60	White	50
56280406	End cap	80X40	White	60
56280606	End cap	80X60	White	60
562100406	End cap	100X40	White	50
562100606	End cap	100X60	White	50



### SEPARATOR



Catalogue number	Type	Length (m)	Used for cable trunking	Colour	Packing (pcs)
56261111	Separator 40	2	100x40	White	40
56261112	Separator 60	2	100x60	White	40





### ECONOMIC SERIES PLASTIC CABLE TRUNKING CT2

Catalogue number	Type	Size (mm)	Length	Colour	Packing (pcs)
5621212E	CT2 Economic	12x12	2m	White	100
5621510E	CT2 Economic	15x10	2m	White	100
5621616E	CT2 Economic	16x16	2m	White	100
5622010E	CT2 Economic	20x10	2m	White	100
5622516E	CT2 Economic	25x16	2m	White	80
5623020E	CT2 Economic	30x20	2m	White	70
5622525E	CT2 Economic	25x25	2m	White	50
5624016E	CT2 Economic	40x16	2m	White	50
5624025E	CT2 Economic	40x25	2m	White	50
5624040E	CT2 Economic	40x40	2m	White	40
5626040E	CT2 Economic	60x40	2m	White	30
5626060E	CT2 Economic	60x60	2m	White	32
5628040E	CT2 Economic	80x40	2m	White	18
5628060E	CT2 Economic	80x60	2m	White	24
56210040E	CT2 Economic	100x40	2m	White	16
56210060E	CT2 Economic	100x60	2m	White	16



### PLASTIC CABLE TRUNKING SELF-ADHESIVE

Catalogue number	Type	Size (mm)	Length	Colour	Packing m/pcs
5621212A	Plastic trunking self-adhesive	12x12	2m	White	250/125
5621510A	Plastic trunking self-adhesive	15x10	2m	White	250/125
5621616A	Plastic trunking self-adhesive	16x16	2m	White	250/125
5622010A	Plastic trunking self-adhesive	20x10	2m	White	200/100
5622516A	Plastic trunking self-adhesive	25x16	2m	White	100/50
5623016A	Plastic trunking self-adhesive	30x16	2m	White	140/70
5622525A	Plastic trunking self-adhesive	25x25	2m	White	100/50
5624016A	Plastic trunking self-adhesive	40x16	2m	White	50/25
5624025A	Plastic trunking self-adhesive	40x25	2m	White	80/40
5624040A	Plastic trunking self-adhesive	40x40	2m	White	80/40



### ECONOMIC SERIES PLASTIC CABLE TRUNKING SELF-ADHESIVE

Catalogue number	Type	Size (mm)	Length	Colour	Packing m/pcs
5621212AE	Self-adhesive CT2 Economic	12x12	2m	White	250/125
5621510AE	Self-adhesive CT2 Economic	15x10	2m	White	250/125
5621616AE	Self-adhesive CT2 Economic	16x16	2m	White	250/125
5622010AE	Self-adhesive CT2 Economic	20x10	2m	White	200/100
5622516AE	Self-adhesive CT2 Economic	25x16	2m	White	100/50
5623020AE	Self-adhesive CT2 Economic	30x20	2m	White	140/70
5622525AE	Self-adhesive CT2 Economic	25x25	2m	White	100/50
5624016AE	Self-adhesive CT2 Economic	40x16	2m	White	50/25
5624025AE	Self-adhesive CT2 Economic	40x25	2m	White	80/40
5624040AE	Self-adhesive CT2 Economic	40x40	2m	White	80/40



### PLASTIC CABLE TRUNKING - DARK WALNUT

Catalogue number	Type	Size (mm)	Length	Colour	Packing m/pcs
5621212DW	Plastic trunking dark walnut	12x12	2m	Dark walnut	250/125
5621510DW	Plastic trunking dark walnut	15x10	2m	Dark walnut	250/125
5621616DW	Plastic trunking dark walnut	16x16	2m	Dark walnut	250/125
5622516DW	Plastic trunking dark walnut	25x16	2m	Dark walnut	150/75
5622525DW	Plastic trunking dark walnut	25x25	2m	Dark walnut	100/50
5624025DW	Plastic trunking dark walnut	40x25	2m	Dark walnut	80/40



### PLASTIC CABLE TRUNKING - LIGHT BEECH

Catalogue number	Type	Size (mm)	Length	Colour	Packing m/pcs
5621212LB	Plastic trunking light beech	12x12	2m	Light beech	250/125
5621510LB	Plastic trunking light beech	15x10	2m	Light beech	250/125
5621616LB	Plastic trunking light beech	16x16	2m	Light beech	250/125
5622516LB	Plastic trunking light beech	25x16	2m	Light beech	150/75
5622525LB	Plastic trunking light beech	25x25	2m	Light beech	100/50
5624025LB	Plastic trunking light beech	40x25	2m	Light beech	80/40



### PLASTIC CABLE TRUNKING - PEAR

Catalogue number	Type	Size (mm)	Length	Colour	Packing m/pcs
5621212P	Plastic trunking pear	12x12	2m	Pear	250/125
5621510P	Plastic trunking pear	15x10	2m	Pear	250/125
5621616P	Plastic trunking pear	16x16	2m	Pear	250/125
5622516P	Plastic trunking pear	25x16	2m	Pear	150/75
5622525P	Plastic trunking pear	25x25	2m	Pear	100/50
5624025P	Plastic trunking pear	40x25	2m	Pear	80/40

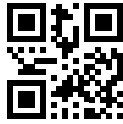




### PLASTIC CABLE TRUNKING - BLACK



Catalogue number	Type	Size (mm)	Length	Colour	Packing m/pcs
5621212BL	Plastic trunking black	12x12	2m	Black	250/125
5621510BL	Plastic trunking black	15x10	2m	Black	250/125
5621616BL	Plastic trunking black	16x16	2m	Black	250/125
5622516BL	Plastic trunking black	25x16	2m	Black	150/75
5622525BL	Plastic trunking black	25x25	2m	Black	100/50
5624025BL	Plastic trunking black	40x25	2m	Black	80/40



### PLASTIC CABLE TRUNKING - GREY



Catalogue number	Type	Size (mm)	Length	Colour	Packing m/pcs
5621212GR	Plastic trunking grey	12x12	2m	Grey	250/125
5621510GR	Plastic trunking grey	15x10	2m	Grey	250/125
5621616GR	Plastic trunking grey	16x16	2m	Grey	250/125
5622516GR	Plastic trunking grey	25x16	2m	Grey	150/75
5622525GR	Plastic trunking grey	25x25	2m	Grey	100/50
5624025GR	Plastic trunking grey	40x25	2m	Grey	80/40





### SLOTTED PLASTIC CABLE TRUNKING CT2

Catalogue number	Type	Size (mm)	Length	Colour	Packing (pcs)
5622525S	Slotted plastic trunking CT2	25x25	2m	Grey	196
5622540S	Slotted plastic trunking CT2	25x40	2m	Grey	64
5624040S	Slotted plastic trunking CT2	40x40	2m	Grey	64
5624060S	Slotted plastic trunking CT2	40x60	2m	Grey	60
5626040S	Slotted plastic trunking CT2	60x40	2m	Grey	60
5626060S	Slotted plastic trunking CT2	60x60	2m	Grey	48
5628060S	Slotted plastic trunking CT2	80x60	2m	Grey	40
56210060S	Slotted plastic trunking CT2	100x60	2m	Grey	32



### FLOOR TYPE PLASTIC CABLE TRUNKING CT2

Catalogue number	Type	Size (mm)	Length	Colour	Packing (pcs)
5627020F	Floor type plastic trunking CT2	70x20	2m	Grey	25
5627520F	Floor type plastic trunking CT2	75x20	2m	Grey	40
5629020F	Floor type plastic trunking CT2	90x20	2m	Grey	20



### FLOOR TYPE PLASTIC CABLE TRUNKING CT2

Catalogue number	Type	Size (mm)	Length	Colour	Packing (pcs)
5625012F/WH	Floor type plastic trunking CT2	50x12	2m	White	50
5626015F/WH	Floor type plastic trunking CT2	60x15	2m	White	60
5627020F/WH	Floor type plastic trunking CT2	70x20	2m	White	25
5627520F/WH	Floor type plastic trunking CT2	75x20	2m	White	40
5629020F/WH	Floor type plastic trunking CT2	90x20	2m	White	20





### AIR CONDITIONING TRUNKING

Catalogue number	Type	Size (mm)	Length	Colour	Packing m/pcs
5627560	Plastic trunking	75x60	2	White	15/30



### AIR CONDITIONING TRUNKING ACCESSORIES



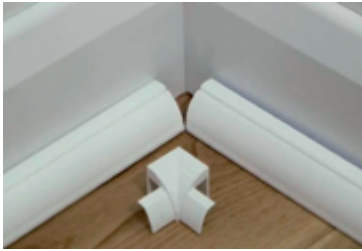
Catalogue number	Type	Used for cable trunking	Colour	Packing pcs
56275601	Outside Corner	75x60	White	24
56275602	Inside Corner	75x60	White	24
56275604	L- Corner	75x60	White	18
56275605	Connector	75x60	White	40
56275606	Internal Cap	75x60	White	30
56275607	External Cap	75x60	White	18
56275608	Wall Penetration	75x60	White	
56275609	Cable Holder	75x60	White	





### CORNER TRUNKING

Catalogue number	Type	Size (mm)	Length	Colour	Packing m/pcs
5622323	Plastic cable trunking	23X23	2	White	60/120



### CORNER TRUNKING ACCESSORIES

Catalogue number	Type	Used for cable trunking	Colour	Packing pcs
56223233	T- corner	23X23	White	60
56223234	L- corner	23X23	White	60
56223235	Connector	23X23	White	100
56223236	End cap	23X23	White	100

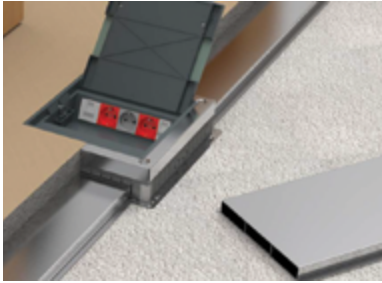


### KITCHEN COUNTER CORNER CABLE TRUNKING

Catalogue number	Type	Size	Length (m)	Colour	Packing pcs
56225K	Plastic trunking	25	2	White	30



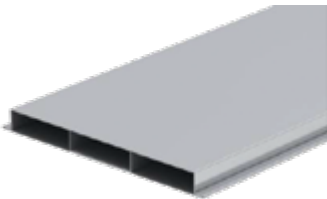
### UNDERFLOOR TRUNKING SYSTEMS



Good cable organization ensures optimal performance and simplifies subsequent maintenance of the cable system, make easy day-to-day operation, operational efficiency, optimal performance, and the facility's ability to change and grow over its lifetime.

#### DESCRIPTION

- Material: Pre-galvanized steel according to EN 10346:2011
- Length: 2500 mm
- Width: from 80 mm to 240 mm
- Height: 30mm
- Thickness: 1.2 mm



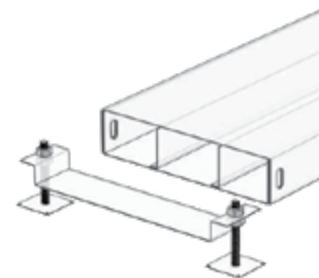
Catalogue number	Type	Dimensions (mm)			Packing pcs
		H	W	L	
57080302500	Single sector cable tray	30	80	2500	1
570160302500	Double sector cable tray	30	160	2500	1
570240302500	Three sector cable tray	30	240	2500	1



### LEVEL ADJUSTMENT HOLDERS FOR CABLE UNDERFLOOR TRAYS



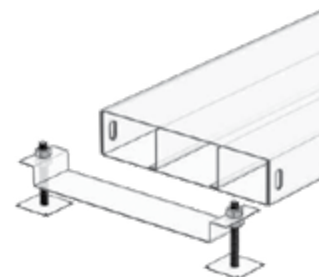
Catalogue number	Type	Dimensions (mm)		Packing pcs
		H	W	
570017	Level adj. holder for single sector cable tray	20	80	1
570018	Level adj. holder for double sector cable tray	20	160	1
570019	Level adj. holder for three sector cable tray	20	240	1



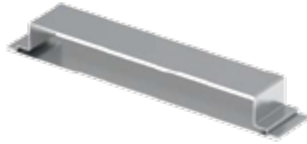
### VERTICAL BEND FOR CABLE UNDERFLOOR TRAYS



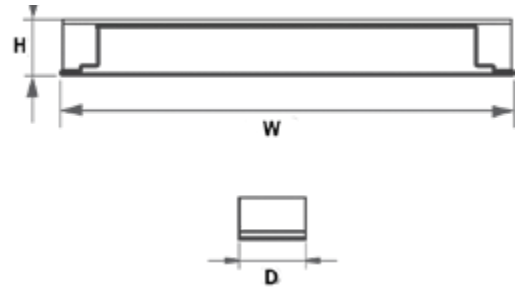
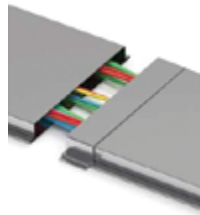
Catalogue number	Type	Thickness	Base size (mm)	Packing pcs
570020	Cable tray level adjustment element	M8	40x40	1



**STRAIGHT CONNECTOR FOR CABLE UNDERFLOOR TRAYS**



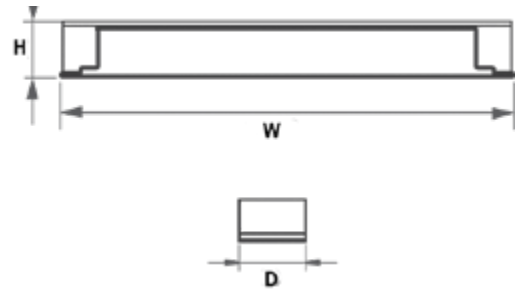
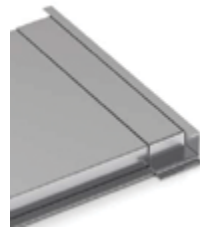
Catalogue number	Type	Dimensions (mm)			Packing pcs
		H	W	D	
570010	Connector for single sector cable tray	30	80	50	1
570011	Connector for double sector cable tray	30	160	50	1
570012	Connector for three sector cable tray	30	240	50	1



**END CAP FOR CABLE UNDERFLOOR TRAYS**



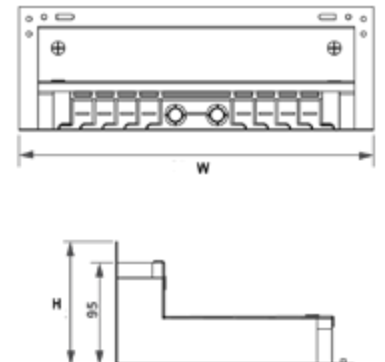
Catalogue number	Type	Dimensions (mm)			Packing pcs
		H	W	D	
570013	End cap for single sector cable tray	30	80	50	1
570014	End cap for double sector cable tray	30	160	50	1
570015	End cap for three sector cable tray	30	240	50	1



**VERTICAL BEND FOR CABLE UNDERFLOOR TRAYS**



Catalogue number	Type	Dimensions (mm)		Packing pcs
		H	W	
570016	Vertical bend for all sizes cable trays	120	350	1

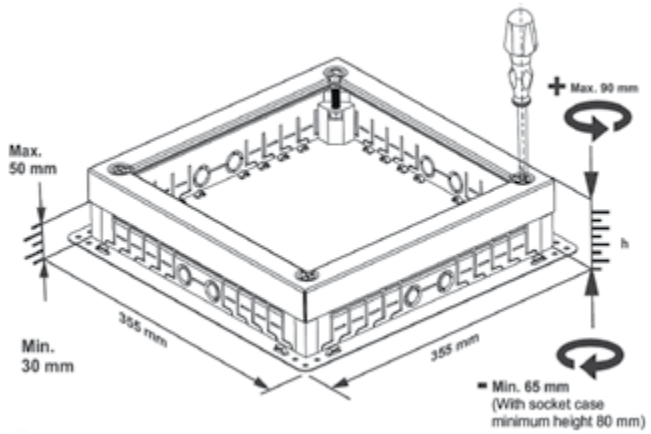
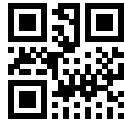




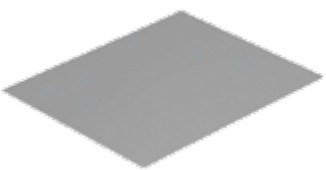
**EMPTY JUNCTION BOX FOR CABLE UNDERFLOOR TRAYS**



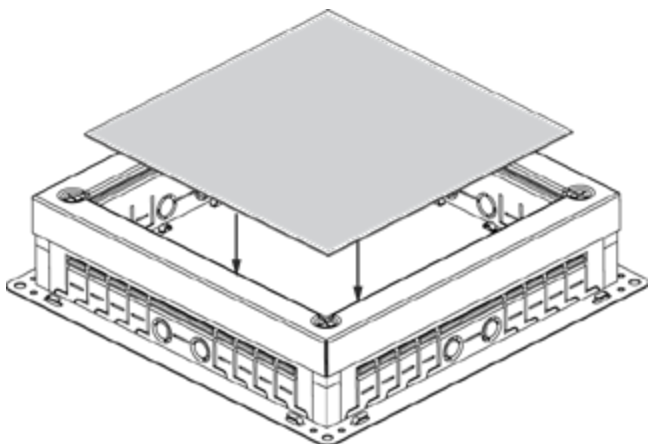
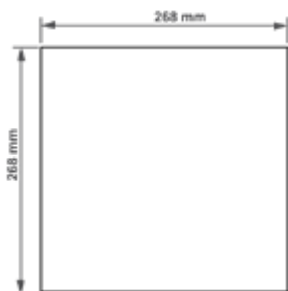
Catalogue number	Type	Dimensions (mm)			Packing pcs
		H	W	L	
570002	Empty box for all type cable tray	65	350	350	1



**COVER PLATE FOR UNDERFLOOR JUNCTION BOX**



Catalogue number	Type	Dimensions (mm)			Packing pcs
		Thickness	W	L	
570003	Cover for underfloor junction box	1.5	268	268	1

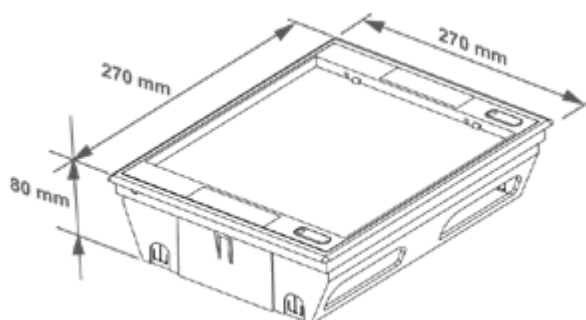


**SOCKET CASE FOR UNDERFLOOR JUNCTION BOX**



Catalogue number	Type	Number of modules	Dimensions (mm)		Packing pcs
			Thickness	W L	
570001	Socket case for underfloor junction box 57002	18	1.5	268 268	1

\*Socket case can be assembled with 8 modules 45x45mm and 2 modules 22x45mm.



Compatible sockets:



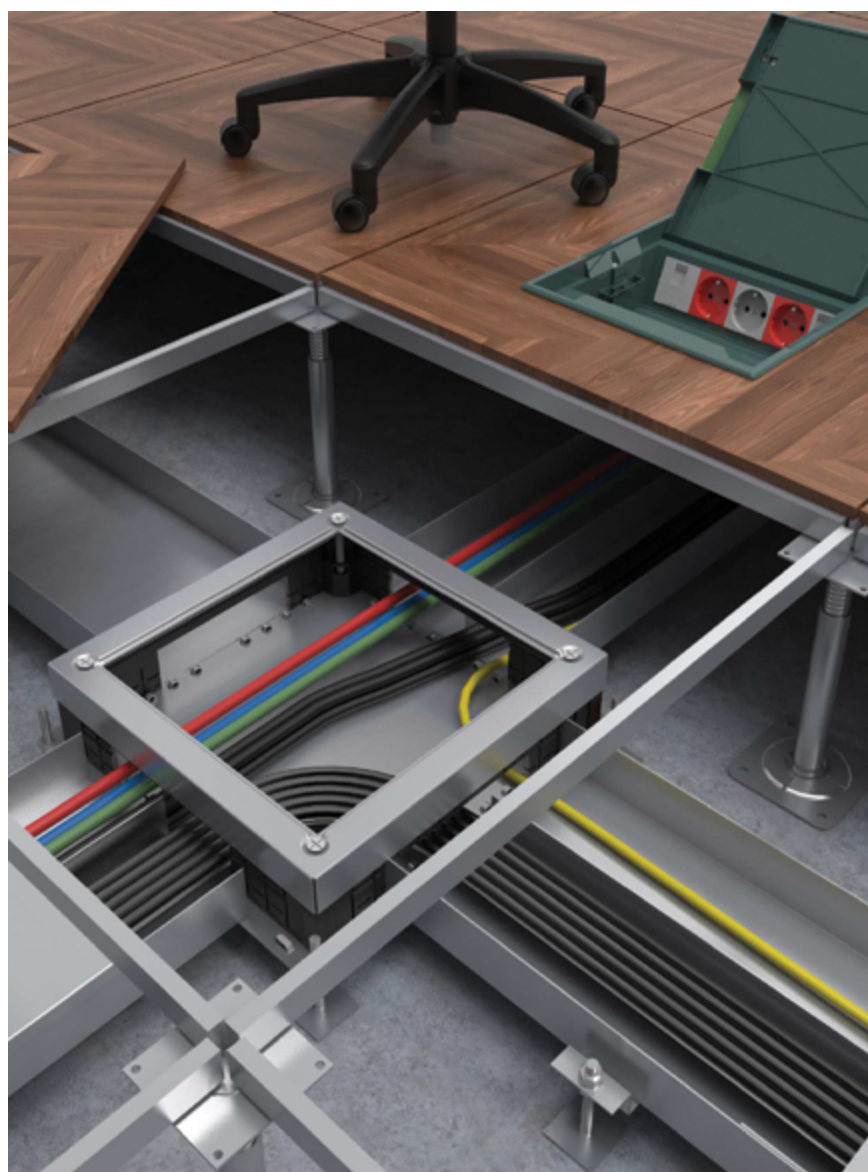
German type  
Cat. Number: 26008G/UF



UPS socket  
Cat. Number: 26008F/UF



Computer socket  
Cat. Number: 26013G/UF



## INSULATING CONDUITS



### FLEXIBLE DOUBLE COAT CORRUGATED PIPE

#### TECHNICAL DATA

- Material- HDPE;
- Compression resistance- 450 N/ 5 cm;
- Colour- red
- Minimum bending radius: 350 mm;
- Temperature assembly resistance: -5 - +60 °C;
- Halogen free

Catalogue number	Type	Inner Diame- ter (mm)	Outer Diame- ter (mm)	Packing (m)
M006017	Flexible double coat corrugated pipe	52	63	25



### SPIRAL FOR CABLES

Catalogue number	Type	Colour	Internal diameter (mm)	External diameter (mm)	Coil length (m)
500SP6T	Spiral 6x8mm	Transparent	6	8	25
500SP6B	Spiral 6x8mm	Black	6	8	25
500SP10T	Spiral 10x12mm	Transparent	10	12	25
500SP10B	Spiral 10x12mm	Black	10	12	25
500SP14T	Spiral 14x16mm	Transparent	14	16	20
500SP14B	Spiral 14x16mm	Black	14	16	20



### NYLON CABLE DRAW TAPE EC

Catalogue number	Type	Diameter (mm)	Length (m)	Colour	Packing (pcs)
500305	Nylon cable draw tape	3	5	Transparent	1/340
500315		3	15	Transparent	1/120



**Documents corresponding to the products:**

Standard EN 61386-1  
EN61386-22; RAL- 7035

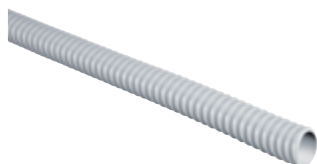


**SELF-EXTINGUISHING PLIABLE CONDUITS EC**

**TECHNICAL DATA**

- Material: technopolymer on PVC base;
- Self extinguishing V0 degree to UL94;
- Compression resistance: 320N;

Catalogue number	Type	Inner Diameter (mm)	Outer Diameter (mm)	Packing (m)
500M16	Self-extinguishing pliable conduits	10.7	16	100
500M20	Self-extinguishing pliable conduits	14.1	20	100
500M25	Self-extinguishing pliable conduits	18.2	25	50
500M32	Self-extinguishing pliable conduits	24.3	32	25
500M40	Self-extinguishing pliable conduits	32.3	40	25
500N16	Self-extinguishing pliable conduits with draw tape	10.7	16	100
500N20	Self-extinguishing pliable conduits with draw tape	14.1	20	100
500N25	Self-extinguishing pliable conduits with draw tape	18.2	25	50
500N32	Self-extinguishing pliable conduits with draw tape	24.3	32	25
500N40	Self-extinguishing pliable conduits with draw tape	32.3	40	25



**SPIRAL FLEXIBLE PVC CONDUITS- UV RAYS RESISTANT EC**

**TECHNICAL DATA**

- Material (spiral+cover): shock resistance technopolymer on PVC base;
- Self extinguishing V0 degree to UL94;
- Compression resistance: 320N;
- Installation temperature: -15/+70°C;
- Operating temperature: -5/+65°C;
- Type: UV rays resistance.

Catalogue number	Type	Inner Diameter (mm)	Outer Diameter (mm)	Packing (m)
500UV12	UV flexible PVC conduit	12	16.2	30
500UV14	UV flexible PVC conduit	14	18.2	30
500UV16	UV flexible PVC conduit	16	20.2	30
500UV20	UV flexible PVC conduit	20	24.2	30
500UV25	UV flexible PVC conduit	25	29.6	30
500UV32	UV flexible PVC conduit	32	37.2	30



**PVC INSULATED STEEL SPIRALS**

**TECHNICAL DATA**

- Material - Galvanized steel, helically wound, flexible steel conduit with PVC coating
- PVC-resistance against corrosion
- Colour- black
- Operating temperature: -5/+65

Catalogue number	Type	Inner Diameter (mm)	Outer Diameter (mm)	Packing (m)
500P11	PVC insulated steel spirals	11	15.2	50
500P14	PVC insulated steel spirals	14	18.4	50
500P16	PVC insulated steel spirals	16	20.4	50
500P18	PVC insulated steel spirals	18	22.4	50
500P26	PVC insulated steel spirals	26	30.4	25
500P37	PVC insulated steel spirals	37	42.4	25



## HALOGEN FREE RIGID INSULATING CONDUITS & ACCESSORIES



### HALOGEN FREE NON-FLAMMABLE PLIABLE CONDUITS

#### TECHNICAL DATA

- Material: technopolymer
- Self extinguishing
- Compression resistance: 320N

Catalogue number	Type	Inner diameter (mm)	Outer diameter (mm)	Packing (m)
500M16HF	Halogen free conduit	11.2	15.7	100
500M20HF	Halogen free conduit	14.4	19.85	100
500M25HF	Halogen free conduit	19.1	27.4	50
500M32HF	Halogen free conduit	24.85	31.6	50
500M40HF	Halogen free conduit	32.3	40	25



### HALOGEN FREE RIGID INSULATING CONDUITS, EC-LSZH

This series rigid insulating conduits are low-smoke, halogen-free (LSZH) electrical conduits that virtually eliminate the release of the toxic gases found in PVC products. Current trends show increasing use of LSZH conduit, where smoke from fire presents an increased hazard to people. They are practical solution of organizing power and communication cables in office and residential buildings. They increase the reliability in operation of the electrical systems. Fast and simple installation. Non-flammable material, easy to cut and paint.

#### TECHNICAL DATA

- Material: Halogen free technopolymer according to EN 50267-2-1, EN 50267-1-2, EN 60754-1; EN 60754-2
- Low smoke according to EN 61034-1, EN 61034-2
- Resistance to flame propagation: Self extinguishing in less than 30 seconds.
- Compression resistance: 320N
- RAL 7035

Catalogue number	Type	External diameter (mm)	Length (m)	Colour	IP code	Packing (pcs)
50016HF	LSZH cable conduit, with sleeve	16	3	Grey	IP40	34
50020HF	LSZH cable conduit, with sleeve	20	3	Grey	IP40	34
50025HF	LSZH cable conduit, with sleeve	25	3	Grey	IP40	20
50032HF	LSZH cable conduit, with sleeve	32	3	Grey	IP40	10
50040HF	LSZH cable conduit, with sleeve	40	3	Grey	IP40	10







### ACCESSORIES FOR HALOGEN FREE RIGID INSULATING CONDUITS IP67 EC- LSZH

#### TECHNICAL DATA

- Material: co-moulding low emission smoke technopolymer.
- Self-extinguishing V2 degree to UL94
- Resistance to abnormal heat: up to up to 850°C
- O-ring to compensate the conduit tolerances
- RAL- 7035
- IP code: IP67

#### HALOGEN FREE LONG BEND 90° IP67 EC- LSZH

Catalogue number	Type	Used for cable conduit Ø (mm)	IP code	Colour	Packing/ Box (pcs)
500BK16HF	Halogen free bend 90°	16	67	Grey	10/150
500BK20HF	Halogen free bend 90°	20	67	Grey	10/100
500BK25HF	Halogen free bend 90°	25	67	Grey	10/100
500BK32HF	Halogen free bend 90°	32	67	Grey	10/50
500BK40HF	Halogen free bend 90°	40	67	Grey	5/20



#### HALOGEN FREE COUPLING IP67 EC- LSZH

Catalogue number	Type	Used for cable conduit Ø (mm)	IP code	Colour	Packing/ Box (pcs)
500C16HF	Halogen free coupling	16	67	Grey	10/250
500C20HF	Halogen free coupling	20	67	Grey	10/200
500C25HF	Halogen free coupling	25	67	Grey	10/150
500C32HF	Halogen free coupling	32	67	Grey	10/100
500C40HF	Halogen free coupling	40	67	Grey	5/50



#### HALOGEN FREE CONDUIT CLIPS- LSZH

Catalogue number	Type	Used for cable conduit Ø (mm)	Colour	Packing/Box (pcs)
500CC16	Halogen free conduit clips	16	Grey	100/1500
500CC20	Halogen free conduit clips	20	Grey	100/1000
500CC25	Halogen free conduit clips	25	Grey	100/1000
500CC32	Halogen free conduit clips	32	Grey	50/800
500CC40	Halogen free conduit clips	40	Grey	50/400





**Documents corresponding to the products:**

Standard EN 61386-1  
EN 61386-21



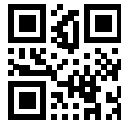
**PVC SELF-EXTINGUISHING RIGID INSULATING CONDUITS EC**

Rigid insulating conduit are practical solution of organizing power and communication cables in office and residential buildings. They increase the reliability in operation of the electrical systems. Fast and simple installation. In combination with a wide range of accessories, building irregularities are quickly overcome. Nonflammable material, easy to cut and paint.

**TECHNICAL DATA**

- Material - shock resistance technopolymer on rigid PVC base
- Self extinguishing V0 degree to UL94
- Compression resistance- 320N

Catalogue number	Type	External diameter (mm)	Length (m)	Colour	IP code	Packing (pcs)
50016/2	Plastic cable conduit, with sleeve	16	2	Grey	40	34
50016	Plastic cable conduit, with sleeve	16	3	Grey	40	34
50020/2	Plastic cable conduit, with sleeve	20	2	Grey	40	34
50020	Plastic cable conduit, with sleeve	20	3	Grey	40	34
50025/2	Plastic cable conduit, with sleeve	25	2	Grey	40	20
50025	Plastic cable conduit, with sleeve	25	3	Grey	40	20
50032/2	Plastic cable conduit, with sleeve	32	2	Grey	40	10
50032	Plastic cable conduit, with sleeve	32	3	Grey	40	10
50040/2	Plastic cable conduit, with sleeve	40	2	Grey	40	10
50040	Plastic cable conduit, with sleeve	40	3	Grey	40	10



**Documents corresponding to the products:**

Standard EN 61386-1  
EN61386-21



**ACCESSORIES FOR PVC SELF-EXTINGUISHING RIGID INSULATING CONDUITS AND FLEXIBLE SPIRAL CONDUITS, IP 65 EC**

**TECHNICAL DATA**

- Material- shock resistant technopolymer on PVC base
- Self-extinguishing V0 degree to UL94
- Glow wire test: up to 960°C
- O-ring to compensate the conduit tolerances
- RAL- 7035

**PVC BEND FLEXIBLE**

Catalogue number	Type	Used for cable conduit Ø (mm)	IP code	Colour	Packing/Box (pcs)
500FB16	PVC bend flexible	16	65	Grey	50/200
500FB20	PVC bend flexible	20	65	Grey	50/200
500FB25	PVC bend flexible	25	65	Grey	35/140
500FB32	PVC bend flexible	32	65	Grey	20/80





### PVC BEND 90°

Catalogue number	Type	Used for cable conduit Ø (mm)	IP code	Colour	Packing/Box (pcs)
500BB16	PVC bend 90°	16	65	Grey	100/1000
500BB20	PVC bend 90°	20	65	Grey	50/600
500BB25	PVC bend 90°	25	65	Grey	25/300
500BB32	PVC bend 90°	32	65	Grey	100
500BB40	PVC bend 90°	40	65	Grey	100



### CONDUIT-CONDUIT PVC JOINT

Catalogue number	Type	Used for cable conduit Ø (mm)	IP code	Colour	Packing/Box (pcs)
500CM16	Conduit-conduit PVC joint	16	65	Grey	10/350
500CM20	Conduit-conduit PVC joint	20	65	Grey	10/350
500CM25	Conduit-conduit PVC joint	25	65	Grey	10/200
500CM32	Conduit-conduit PVC joint	32	65	Grey	10/100
500CM40	Conduit-conduit PVC joint	40	65	Grey	5/80



### CONDUIT-BOX PVC JOINT

Catalogue number	Type	Used for cable conduit Ø (mm)	IP code	Colour	Packing/Box (pcs)
500CB16	Conduit-box PVC joint	16	65	Grey	10/350
500CB20	Conduit-box PVC joint	20	65	Grey	10/350
500CB25	Conduit-box PVC joint	25	65	Grey	10/200
500CB32	Conduit-box PVC joint	32	65	Grey	10/100
500CB40	Conduit-box PVC joint	40	65	Grey	5/80



### PVC RIGID CONDUIT - FLEXIBLE SPIRAL CONDUITS JOINT

Catalogue number	Type	Conduit Ø(mm)	Flexible spiral Ø (mm)	IP code	Colour	Packing/Box (pcs)
500DD16	Flexible spiral conduits joint	16	12	65	Grey	10/350
500DD20	Flexible spiral conduits joint	20	16	65	Grey	10/350
500DD25	Flexible spiral conduits joint	25	20	65	Grey	10/200
500DD32	Flexible spiral conduits joint	32	25	65	Grey	10/100
500DD40	Flexible spiral conduits joint	40	32	65	Grey	5/100



## ACCESSORIES FOR PVC SELF-EXTINGUISHING RIGID INSULATING CONDUITS AND FLEXIBLE SPIRAL CONDUITS, IP40 EC

**Documents corresponding to the products:**  
Standard EN 61386-1  
EN61386-21

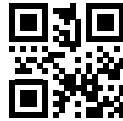
### TECHNICAL DATA

- Material- shock resistant technopolymer on PVC base
- Self-extinguishing V0 degree to UL94
- Glow wire test: up to 960°C
- RAL- 7035

### PVC BEND FLEXIBLE



Catalogue number	Type	Used for cable conduit Ø (mm)	IP code	Colour	Packing/Box (pcs)
500FK16	PVC bend flexible	16	44	Grey	50/200
500FK20	PVC bend flexible	20	44	Grey	50/200
500FK25	PVC bend flexible	25	44	Grey	35/140
500FK32	PVC bend flexible	32	44	Grey	20/80



### PVC BEND 90°



Catalogue number	Type	Used for cable conduit Ø (mm)	IP code	Colour	Packing/Box (pcs)
500BK16	PVC bend 90°	16	40	Grey	100/1000
500BK20	PVC bend 90°	20	40	Grey	50/600
500BK25	PVC bend 90°	25	40	Grey	25/300
500BK32	PVC bend 90°	32	40	Grey	100
500BK40	PVC bend 90°	40	40	Grey	100



### PLASTIC BEND SMALL 90°



Catalogue number	Type	Used for cable conduit Ø (mm)	IP code	Colour	Packing/Box (pcs)
500SK16	Plastic bend small 90°	16	40	Grey	100/400
500SK20	Plastic bend small 90°	20	40	Grey	100/300
500SK25	Plastic bend small 90°	25	40	Grey	100/200
500SK32	Plastic bend small 90°	32	40	Grey	50/150





### PVC T-JOINT

Catalogue number	Type	Used for cable conduit Ø (mm)	IP code	Colour	Packing/Box (pcs)
500T16	PVC T-joint	16	40	Grey	100/300
500T20	PVC T-joint	20	40	Grey	100/200
500T25	PVC T-joint	25	40	Grey	50/100
500T32	PVC T-joint	32	40	Grey	50/100



### PVC COUPLING

Catalogue number	Type	Used for cable conduit Ø (mm)	IP code	Colour	Packing/Box (pcs)
500C16	PVC coupling	16	40	Grey	100/1200
500C20	PVC coupling	20	40	Grey	100/800
500C25	PVC coupling	25	40	Grey	50/500
500C32	PVC coupling	32	40	Grey	25/250
500C40	PVC coupling	40	40	Grey	25/150



### HALOGEN FREE CONDUIT CLIPS- LSZH

Catalogue number	Type	Used for cable conduit Ø (mm)	Colour	Packing/Box (pcs)
500CC16	Halogen free conduit clips	16	Grey	100/1500
500CC20	Halogen free conduit clips	20	Grey	100/1000
500CC25	Halogen free conduit clips	25	Grey	100/1000
500CC32	Halogen free conduit clips	32	Grey	50/800
500CC40	Halogen free conduit clips	40	Grey	50/400



### PVC CONDUIT CLIPS

Catalogue number	Type	Used for cable conduit Ø (mm)	Colour	Packing/Box (pcs)
500CS16	PVC conduit clips with plug and steel screw	16	Grey	100/1000
500CS20	PVC conduit clips with plug and steel screw	20	Grey	100/1000
500CS25	PVC conduit clips with plug and steel screw	25	Grey	100/800
500CS32	PVC conduit clips with plug and steel screw	32	Grey	50/400





### PVC CONDUIT CLIPS

Catalogue number	Type	Used for cable conduit Ø (mm)	Colour	Packing/Box (pcs)
500CO16	PVC collar conduit clips	16	Grey	100/1000
500CO20	PVC collar conduit clips	20	Grey	100/1000
500CO25	PVC collar conduit clips	25	Grey	100/800
500CO32	PVC collar conduit clips	32	Grey	50/500



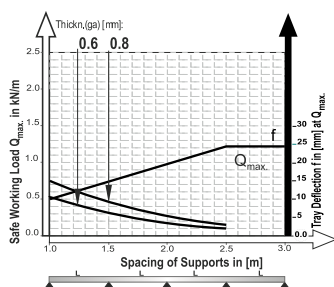
### PVC MODULAR FIXING GUIDE FOR CLIPS



Catalogue number	Type	Length (mm)	Colour	Packing
500BC	PVC modular fixing guide for clips	200	Grey	400



## METAL CABLE TRAYS AND ACCESSORIES



This diagram comply with IEC 61537 with connection to 1/5 of the span and the end span = 0,8x the span  
 Q = max. admissible load (kg/m)  
 L = support distance (m)  
 f = Deflection (mm) / Max. deflection = L/100  
 Safety co-efficient = 1.5



### CABLE TRAY

The universal cable support systems are used for construction of cable link in closed production premises for direct mounting on even vertical surfaces. They are perforated metal grates and accessories with standard lengths and sizes. They allow quick construction of cable systems with many angles and derivations.

Catalogue number	Type	Size (mm)	Thickness (mm)	Length (mm)	Packing/Box (pcs)
56050825U	CT1 UT Cable tray	40x50	0.6	2500	1
56100825U	CT1 UT Cable tray	40x100	0.6	2500	1
56150825U	CT1 UT Cable tray	40x150	0.7	2500	1
56200825U	CT1 UT Cable tray	40x200	0.7	2500	1
56300825U	CT1 UT Cable tray	40x300	0.8	2500	1



For joining cable tray section together use screw SET M8 with catalogue number: 568SET or M6 SET with catalogue number 566SET. Recommended quantities of bolt and nut sets for cable trays connection are: 2 sets for 50mm cable trays and 3 sets for everyone else.

### CABLE TRAY COVER

Catalogue number	Type	Size (mm)	Thickness (mm)	Length (mm)	Packing/Box (pcs)
56050825C	CT1 Cable tray cover	15x50	0.6	2500	1
56100825C	CT1 Cable tray cover	15x100	0.6	2500	1
56150825C	CT1 Cable tray cover	15x150	0.6	2500	1
56200825C	CT1 Cable tray cover	15x200	0.6	2500	1
56300825C	CT1 Cable tray cover	15x300	0.7	2500	1



For joining cable covers section together use screw SET M8 with catalogue number: 568SET or M6 SET with catalogue number 566SET. Recommended quantities of bolt and nut sets for cable trays connection are: 2 sets for 50mm cable trays and 3 sets for everyone else.

### COUPLER FOR TRAYS

Catalogue number	Type	Size (mm)	Thickness (mm)	Length (mm)	Packing/Box (pcs)
56250C	CT1 Coupler for trays with the same size	40	1.2	175	1



To install 2 trays use 2pcs 56250C and 8 SETs of bolt and nuts with catalogue numbers: 566SET or 568SET

### ADJUSTABLE VERTICAL CONNECTOR

Catalogue number	Type	Length (mm)	Height (mm)	Thickness (mm)	Packing/Box (pcs)
56300LC	CT1 Adjustable vertical connector - set (2 pcs)	300	40	1.2	1



To install 2 trays use 1 SET 56300LC and 10 SETs of bolt and nuts with catalogue number: 566SET and 568SET



### ADJUSTABLE HORIZONTAL CONNECTOR

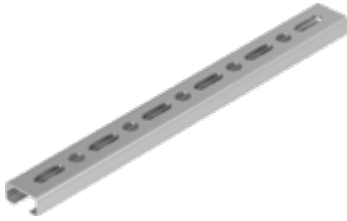


Catalogue number	Type	Length (mm)	Height (mm)	Thickness (mm)	Packing/Box (pcs)
56301LC	CT1 Adjustable horizontal connector	175	40	1.2	1

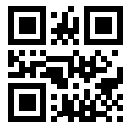


To install 2 trays use 2pcs 56301LC and 8 SETs of bolt and nuts with catalogue number: 566SET and 568SET

### HANGING C TYPE RAIL



Catalogue number	Type	Length (mm)	Size (mm)	Thickness (mm)	Packing/Box (pcs)
5690106	CT1 Hanging C type rail	2000	27x18	1.2	1



Slotted hole size: 8.5x20 mm | Round hole size: D-11 mm | Mounting: with threaded rod and nuts

### ADD ON 90° HORIZONTAL CORNER BEND

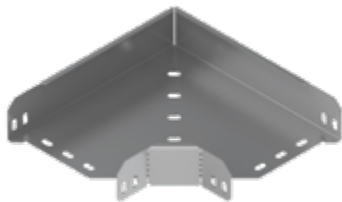


Catalogue number	Type	Height (mm)	Thickness (mm)	Packing/Box (pcs)
5690101	CT1 Add on 90° horizontal corner bend	40	1	1



To install 2 trays use bolt and nuts with catalogue number: 566SET and 568SET

### ANGLE 90°



Catalogue number	Type	Thickness (mm)	Length (mm)	Packing/Box (pcs)
5690100	Angle 90°	0.8	100x100	1
5690150	Angle 90°	0.8	150x150	1
5690200	Angle 90°	0.8	200x200	1
5690300	Angle 90°	1	300x300	1



### ANGLE COVER 90°



Catalogue number	Type	Metric bolt diameters	Length (mm)	Packing/Box (pcs)
5690100C	Angle cover 90°	1.5	100x100	1
5690150C	Angle cover 90°	1.5	150x150	1
5690200C	Angle cover 90°	1.5	200x200	1
5690300C	Angle cover 90°	1.5	300x300	1





### ADD ON TEE HORIZONTAL BEND

Catalogue number	Type	Width (mm)	Height (mm)	Thickness (mm)	Packing/Box (pcs)
5690102	CT1 Add on tee horizontal bend 100	100	40	1	1
5690103	CT1 Add on tee horizontal bend 150	150	40	1	1
5690104	CT1 Add on tee horizontal bend 200	200	40	1	1
5690105	CT1 Add on tee horizontal bend 300	300	40	1.2	1



To install 2 trays use bolt and nuts with catalogue number: 566SET and 568SET

### WALL BRACKET



Catalogue number	Type	Tray width (mm)	Length (mm)	Packing/Box (pcs)
56050S	CT1 Wall bracket 50	50	60	1
56100S	CT1 Wall bracket 100	100	110	1
56150S	CT1 Wall bracket 150	150	160	1
56200S	CT1 Wall bracket 200	200	210	1
56300S	CT1 Wall bracket 300	300	310	1



### CEILING/WALL BRACKET



Catalogue number	Type	Length (mm)	Height (mm)	Packing/Box (pcs)
56100OB	CT1 OMEGA Ceiling/Wall bracket 100	145	200	1
56200OB	CT1 OMEGA Ceiling/Wall bracket 200	245	200	1
56300OB	CT1 OMEGA Ceiling/Wall bracket 300	345	200	1



### THREADED HANGING ROD



Catalogue number	Type	Thread	Length (mm)	Grade	Packing/Box (pcs)
M517079	Threaded hanging rod	M6	1000	4.8	100
M517080	Threaded hanging rod	M8	1000	4.8	50
M517078	Threaded hanging rod	M10	1000	4.8	40



Application: Suitable for fixing skirting, stud battens to wall and long runs of shelf support

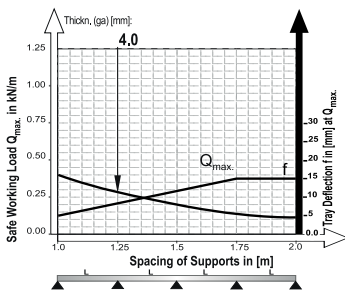
### BOLT AND NUTS, SET



Catalogue number	Type	Thread metric (mm)	Length (mm)	Packing/Box (pcs)
566SET	CT1 Bolt and nuts, SET	M6	15	1/500
568SET	CT1 Bolt and nuts, SET	M8	15	1/500



## WIRE MESH CABLE TRAYS AND ACCESSORIES



This diagram comply with IEC 61537 with connection to 1/5 of the span and the end span = 0,8x the span

Q = max. admissible load (kg/m)  
= support distance (m)  
f = Deflection (mm) / Max. deflection = L/100  
Safely co-efficient = 1.5

### WIRE MESH CABLE TRAY

Wire Mesh tray is generally used for telecommunication and fiber optic applications and are installed on short support spans. This type of cable trays cable provide lots of options for cable management which is especially important at their frequent entry and exit. The purpose of a cable tray system is to support, route, and protect cable and is part of the cable management system.

Catalogue number	Type	Size (mm)	Thickness (mm)	Length (mm)	Packing/Box (pcs)
560100604WM	CT2 Wire mesh cable tray	60x100	4	2500	1
560200604WM	CT2 Wire mesh cable tray	60x200	4	2500	1
560300604WM	CT2 Wire mesh cable tray	60x300	4	2500	1

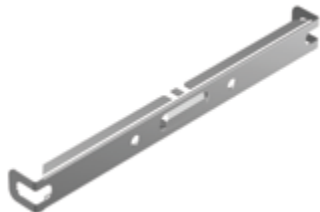


### HANGING RAIL/ CENTRAL SUPPORT

Catalogue number	Type	Length (mm)	Width of tray (mm)	Packing/Box (pcs)
5690160MW	CT2 Hanging rail/ Central support	160	100	1/50
5690260MW	CT2 Hanging rail/ Central support	260	200	1/50
5690360MW	CT2 Hanging rail/ Central support	360	300	1/50



Material: Pregalvanized steel



### CONNECTOR FOR WIRE MESH CABLE TRAY

Catalogue number	Type	Length (mm)	Packing/Box (pcs)
56250CMW	Bolt less connector for wire mesh cable tray	220	1/50



Material: Pregalvanized steel



### WALL MOUNTING SUPPORT

Catalogue number	Type	Length (mm)	Width of tray (mm)	Packing/Box (pcs)
56130SMW	CT2 WALL MOUNTING SUPPORT	130	100	1/50
56230SMW	CT2 WALL MOUNTING SUPPORT	230	200	1/50
56330SMW	CT2 WALL MOUNTING SUPPORT	330	300	1/50



Material: Pre-galvanized steel

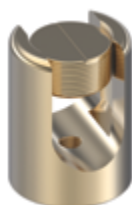


### WALL BRACKET & BOXES FIXING SUPPORT

Catalogue number	Type	Size (mm)	Packing/Box (pcs)
56251MW	CT2 WALL BRACKET & BOXES FIXING SUPPORT	85x75	1/50



Material: Pre-galvanized steel

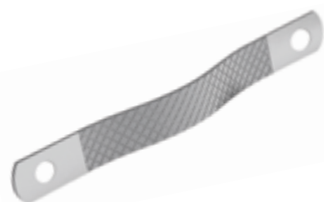


### EARTHING CLAMP

Catalogue number	Type	Section (mm <sup>2</sup> )	Thread (mm)	Packing/Box (pcs)
56070G	CT2 Earthing clamp	70	M6	1/100



Material: Brass



### GROUNDING STRAP

Catalogue number	Type	Section (mm <sup>2</sup> )	Length (mm)	Packing/Box (pcs)
56100SG	CT2 Grounding strap	6	80	1/100



Material: Tin plated copper  
Mounting: with bolt-less connector with catalogue number 56250CMW

LIGHTNING PROTECTION



**AIR-TERMINATION ROD**

Catalogue number	Model	Length (mm)	Diameter (mm)	Packing/Box (pcs)
ME014066	101 VL2000	2000	10/16	1/10
ME014071	101 VL2500	2500	10/16	1/10
ME014063	101 VL3000	3000	10/16	1/10
ME014069	101 VL3500	3500	10/16	1/10



Suitable for wind loads according to Eurocode 1: DIN EN 50164 - 2. Last meter is tapered up Ø16 mm to Ø10mm, material: AlMgSi. Matches stand system FangFix. Material: Aluminum.



**STAND FOR AIR-TERMINATION ROD, FANGFIX SYSTEM**

Catalogue number	Model	Length (mm)	Diameter (mm)	Packing/Box (pcs)
M014102	F-FIX-16	373	84/119	1



System consists of FangFix stone with base and clamp. FangFix clamp made of VA. Lightning current tested with 100 kA (10/350). 16 kg stone with high level of stability. Quick and easy mounting of interception rod using anchors. Concrete, frost-resistant. The FangFix stone can be stacked.



**PROFILE EARTHING ROD WITH CONNECTION LUG**

Catalogue number	Model	Length (mm)	Packing/Box (pcs)
197002	EL-ER02	1500	1



Cross-profile 50 x 50 x 3 mm. With connecting strap. Hot-dip galvanized. Four through hole with diameter 13 mm. For the construction of earthing systems e.g. antenna or earthing of building site distribution boards. Material: Steel



**EARTHING ROD WITH STRIP**

Catalogue number	Model	Rog length (mm)	Strip length (mm)	Rog thickness (mm)	Strip thickness (mm)	Rog width (mm)	Strip width (mm)
M014048	50/50/5	1500	1500	5	3	50	30
M014012	60/60/6	1500	1500	6	3	60	40



Cold galvanized: have been coated in zinc to make them corrosion resistant. Material: Steel



### COPPER-PLATED EARTHING ROD, THREADED

Catalogue number	Model	Length (mm)	Diameter (mm)	Packing/Box (pcs)
197001	EL-ER18	1500	18	1/10



Material: copper coated steel, according to EN 62561-2  
 Thickness of copper coating: 1mm (1000µ)  
 Weight: 3.10kg  
 \* Spike and diving stud are not included

### SPIKE FOR THREADED COPPER-PLATED EARTHING ROD

Catalogue number	Model	Thread size	Spanner (mm)	Packing/Box (pcs)
197022	EL-S01	M12	19	1



Material: Steel  
 Depending on the hardness of the soil, usually 1pc. enough for an object.



### COUPLERS FOR THREADED RODS

Catalogue number	Model	Threaded size	Packing/Box (pcs)
197021	EL-CD01	M12	1



To connection two or many threaded copper-bonded ground rods.



### DIVING STUD

Catalogue number	Model	Threaded size	Packing/Box (pcs)
197020	EL-DS01	M12	1



Material: Steel.  
 Depending on the hardness of the soil, usually 1pc. enough for an object.



### CONNECTORS EARTHING ROD TO STRIP / CONDUCTOR

Catalogue number	Model	Length (mm)	Width (mm)	Packing/Box (pcs)
ME014014	EL-1204	65	65	1/45



Material: stainless steel 304  
 Conductor size: 50mm<sup>2</sup> stranded  
 Strip size: max. 40x4mm







### HOT-DIP GALVANIZED STRIP FOR EARTH

Catalogue number	Model	Length (mm)	Thickness (mm)	Width (mm)	Packing/Box (pcs)
ME301090	EL-EP 40x4	40	4	40	1

Galvanized, according to EN 62561-2  
For lightning protection, earthing systems and ring equipotent bonding.  
Material: Zinc coated Steel.



### COLD GALVANIZED STRIP FOR EARTH

Catalogue number	Model	Length (mm)	Thickness (mm)	Width (mm)	Packing/Box (pcs)
M014008	40/4	6	4	40	1

Coated in zinc to make them corrosion resistant.  
Material: Steel.



### ALUMINUM ROUND CONDUCTOR

Catalogue number	Model	Diameter (mm)	Packing/Box (pcs)
ME301092	EL-LP 8	8	1/140
ME301096	EL-LP 11	11	1/100

Conductor material: AlMgSi.  
EL-LP 8 - without isolation.  
EL-LP 11- with not flammable halogen free isolation.

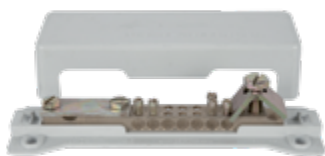


### CABLE HOLDER FOR FLAT ROOFS

Catalogue number	Model	Length (mm)	Width (mm)	Height (mm)	Packing/Box (pcs)
ME301082	EL- RCH	144	92	66	1

Fixing the wire on flat roofs.  
Plastic stabilized PE against UV radiation with inserted concrete block.





### EQUIPOTENTIAL BONDING BAR

Catalogue number	Model	Length (mm)	Width (mm)	Height (mm)	Packing/Box (pcs)
ME301084	EL-EBR	182	52	42	1



Equipotential busbar for equipotential bonding to DIN VDE 0100-410/-540 and DIN 62561-15.  
Material of bar: Ms.  
Material of clamps: St galvanized.  
Connection options: 7 single or multi-wire cables 25 mm<sup>2</sup> or fine-wire cables to 16 mm<sup>2</sup> (max. D - 7 mm) 1 D8-12 mm 1 up to 30x5 / D8-12 mm.

### VARIABLE EARTHING CONNECTOR FOR ALUMINUM CONDUCTORS



Catalogue number	Model	Length (mm)	Width (mm)	Packing/Box (pcs)
ME301088	EL-V	38	40	1



Material: Aluminum- AlCu4MgSi(A).  
Suitable for conductors with diameter 8 and 11mm.  
Type of fastening screw: Hexagonal bolt.

### SCREW-LESS CABLE BRACKET FOR EARTHING CONDUCTORS



Catalogue number	Model	Length (mm)	Width (mm)	Height (mm)	Packing/Box (pcs)
ME301006	EL-VA	24.2	22	33.4	1/50



Suitable for conductors with diameter 8 mm & 11 mm.

### ATTACHING CLAMP



Catalogue number	Model	Length (mm)	Width (mm)	Height (mm)	Packing/Box (pcs)
ME014070	EL-AC	78	40	36	1/100



Attaching the round conductors to metal parts of the premises

### ROOF GUTTER CLAMP



Catalogue number	Model	Length (mm)	Width (mm)	Packing/Box (pcs)
ME301008	EL-RGC	50	45	1/100



Suitable for all bulge and bead thicknesses  
Suitable for conductors with diameter 8 and 11mm  
Material: Steel

### CROSSBAR FOR EARTHING CONDUCTOR



Catalogue number	Model	Length (mm)	Width (mm)	Packing/Box (pcs)
M301083	156 K8-10 ST	43	20	1/100



Suitable for conductors with diameter 8 and 11mm. Hot-dip galvanized.  
Material: Steel

### ROD HOLDER

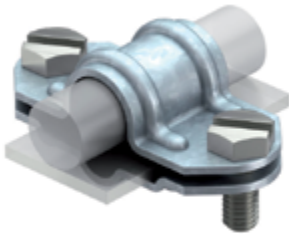


Catalogue number	Model	Length (mm)	Width (mm)	Packing/Box (pcs)
M014014	113 Z-16	56	20	1/10



For interception and earth entry rods 101 VL. Installed with crossbar and hexagonal bolts M6 x 16. With female thread M8 or through hole with D- 7 mm.  
Material: Die-cast zinc, Galvanized.

### BRIDGE CONNECTOR FOR ROD HOLDER

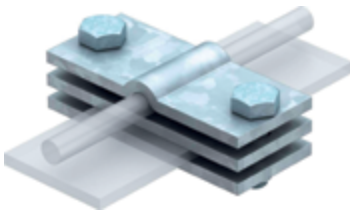


Catalogue number	Model	Length (mm)	Width (mm)	Packing/Box (pcs)
M014054	226 8-10	70	30	1/20



For fitting round conductors with D 8 and 10 mm to earthing rods or flat strip 30x3.5. Including 2 hexagonal bolts M8 x 20 high-grade stainless steel (V2A). Conforms to the requirements according to VDE 0185-305 (IEC 62305).  
Material: Steel, Hot-dip Galvanized.

### EARTH CONNECTION TERMINAL FOR CONDUCTOR TO STRIP



Catalogue number	Model	Length (mm)	Width (mm)	Packing/Box (pcs)
M031239	937 50	60	25	1/10



For round conductor and flat strips. Suitable for cable 50 mm<sup>2</sup> and strips with width 40 mm. With 2 hexagonal bolts M6 x 20 mm.  
Material: Steel, Hot-dip galvanized.

### CROSS-CONNECTORS FOR STRIPS AND CONDUCTORS



Catalogue number	Model	Length (mm)	Width (mm)	Packing/Box (pcs)
ME301087	EL-1203	65	65	1/45



Material: stainless steel 304  
Conductor size: 50mm<sup>2</sup> stranded  
Strip size: max. 40x4mm



### SPACER CLIP FOR STRIPS

Catalogue number	Model	Length (mm)	Width (mm)	Height (mm)	Packing/Box (pcs)
M301059	831 40 M6	65	14	14	1/10



Suitable for strips with width 40 mm.  
With thread M6 and 2 hexagonal bolts M6 x 16 (F).  
Hot-dip galvanized.  
Material: Steel



### BRIDGE CONNECTOR FOR ROD HOLDER

Catalogue number	Model	Length (mm)	Width (mm)	Packing/Box (pcs)
M014017	288 DIN	170	30	1/20



With 1 attaching hole with D- 11 mm.  
With 2 x 4 mounting hole with D- 5.2 mm.  
With 2 x 2 mounting hole with D- 6.9 mm.  
Material: Aluminum.



### INSPECTION DOOR

Catalogue number	Model	Length (mm)	Width (mm)	Height (mm)	Packing/Box (pcs)
M500684	5800 VZ	180	13.5	230	1



Lightweight design for flush-mounted separation points.  
Claw length approx. 80 mm.  
Strip galvanized.  
Material: Steel.

DISTRIBUTION BOXES

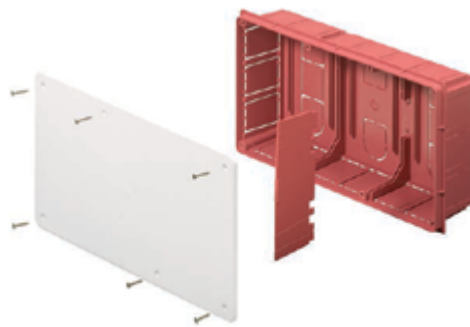


**FLUSH MOUNTING JUNCTION BOX EC350 SERIES**

**TECHNICAL DATA**

- Rated voltage: up to 1000V
- Box material: Shock resistant technopolymer
- Screw material: Anticorrosive galvanized steel
- For quick and easy cables or conduits inlet- Side are pre-cutting
- By the separator it is possible to divide the box into separate sections for different circuits
- IP code: IP40

Catalogue number	Type	Description	Box dimensions (mm)			Packing / Box
			L	H	W	
1927410	EC350C4	Junction box	152	100	70	1/80
1927411	EC350C6	Junction box	196	152	70	1/40
1927412	EC350C7	Junction box	294	152	70	1/28
1927413	EC350C8	Junction box	392	152	70	1/20
1927415	EC3500S	Separator				10/100



### CONSOLE FOR BRICK AND CONCRETE FOR ITALIAN STANDARD MODULAR SWITCHES AND SOCKETS



Catalogue number	Type	Length (mm)	Width (mm)	Depth (mm)	Packing (pcs)
24207	1-3 Module Console Box	95	70	48	10/400
24208	4 Module Console Box	118	70	48	10/240
24209	6 Module Console Box	178	70	48	10/150
24210	Console Box Spacer				20/200



### UNIVERSAL CONSOLE BOX-FLUSH MOUNTING



Catalogue number	Type	Diameter (mm)	Packing (pcs)
1927302	Console box - Ø65	65	300



### CONSOLE BOX MULTI



Catalogue number	Type	Diameter (mm)	Packing (pcs)
1927301	Console box multi- Ø65	65	250



### DEEP CONSOLE BOX MULTI



Catalogue number	Type	Depth (mm)	Diameter (mm)	Packing (pcs)
1927303	Deep console box multi- Ø68x65mm	68	65	90







### QUADRUPLE CONSOLE BOX MULTI - UK STANDARD

Catalogue number	Type	Size (mm)			Packing (pcs)
		Length	Width	Height	
1927304	Console box multi- UK Standard	83	83	50	90



### CONSOLE BOX FOR PLASTERBOARD

Catalogue number	Type	Packing (pcs)
19274	Single	240
19275	Double	120
19276	Triple	60
19278	Quadruple	50
19279	Fivefold	25



### CONSOLE BOX FOR PLASTERBOARD ITALIAN TYPE

Catalogue number	Type	Packing (pcs)
24205	Triple Console box for plasterboard	160
24206	Quadruple Console box for plasterboard	150



Suitable for all bulge and bead thicknesses.  
Suitable for conductors with diameter 8 mm and 11mm.  
Material: Steel.



### CONSOLE BOX FOR PLASTERBOARD ITALIAN TYPE

Catalogue number	Type	Packing (pcs)
26636	Sixfold Console box for plasterboard	10/160



### DISTRIBUTION BOXES - SQUARE TYPE



Catalogue number	Type	Size			Packing (pcs)
		L	W	H	
1927402	Distribution Box 80/80/50	80	80	50	100
1927400	Distribution Box 100/100/50 without screws	100	100	50	40



### DISTRIBUTION BOXES FOR PLASTERBOARD - SQUARE TYPE



Catalogue number	Type	Size			Packing (pcs)
		L	W	H	
1927405	Distribution Box 80/80/45	80	80	45	100
1927404	Distribution Box 100/100/45	100	100	45	100



### DISTRIBUTION BOXES FOR PLASTERBOARD - ROUND TYPE



Catalogue number	Type	Diameter (mm)	Packing (pcs)
1927403	Distribution box Ø65	65	240
1927407	Distribution box Ø70	70	200
1927409	Distribution box Ø80	80	100





### DISTRIBUTION BOXES - ROUND TYPE

Catalogue number	Type	Diameter (mm)	Packing (pcs)
1927406	Distribution box Ø70	70	300
1927408	Distribution box Ø80	80	200



### CAP WITH FASTENING CLIPS

Catalogue number	Type	Suitable for holes with diameter (mm)	Packing (pcs)
19277	Cap with clips	60-90	1/200



## WATERPROOF JUNCTION BOXES

**Documents corresponding to the product:**

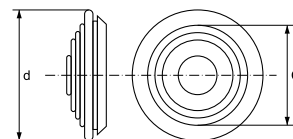
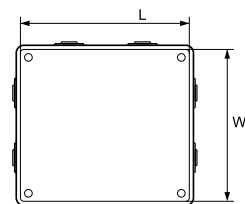
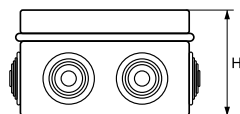
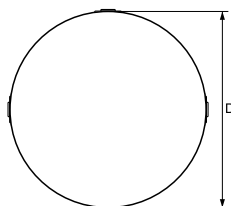
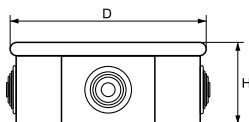
Standard: EN 60670-1

### WATERPROOF JUNCTION BOXES IP44, IP55

Plastic junction boxes with different shapes and dimensions. Designed for cable lines extension or tapping at cable installations laying. Made of ABS material with openings for input - output conductors, with rubber gasket to provide the corresponding IP code. Resistant to chemical, thermal and UV rays. Direct wall mounting with screws.

**TECHNICAL DATA**

- Rated voltage: up to 1000V
- Material: ABS
- IP code: IP 55



Catalogue number	Box type	Box dimensions (mm)				Gasket dimensions (mm)		IP code	Packing/Box
		D	L	W	H	d	c		
8070	WB50/50	50	-	-	50	22.5	17	44	500
8071	WB80/50	80	-	-	50	22.5	17	44	200
8072	WB85/85/50	-	85	85	50	22.5	18.5	44	200
8073	WB100/100/70	-	100	100	70	30	23	55	100
8076	WB150/110/70	-	150	110	70	28	23	55	60
8074	WB150/150/70	-	150	150	70	35	29	55	60
8075	WB200/100/70	-	200	100	70	35	29	55	50
8077	WB200/155/80	-	200	155	80	35	29	55	30
8078	WB255/200/80	-	255	200	80	35	29	55	30
8079	WB300/250/120	-	300	250	120	35	29	55	20
8080	WB400/350/120	-	400	350	120	35	29	55	5





### WATERPROOF JUNCTION BOXES IP55

Catalogue number	Box type	Box dimensions (mm)			Colour	IP code	Packing / Box
		L	H	W			
8023	CP 1020	90	43	40	Grey	55	1/456
8024	CP 1021	75	75	40	Grey	55	1/280
8025	CP 1022	85	85	40	Grey	55	1/224



### WATERPROOF JUNCTION BOXES IP65

Catalogue number	Box type	Box dimensions (mm)				Hole/pcs	IP code	Packing / Box
		L	H	W	d			
8091	WBG 50/50	50	50	50	25	4	55	300
8092	WBG 80/50	80	80	50	25	4	55	240
8093	WBG 85/85/50	85	85	50	25	7	55	200
8001	WBG 100/100/70	100	100	70	27	7	65	100
8002	WBG 150/110/70	150	110	70	27	10	65	60
8003	WBG 150/150/70	150	150	70	27	7	65	60
8004	WBG 200/100/70	200	100	70	27	8	65	50
8005	WBG 200/155/80	200	155	80	35	10	65	30
8006	WBG 200/200/80	200	200	80	35	12	65	30
8007	WBG 255/200/80	255	200	80	35	12	65	30
8008	WBG 300/250/120	300	250	120	35	12	65	20
8009	WBG 400/350/120	400	350	120	35	16	65	5



### WATERPROOF JUNCTION BOXES IP54 WITH KNOCK OUTS

Catalogue number	Box type	Box dimensions (mm)			Colour	IP code	Packing / Box
		L	H	W			
8032	CP 1259	80	120	120	Grey	54	1/35
8033	CP 1261	150	110	140	Grey	54	1/16
8034	CP 1262	190	145	140	Grey	54	1/10
8035	CP 1263	250	200	160	Grey	54	1/6
8036	CP 1264	310	230	180	Grey	54	1/6



**WATERPROOF JUNCTION BOXES IP68**

**TECHNICAL DATA**

- Type: Waterproof junction box
- Voltage: 450V AC
- Rated current: 24A
- Entry QTY: 2, 3, 4, 5, 8
- Terminal Blocks: 3 pole screw fix terminal
- Cable cross section: 0,5-2,5mm<sup>2</sup>
- Material: UL94V-2 Fire and flame retardant



Catalogue number	Entry QTY	Box dimensions (mm)			Colour	IP code	Packing / Box
		L	H	W			
31076	2	161.74	66.98	38	Black	IP68	1



Catalogue number	Entry QTY	Box dimensions (mm)			Colour	IP code	Packing / Box
		L	H	W			
31077	3	161.74	93.97	38	Black	IP68	1





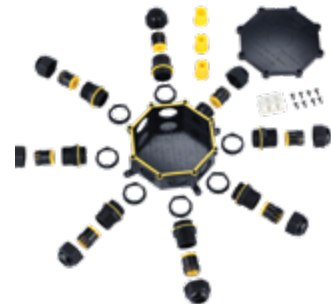
Catalogue number	Entry QTY	Box dimensions (mm)			Colour	IP code	Packing / Box
		L	H	W			
31078	4	161.74	93.97	38	Black	IP68	1



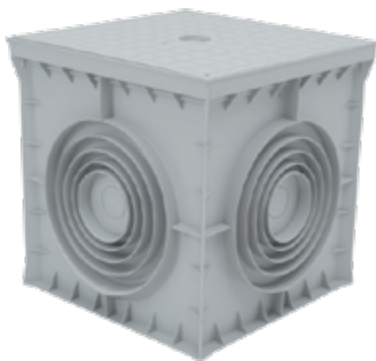
Catalogue number	Entry QTY	Box dimensions (mm)			Colour	IP code	Packing / Box
		L	H	W			
31079	5	161.74	107.86	38	Black	IP68	1



Catalogue number	Entry QTY	Box dimensions (mm)			Colour	IP code	Packing / Box
		L	H	W			
31080	8	170.63	49.3	38	Black	IP68	1



**MANHOLE BOXES WITH COVER AND 4 WAYS OUT**

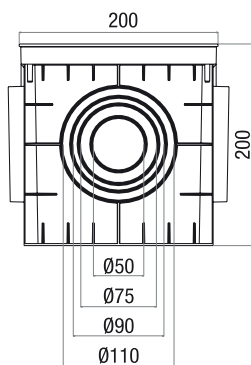


**TECHNICAL DATA:**

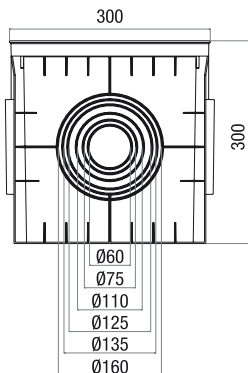
- Material: PP
- Body colour: RAL 7030 grey
- Type of cover: Blank, grey
- Impact resistance: 08
- Outlet cut sizes:
  - CP20: D50; D75; D90; D110 mm
  - CP30: D60 ; D75; D110; D125; D135; D160 mm
  - CP40: D100; D125; D160; D200; D250 mm
- Ambient temperature: from -25° to 60°C
- Breaking load:
  - CP20: 7.4kg/cm<sup>2</sup>
  - CP30: 4.8kg/cm<sup>2</sup>
  - CP40: 2kg/cm<sup>2</sup>

Catalogue number	Box type	Box dimensions (mm)			Outlet cut sizes (mm)	Impact resistance	Packing/Box
		L	W	H			
8040	CP-20	200	200	200	D-50/75/90/110	08	1
8041	CP-30	300	300	300	D-60/75/110/125/135/160	08	1
8042	CP-40	400	400	400	D-100/125/160/200/250	08	1

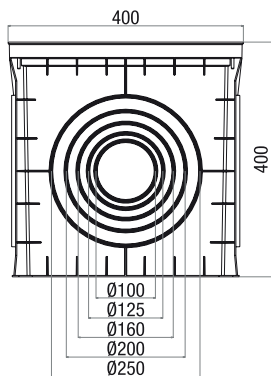
\* It is advisable to firmly anchor the manhole boxes to the ground . Prepare a concrete bed of at least 10cm and avoid height differences between the manhole box cover and the ground surface.



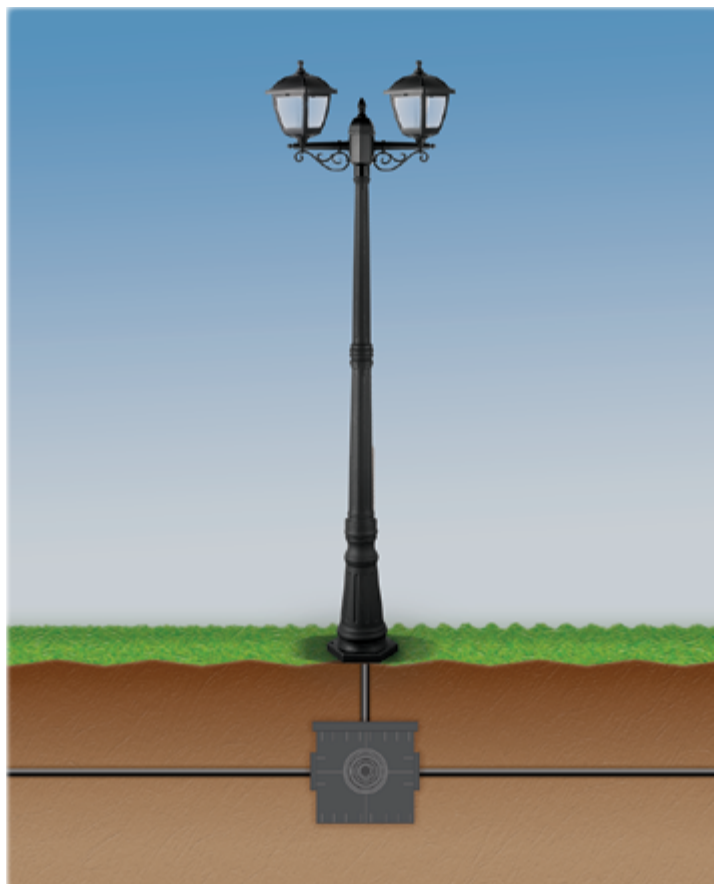
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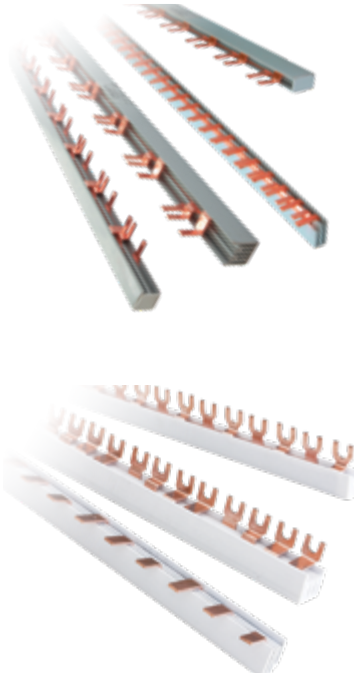
Cat.number: 8041



Cat.number: 8042



SUPPLY BUSBARS & DIN RAIL



**SUPPLY BUSBAR**

**FUNCTIONS**

- Enables the supply of a group of conductors
- Provides simultaneous supply
- Conducting section – electro technical copper
- Insulation of the conducting section

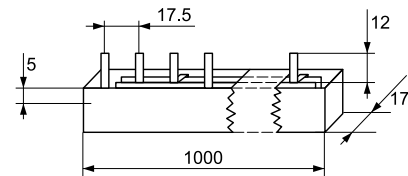
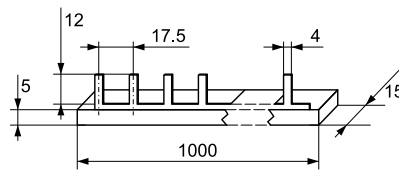
**TECHNICAL DATA**

- Rated operating voltage: 230/400V
- Isolating voltage: 500V
- Abnormal heating wear resistance and fire of the outer parts: 960°C/3sec.
- Rated current (phase): 63/100A

**CONNECTING**

- To the joining terminal of the breaker

Catalogue number	Type (copper busbar)	Length (m)	Poles (number)	In with one point of power supply	In with two points of power supply	Packing/ Box (pcs)
14163	1P 63	1	54	63A	90A	20/100
14190	1P 100	1	54	100A	120A	20/100
14263	2P 63	1	28	63A	90A	10/50
14363	3P 63	1	18	63A	90A	6/30
14390	3P 100	1	18	100A	120A	5/50
14463	DP 1N	1	56	63A	90A	10/50
14190T	C100 1P	1	-	125A	150A	20/100
14290T	C100 2P	1	-	125A	150A	10/50
14390T	C100 3P	1	-	125A	159A	5/20
14163U	U 1P 63	1	54	63A	90A	20/100
14263U	U 2P 63	1	28	63A	90A	10/50
14363U	U 3P 63	1	18	63A	90A	6/30
14463U	U 4P 63	1	13	63A	90A	5/20



### MOUNTING (DIN) RAILS

#### FUNCTIONS

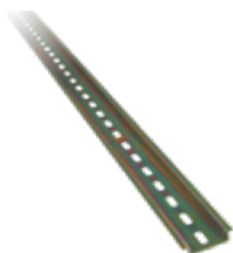
- Serves for mounting breakers, residual current devices, contactors and other elements
- Provides a firm fixation of the elements

#### CONNECTING

- With bolts or other fixing elements to the mounting surface

#### TECHNICAL DATA

- Brass alloy with galvanic cover for 14001
- Cold galvanized brass alloy for 14001G
- Factory drilled mounting openings
- Length: 1m



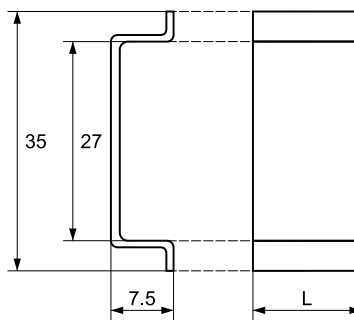
14001



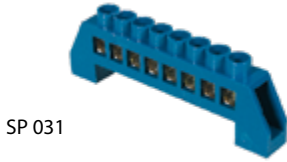
14001G



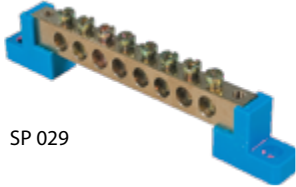
Catalogue number	Length (m)	Packing / Box (pcs)
14001	1m	20 / 100
14001G	1m	20 / 100



## TERMINALS



SP 031



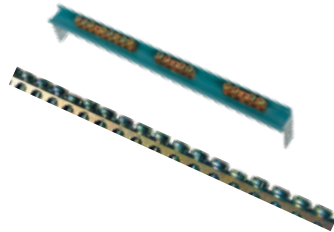
SP 029

### ZERO TERMINALS

Catalogue number	Rail type	Dimensions (mm)			Packing/ Box (pcs)
		Length	Height	Width	
14204	SP 029-4	82.9	21.5	12	10/500
14206	SP 029-6	100.9	21.5	12	10/800
14208	SP 029-8	118.9	21.5	12	20/300
14210	SP 029-10	136.9	21.5	12	20/300
14212	SP 029-12	182.4	21.5	12	20/250
14304	SP 031-4	59.5	31.5	12.4	5/400
14306	SP 031-6	76.5	31.5	12.4	5/400
14308	SP 031-8	93	31.5	12.4	5/400
14310	SP 031-10	111	31.5	12.4	5/400
14312	SP 031-12	128	31.5	12.4	5/300



### ZERO RAILS



They represent a brass rail with rectangular section with factory made openings for the conductors and bolts for clamping of the conductor. They are offered in types with insulated and non-insulated rail. They are used in the electrical distribution boxes for zeroing and earthing.

#### TECHNICAL DATA

- Material: brass for the current leading elements
- Insulation material: plastic
- Colour: gray/blue
- Application: general
- Ambient temperature: -40 to +65°C

Catalogue number	Rail type	Dimensions (mm)				Bolt	Number of terminals	Packing/ Box (pcs)
		Length (mm)	Height (mm)	Width (mm)	Diameter (mm)			
14002	Brass	1000	7.8	6	5	M4	54	100
14012	Zero insulated	250	-	-	5	M4	16	200

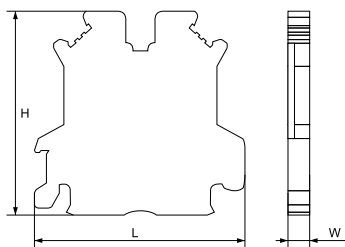
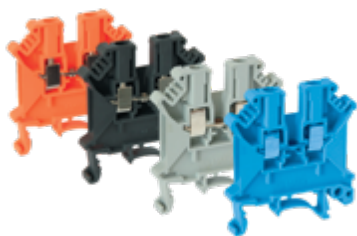


### TERMINAL BLOCKS TBH TYPE



Catalogue number	Type	Pieces in a strip	In (A)	Un (V)	Colour	Section of the conductor (mm <sup>2</sup> )	Packing / Box (pcs)
31003	TBH 3A	12	3	660	Semitransparent	Up to 1.5	10 / 1000
31006	TBH 6A	12	6	660	Semitransparent	Up to 4	10 / 1000
31010	TBH 10A	12	10	660	Semitransparent	Up to 6	10 / 500
31015	TBH 15A	12	15	660	White	Up to 6	10 / 500
31020	TBH 20A	12	20	660	White	Up to 10	10 / 400

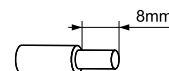




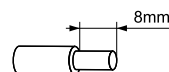
### FIXED TERMINAL BLOCKS - LTU2 UK SERIES

Fixed terminal blocks with universal application into electrical distribution boxes. For DIN-rail mounting. Variety of sizes for optimum using of available space by selection of appropriate terminals for the corresponding conductors. Made of non-flammable insulation polymeric material.

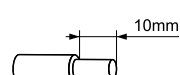
Catalogue number	Type	Section of the conductor (mm <sup>2</sup> )		Size of the terminal (mm)			In (A)	Un (V)	Colour	Packing/Box (pcs)
		Single-core	Multi-core	L	H	W				
31033	LTU2UK 3N	0.2-4	0.2-2.5	42.5	47	5.2	32	800	Grey	50/3000
31032	LTU2UK 3N	0.2-4	0.2-2.5	42.5	47	5.2	32	800	Red	50/3000
31031	LTU2UK 3N	0.2-4	0.2-2.5	42.5	47	5.2	32	800	Black	50/3000
31035	LTU2UK 3N	0.2-4	0.2-2.5	42.5	47	5.2	32	800	Blue	50/3000



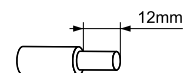
Catalogue number	Type	Section of the conductor (mm <sup>2</sup> )		Size of the terminal (mm)			In (A)	Un (V)	Colour	Packing/Box (pcs)
		Single-core	Multi-core	L	H	W				
31053	LTU2UK 5N	0.2-6	0.2-4	42.5	47	6.2	41	800	Grey	50/2000
31052	LTU2UK 5N	0.2-6	0.2-4	42.5	47	6.2	41	800	Red	50/2000
31051	LTU2UK 5N	0.2-6	0.2-4	42.5	47	6.2	41	800	Black	50/2000
31055	LTU2UK 5N	0.2-6	0.2-4	42.5	47	6.2	41	800	Blue	50/2000



Catalogue number	Type	Section of the conductor (mm <sup>2</sup> )		Size of the terminal (mm)			In (A)	Un (V)	Colour	Packing/Box (pcs)
		Single-core	Multi-core	L	H	W				
31063	LTU2UK 6N	0.2-10	0.2-6	42.5	47	8.2	57	800	Grey	50/1000
31062	LTU2UK 6N	0.2-10	0.2-6	42.5	47	8.2	57	800	Red	50/1000
31061	LTU2UK 6N	0.2-10	0.2-6	42.5	47	8.2	57	800	Black	50/1000
31065	LTU2UK 6N	0.2-10	0.2-6	42.5	47	8.2	57	800	Blue	50/1000



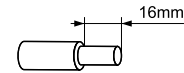
Catalogue number	Type	Section of the conductor (mm <sup>2</sup> )		Size of the terminal (mm)			In (A)	Un (V)	Colour	Packing/Box (pcs)
		Single-core	Multi-core	L	H	W				
31103	LTU2UK 10N	0.5-16	0.5-10	42.5	47	10.2	76	800	Grey	50/1000
31102	LTU2UK 10N	0.5-16	0.5-10	42.5	47	10.2	76	800	Red	50/1000
31101	LTU2UK 10N	0.5-16	0.5-10	42.5	47	10.2	76	800	Black	50/1000
31105	LTU2UK 10N	0.5-16	0.5-10	42.5	47	10.2	76	800	Blue	50/1000







Catalogue number	Type	Section of the conductor (mm <sup>2</sup> )		Size of the terminal (mm)			In (A)	Un (V)	Colour	Packing/ Box (pcs)
		Single-core	Multi-core	L	H	W				
31163	LTU2UIK 16	2.5-25	4-16	42.5	47	12.2	101	800	Grey	30/1200
31353	LTU2UIK 35	10-35	10-35	55	62	15.2	125	800	Grey	20/400

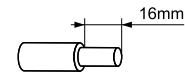


### FIXED TERMINAL BLOCKS - JD SERIES

Two-sided insulated fixed terminal blocks designed to connect grounded conductors. Made of non-flammable insulation polymeric material.

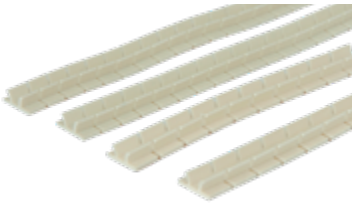


Catalogue number	Type	Section of the conductor (mm <sup>2</sup> )		Size of the terminal (mm)			In (A)	Un (V)	Colour	Packing/ Box (pcs)
		Single-core	Multi-core	L	H	W				
31054	5JD	0.2-4	0.2-4	42.5	47	6.2	34	800	Yellow-green	50/1000
31064	6JD	0.2-10	0.2-6	42.5	47	8.2	37	800	Yellow-green	50/1000
31104	10JD	0.5-10	0.5-6	42.5	47	8.2	61	800	Yellow-green	50/1000
31164	16JD	2.5-25	2.5-16	42.5	47	12.2	108	800	Yellow-green	50/600
31354	35JD	2.5-35	2.5-35	42.5	47	15	135	800	Yellow-green	20/400



### MARKING TAGS - ZB TYPE

Accessories for marking and separation of different electrical circuits, different voltages and fixing of elements for DIN-rail mounting.



Catalogue number	Type	Pieces in a strip	Colour	Size (mm)	Packing / Box (pcs)
31906	ZB6	20	White	6	100/1200
31908	ZB8	10	White	8	100/1200



### END COVER

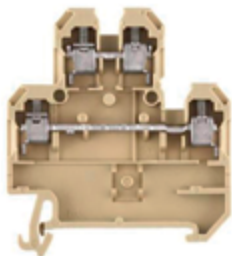
Catalogue number	Type	Colour	Thickness (mm)	Packing/ Box (pcs)
31901	EC	Grey	8	200 / 6000





**UNIVERSAL END FIXED PIECES E/UK TYPE**

Catalogue number	Type	Colour	Thickness (mm)	Packing/ Box (pcs)
31902	E/UK	Grey	5	200/2400



**DOUBLE DECK TERMINAL BLOCKS**

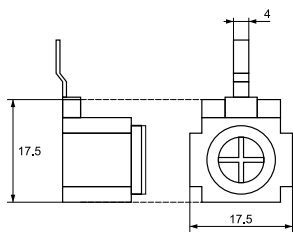
Catalogue number	Type	Section of the conductor (mm <sup>2</sup> )		Rated current (A)	Rated voltage (V)	Colour	Dimensions (mm)			Packing (pcs.)
		Single-core	Multi-core				L	H	W	
31056D	DDTB4/5N	0.2-6	0.2-4	32	500	Beige	59.9	54	6	50/1000
31053D	DDTB4/5N	0.2-6	0.2-4	32	500	Grey	59.9	54	6	50/1000
31901D	End cover for DDTB4/5N					Grey	54	43.5	1.5	200/6000



**INSULATING MOUNTING TERMINAL - TB25**

**FUNCTIONS**

- Provides a firm joining of rigid or flexible conductors up to 35mm<sup>2</sup> to power supply busbar
- Provides a firm joining of the power supply conductor to the breaker
- Provides enough contact surface of the conductor
- Brass alloy with galvanic cover
- Fabric isolated with plastic cover
- Appropriate for joining to copper or aluminum cables
- Rated voltage: 230V
- Rated current: up to 63A
- Isolating voltage: ≥500V
- IP code: IP>20
- Section of power supply conductor: up to 35mm<sup>2</sup>



Catalogue number	Type	Section of the conductor (mm <sup>2</sup> )	Rated current In (A)	Packing / Box (pcs)
31025	TB 25	2.5 to 35	63	20 / 2000



## UNIPOLAR DISTRIBUTION TERMINAL BLOCKS FOR COPPER AND ALUMINUM CONDUCTORS

### TECHNICAL DATA

- Housing material: PA Nylon
- Terminal material: tin plated brass
- Grade of flame retardant: UL94v-0
- Mounting: DIN rail or screw fixing



Catalogue number	Type	Current (A)	Quantity cross sections mm <sup>2</sup>	Dimensions (mm)			Packing (pcs.)
				L	H	W	
319080	PPDTB80	80A	1x 6-16 mm <sup>2</sup> 4x 2.5-6 mm <sup>2</sup> 2x 2.5-16 mm <sup>2</sup>	30	69	49	200
319125	PPDTB125	125A	1x 10-35 mm <sup>2</sup> 6x 2.5-16 mm <sup>2</sup>	29	77	46	150
319160	PPDTB160	160A	1x 10-70 mm <sup>2</sup> 6x 2.5-16 mm <sup>2</sup>	29	77	46	150
319250	PPDTB250	255A	1x 35-120 mm <sup>2</sup> 8x 2.5-16 mm <sup>2</sup> 4x 2.5-10 mm <sup>2</sup>	47	96	50	150
319400	PPDTB400	400A	1x 95-185 mm <sup>2</sup> 8x 2.5-16 mm <sup>2</sup> 4x 2.5-10 mm <sup>2</sup>	47	96	50	60



### TERMINAL BLOCKS TBF TYPE

Catalogue number	Type	Pieces in a terminal	Section of the conductor (mm <sup>2</sup> )	Rated current (A)	Rated voltage (V)	Dimensions (mm)			Packing (pcs.)
						L	H	W	
31021	2 terminal block	2	4 mm <sup>2</sup>	32	400	12.4	14.5	20.5	5000
31022	3 terminal block	3	4 mm <sup>2</sup>	32	400	17.0	14.5	20.5	2500
31023	5 terminal block	5	4 mm <sup>2</sup>	32	400	26.6	14.5	20.5	2500



*Note: The terminals are compatible with mini water-proof boxes IP68 with catalogue number: 31085, 31086 and 31087 (page 273)*

### FAST LIGHTING CABLE CONNECTOR

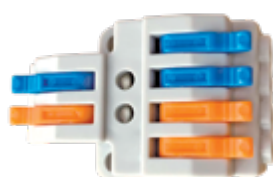
Catalogue number	Type	Pieces in a terminal	Section of the conductor (mm <sup>2</sup> )	Rated current (A)	Rated voltage (V)	Packing (pcs.)
31024	Lighting connector	3	1.0-2.5mm <sup>2</sup> / 0.5-2.5 mm <sup>2</sup>	25	400	1500





**QUICK CONNECTION TERMINAL BLOCK**

Catalogue number	Type	Pieces in a terminal	Section of the conductor (mm <sup>2</sup> )	Rated current (A)	Rated voltage (V)	Dimensions (mm)			Packing (pcs.)
						L	W	H	
31026	2P- 2 in/2 out	4	0,75mm <sup>2</sup> - 4mm <sup>2</sup>	32	250	41.4	25.5	14.4	1/100
31027	3P- 3 in/3 out	6	0,75mm <sup>2</sup> - 4mm <sup>2</sup>	32	250	41.4	30.5	14.4	1/70
31028	5P- 5 in/5 out	10	0,75mm <sup>2</sup> - 4mm <sup>2</sup>	32	250	41.4	40.5	14.4	1/50



**QUICK CONNECTION TERMINAL BLOCK**

Catalogue number	Type	Pieces in a terminal	Section of the conductor (mm <sup>2</sup> )	Rated current (A)	Rated voltage (V)	Dimensions (mm)			Packing (pcs.)
						L	W	H	
31029	2P-2 in/ 4 out	6	0,75mm <sup>2</sup> - 4mm <sup>2</sup>	32	250	41.4	25.9	14.55	1/50
31030	2P-2 in/ 6 out	8	0,75mm <sup>2</sup> - 4mm <sup>2</sup>	32	250	41.4	35.9	14.55	1/50



**QUICK CONNECTION TERMINAL BLOCK**

Catalogue number	Type	Pieces in a terminal	Section of the conductor (mm <sup>2</sup> )	Rated current (A)	Rated voltage (V)	Dimensions (mm)			Packing (pcs.)
						L	W	H	
31034	3P-3 in/ 6 out	9	0,75mm <sup>2</sup> - 4mm <sup>2</sup>	32	250	41.4	35.9	14.6	1/50
31036	3P-3 in/ 9 out	12	0,75mm <sup>2</sup> - 4mm <sup>2</sup>	32	250	41.4	48.5	14.6	1/50



**MODULE TERMINAL BLOCK FOR QUICK CABLE CONNECTION**

Catalogue number	Type	Pieces in a terminal	Section of the conductor (mm <sup>2</sup> )	Rated current (A)	Rated voltage (V)	Dimensions (mm)			Packing (pcs.)
						L	W	H	
31037	1P-1 in/ 1 out 2	2	0,75mm <sup>2</sup> - 4mm <sup>2</sup>	32	250	39.3	8.5	14.5	1/100



### QUICK CONNECTION TERMINAL BLOCK FOR DIN RAIL



1 input / 1 output



Catalogue number	Type	Section of the conductor (mm <sup>2</sup> )	Rated current (A)	Rated voltage (V)	Dimensions (mm)			Packing (pcs.)
					L	W	H	
31038	1 input / 1 output	0,5mm <sup>2</sup> - 4mm <sup>2</sup>	32A	250/600V	8,5	28	14,4	50
31039	2 input / 2 output	0,5mm <sup>2</sup> - 4mm <sup>2</sup>	32A	250/600V	13,5	28	14,4	100
31040	3 input / 3 output	0,5mm <sup>2</sup> - 4mm <sup>2</sup>	32A	250/600V	18,5	28	14,4	70
31041	4 input / 4 output	0,5mm <sup>2</sup> - 4mm <sup>2</sup>	32A	250/600V	23,5	28	14,4	50
31042	5 input / 5 output	0,5mm <sup>2</sup> - 4mm <sup>2</sup>	32A	250/600V	28,5	28	14,4	50



2 input / 2 output



3 input / 3 output



4 input / 4 output



5 input / 5 output

### MINI WATER-PROOF BOXES, IP68



Catalogue number	Type	Rated current (A)	Rated voltage (V)	Dimensions (mm)			Packing (pcs.)
				L	W	H	
31085	Box for 2 entry terminals	32A	400V	42,4	38	26	20

Note: The terminal is not included. Suitable with terminal 31021 (page 271)



Catalogue number	Type	Rated current (A)	Rated voltage (V)	Dimensions (mm)			Packing (pcs.)
				L	W	H	
31086	Box for 3 entry terminals	32A	400V	52	38	26	15

Note: The terminal is not included. Suitable with terminal 31022 (page 271)



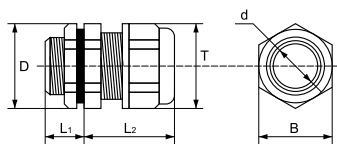
Catalogue number	Type	Rated current (A)	Rated voltage (V)	Dimensions (mm)			Packing (pcs.)
				L	W	H	
31087	Box for 3 in/ 3 out terminals	32A	400V	74	46,2	26	10

Note: The terminal is not included. Suitable with terminal 31023 (page 271)



CONSUMABLES

Standard: EN 60 423; 48580-81



**CABLE GLANDS PG TYPE**

Plastic pipes supplied with the corresponding gaskets and nuts. Designed to provide necessary IP code on the points where conductors pass through the walls of the electric distribution boxes. All cable gland elements are made of high quality plastic (PE) and rubber.

**TECHNICAL DATA**

- Material: polyethylene (PE)
- Colour: gray
- Application: general
- Ambient temperature: -40 to +65°C
- IP 68

Catalogue number	Type	Overlap-ping field	Dimensions (mm)						Packing/ Box (pcs)
			T	B	d	D	L1	L2	
500070	PG-7	3.5-6.8	16.3	18	12	6.6	10	22	100/4000
500090	PG-9	5-8	18.9	21.7	15.5	8.5	10	25	100/4000
500110	PG-11	6-10	21.7	23.5	18.5	10.4	8.5	29	100/3000
500135	PG-13.5	7-12	23.6	26.5	20	13	10	29	100/2000
500160	PG-16	8-14	26.5	29.3	21.5	14	9	29	100/2000
500190	PG-19	9-17	29	32	23	17	12	29	100/2000
500210	PG-21	10-18	32.3	35.6	28	19	12	35	100/1000
500250	PG-25	15-22	32.6	32.6	29.8	24	13	31	100/1000
500290	PG-29	16-24	41.1	45.4	36	26	12.5	40	50/500
500360	PG-36	18-28	52	58	46	31.5	12.5	45	50/350
500420	PG-42	26-36	57.4	61.9	51	37.6	17.5	47	20/200
500480	PG-48	32-39	65.2	70.7	58	43	21	50	20/200



**CABLE CONNECTOR**

The cable connectors are hopeful way for assembling both cables. The high-temperature and water resistant stability assure to the connector assure a high degree of security even in extreme conditions.



Catalogue number	Type	Section of the conductor (mm <sup>2</sup> )	Length (mm)	Diameter (mm)	Cable glands type	IP code	Packing / Box (pcs)
31072	Cable connector 11	2x0.5-2.5	78.3	26.2	PG11	68	50
59245	Cable connector 16	5x1.5- 2.5	115	26.5	PG16	67	50
59246	Cable connector 21	5x4-6	124	33.5	PG21	67	50





## Y-TYPE CABLE CONNECTORS

### TECHNICAL DATA

- Material: polyethylene (PE)
- Colour: gray
- Application: general
- Ambient temperature: -40 to +65°C
- IP 68



Catalogue number	Terminal pieces	Section of the conductor (mm <sup>2</sup> )	Rated current (A)	Length (mm)	Diameter (mm)	Cable glands type	IP code	Packing/Box (pcs)
31074	3 pin	0.5-4	24	139.7	32.56	M25	IP68	1
31075	5 pin	0.5-4	24	139.7	32.56	M25	IP68	1



## WATERPROOF TERMINAL BOX

Catalogue number	Type	Section of the conductor (mm <sup>2</sup> )	Rated current (A)	Voltage (V)	Material	Packing/Box (pcs)
31071	Terminal box IP44	0.5-4.0	6	450	Polycarbonate	1
31070	Terminal box IP65	0.5-2.5	10	450	Polycarbonate	1



Terminal box IP65



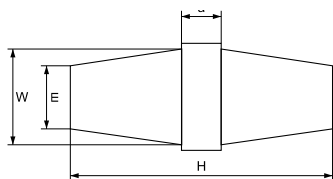
Terminal box IP44

### SUPPORT INSULATOR FOR LOW VOLTAGE

Support insulators are used in control and distribution cabinets mounting when bars isolation is required. Provides reliable insulation of live parts.

**TECHNICAL DATA**

- Rated voltage: 1000V
- Insulating voltage: 5000 V
- Ambient temperature : -40 to +65°C



Catalogue number	Type	Impulse voltage (kV)	Strength	Fastening strength	Bolt	Dimensions (mm)				Packing (pcs.)
						H	W	a	ø	
31725	SM 25	6	500	6	6	25	30	13	23	10/600
31730	SM 30	8	550	8	8	30	32	10	27	10/500
31735	SM 35	10	600	10	8	35	32	10	28	10/400
31740	SM 40	12	650	12	8	40	40	10	33	10/240
31751	SM 51	15	1000	20	8	51	50	12	28	10/240
31776	SM 76	25	1500	40	10	76	45	16	34	10/120



### CABLE FIXING CLIPS

Support insulators are used in control and distribution cabinets mounting when bars isolation is required. Provides reliable insulation of live parts.

**TECHNICAL DATA**

- Rated voltage: 1000V
- Insulating voltage: 5000 V
- Ambient temperature : -40 to +65°C



Catalogue number	Type	Diameter (mm)	Packing (pcs)	Packing/ Box (pcs)
500004	CHR-4	4	100	100/500
500005	CHR-5	5	100	100/ 500
500006	CHR-6	6	100	100/ 300
500007	CHR-7	7	100	100/ 300
500008	CHR-8	8	100	100/ 250
500009	CHR-9	9	100	100/ 200
500010	CHR-10	10	100	100/ 200
500012	CHR-12	12	100	100/ 100
500014	CHR-14	14	100	100/ 50
500016	CHR-16	16	100	100/ 50



INSULATING TAPES



**PVC INSULATING TAPE**

Soft, flexible with good adhesiveness and flame retardant. Working temperature: 0-80°C.  
Electrical strength: 40kV/mm

Catalogue number	Colour	Thickness (mm)	Width (mm)	Length (m)	Packing/ Box (pcs)
51011	Black	0.15	19	10	1/300
51012	White	0.15	19	10	1/300
51013	Blue	0.15	19	10	1/300
51014	Red	0.15	19	10	1/300
51015	Yellow / Green	0.15	19	10	1/300
51021	Black	0.15	19	20	1/200
51022	White	0.15	19	20	1/200
51023	Blue	0.15	19	20	1/200
51024	Red	0.15	19	20	1/200
51025	Yellow / Green	0.15	19	20	1/200



**PVC INSULATING TAPE 3M TEMFLEX 1500**

Catalogue number	Colour	Thickness (mm)	Width (mm)	Length (m)	Packing/Box (pcs)
M151016	Black	0.15	19	20	10/100



**BLACK SELF - AMALGAMATING HIGH VOLTAGE TAPE BISHOP 963**

69kV | Waterproof | UV-Resistant | Moisture, corrosion and chemical resistance

Catalogue number	Colour	Width (mm)	Length (m)	Packing/Box (pcs)
M051004	Black	19	9	1

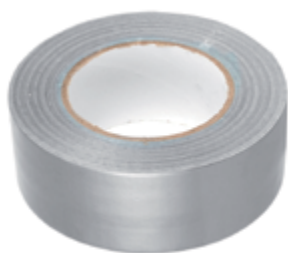




### ALUMINUM TAPE

Ideal for temporary exhaust pipe repair heating, ventilation - electrics and electronics insulation and construction industries

Catalogue number	Colour	Width (mm)	Length (m)	Packing/Box (pcs)
M499469	Aluminium	50	10	1



### DUCT TAPE

Ideal for temporary exhaust pipe repair heating, ventilation - electrics and electronics insulation and construction industries.

Catalogue number	Colour	Width (mm)	Length (m)	Packing/Box (pcs)
51055	Grey	50	25	1
M499153	Black	50	25	1



### MASKING TAPE

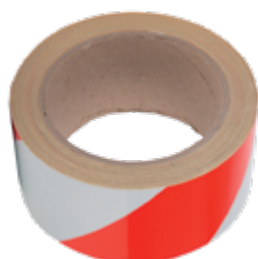
Support insulators are used in control and distribution cabinets mounting when bars isolation is required. Provides reliable insulation of live parts.

Catalogue number	Width (mm)	Length (m)	Packing/Box (pcs)
M516400	25	50	1
M516401	50	50	1



### DOUBLE SIDED MOUNTING TAPE

Catalogue number	Width (mm)	Length (m)	Packing/Box (pcs)
M516402	25	5	1
M516403	50	25	1



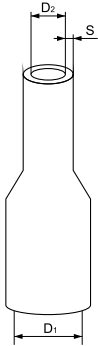
### HAZARD TAPE

Catalogue number	Width (mm)	Length (m)	Packing/Box (pcs)
M500179	50	100	1



## HEAT SHRINKAGE TUBES

Standard: EN 60 684



### HEAT SHRINKAGE TUBES ZDG TYPE

Thin-wall heat shrinkage tubes are used for insulation of cable connection, at conductors repair to protect the cable head from corrosion, for protection of the cable insulation from water and moisture, for restoring the cable insulation integrity, etc. It is a plastic thin wall pipe which at temperature higher than 120°C shrinks its initial diameter to a certain degree. The material has high temperature and UV rays wear resistance. The material represents the so called permanently netted plastic. This material is obtained as the plastic billet is processed with the help of high energy electron rays so that inner molecular bonds between adjacent molecules are formed. After that the pipe is heated to the boiling point, the pipe inflates, so do the inner molecular bonds. Then the pipe is sharply refrigerated and the molecules stay in the condition of inflated bonds for indefinite long time. Heating the pipe repeatedly (after being mounted to the given cable) the crystals melt again but due to the net structure, they resume the initial pipe diameter and take the form of the cable, pressing it and not allowing the moisture to get under the pipe.

#### TECHNICAL DATA

- Material: triple cross - linked polyolefin
- Colours: blue, black, red, yellow, yellow-green, green, white
- Shrinkage ratio: min 2 : 1
- Ambient temperature: -40 to + 100°C
- Shrinkage temperature: min 120°C

- Condition of the material during fire exposure: slight burning
- The material does not emit hazardous substances
- Insulation resistance: 1x 10<sup>12</sup> Ω/cm
- Application: general
- Insulating voltage 1000 V

Catalogue number *	Type	D1 (mm)	D2 (mm)	S (mm)	Packing / Box (m)
301001x	ZDG	1	0.5	0.04	200/4000
301115x	ZDG	1.5	0.75	0.04	200/4000
301002x	ZDG	2	1.0	0.05	200/4000
301003x	ZDG	3	1.5	0.05	200/2000
301004x	ZDG	4	2.0	0.08	100/1700
301005x	ZDG	5	2.5	0.08	100/1200
301006x	ZDG	6	3.0	0.08	100/1000
301007x	ZDG	7	3.5	0.08	100/1000
301008x	ZDG	8	4.0	0.08	100/1500
301009x	ZDG	9	4.5	0.08	100/1500
301010x	ZDG	10	5.0	0.08	100/1500
301011x	ZDG	11	5.5	0.08	100/1500
301012x	ZDG	12	6.0	0.08	100/1200
301013x	ZDG	13	6.5	0.08	100/1200
301014x	ZDG	14	7.0	0.08	100/1200
301015x	ZDG	15	7.5	0.08	100/1200
301016x	ZDG	16	8.0	0.08	100/1200
301018x	ZDG	18	9.0	0.08	50/600
301020x	ZDG	20	10	0.08	50/500
301022x	ZDG	22	11	0.08	50/500
301025x	ZDG	25	12.5	0.08	25/600
301028x	ZDG	28	14	0.08	25/300
301030x	ZDG	30	15	0.08	25/300
301035x	ZDG	35	17.5	0.08	25/300
301040x	ZDG	40	20	0.08	25/250
301050x	ZDG	50	25	0.08	25/200
301060x	ZDG	60	30	0.08	25/300
301070x	ZDG	70	35	0.08	25/250
301080x	ZDG	80	40	0.08	25/100
301090x	ZDG	90	45	0.08	25/150
301100x	ZDG	100	50	0.08	25/100
301120x	ZDG	120	60	0.08	25/200
301150x	ZDG	150	75	0.08	25/100



Note: At orders after the catalogue number of the corresponding diameter a letter showing the colour must be added: B – blue; R – red; K – black; G – green; Y – yellow;

HEAT SHRINKAGE TUBES WITH GLUE GL TYPE



Catalogue number	Type	Colour	Diameter before shrinking (mm)	Wall thickness (mm)	Shrinkage ratio	Packing (m)
3010024GL	GL	Black	D2.4 (≥2.4)	0.7±0.15	3:1	200
3010032GL	GL	Black	D3.2 (3.5±0.3)	0.9±0.15	3:1	200
3010048GL	GL	Black	D4.8 (5.2±0.3)	1.0±0.15	3:1	100
3010064GL	GL	Black	D6.4 (6.8±0.4)	1.2±0.15	3:1	100
3010079GL	GL	Black	D7.9 (8.4±0.4)	1.3±0.15	3:1	100
3010095GL	GL	Black	D9.5 (9.9±0.4)	1.4±0.15	3:1	1.22
3010127GL	GL	Black	D12.7 (13.2±0.5)	1.6±0.20	3:1	1.22
3010150GL	GL	Black	D15.0 (15.6±0.5)	1.8±0.20	3:1	1.22
3010191GL	GL	Black	D19.1 (19.6±0.5)	2.0±0.20	3:1	1.22
3010254GL	GL	Black	D25.4 (25.4±0.8)	2.1±0.20	3:1	1.22
3010300GL	GL	Black	D30.0 (≥30)	2.2±0.20	3:1	1.22
3010390GL	GL	Black	D39 (≥40)	2.4±0.20	3:1	1.22
3010500GL	GL	Black	D50 (≥50)	2.7±0.25	3:1	1.22
3010640GL	GL	Black	D64 (≥60)	3.0±0.25	3:1	1.22





CABLE TAGS – SETS



Catalogue number	Type	Section (mm)	Number in a roller	Packing/Box (pcs)	Catalogue number	Type	Section (mm)	Number in a roller	Packing/Box (pcs)
318000	EC-0-0	1.5 - 3.2	1000	100	318010	EC-1-0	2.6 - 4.2	1000	150
318001	EC-0-1	1.5 - 3.2	1000	100	318011	EC-1-1	2.6 - 4.2	1000	150
318002	EC-0-2	1.5 - 3.2	1000	100	318012	EC-1-2	2.6 - 4.2	1000	150
318003	EC-0-3	1.5 - 3.2	1000	100	318013	EC-1-3	2.6 - 4.2	1000	150
318004	EC-0-4	1.5 - 3.2	1000	100	318014	EC-1-4	2.6 - 4.2	1000	150
318005	EC-0-5	1.5 - 3.2	1000	100	318015	EC-1-5	2.6 - 4.2	1000	150
318006	EC-0-6	1.5 - 3.2	1000	100	318016	EC-1-6	2.6 - 4.2	1000	150
318007	EC-0-7	1.5 - 3.2	1000	100	318017	EC-1-7	2.6 - 4.2	1000	150
318008	EC-0-8	1.5 - 3.2	1000	100	318018	EC-1-8	2.6 - 4.2	1000	150
318009	EC-0-9	1.5 - 3.2	1000	100	318019	EC-1-9	2.6 - 4.2	1000	150
31800a	EC-0-a	1.5 - 3.2	1000	100	31801a	EC-1-a	2.6 - 4.2	1000	150
31800b	EC-0-b	1.5 - 3.2	1000	100	31801b	EC-1-b	2.6 - 4.2	1000	150
31800R	EC-0-R	1.5 - 3.2	1000	100	31801R	EC-1-R	2.6 - 4.2	1000	150
31800S	EC-0-S	1.5 - 3.2	1000	100	31801S	EC-1-S	2.6 - 4.2	1000	150
31800T	EC-0-T	1.5 - 3.2	1000	100	31801T	EC-1-T	2.6 - 4.2	1000	150
31800N	EC-0-N	1.5 - 3.2	1000	100	31801N	EC-1-N	2.6 - 4.2	1000	150
31800P	EC-0-P	1.5 - 3.2	1000	100	31801P	EC-1-P	2.6 - 4.2	1000	150
31800E	EC-0-E	1.5 - 3.2	1000	100	31801E	EC-1-E	2.6 - 4.2	1000	150
31800A	EC-0-A	1.5 - 3.2	1000	100	31801A	EC-1-A	2.6 - 4.2	1000	150
31800B	EC-0-B	1.5 - 3.2	1000	100	31801B	EC-1-B	2.6 - 4.2	1000	150
31800C	EC-0-C	1.5 - 3.2	1000	100	31801C	EC-1-C	2.6 - 4.2	1000	150
31800Q	EC-0-Q	1.5 - 3.2	1000	100	31801Q	EC-1-Q	2.6 - 4.2	1000	150

Catalogue number	Type	Section (mm)	Number in a roller	Packing/Box (pcs)	Catalogue number	Type	Section (mm)	Number in a roller	Packing/Box (pcs)
318020	EC-2-0	3.6 - 5.2	500	150	318030	EC-3-0	5 - 7.2	250	150
318021	EC-2-1	3.6 - 5.2	500	150	318031	EC-3-1	5 - 7.2	250	150
318022	EC-2-2	3.6 - 5.2	500	150	318032	EC-3-2	5 - 7.2	250	150
318023	EC-2-3	3.6 - 5.2	500	150	318033	EC-3-3	5 - 7.2	250	150
318024	EC-2-4	3.6 - 5.2	500	150	318034	EC-3-4	5 - 7.2	250	150
318025	EC-2-5	3.6 - 5.2	500	150	318035	EC-3-5	5 - 7.2	250	150
318026	EC-2-6	3.6 - 5.2	500	150	318036	EC-3-6	5 - 7.2	250	150
318027	EC-2-7	3.6 - 5.2	500	150	318037	EC-3-7	5 - 7.2	250	150
318028	EC-2-8	3.6 - 5.2	500	150	318038	EC-3-8	5 - 7.2	250	150
318029	EC-2-9	3.6 - 5.2	500	150	318039	EC-3-9	5 - 7.2	250	150
31802a	EC-2-a	3.6 - 5.2	500	150	31803a	EC-3-a	5 - 7.2	250	150
31802b	EC-2-b	3.6 - 5.2	500	150	31803b	EC-3-b	5 - 7.2	250	150
31802R	EC-2-R	3.6 - 5.2	500	150	31803R	EC-3-R	5 - 7.2	250	150
31802S	EC-2-S	3.6 - 5.2	500	150	31803S	EC-3-S	5 - 7.2	250	150
31802T	EC-2-T	3.6 - 5.2	500	150	31803T	EC-3-T	5 - 7.2	250	150
31802N	EC-2-N	3.6 - 5.2	500	150	31803N	EC-3-N	5 - 7.2	250	150
31802P	EC-2-P	3.6 - 5.2	500	150	31803P	EC-3-P	5 - 7.2	250	150
31802E	EC-2-E	3.6 - 5.2	500	150	31803E	EC-3-E	5 - 7.2	250	150
31802A	EC-2-A	3.6 - 5.2	500	150	31803A	EC-3-A	5 - 7.2	250	150
31802B	EC-2-B	3.6 - 5.2	500	150	31803B	EC-3-B	5 - 7.2	250	150
31802C	EC-2-C	3.6 - 5.2	500	150	31803C	EC-3-C	5 - 7.2	250	150
31802Q	EC-2-Q	3.6 - 5.2	500	150	31803Q	EC-3-Q	5 - 7.2	250	150



# CABLE REELS & CABLES

- Cable reels
- Multi-plugs and accessories
- Outside power cables
- Inside power cables
- Installation conductors
- Cables with rubber insulation
- Communication cables



CABLE REELS



CABLE REEL WITH THERMAL PROTECTION - MAK - 2A

Catalogue number	Cable type	Cable specification	Cable length (m)	Packing / Box (pcs)
47911	H05VV-F	3 x 1.5mm <sup>2</sup>	10	4



CABLE REEL WITH THERMAL PROTECTION - MAK - 3

Catalogue number	Cable type	Cable specification	Cable length (m)	Packing / Box (pcs)
47921	H05VV-F	3 x 1.5mm <sup>2</sup>	20	4



CABLE REEL WITH THERMAL PROTECTION - MAK - 4

Catalogue number	Cable type	Cable specification	Cable length (m)	Packing / Box (pcs)
47927	H05VV-F	3 x 1.5mm <sup>2</sup>	25	2
47940	H05VV-F	3 x 1.5mm <sup>2</sup>	40	1
47950	H05VV-F	3 x 1.5mm <sup>2</sup>	50	2



CABLE REEL - HJR TYPE, IP 44

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing / Box (pcs)
47960	HJR - 10AP	H07RN-F	3 x 1.5mm <sup>2</sup>	25	2



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended





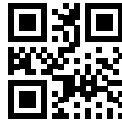
**CABLE REEL - HJR TYPE, IP 44**

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing / Box (pcs)
47959	HJR - 10P	H07RN-F	3 x 1.5mm <sup>2</sup>	50	1



**CABLE REEL - GEH TYPE, IP 44**

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing / Box (pcs)
47961	GEH-39	H07RN-F	3 x 1.5mm <sup>2</sup>	27+3	1



**CABLE REEL - GEH TYPE, IP 44**

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing / Box (pcs)
47962	GEH-40	H07RN-F	3 x 1.5mm <sup>2</sup>	47+3	1



**EMPTY CABLE REEL 029A**

Catalogue number	Suitable for cable type	Outlets	Packing / Box (pcs)
47910	H05VV-F 3G1.5mm <sup>2</sup> - max 40m/ 3G1.0mm <sup>2</sup> - max 50m	4 socket 16A/230V	1



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended

MULTI-PLUGS



**DESKTOP MULTI-PLUGS WITH 3 GERMAN + 2 USB SOCKETS + ON/OFF KEY, SET**

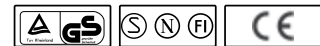
- Rated voltage: 230V AC
- Rated current: 16A
- Material: Aluminum alloy + PC
- Cable type: 3G1.5mm<sup>2</sup>
- Cable length: 2 meters
- USB Output: 2x5V/2.1A



Catalogue number	Colour	Functional part colour	Length (mm)	Diameter (mm)	Cut size (mm)	Packing / Box (pcs)
47006	Silver	Black	367	60	61	1/20



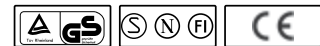
**THREE WAY CLIP MULTI-PLUG**



Catalogue number	Cable type	Cable specification	Cable length (m)	Colour	Material
47003	H05VV-F	3 x 1.0mm <sup>2</sup>	1.5m	White & Grey	PP+ABS



**EXTENSION CORDS**



Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Cable colour
47333	Extension cord	H05VV-F	3G1.5mm <sup>2</sup>	10	Orange
47334	Extension cord	H05VV-F	3G1.5mm <sup>2</sup>	15	Orange



**POWER CABLE**

Catalogue number	Cable type	Cable specification	Cable length (m)	Cable colour
47001	H05VV-F	3G1.5mm <sup>2</sup>	2	White



*Note: Warranty not available.*

**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended



**MULTI-PLUG 3 HOLES WITH KEY**

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing / Box (pcs)
47332	3 holes	H05VV-F	3G1.5mm <sup>2</sup>	2	1/40



**MULTI-PLUGS 4 HOLES WITH KEY**

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing / Box (pcs)
47432	4 holes	H05VV-F	3G1.5mm <sup>2</sup>	2	1/40



**MULTI-PLUG 6 HOLES WITH KEY**

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing / Box (pcs)
47632	6 holes	H05VV-F	3G1.5mm <sup>2</sup>	2	1/25



**MULTI-PLUG 8 HOLES WITH KEY**

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing / Box (pcs)
47732	8 holes	H05VV-F	3G1.5mm <sup>2</sup>	2	1/25



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended





### MULTIPLUG - HX-3N TYPE

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing (pcs)
47031	HX-3N	H05VV-F	3 x 1.0mm <sup>2</sup>	1.5m	40
47080	HX-3N	H05VV-F	3 x 1.5mm <sup>2</sup>	3.0m	5 / 40
47081	HX-3N	H05VV-F	3 x 1.5mm <sup>2</sup>	5.0m	5 / 40



Max.3500W,16/250~



### MULTIPLUG - HX-4N TYPE

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing (pcs)
47041	HX-4N	H05VV-F	3 x 1.0mm <sup>2</sup>	1.5m	50
47082	HX-4N	H05VV-F	3 x 1.5mm <sup>2</sup>	3.0m	30
47083	HX-4N	H05VV-F	3 x 1.5mm <sup>2</sup>	5.0m	25



Max.3500W,16/250~



### MULTIPLUG - HX-6N TYPE

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing (pcs)
47061	HX-6N	H05VV-F	3 x 1.0mm <sup>2</sup>	1.5m	50
47063	HX-6N	H05VV-F	3 x 1.5mm <sup>2</sup>	3.0m	40
47065	HX-6N	H05VV-F	3 x 1.5mm <sup>2</sup>	5.0m	40



Max.3500W,16/250~

**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended



### MULTIPLUG WITH KEY HKX-3N TYPE

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing (pcs)
47131	HKX-3N	H05VV-F	3 x 1.0mm <sup>2</sup>	1.5m	5/40
47133	HKX-3N	H05VV-F	3 x 1.5mm <sup>2</sup>	3.0m	5/30
47135	HKX-3N	H05VV-F	3 x 1.5mm <sup>2</sup>	5.0m	5/25



Max.3500W,16/250~



### MULTIPLUG WITH KEY HKX-4N TYPE

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing (pcs)
47142	HKX-4N	H05VV-F	3 x 1.0mm <sup>2</sup>	1.5m	5/40
47143	HKX-4N	H05VV-F	3 x 1.5mm <sup>2</sup>	3.0m	5/30
47145	HKX-4N	H05VV-F	3 x 1.5mm <sup>2</sup>	5.0m	5/25



Max.3500W,16/250~



### MULTIPLUG WITH KEY HKX-6N TYPE

Catalogue number	Type	Cable type	Cable specification	Cable length (m)	Packing (pcs)
47162	HKX-6N	H05VV-F	3 x 1.0mm <sup>2</sup>	1.5m	5 / 40
47163	HKX-6N	H05VV-F	3 x 1.5mm <sup>2</sup>	3.0m	5 / 30
47165	HKX-6N	H05VV-F	3 x 1.5mm <sup>2</sup>	5.0m	5 / 25



Max.3500W,16/250~

**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended





### ADAPTERS - DOUBLE | WHITE

Catalogue number	Type	Colour	Rated current in (A)	Rated power in (W)	Packing (pcs)
192213	Adapter double	White	16	3500	50
192211	Adapter double with key	White	16	3500	50



### ADAPTERS - TRIPLE | WHITE

Catalogue number	Type	Colour	Rated current in (A)	Rated power in (W)	Packing (pcs)
192209	Adapter triple	White	16	3500	40
192207	Adapter triple with key	White	16	3500	40



### ADAPTERS - DOUBLE | GRAPHITE

Catalogue number	Type	Colour	Rated current in (A)	Rated power in (W)	Packing (pcs)
192212	Adapter double	Graphite	16	3500	50
192210	Adapter double with key	Graphite	16	3500	50





### ADAPTERS - TRIPLE | GRAPHITE

Catalogue number	Type	Colour	Rated current in (A)	Rated power in (W)	Packing (pcs)
192208	Adapter triple	Graphite	16	3500	40
192206	Adapter triple with key	Graphite	16	3500	40



### MULTI-SOCKET

Catalogue number	Type	Colour	Rated current in (A)	Rated power in (W)	Packing (pcs)
192216	Multi-socket double	Black	16	3500	60
192217	Multi-socket double	White	16	3500	60
192218	Multi-socket triple	Black	16	3500	60
192219	Multi-socket triple	White	16	3500	60



### RUBBER FEMALE TRIPLE SOCKET

Catalogue number	Type	Rated current in (A)	Colour	Poles	Packing (pcs)
192140/BL	Tripple socket	16A	Black	1P+N+E	1/10/60



### RUBBER MULTI-SOCKET

Catalogue number	Type	Colour	Rated current in (A)	Rated power in (W)	Packing (pcs)
192120/WH	Multi-socket triple	White	16	3500	20
192120/BL	Multi-socket triple	Black	16	3500	20





### RUBBER SCHUKO SOCKETS

Catalogue number	Type	Colour	Rated current In (A)	Material	Packing (pcs)
192119/WH	Socket	White	16	Rubber	25
192119/BL	Socket	Black	16	Rubber	25



### RUBBER FEMALE SOCKET PLUG

Catalogue number	Type	Rated current In (A)	Colour	Poles	Packing (pcs)
192136/BL	Rubber socket plug	16A	Black	2P+E	1/30/180



### RUBBER SCHUKO PLUG

Catalogue number	Type	Rated current In (A)	Colour	Material	Packing (pcs)
192118/WH	Plug	16	White	Rubber	25
192118/BL	Plug	16	Black	Rubber	25
192118/R	Plug	16	Red	Rubber	25



### RUBBER MALE SCHUKO PLUG

Catalogue number	Type	Rated current In (A)	Colour	Poles	Packing (pcs)
192135/BL	Rubber plug	16A	Black	2P+E	1/50/300





### FEMALE PLUG

Catalogue number	Type	Rated current In (A)	Colour	Poles	Packing (pcs)
192128/WH	Female plug	16	White	1P+N+E	1/50/300



### MALE PLUG WITH LIGHTED BUTTON

Catalogue number	Type	Rated current In (A)	Colour	Poles	Packing (pcs)
192127/WH	Male plug with button	16	White	1P+N+E	1/40/240



### ANGLE SCHUKO PLUG

Catalogue number	Type	Rated current In (A)	Colour	Poles	Packing (pcs)
192129/WH	L- type plug	16	White	1P+N+E	1/50/300
192129/BL	L- type plug	16	Black	1P+N+E	1/50/300



### MALE SCHUKO PLUG

Catalogue number	Type	Rated current In (A)	Colour	Poles	Packing (pcs)
192130/WH	Male plug	16	White	1P+N+E	1/50/300



### MALE SCHUKO PLUG WITH HANDLE

Catalogue number	Type	Rated current In (A)	Colour	Poles	Packing (pcs)
192131/WH	Plug with handle	16	White	1P+N+E	1/50/300
192132/BL	Plug with handle	16	Black	1P+N+E	1/50/300





### BRITISH ADAPTER



Catalogue number	Type	Rated current In (A)	Colour	Poles	Packing (pcs)
192125/WH	British Adapter	16	White	1P+N+E	1/50/300



### UNIVERSAL PLUG ADAPTER



Catalogue number	Type	Rated current In (A)	Colour	Poles	Packing (pcs)
192126/WH	Universal Adapter	16	White	1P+N+E	1/40/240



### PLUG BAKELITE



Catalogue number	Type	Rated current In (A)	Colour	Material	Packing (pcs)
19211102	Plug	16	White	Bakelite	80
19211101	Plug	16	Black	Bakelite	80



### TWO PIN PLUG



Catalogue number	Type	Rated current In (A)	Colour	Material	Packing (pcs)
192116/WH	Plug	6	White	PP	100
192116/BL	Plug	6	Black	PP	100



### TWO PIN PLUG WITH EXTRACTION RING



Catalogue number	Type	Rated current In (A)	Colour	Material	Packing (pcs)
192115/WH	Plug	10	White	PC	1/500
192115/BL	Plug	10	Black	PC	1/500





### TWO POLE SOCKET WITH HOOK

Catalogue number	Type	Rated current In (A)	Colour	Material	Packing (pcs)
192123/BL	Socket	10	Black	PC	1/500
192123/WH	Socket	10	White	PC	1/500



### BRITISH PLUG

Catalogue number	Type	Rated current In (A)	Colour	Material	Packing (pcs)
192114	British plug	13	White	PMMA	1/20



### FOOT SWITCH

Catalogue number	Type	Rated current In (A)	Colour	Material	Packing (pcs)
192124/WH	Switch	10	White	PC	1/100



### INTERMEDIATE SWITCH

Catalogue number	Type	Voltage (V)	Rated current In (A)	Colour	Packing (pcs)
192001/WH	IS-W	250	6	White	1
192001/BL	IS-B	250	6	Black	1



### INTERMEDIATE SWITCH WITH CABLE

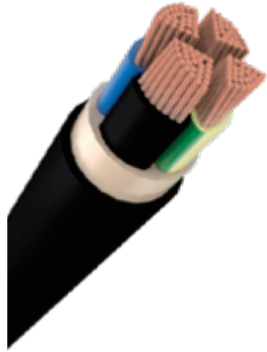
Catalogue number	Cable type	Cable length (m)	Colour	Packing (pcs)
47007/WH	H03VV-F 2G0,50mm <sup>2</sup>	2	White	1/180
47007/BL	H03VV-F 2G0,50mm <sup>2</sup>	2	Black	1/180



## OUTSIDE POWER CABLES

### Standards:

DIN VDE 0293-308 - Colour coded acc  
DIN VDE 0276 part 603 or HD 186  
DIN VDE 0295 - Wire class acc



### NY Y

#### Power cable, Cu-conductor, PVC-insulation, PVC-sheathing



Power cable for construction of underground distribution grids and installations of industrial and public projects, where mechanical damages are not to be expected. Suitable for transmission and distribution of electric power at nominal voltage  $U_0/U$  0,6/1 kV.

#### TECHNICAL DATA

- Power cable acc. to DIN VDE 0276 part 603
- Ambient temperature
- Fixed installation: -30°C to +50°C
- Temperature of laying: min. -5°C
- Max. operating temperature: +70°C
- Short circuit temperature: +160°C
- Short circuit duration up to 5 sec.
- Nominal voltage  $U_0/U$  0,6/1 kV
- Test voltage: AC-4 kV/50 Hz

#### CONSTRUCTION

- Solid or stranded Cu wires cl. 1 or cl. 2 acc. to DIN VDE 0295
- Insulation: PVC compound
- Inner sheath: filling compound
- Outer sheath: PVC compound
- Outer sheath colour: black
- **re** - round solid
- **rm** - round multi-core
- **sm** - sector multi-core
- **se** - sector solid conductor

Catalogue number	Cross section (n x mm <sup>2</sup> )	Wires shape	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
833019	2x1.5	re	Black	12.2	28	192	100
833020	2x2.5	re	Black	12.9	46	229	100
833021	2x4	re	Black	14.9	75	315	100
833022	2x6	re	Black	15.9	112	382	100
833023	2x10	rm	Black	17.5	188	509	1
833024	2x16	rm	Black	19.4	298	676	1



Catalogue number	Cross section (n x mm <sup>2</sup> )	Wires shape	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
833030	3x1.5	re	Black	12.1	43	201	100
833031	3x2.5	re	Black	12.9	70	247	100
833032	3x4	re	Black	15	112	350	100
833034	3x6	re	Black	16.1	168	435	100
833036	3x10	rm	Black	18	282	606	1
833038	3x16	rm	Black	20.1	447	828	1



Catalogue number	Cross section (n x mm <sup>2</sup> )	Wires shape	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
833060	4x1.5	re	Black	12.9	57	232	100
833061	4x2.5	re	Black	13.8	93	289	100
833062	4x4	re	Black	16.2	149	419	100
833063	4x6	re	Black	17.4	223	525	100
833064	4x10	rm	Black	19.5	376	741	1
833065	4x16	rm	Black	21.8	595	1024	1



Catalogue number	Cross section (n x mm <sup>2</sup> )	Wires shape	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
833077	5x1.5	re	Black	13.7	71	272	100
833078	5x2.5	re	Black	14.8	116	341	100
833079	5x4	re	Black	17.4	187	494	100
833080	5x6	re	Black	19	279	635	100
833081	5x10	rm	Black	21.6	470	911	1
833082	5x16	rm	Black	24.1	744	1262	1



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended

**Standards:**

BDS 904-84 - according to construction  
IEC60332-1- according to flame retardant



**CBT-C**

**Power cable with solid or stranded Cu wires, PVC insulation and sheathing**



A cable with solid or stranded CU wires, resistant to the sun radiance and atmospheric influences. It is suitable for spread and transfer of electrical energy if it is installed steady outside or in indoor spaces cable trunking, electrical cable conduit, cable trays, directly into tunnels, earthworks, pits and etc.

**TECHNICAL DATA**

- Nominal voltage U<sub>0</sub>- 0.6kV
- Nominal voltage U- 1kV
- Ambient temperature- from -30°C to +50°C
- Max. operating temperature- +70C°
- Temperature of laying- ≥-5°C
- Conductor material- Copper (Cu)
- Conductors insulation - PVC compound
- Outer stealth material-filling sheath and PVC compound

**CONSTRUCTION**

- Solid or stranded CU wires, class 1 or class 2
- **re** - round solid
- **rm** - round multi-core
- **sm** - sector multi-core
- **se** - sector solid conductor



Catalogue number	Cross section (n x mm <sup>2</sup> )	Wires shape	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
817020	2X1	re	Black	9.5	20	100	100
817021	2X1.5	re	Black	10.0	28	120	100
817022	2X2.5	re	Black	10.6	46	150	100
817023	2X4	re	Black	12.5	73	210	100
817024	2X6	re	Black	13.3	110	260	100
817025	2X10	re	Black	15.2	182	370	1
817026	2X16	rm	Black	18	305	560	1



Catalogue number	Cross section (n x mm <sup>2</sup> )	Wires shape	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
817036	3X1	re	Black	9.7	28	120	100
817037	3X1.5	re	Black	10.2	42	140	100
817039	3X2.5	re	Black	11.0	69	180	100
817041	3X4	re	Black	13.0	110	260	100
817043	3X6	re	Black	14.0	165	340	100
817045	3X10	re	Black	16.0	275	480	1
817047	3X16	rm	Black	19.5	450	695	1



Catalogue number	Cross section (n x mm <sup>2</sup> )	Wires shape	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
817067	4X1	re	Black	10.4	37	140	100
817068	4X1.5	re	Black	11.0	55	165	100
817069	4X2.5	re	Black	11.9	91	215	100
817070	4X4	re	Black	14.1	146	315	100
817071	4X6	re	Black	15.4	220	410	100
817072	4X10	re	Black	17.4	365	595	1
817073	4X16	rm	Black	20.6	585	950	1



Catalogue number	Cross section (n x mm <sup>2</sup> )	Wires shape	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
817083	5X1	re	Black	11.2	45	160	100
817084	5X1.5	re	Black	11.8	69	195	100
817085	5X2.5	re	Black	12.8	114	260	100
817086	5X4	re	Black	15.5	182	380	100
817087	5X6	re	Black	16.8	275	500	100
817088	5x10	re	Black	19,2	455	735	1
817089	5x16	re	Black	23,2	745	1150	1

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended

## INSIDE POWER CABLES

### Standards:

Flat conductor acc. to BDS IEC 60227-5  
Flexible Cu-wires, cl. 6 acc. to IEC 60228



### H03VH-H

#### Flat conductor, flexible Cu-wires, PVC-insulation

ШВПЛ-А; PL; H03VH-H; P/L; H03VH-H; H03VH-H; H03VH-H; RVV; H03VH-H

Designed for connection of electrical appliances to the electrical grid, for connection of mobile users, devices and appliances.

#### TECHNICAL DATA

- Ambient temperature: -40°C to +50°C
- Max. operating temperature: +70°C
- Nominal voltage U<sub>0</sub>/U: 300/300 V
- Test voltage: 2000 V

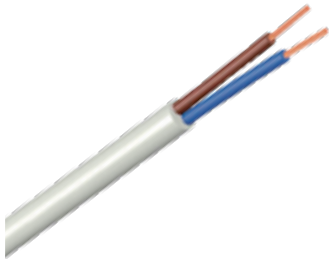
#### CONSTRUCTION

- Flexible Cu-wires, cl. 6 acc. to IEC 60228
- Flat conductor acc. to BDS IEC 60227-5
- Insulation: PVC compound
- Insulation colour: white or black-red

Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Thickness (mm)	Width (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
820001	2x0.50	White or Black-Red	6.0	3.0	9	25	100
820002	2x0.75	White or Black-Red	6.4	3.2	14	30	100
820017	2x1	White or Black-Red	6.8	3.4	19.2	31	100
820018	2x1.50	White or Black-Red	7.6	4.0	28.8	38	100

### Standards:

Conductor acc. to HD 21,5 S3  
Flexible Cu-wires, cl. 5 acc. to IEC 60228



### H03VV-F

#### Conductor with flexible Cu-wires, PVC insulation and sheath

ШВПЛ-Б; PP/L; PP/L; PP/L; H03VV-F; H03VV-F; MYYP; H03VV-F; H03VV-F

Conductor with parallel or stranded in a bundle insulated cores, designed for connection of electrical appliances to the electrical grid, for connection of mobile users, devices and appliances.

#### TECHNICAL DATA

- Variant of the conductor: H03VVH2-F - flat type
- Ambient temperature: -30°C to +50°C
- Max. operating temperature: +70°C
- Nominal voltage U<sub>0</sub>/U: 300/300 V
- Test voltage: 2000 V

#### CONSTRUCTION

- Flexible Cu-wires, cl. 5 acc. to IEC 60228
- Insulation: PVC compound
- Sheafing: PVC compound
- Outer sheath colour: white

Catalogue number	Type (flat)	Cross section (n x mm <sup>2</sup> )	Colour	Thickness (mm)	Width (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
820004	H03VVH2-F	2x0,5	White	6.0	3,6	10,0	30	100
820006	H03VVH2-F	2x0,75	White	6.4	3,9	14,5	39	100

Catalogue number	Type (round)	Cross section (n x mm <sup>2</sup> )	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
820003	H03VV-F	2X0,5	White	9.5	100	25	100
820007	H03VV-F	3X0.5	White	10.0	120	30	100

**Standards:**

Flexible cable acc. to HD 21.5 S3,  
DIN VDE 0281 part 5  
Flexible Cu-wires, cl. 5 acc. to  
DIN VDE 0295, IEC 60228  
Colour coding: acc. to DIN VDE 0293-308



**H05VV-F**

**Conductor with flexible Cu-wires, PVC insulation and sheath**



Conductor with parallel or stranded in a bundle insulated cores, designed for connection of electrical appliances to the electric grid, for connection of mobile users, devices and appliances.

**TECHNICAL DATA**

- Variant of the conductor: H05VVH2-F - flat type
- Ambient temperature: -30°C to +50°C
- Max. operating temperature: +70°C
- Nominal voltage U<sub>0</sub>/U: 300/500 V
- Test voltage: 2000 V

**CONSTRUCTION**

- Flexible Cu-wires, cl. 5 acc. to DIN VDE 0295, IEC 60228
- Insulation/outer sheath: PVC compound;
- Outer sheath colour: white



Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
821001	2 x 0.75	White	7.6	14.0	62	100
821002	2 x 1	White	8.0	19.5	71	100
821003	2 x 1.5	White	9.0	28.0	94	100
821004	2 x 2.5	White	11.0	47.0	114	100
821005	2 X 4	White	12.0	75.0	197	100



Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
821008	3 x 0.75	White	8.0	21.5	74	100
821009	3 x 1	White	8.4	29.0	85	100
821010	3 x 1.5	White	9.8	42.0	120	100
821011	3 x 2.5	White	12.0	70.0	182	100
821012	3 x 4	White	13.0	114.0	252	100



Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
821016	4 x 0.75	White	8.6	29.0	92	100
821017	4 x 1	White	9.4	38.5	109	100
821018	4 x 1.5	White	11.0	56.0	151	100
821019	4 x 2.5	White	13.0	93.5	225	100
821020	4 x 4	White	14.0	151.0	315	100



Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
821024	5 x 0.75	White	9.6	36.0	115	100
821025	5 x 1	White	10.0	48.0	132	100
821026	5 x 1.5	White	12.0	70.0	188	100
821027	5 x 2.5	White	14.0	117.0	280	100
821028	5 X 4	White	15.5	189.0	395	100

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended



## INSTALLATION CONDUCTORS

### Standards:

Conductor acc. to HD 21.3 S3, DIN VDE 0281 part 3  
Solid Cu wires cl. 1 acc. to DIN VDE 0295, IEC 60228



### H05V-U, H07V-U

#### Conductor, Cu-wires, PVC-insulation



For fixed installation in lighting networks, electric power installations, wiring of electrical switchboards, machines and equipment.

#### TECHNICAL DATA

- Ambient temperature: -30°C to +50°C
- Temperature of laying: min. -5°C
- Max. operating temperature: +70°C
- Nominal voltage U<sub>0</sub>/U:
  - H05V-U 300/500 V
  - H07V-U 450/750 V
- Test voltage:
  - H05V-U 2000 V
  - H07V-U 2500 V

#### CONSTRUCTION

- Solid Cu wires cl. 1 acc. to DIN VDE 0295, IEC 60228
- Insulation: PVC compound
- Insulation colour:
  - Blue: available cross sections up to 10 mm<sup>2</sup>
  - Red: available cross sections up to 10 mm<sup>2</sup>
  - Black: available cross sections up to 10 mm<sup>2</sup>
  - White: available cross sections up to 4 mm<sup>2</sup>
  - Yellow-Green: available cross sections up to 10 mm<sup>2</sup>
  - Brown: available cross sections up to 10 mm<sup>2</sup>



Catalogue number	Type	Cross section (n x mm <sup>2</sup> )	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
822001	H05V-U	0.5	2.4	4.5	9	100
822002	H05V-U	0.75	2.6	7.0	12	100
822003	H05V-U	1	2.8	9.0	15	100

Note: At orders of the desired colour, must be added after the catalogue number:  
BL – blue; R – red; B – black; W – white; YG – yellow green; BR – brown



Catalogue number	Type	Cross section (n x mm <sup>2</sup> )	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
822004	H07V-U	1.5	3.3	13.5	21	100
822005	H07V-U	2.5	3.9	22.0	33	100
822006	H07V-U	4	4.4	35.0	48	100
822007	H07V-U	6	4.6	52.5	68	100
822008	H07V-U	10	6.4	87.5	113	100

Note: At orders of the desired colour, must be added after the catalogue number:  
BL – blue; R – red; B – black; W – white; YG – yellow green; BR – brown

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended

**Standards:**

PVC conductor acc. to HD 21.3 S3,  
DIN VDE 0281 part 3  
Flexible Cu wires cl. 5 acc. to DIN VDE  
0295, IEC 60228



**H05V-K, H07V-K**

**Conductor, Cu-wires, PVC-insulation**



For fixed installation wiring of electrical switchboards, machines and equipment, where small bending radius is required.

**TECHNICAL DATA**

- Ambient temperature: -30°C to +50°C
- Temperature of laying: min. -5°C
- Max. operating temperature: +70°C
- Nominal voltage U<sub>0</sub>/U:
  - H05V-K 300/500 V
  - H07V-K 450/750 V
- Test voltage:
  - H05V-K 2000 V
  - H07V-K 2500 V

**CONSTRUCTION**

- Flexible Cu wires cl. 5 acc. to DIN VDE 0295, IEC 60228
- Insulation: PVC compound
- Insulation colour:
  - Blue: available cross sections up to 25 mm<sup>2</sup>
  - Red: available cross sections up to 25 mm<sup>2</sup>
  - Black: available cross sections up to 25 mm<sup>2</sup>
  - White: available cross sections up to 4 mm<sup>2</sup>
  - Yellow-Green: available cross sections up to 25 mm<sup>2</sup>
  - Brown: available cross sections up to 10 mm<sup>2</sup>



Catalogue number	Type	Cross section (n x mm <sup>2</sup> )	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
823002	H05V-K	0.5	2.6	5.0	10	100
823003	H05V-K	0.75	2.8	7.0	13	100
823004	H05V-K	1	3.0	9.5	16	100

Note: At orders of the desires colour, must be added after the catalogue number:  
BL – blue; R – red; B - black; W- white; YG- yellow green; BR- brown



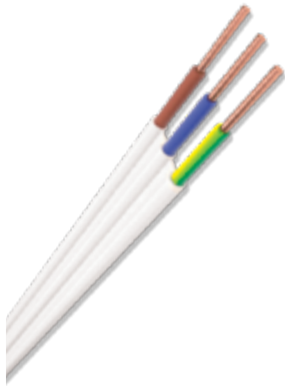
Catalogue number	Type	Cross section (n x mm <sup>2</sup> )	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
823005	H07V-K	1.5	3.5	14.0	23	100
823006	H07V-K	2.5	4.2	23.0	36	100
823007	H07V-K	4	4.8	36.5	52	100
823008	H07V-K	6	6.3	57.0	74	100
823009	H07V-K	10	7.6	96.0	131	100
823010	H07V-K	16	8.8	151.0	195	100
823011	H07V-K	25	11.0	235.0	300	100

Note: At orders of the desires colour, must be added after the catalogue number:  
BL – blue; R – red; B - black; W- white; YG- yellow green; BR- brown

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended

**Standards:**

Flat conductor acc. to BDS 4305-90  
Solid Cu wires cl. 1 acc. to BDS 904-84



**NYIFY-O/J**

**Flat installation conductor, Cu-wires, PVC-insulation, PVC-sheath**



Installation conductor with parallel Cu-wires for fixed installation in lighting networks and electric power installations.

**TECHNICAL DATA**

- Ambient temperature: -30°C to +50°C
- Temperature of laying: min. -5°C
- Max. operating temperature: +70°C
- Nominal voltage U<sub>0</sub>/U: 220/380 V
- Test voltage: 2000 V

**CONSTRUCTION**

- Solid Cu wires cl. 1 acc. to BDS 904-84
- Insulation: PVC compound
- Sheath: PVC compound
- Outer sheath colour: white



Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Conductor Thickness (mm)	Conductor Width (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
834001	2x1	White	3.70	10.30	17.9	55	100
834002	2x1.5	White	4.10	11.20	26.6	65	100
834003	2x2.5	White	5.00	12.90	44.3	97	100
834004	2x4	White	5.60	14.20	70.6	135	100
834005	2x6	White	6.50	16.00	104.4	190	100

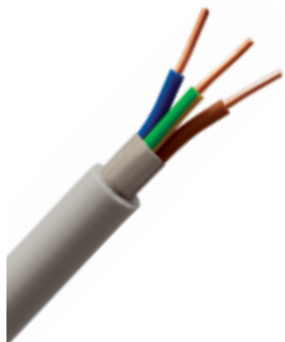


Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Conductor Thickness (mm)	Conductor Width (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
834007	3x1	White	3.70	14.00	26.8	73	100
834008	3x1.5	White	4.10	15.30	39.8	95	100
834009	3x2.5	White	5.00	16.90	66.4	142	100
834010	3x4	White	5.60	19.80	104.2	200	100
834011	3x6	White	6.50	22.50	156.5	280	100

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended

**Standards:**

DIN VDE 0295; IEC 60228- according to construction DIN VDE 0250-204- according to multi-core conductors IEC60332-1- according to flame retardant



**NYM**

**Multi-core conductor with Cu wires and PVC insulation**



For fixed installations in , or on under plasterboard, in lighting networks in dry places. Can be used and in damp or wet rooms, in wall and concrete, in switchboards and machines. Is suitable for outdoor use if cable is protected against direct sunshine.

**TECHNICAL DATA**

- Nominal voltage: U<sub>0</sub>- 300V; U- 500V
- Ambient temperature- from -20°C to +50°C
- Max. operating temperature- +70C°
- Installation temperature- ≥-5°C
- Conductor material- Copper (Cu)
- Conductors insulation - PVC compound
- Outer sheath material - filling sheath and PVC compound

**CONSTRUCTION**

- Solid CU wires, class 1 and class 2 for cross section above 10mm<sup>2</sup>



Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Outer diameter (mm)	Total weight (kg/km)	Packing (m)
832008	2x1.5	Grey	8.8	120	100
832009	2x2.5	Grey	10.0	160	100
832010	2x4	Grey	11.0	220	100
832011	2X6	Grey	12.0	250	100
832012	2x10	Grey	15.0	420	1



Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Outer diameter (mm)	Total weight (kg/km)	Packing (m)
832016	3x1.5	Grey	9.2	136	100
832017	3x2.5	Grey	10.5	190	100
832018	3x4	Grey	11.5	260	100
832019	3X6	Grey	13.0	330	100
832020	3x10	Grey	16.5	520	1



Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Outer diameter (mm)	Total weight (kg/km)	Packing (m)
832023	4x1.5	Grey	10.0	160	100
832024	4x2.5	Grey	11.3	230	100



Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Outer diameter (mm)	Total weight (kg/km)	Packing (m)
832031	5x1.5	Grey	11.0	190	100
832032	5x2.5	Grey	12.0	270	100

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended

## CABLES WITH RUBBER INSULATION

### Standards:

DIN VDE 0295; IEC 60228- according to construction DIN VDE 0293-308 and HD 186- according to colour coating DIN VDE 0482-332-1-2; IEC60332-1-according to flame retardant



### H05RR-F

#### Rubber flexible cable



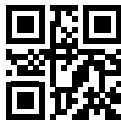
For connection of electrical appliances and consumers with low and middle mechanical stress to Alternating Current (AC). It has wide use in household, office, for cable reels, for connecting of mobile consumers and etc.

#### TECHNICAL DATA

- Nominal voltage  $U_0/U$ : 300V/500V
- Ambient temperature: from -30°C to +60°C
- Conductor material: Copper (Cu) wires, class 5
- Conductors insulation: Rubber EPR
- Outer sheath material: Rubber EPR



Catalogue number	Cross section (n x mm <sup>2</sup> )	Type	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
814002	2X1	H05RR-F	Black	6.1 - 8.0	19.0	71.0	100
814003	2X1.5	H05RR-F	Black	7.6 - 9.8	29.0	99.0	100
814004	2X2.5	H05RR-F	Black	9.0 - 11.6	48.0	148.0	100



Catalogue number	Cross section (n x mm <sup>2</sup> )	Type	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
814007	3X1	H05RR-F	Black	6.5 - 8.5	29.0	88.0	100
814008	3X1.5	H05RR-F	Black	8.0 - 10.4	43.0	125.0	100
814009	3X2.5	H05RR-F	Black	9.6 - 12.4	72.0	175.0	100
814010	3X4	H05RR-F	Black	11.3 - 14.5	115.0	246.0	100



Catalogue number	Cross section (n x mm <sup>2</sup> )	Type	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
814012	4X1	H05RR-F	Black	9.0 - 11.6	58.0	165.0	100
814013	4X1.5	H05RR-F	Black	9.0 - 11.6	58.0	165.0	100
814014	4X2.5	H05RR-F	Black	10.7 - 13.8	96.0	225.0	100
814015	4X4	H05RR-F	Black	12.7 - 16.2	154.0	315.0	100
814017	4X6	H05RR-F	Black	14.2 - 18.1	231.0	440.0	100

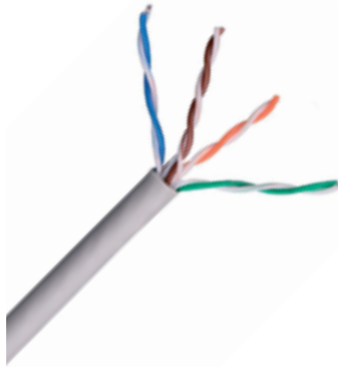


Catalogue number	Cross section (n x mm <sup>2</sup> )	Type	Colour	Outer diameter (mm)	Cu weight (kg/km)	Total weight (kg/km)	Packing (m)
814020	5X1.5	H05RR-F	Black	9.8 - 12.7	72.0	185.0	100
814021	5X2.5	H05RR-F	Black	11.9 - 15.3	120.0	275.0	100
814022	5x4	H05RR-F	Black	15,6-19,9	187	475	100
814023	5x6	H05RR-F	Black	17.5-22.2	288	635	100

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended

COMMUNICATION CABLES

**Construction:**  
CCA-wires - 4x2x0.24  
CU-wires - 4x2x0.24



**UTP**

**LAN cable, stranded in pairs, cat. 5e**



Cable, stranded by pairs, used for transmission of digital signals with high speed of transmission. Suitable for setting computer systems for data transmission, measuring and control systems with proper resistance to electromagnetic influences.

**TECHNICAL DATA**

- Ambient temperature: -30°C to +50°C
- Temperature of laying: min. 0°C
- Characteristic Impedance: 100 Ω ± 15 Ω
- Loop resistance: ≤ 192 0/ km
- Unbalance of loop resistance: ≤ 3%
- Insulation resistance: ≥ 150 MΩ x km
- Operating capacity: ≤ 55,8 nF/km
- Cable diameter: 5 mm
- Cable weight: 27 kg/km

**CONSTRUCTION**

- 879002 - CCA-wires - 24 AWG; 0,51 mm, acc. to IEC 60228
- 879017 - CU wires - 24 AWG; 0,51 mm, acc. to IEC 60228
- Insulation: PE compound
- Cable bundle: 4 stranded pairs
- Outer sheath: PVC compound or LSOH compound
- Outer sheath colour: for PVC- grey

Insulation colour of stranded pairs- core a/ core b: • white with blue ring/blue; • white with orange ring/orange; • white with green ring/green; • white with brown ring/brown.



Catalogue number	Material	Category	Frequency - MHz	Characteristic of attenuation						Packing (m)
				4	10	16	62.5	100	125	
879002	CCA	Cat. 5e	Attenuation- db/100 m	4.1	6.5	8.2	17	22	24.9	305
			Attenuation (Next)- db	56.3	50.3	47.3	38.4	35.3	33.9	
879017	CU	Cat. 5e	Attenuation (Next)- db	56.3	50.3	47.3	38.4	35.3	33.9	305

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended

**Construction:**  
CCA-wires - 4x2x0.24



**FTP**

**LAN cable, stranded in pairs, with screen, cat. 5e**



Cable, stranded in pairs, with screen of laminated foil, used for transmission of digital signals with high speed of transmission. FTP cable is suitable for setting computer systems for data transmission, measuring and control systems and for transmission of high-frequency analogue signals in automatic and industrial TV networks. High resistance to electromagnetic influences.

**TECHNICAL DATA**

- Ambient temperature: -30°C to +50°C
- Temperature of laying: min. 0°C
- Characteristic Impedance: 100 Ω ± 15 Ω
- Loop resistance: ≤ 192 0/ km
- Unbalance of loop resistance: ≤ 3%
- Insulation resistance: ≥ 150 MΩ x km
- Operating capacity: ≤ 55,8 nF/km
- Cable diameter: 6 mm
- Cable weight: 31 kg/km

**CONSTRUCTION**

- 879001 - CCA-wires - 24 AWG; 0,51 mm, acc. to IEC 60228
- Insulation: PE compound
- Cable bundle: 4 stranded pairs
- PETP foil
- Screen: laminated Al foil
- Outer sheath: PVC compound or LSOH compound
- Outer sheath colour tor PVC- grey

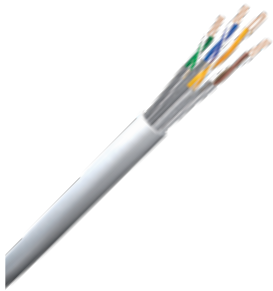
Insulation colour of stranded pairs- core a/ core b: • white with blue ring/blue; • white with orange ring/orange; • white with green ring/green; • white with brown ring/brown.



Catalogue number	Material	Category	Frequency - MHz	Characteristic of attenuation						Packing (m)
				4	10	16	62,5	100	125	
879001	CCA	Cat. 5e	Attenuation - db/100 m	4.1	6.5	8.2	17	22	24.9	305



**Construction:**  
CCA- wires - 4x2x0.24



### STP

#### LAN cable, stranded in pairs, with screen on each pair, cat. 6

Cable, stranded in pairs, with screen of laminated foil on each pair, used for transmission of digital signals with high speed of transmission, with spectrum of the frequency being used up to 300 MHz for cat. 6. The cable is suitable for setting computer systems for data transmission, measuring and control systems and for transmission of high-frequency analogue signals in automatic and industrial TV networks and is with high resistance to electromagnetic influences.

#### TECHNICAL DATA

- Ambient temperature: -30°C to +50°C
- Temperature of laying: min. 0°C
- Characteristic Impedance:
  - 100 Ω ± 15 Ω up to 100 MHz
  - 100 Ω ± (15 +0,05(f-100)) above 100 MHz
- Loop resistance: ≤ 170 Ω / km
- Unbalance of loop resistance: ≤ 3%
- Insulation resistance: ≥ 150 MΩ x km
- Operating capacity: ≤ 50 nF/km
- Cable diameter: 7 mm
- Cable weight 42 kg/km

#### CONSTRUCTION

- CCA- wires - 24 AWG; 0,57 mm acc. to IEC 60228
- Insulation: PE compound
- Screen: laminated Al foil on each pair
- Cable bundle: 4 stranded screened pairs
- Outer sheath: PVC compound or LSOH compound
- Outer sheath colour: for PVC- grey, for LSOH- orange

Insulation colour of stranded pairs - core a / core b: • white with blue ring/blue; • white with orange ring/orange; • white with green ring/green; • white with brown ring/brown.



Catalogue number	Category	Frequency - MHz	Characteristic of attenuation					Packing (m)		
			4	10	16	62.5	100		200	300
879012	Cat. 6	Attenuation - db/100 m	3.8	6	7.6	15.5	19.9	29.5	35	305
		Attenuation (Next) - db	65.3	59.3	56.2	47.4	44.3	39.8	38	

**Construction:**  
CCA-wires - 4x2x0.24



### S-FTP

#### LAN cable, stranded in pairs, with double-screen, cat. 5

Cable, stranded in pairs, with screen of laminated foil, with braid of tinned copper wires used for transmission of digital signals with high speed of transmission, with spectrum of the frequency being used up to 100 MHz for cat. 5. The cable is suitable for setting computer systems for data transmission, measuring and control systems and for transmission of high frequency analogue signals in automatic and industrial TV networks. High resistance to electromagnetic influences.

#### TECHNICAL DATA

- Ambient temperature: -30°C to +50°C
- Temperature of laying: min. 0°C
- Characteristic Impedance: 100 Ω ± 15 Ω
- Loop resistance: ≤ 192 Ω / km
- Unbalance of loop resistance: ≤ 3%
- Insulation resistance: ≥ 150 MΩ x km
- Operating capacity: ≤ 55,8 nF/km
- Cable diameter: 6,9 mm

#### CONSTRUCTION

- CCA- wires - 24 AWG; 0,51 mm acc. to IEC 60228
- Insulation: PE compound
- Cable bundle: 4 stranded pairs
- PETP foil
- Screen: laminated Al foil
- Outer sheath: PVC compound or LSOH compound
- Outer sheath colour: for PVC - grey

Insulation colour of stranded pairs - core a/core b: • white with blue ring/blue; • white with orange ring/orange; • white with green ring/green; • white with brown ring/brown.



Catalogue number	Category	Frequency - MHz	Characteristic of attenuation					Packing (m)
			4	10	16	62.5	100	
879011	Cat. 5	Attenuation - db/100 m	4.3	6.6	8.2	17.1	22	305
		Attenuation (Next) - db	53	47	44	35	32	

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended



### COAXIAL CABLE RG6 / 96

Coaxial cable, suitable for connection of TV aerials to TV receivers



Suitable for high frequency equipment, measuring and control equipment and appliances, for setting up local computer networks, and data systems, for connection of TV aerials to TV receivers.

#### TECHNICAL DATA

- Model - RG6 / 96;
- Material and structure of the core cable: CCS 1.02 mm;
- Type of insulation: PE 4.60 mm;
- External conductor (screen): 96 Al foil;
- Diameter and cable material: 6.9 mm PVC;
- Wave impedance:  $75 \pm 5$  Ohm;
- Operating temperature: from  $-30^\circ\text{C}$  to  $+70^\circ\text{C}$ ;
- Damping ratio: at 100 MHz 0.0637 dB/m.
- Outer sheath colour: White



Catalogue number	Description	Insulation diameter (mm)	Outer diameter (mm)	Wave resistance ( $\Omega$ )	Max. capacity (pF/m)	Attenuation at 200 MHz max. dB/100m	Packing (m)
856001	RG6/96	PE 4.70	8.40 PVC	$75 \pm 3$	68	12	100



### COAXIAL CABLE RG59 / + 2X0.5MM2

Coaxial cable, suitable for video surveillance systems



#### TECHNICAL DATA

##### Coaxial cable: RG-59

- Inner conductor:  $\varnothing 0.59$  mm - CCS wire
- Dielectric:  $\varnothing 3.7$  mm PE full
- Braid: Stranded wire Cu, Indoor coverage area: 90 %
- Impedance: 75  $\Omega$
- Outer coating: Al foil + Al braiding

##### Cable attenuation at 100m section:

- 10.9 dB @ 100 MHz
- 15.2 dB @ 200 MHz
- 23.2 dB @ 450 MHz
- 32.6 dB @ 800 MHz
- 36.6 dB @ 1000 MHz

- Outer sheath colour: White

##### Electrical cable:

- Inner conductor: 2 x 0.5 m CU wires
- Power wires resistance: 4  $\Omega$  / 100 m
- Outer coating:  $\varnothing 5$  mm
- Outer sheath colour: White



Catalogue number	Description	Insulation diameter (mm)	Outer diameter (mm)	Wave resistance ( $\Omega$ )	Max. capacity (pF/m)	Attenuation at 200 MHz max. dB/100m	Packing (m)
856004	RG59/ U+2x0.5	PE 3.66	8/5mm	$75 \pm 3$	53.4	12.4	100



### ALARM CABLE

Unshelled alarm cable



Suitable for the connection of detectors, sensors, infra-red as well as micro wave or mixed technology systems to the switch board.

#### TECHNICAL DATA

- Ambient temperature:  $-20^\circ\text{C}$  to  $+60^\circ\text{C}$
- Operating voltage: 300V RMS max
- Capacitance between conductors: 1KHz- 33pF/ft Nom.
- Capacitance between conductors to shield: 1KHz-60pF/ft Nom.
- Damping ratio: at 100 MHz 0.0637 dB / m.

#### CONSTRUCTION

- Conductor: CCA
- Insulation: PVC
- Insulation colours: red, blue, yellow, black, green, white
- Shield: without
- Rip cord: synthetic fibers
- Drain wire: no



Catalogue number	Cross section (n x mm <sup>2</sup> )	Cable type	Colour	Outer diameter (mm)	Packing (m)
879016	6x0.22	CCA	White	4.2	100

**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended

## CABLES FOR SOLAR POWER SYSTEMS



### SOLAR CABLES H1Z2Z2-K

#### APPLICATION

They are specifically designed for the construction of photovoltaic systems. H1Z2Z2-K solar cables have good wear resistance, extreme flexibility, UV protection and do not support combustion. They are also halogen-free, water and oil resistant. Cable weight: 4 mm<sup>2</sup>- 57kg; 6 mm<sup>2</sup>- 77kg

#### TECHNICAL DATA

- Reaction to fire: Dca S1a, d2, a1
- Cable cross-section: 4 mm<sup>2</sup>; 6 mm<sup>2</sup>
- Rated voltage (Uo/U): AC 1,0/1,0 kV; DC 1,5/1,5
- Conductor material: Tinned copper Class 5
- Number of conductors X diameter (N°x mm): 4 mm<sup>2</sup>- 50x0,30; 6 mm<sup>2</sup>- 75x0,30
- Insulation and sheath material: Halogen-free compound
- Insulation thickness: 0,70 mm
- Insulation diameter: 4 mm<sup>2</sup>- 3,90 mm; 6mm<sup>2</sup>- 4,50mm
- Outer cable diameter: 4 mm<sup>2</sup>- 5,50 mm; 6 mm<sup>2</sup>- 6,05 mm
- Cable colour: black; red
- Maximum conductor resistance at 20°C: 4 mm<sup>2</sup>- 5,09 ohm/km; 6 mm<sup>2</sup>- 3,39 ohm/km
- Maximum insulation resistance at 20°C: 4 mm<sup>2</sup>- 580 MΩ.km; 6 mm<sup>2</sup>- 500 MΩ.km
- Minimum bending radius during laying: 5xØ of cable
- Flame spread test on single cable: EN 60332-1-2
- Operating temperature: -40+90°C
- Maximum short-circuit temperature: 250°C/5sec. (max.)
- Cable weight: 4 mm<sup>2</sup>- 57kg; 6 mm<sup>2</sup>- 77kg

#### CERTIFICATION

- Declaration of performance (DoP)
- TUV Certificate
- CE and EN Certificates

Catalogue number	Cross section (n x mm <sup>2</sup> )	Colour	Outer diameter (mm)	Total weight (kg/km)	Packing (m)
M411079/BL	4	Black	5,6	58	100
M411079/R	4	Red	5,6	58	100
M411080/BL	6	Black	6,2	78	100
M411080/R	6	Red	6,2	78	100



**7 YEARS TOTAL WARRANTY**  
+ 5 standard  
2 extended

# EXPLOSION PROOF INSTALLATION SYSTEMS



ATEX Directive 2014/34/EU is a directive that applies to protective systems against explosions as well as all equipment used in or related to explosive atmospheres, such as electrical and non-electrical equipment, components and safety devices, control and adjustments necessary for the safe operation of this equipment and protective systems.

Devices falling within the scope of the European Directive and responding to the essential requirements for the safety and health are identified by a marking plate on which the logo appears.

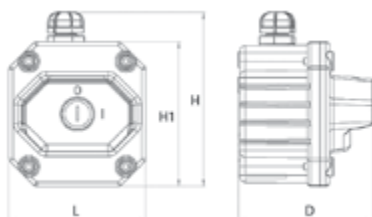
**LABELING OF EXPLOSION PROOF EQUIPMENT ACCORDING TO ATEX 2014/34/EU**

Classification and labelling of hazardous locations						Classification Explosion groups & Temperature classes											
Flammable medium	Hazardous locations Probability of a potentially explosive atmosphere occurring	Classification of hazardous locations	Product classification			Equipment protection level (EPL)	Explosion group	Examples depending on - explosion group - temperature class									
			Product group	Product category				Ammonia Methane Ethane Propane	Ethanol Cyclohexene n-Butane	Petrol Diesel fuel Fuel oil n-Hexane	Acetaldehyde	City gas Acrylic nitrite	Ethylene Ethylene oxide	Ethyl glycol Carbon hydrogen	Ethyl ether	Carbon disulphide	
Gases, mists, vapours	Continuously, for long periods or frequently	Zone 0	II				IIA IIB IIC										
	Likely to occur	Zone 1	II	1G		Ga											
	Infrequently and for short periods only	Zone 2	II		2G	3G		Gb Gc									
Dusts	Continuously, for long periods or frequently	Zone 20	II				T1<450°C T2<300°C T3<200°C T4<135°C T5<100°C T6<85°C	Attention: this list is only an extract of possible flammable mediums and does not claim to be complete!									
	Likely to occur	Zone 21	II	1D		Da											
	Infrequently and for short periods only	Zone 22	II		2D	3D		Db Dc									
<b>Notified bodies</b>																	
Code number	Notified Body (NB)																
0102 0158	PTB (Germany) EXAM (Germany)																
Example:						<b>II 2 G Ex db IIC T6 Gb NB 12 ATEX 1007 X</b> <b>II 2 D Ex tb IIIc T80°C Db</b>											
Prevents transmission of the explosion outside	flameproof enclosure	Exd	da db dc		0,1,2 1,2 2	EN 60079-1	IIIA IIB IIC	flammable fibres									
Prevents high temperatures and sparks	increased safety	Exe	eb ec		1,2 2	EN 60079-7		non conductive dust		For common use		-					
Low current/voltage supply	Intrinsic safety	Exi	ia ib ic		0,1,2,20,21,22 1,2,21,22 2,22	EN 60079-11		conductive dust									
Positive pressure device	pressurised apparatus	Exp	pdb pyb pzc		1,2,21,22 1,2,21,22 2,22	EN 60079-2				For use under special conditions		X					
Encapsulated	moulding	Exm	ma mb mc		0,1,2,20,21,22 1,2,21,22 2,22	EN 60079-18											
Parts immersed in oil to isolate from explosive atmosphere	oil immersion	Exo	ob oc		1,2 2	EN 60079-6											
Prevents transmission of explosion outside	powder filling	Exq	qb		1,2	EN 60079-5											
As above, but for use in zone 2	protection "n"	Exn	nC nR		2 2	EN 60079-15											
Dust explosion proof	protection by enclosure	Ext	ta tb tc		20, 21, 22 21, 22 22	EN 60079-31											
Protection principle	Type of protection	Code	Sym- bol	To use in zone	CENELEC		IP	Protection against solids /dust	Protection against water	Application	Code						
Protection principle – Type of protection – EN 60079-0 General Requirements						Ingress Protection EN 60529						Further information					



EX-PROOF STARTERS AND INDICATORS

**STARTERS FOR WORK IN EXPLOSIVE ATMOSPHERE WITH 1 BUTTON FOR SURFACE MOUNTING, IP65**



**TECHNICAL DATA**

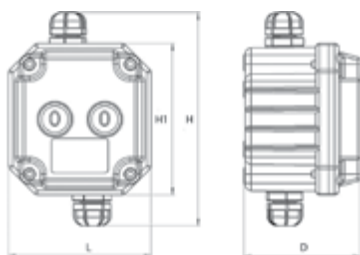
- Application: Zone 1, 2, 21, 22
- Rated voltage: 400V AC
- Rated current: 6A
- Terminals: for power conductors up to 2.5mm<sup>2</sup>
- Mounting: Surface
- IP Code: 65
- Marking  
II 2 D Ex t IIIC T80°C IP65 Db  
II 2 G Ex e II T6Gb



Catalogue number	Entry QTY	Button type	Dimensions (mm)				Packing/Box
			L	H	H1	D	
720001	1	1 start	100	128	106	82	1
720002	2	1 start	100	150	106	97	1
720003	1	1 stop	100	128	106	82	1
720004	2	1 stop	100	150	106	97	1
720005	1	1 key I-0	100	128	106	82	1
720006	2	1 key I-0	100	150	106	97	1



**STARTERS FOR WORK IN EXPLOSIVE ATMOSPHERE WITH 2 BUTTONS FOR SURFACE MOUNTING, IP65**



**TECHNICAL DATA**

- Application: Zone 1, 2, 21, 22
- Rated voltage: 400V AC
- Rated current: 6A
- Terminals: for power conductors up to 2.5mm<sup>2</sup>
- Mounting: Surface
- IP Code: 65
- Marking  
II 2 D Ex t IIIC T80°C IP65 Db  
II 2 G Ex e II T6Gb



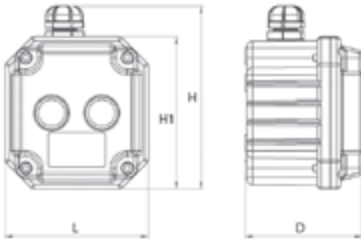
Catalogue number	Entry QTY	Button type	Dimensions (mm)				Packing/Box
			L	H	H1	D	
720009	1	2 start	100	128	106	82	1
720010	2	2 start	100	150	106	97	1
720011	1	2 stop	100	128	106	82	1
720012	2	2 stop	100	150	106	97	1
720013	1	1 start + 1 stop	100	128	106	82	1
720014	2	1 start + 1 stop	100	150	106	97	1



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### INDICATORS FOR WORK IN EXPLOSIVE ATMOSPHERE FOR SURFACE MOUNTING, IP65



**TECHNICAL DATA**

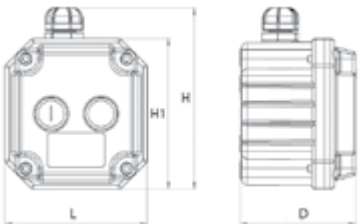
- Application: Zone 1, 2, 21, 22
- Rated voltage: 20 ÷ 30V AC/DC 170 ÷ 250 V AC 50 Hz
- Terminals: for power conductors up to 2.5mm<sup>2</sup>
- Mounting: Surface
- IP Code: 65
- Marking
- II 2 D Ex t IIIC T80°C IP65 Db
- II 2 G Ex e II T6Gb



Catalogue number	Entry QTY	Light type	Dimensions (mm)				Packing/Box
			L	H	H1	D	
720007R	1	1 red	100	128	106	82	1
720008R	2	1 red	100	150	106	97	1
720007G	1	1 green	100	128	106	82	1
720008G	2	1 green	100	150	106	97	1
720015RG	1	1 red+ 1 green	100	128	106	82	1
720016RG	2	1 red+ 1 green	100	150	106	97	1



### STARTERS WITH INDICATORS FOR WORK IN EXPLOSIVE ATMOSPHERE FOR SURFACE MOUNTING, IP65



**TECHNICAL DATA**

- Application: Zone 1, 2, 21, 22
- Buttons rated voltage: 400V AC
- Indicators rated voltage: 20 ÷ 30V AC/DC 170 ÷ 250 V AC 50 Hz
- Button rated current: 6A
- Terminals: for power conductors up to 2.5mm<sup>2</sup>
- Mounting: Surface
- IP Code: 65
- Marking
- II 2 D Ex t IIIC T80°C IP65 Db
- II 2 G Ex e II T6Gb

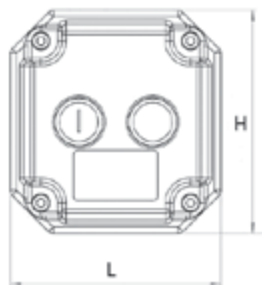


Catalogue number	Entry QTY	Button type	Light type	Dimensions (mm)				Packing/Box
				L	H	H1	D	
720017	1	1 start	1 green	100	128	106	82	1
720018	2	1 start	1 green	100	150	106	97	1
720019	1	1 stop	1 red	100	128	106	82	1
720020	2	1 stop	1 red	100	150	106	97	1



**5 YEARS TOTAL WARRANTY**  
+ 5 standard 0 extended

### STARTERS AND INDICATORS FOR WORK IN EXPLOSIVE ATMOSPHERE FOR FLUSH MOUNTING, IP65



#### TECHNICAL DATA

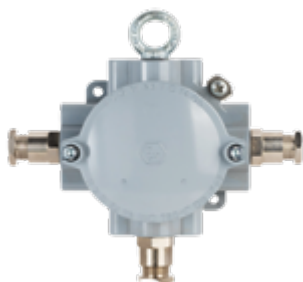
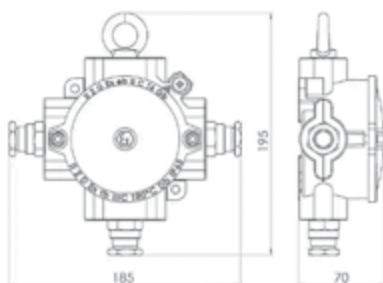
- Application: Zone 1, 2, 21, 22
- Buttons rated voltage: 400V AC
- Indicators rated voltage: 20 ÷ 30V AC/DC
- 170 ÷ 250 V AC 50 Hz
- Button rated current: 6A
- Terminals: for power conductors up to 2.5mm<sup>2</sup>
- Mounting: Surface
- IP Code: 65
- Marking
- II 2 D Ex t IIIC T80°C IP65 Db
- II 2 G Ex e II T6Gb

Catalogue number	Button type	Light type	Dimensions (mm)			Packing/Box
			L	H	D	
720030	1 start	Without	100	106	77	1
720031	1 stop	Without	100	106	77	1
720032	1 key I-0	Without	100	106	77	1
720033G	Without	1 green	100	106	77	1
720033R	Without	1 red	100	106	77	1
720034	2 start	Without	100	106	77	1
720035	2 stop	Without	100	106	77	1
720036	1 start + 1 stop	Without	100	106	77	1
720037RG	Without	1 red+ 1 green	100	106	77	1
720037G	Without	2 green	100	106	77	1
720037R	Without	2 red	100	106	77	1
720038	1 start	1 green	100	106	77	1
720039	1 stop	1 red	100	106	77	1



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

### DISTRIBUTION BOXES FOR WORK IN EXPLOSIVE ATMOSPHERE FOR SURFACE AND HANGING MOUNTING, IP67



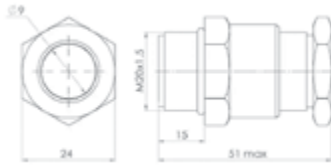
#### TECHNICAL DATA

- Application: Zone 1, 2, 21, 22
- Rated voltage: 400V AC
- Working temperature: -40~+80°C
- Terminals: for power conductors up to 2.5mm<sup>2</sup>
- Mounting: Surface/ Hanging
- IP Code: 67
- Material: Aluminum
- Colour: Grey
- Marking
- II 2D Ex t IIIC T80°C IP67 Db
- II 2G Ex e II T6 Gb

Catalogue number	Entry QTY	Entry size	Dimensions (mm)			Packing/Box
			L	H	D	
720050	3	3 x M20x1.5	185	195	70	1
720051	3	3 x M25x1.5	185	195	70	1
720052	4	4 x M20x1.5	185	195	70	1
720053	4	4 x M25x1.5	185	195	70	1
720054	3	3 x M20x1.5 + 1 hook	185	195	70	1
720055	3	3 x M25x1.5 + 1 hook	185	195	70	1
720056	3	3 x 3/4	185	195	70	1
720057	4	4 x 3/4	185	195	70	1
720058	3	2 x M20x1.5 + 1 x 3/4	185	195	70	1
720059	3	2 x M25x1.5 + 1 x 3/4	185	195	70	1
720060	4	3 x M20x1.5 + 1 x 3/4	185	195	70	1
720061	4	3 x M25x1.5 + 1 x 3/4	185	195	70	1



### CABLE GLANDS FOR WORK IN EXPLOSIVE ATMOSPHERE, IP67



#### TECHNICAL DATA

- Application: Zone 1, 2, 20, 21, 22
- Working temperature: -40~+80°C
- IP Code: 67
- Material: Brass and rubber
- Marking

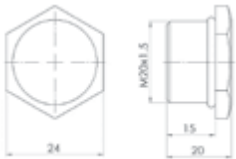
II 2D Ex t IIICT80°C IP67 Db  
II 2G Ex e II T6 Gb



Catalogue number	Model	Cable outer diameter	Connecting thread	Dimensions (mm)			Packing/Box
				L	T	B	
720070	CENT S4	7.00- 8.50mm	M20x1.5	42	M20	15	1
720071	CENT S5	8.00- 10.00mm	M20x1.5	42	M20	15	1
720072	CENT S2	10.00- 12.00mm	M20x1.5	42	M20	15	1
720073	CENT S3	12.00- 15.00mm	M25x1.5	43.5	M25	15	1
720074	CENT S7	15.00- 17.00mm	M25x1.5	43.5	M25	15	1



### EX-PROOF STOPPER FOR WORK IN EXPLOSIVE ATMOSPHERE, IP67



#### TECHNICAL DATA

- Application: Zone 1, 2, 20, 21, 22
- Working temperature: -40~+80°C
- IP Code: 67
- Material: Brass and rubber
- Marking

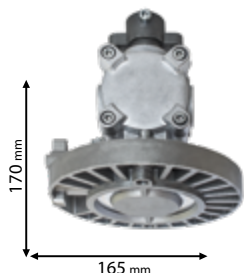
II 2D Ex t IIICT80°C IP67 Db  
II 2G Ex e II T6 Gb



Catalogue number	Connecting thread	Dimensions (mm)		Packing/Box
		L	B	
720075	M20x1.5	20	15	1
720076	M25x1.5	20	15	1



EX-PROOF LIGHTING

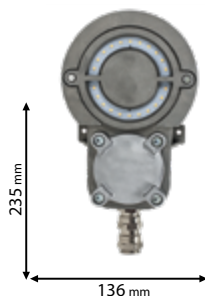


EX-PROOF CEILING & WALL LAMPS, IP67

**720100**

**TECHNICAL DATA**

- Type: Explosion Proof LED Ceiling Lamp
  - Application: Zone 1, 2, 21, 22
  - Power: 20W
  - Lumens: 2400lm
  - Efficiency: 120lm/W
  - LED Chip: SAMSUNG
  - CRI≥80
  - Lamp Class: I
  - Temperature operating range: from -40°C to + 45°C
  - Material: Aluminum & PC
  - IP Code: 67
- II 2G Ex Db mb IIB +H2 T6 Gb  
II 2D Ex tb mb IIIC T85°C IP67 Db



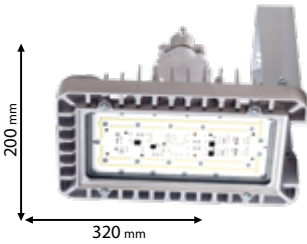
**720105**

**TECHNICAL DATA**

- Type: Explosion Proof LED Ceiling / Wall Lamp
  - Application: Zone 1, 2, 21, 22
  - Power: 20W
  - Lumens: 2000lm
  - Efficiency: 100lm/W
  - LED Chip: SAMSUNG
  - CRI≥80
  - Lamp Class: I
  - Temperature operating range: from -40°C to + 45°C
  - Material: Aluminum & PC
  - IP Code: 67
  - Width: 55 mm
- II 2G Ex Db mb IIB +H2 T6 Gb  
II 2D Ex tb mb IIIC T85°C IP67 Db



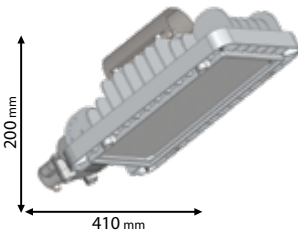
**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended



### 720102

#### TECHNICAL DATA

- Type: Explosion Proof LED Ceiling Lamp
  - Application: Zone 1, 2, 21, 22
  - Power: 70W
  - Lumens: 6300lm
  - Efficiency: 90lm/W
  - LED Chip: SAMSUNG
  - CRI≥80
  - Lamp Class: I
  - Temperature operating range: from -40°C to + 45°C
  - Material: Aluminum & PC
  - IP Code: 67
  - Width: 470mm
- II 2G Ex Db mb IIB +H2 T6 Gb  
II 2D Ex tb mb IIIC T85°C IP67 Db



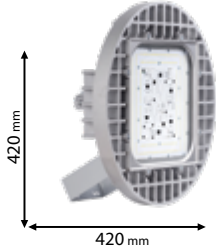
### 720103

#### TECHNICAL DATA

- Type: Explosion Proof LED Wall Lamp for Pipe 3/4
  - Application: Zone 1, 2, 21, 22
  - Power: 70W
  - Lumens: 6300lm
  - Efficiency: 90lm/W
  - LED Chip: SAMSUNG
  - CRI≥80
  - Lamp Class: I
  - Temperature operating range: from -40°C to + 45°C
  - Material: Aluminum & PC
  - IP Code: 67
  - Width: 470mm
- II 2G Ex Db mb IIB +H2 T6 Gb  
II 2D Ex tb mb IIIC T85°C IP67 Db



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended

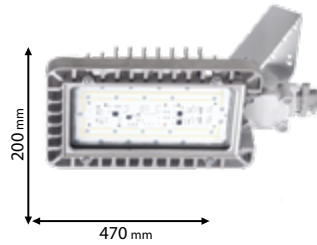


**EX-PROOF HIGH BAY & CEILING/WALL LAMP, IP67**

**720104**

**TECHNICAL DATA**

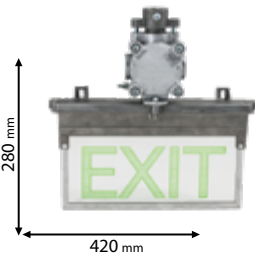
- Type: Explosion Proof LED High Bay
  - Application: Zone 1, 2, 21, 22
  - Power: 150W
  - Lumens: 13000lm
  - Efficiency: 87lm/W
  - LED Chip: SAMSUNG
  - CRI≥80
  - Lamp Class: I
  - Temperature operating range: from -40°C to + 40°C
  - Material: Aluminum & PC
  - Width: max.280 mm
  - IP Code: 65
- II 2G Ex Db mb IIB +H2 T6 Gb  
II 2D Ex tb mb IIIC T85°C IP67 Db



**720101**

**TECHNICAL DATA**

- Type: Explosion Proof LED Wall Lamp
  - Application: Zone 1, 2, 21, 22
  - Power: 70W
  - Lumens: 6500lm
  - Efficiency: 93lm/W
  - LED Chip: SAMSUNG
  - CRI≥85
  - Lamp Class: I
  - Temperature operating range: from -40°C to + 45°C
  - Material: Aluminum & PC
  - IP Code: 67
- II 2G Ex Db mb IIB +H2 T6 Gb  
II 2D Ex tb mb IIIC T85°C IP67 Db



**EMERGENCY EX-PROOF LAMP, IP67**

**720106**

**TECHNICAL DATA**

- Type: Explosion Proof LED EXIT Light
  - Application: Zone 1, 2, 21, 22
  - Battery: 3,6V, 60mAh, Ni-Cd
  - Emergency Work Time: 3h
  - CRI≥80≥6.5cd/m²
  - Lamp Class: I
  - Temperature operating range: from -40°C to + 50°C
  - Material: Aluminum & PC
  - IP Code: 65
- II 2G Ex Db mb IIB +H2 T6 Gb  
II 2D Ex tb mb IIIC T85°C IP67 Db



**3 YEARS TOTAL WARRANTY**  
+ 3 standard  
0 extended



# SWITCHES & SOCKETS

GERMAN AND FRENCH TYPE

CITY SERIES



# CITY SERIES GERMAN AND FRENCH TYPE



White/White



Anthracite/White



Champagne metallic/  
White



Yellow/White



Red/White



Green/White



Blue/White



Orange/White



Orange metallic/White



Bordo metallic/  
White



Grey/White



Champagne metallic



White/  
Champagne metallic



Anthracite/  
Champagne metallic



Yellow/  
Champagne metallic



Red/  
Champagne metallic



Green/  
Champagne metallic



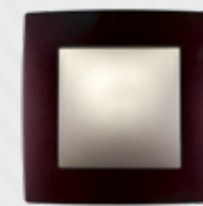
Blue/  
Champagne metallic



Orange/  
Champagne metallic



Orange metallic/  
Champagne metallic



Bordo metallic/  
Champagne metallic



Grey/  
Champagne metallic



Anthracite



White/Anthracite



Champagne metallic/  
Anthracite



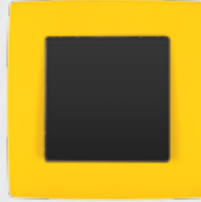
Blue/Anthracite



Red/  
Anthracite



Green/  
Anthracite



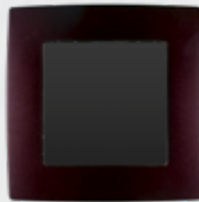
Yellow/  
Anthracite



Orange/  
Anthracite



Orange metallic/  
Anthracite



Bordo metallic/  
Anthracite



Grey/  
Anthracite



2 gangs Champagne metallic/White



3 gangs Red/White



4 gangs Anthracite/White



5 gangs Grey/White

SWITCHES PLUS PANEL | WHITE



**ONE BUTTON SWITCHES**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190011	1 button 1 way switch	10	10/100
190021	1 button 2 way switch	10	10/100
190031	1 button cross switch	10	10/100
190791	1 button double pole switch	20	10/100



**ONE BUTTON SWITCHES WITH LIGHT**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190011L	1 button 1 way switch with light	10	10/100
190021L	1 button 2 way switch with light	10	10/100



**TWO BUTTON SWITCHES**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190041	2 buttons 1 way switch	10	10/100
190051	2 buttons 2 way switch	10	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### THREE BUTTON SWITCHES

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190064	3 buttons 1 way switch	10	10/100



### DOORBELL SWITCH

Catalogue number	Type	Packing/Box (pcs)
190181	Doorbell switch	10/100



### DOORBELL SWITCH WITH NAME CARD

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190171	Doorbell switch with light name card	10	10/100



### PUSH LIGHT BUTTON

Catalogue number	Type	Packing/Box (pcs)
190183	Type: Push light button	10/100



### KEY CARD POWER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190043	Key card power switch **Not compatible with another decorative frame.	10	10/60





### CURTAIN CONTROL & INTERLOCK SHUTTER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190045	1-2 mode curtain control switch	10	10/60
190066	Interlock shutter switch	10	10/100



### DIMMER SWITCH

Catalogue number	Type	Packing/Box (pcs)
190191	Dimmer switch LED 3-300W	10/60
190193	Dimmer switch 0-10V	10/60



### MOTION SENSOR

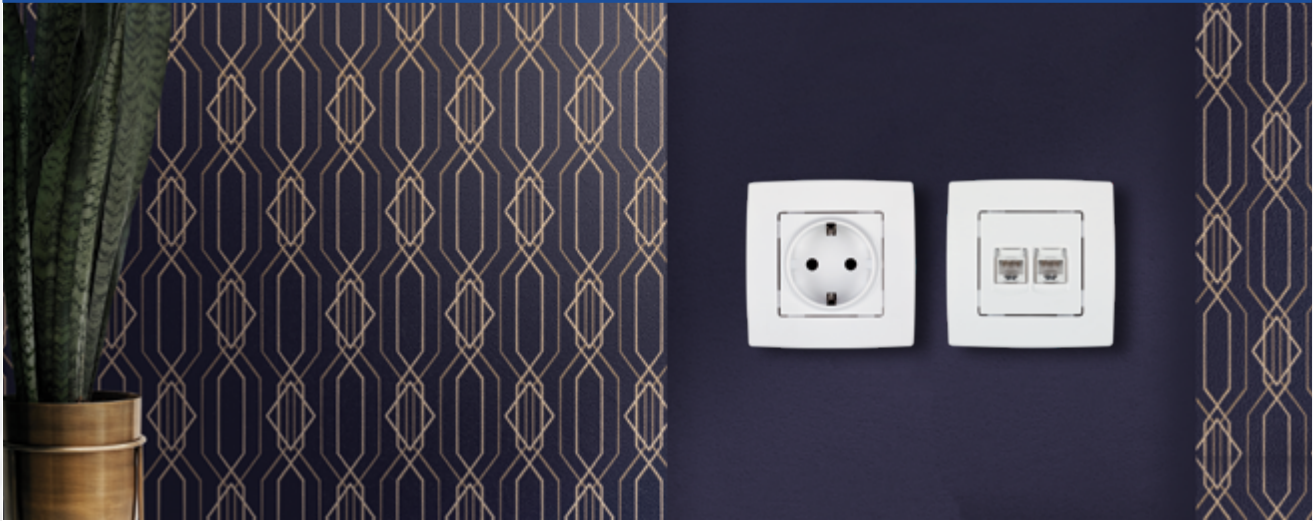
Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190771	Motion sensor 200W	10	10/60



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



SOCKETS PLUS PANEL | WHITE



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



**FRENCH TYPE SOCKET**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190211F	French screw type socket	16	10/100



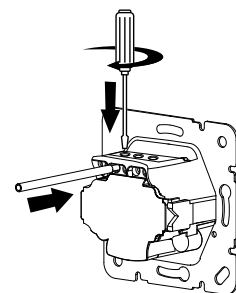
**GERMAN TYPE SOCKET**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190211S	German screw type socket	16	10/100



**GERMAN TYPE SOCKET IP44**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190211D	German screw type socket IP44	16	10/100



Screw type sockets



### GERMAN TYPE SOCKET WITH USB PORTS

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190062	German screw type socket with 2 USB ports	16	10/100



### GERMAN TYPE SOCKET - DOUBLE

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
1903715	German screw type socket (double)	16	10/100



### AUDIO & NETWORKING SOCKETS



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190721	Audio socket- double	10	10/100



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190751	USB socket - double 2A	2	10/100



Catalogue number	Type	Packing/Box (pcs)
190747	HDMI socket	10/100



Catalogue number	Type	Packing/Box (pcs)
190281	Computer socket RJ45 CAT5E	10/100
190034	Computer socket RJ45 CAT6	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



Catalogue number	Type	Packing/Box (pcs)
190711	Computer socket RJ45 - double	10/100



## TELEPHONE & TV SOCKETS



Catalogue number	Type	Packing/Box (pcs)
190261	Phone socket RJ11	10/100



Catalogue number	Type	Packing/Box (pcs)
190731	Phone socket RJ11 + Computer socket RJ45	10/100



Catalogue number	Type	Packing/Box (pcs)
190251	TV socket	10/100



Catalogue number	Type	Packing/Box (pcs)
190033	TV+FM+SAT socket	10/100



## ACCESSORIES



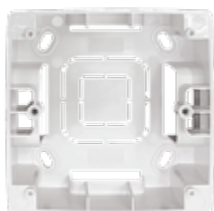
Catalogue number	Type	Packing/Box (pcs)
190060	1 Gang cable outlet without cable terminal	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



Catalogue number	Type	Packing/Box (pcs)
190741	One gang blank plate	10/100



Catalogue number	Type	Packing/Box (pcs)
190091	One gang surface mounting box	126



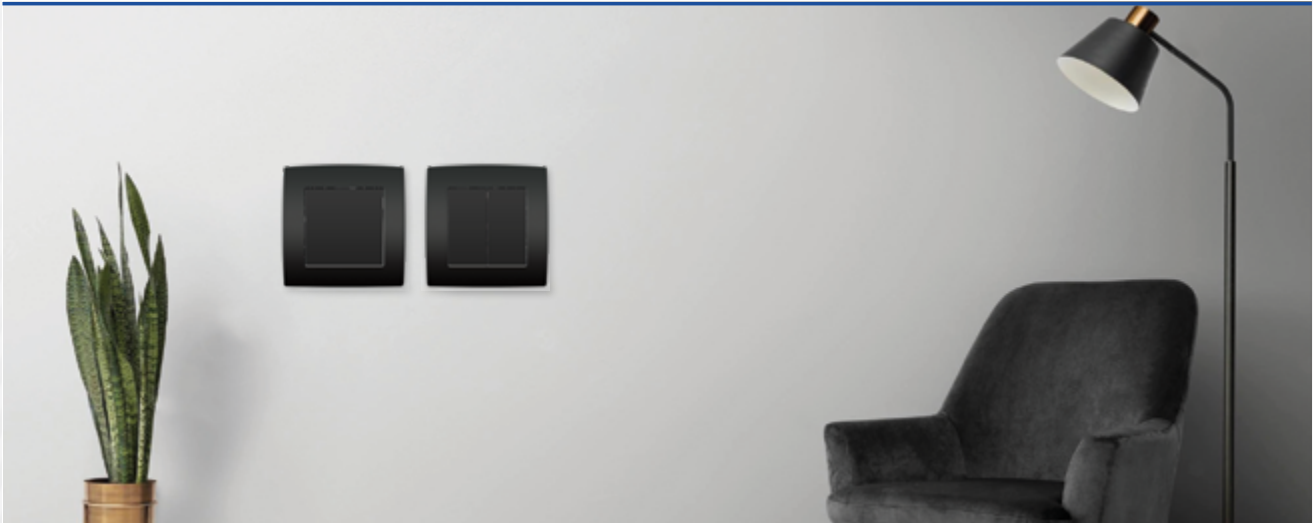
Catalogue number	Type	Packing/Box (pcs)
190092	Two gangs surface mounting box	66



Catalogue number	Type	Packing/Box (pcs)
190090	Silicone cover IP44	100



SWITCHES PLUS PANEL | ANTHRACITE



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



**ONE BUTTON SWITCHES**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193011	1 button 1 way switch	10	10/100
193021	1 button 2 way switch	10	10/100
193031	1 button cross switch	10	10/100
193791	1 button double pole switch	20	10/100



**ONE BUTTON SWITCHES WITH LIGHT**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193011L	1 button 1 way switch with light	10	10/100
193021L	1 button 2 way switch with light	10	10/100



**TWO BUTTONS SWITCHES**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193041	2 buttons 1 way switch	10	10/100
193051	2 buttons 2 way switch	10	10/100





## THREE BUTTON SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193064	3 buttons 1 way switch	10	10/100



## DOORBELL SWITCH

Catalogue number	Type	Packing/Box (pcs)
193181	Doorbell switch	10/100



## DOORBELL SWITCH WITH NAME CARD

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193171	Doorbell switch with light name card	10	10/100



## PUSH LIGHT BUTTON

Catalogue number	Type	Packing/Box (pcs)
193183	Type: Push light button	10/100



## KEY CARD POWER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193043	Key card power switch *Not compatible with another decorative frame.	10	10/60



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended





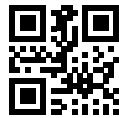
### CURTAIN CONTROL & INTERLOCK SHUTTER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193045	1-2 mode curtain control switch	10	10/60
193066	Interlock shutter switch	10	10/100



### DIMMER SWITCH

Catalogue number	Type	Packing/Box (pcs)
193191	Dimmer switch LED 3-300W	10/60
193193	Dimmer switch 0-10V	10/60



### MOTION SENSOR

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193771	Motion sensor 200W	10	10/60



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

SOCKETS PLUS PANEL | ANTHRACITE



**FRENCH TYPE SOCKET**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193211F	French screw type socket	16	10/100



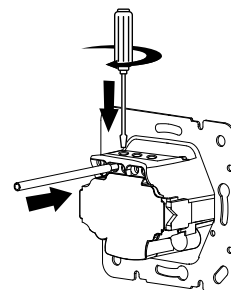
**GERMAN TYPE SOCKET**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193211S	German screw type socket	16	10/100



**GERMAN TYPE SOCKET IP44**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193211D	German screw type socket IP44	16	10/100



Screw type sockets

**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### GERMAN TYPE SOCKET WITH USB PORTS

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193062	German screw type socket with 2xUSB ports	16	10/100



### GERMAN TYPE SOCKET WITH USB PORTS

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193371S	German screw type socket (double)	16	10/100



### AUDIO & NETWORKING SOCKETS

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193721	Audio socket- double	10	10/100



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
193751	USB socket - double 2A	2	10/100



Catalogue number	Type	Packing/Box (pcs)
193747	HDMI socket	10/100



Catalogue number	Type	Packing/Box (pcs)
193281	Computer socket RJ45 CAT5E	10/100
193034	Computer socket RJ45 CAT6	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



Catalogue number	Type	Packing/Box (pcs)
193711	Computer socket RJ45 - double	10/100



### TELEPHONE & TV SOCKETS



Catalogue number	Type	Packing/Box (pcs)
193261	Phone socket RJ11	10/100



Catalogue number	Type	Packing/Box (pcs)
193731	Phone socket RJ11 + Computer socket RJ45	10/100



Catalogue number	Type	Packing/Box (pcs)
193251	TV socket	10/100



Catalogue number	Type	Packing/Box (pcs)
193033	TV+FM+SAT socket	10/100



### ACCESSORIES



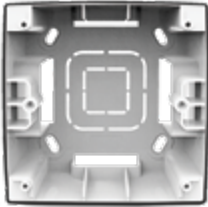
Catalogue number	Type	Packing/Box (pcs)
193060	1 Gang cable outlet without cable terminal	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



Catalogue number	Type	Packing/Box (pcs)
193741	One gang blank plate	10/100



Catalogue number	Type	Packing/Box (pcs)
193091	One gang surface mounting box	126



Catalogue number	Type	Packing/Box (pcs)
193092	Two gangs surface mounting box	66



SWITCHES PLUS PANEL | CHAMPAGNE METALLIC



**ONE BUTTON SWITCHES**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190012	1 button 1 way switch	10	10/100
190022	1 button 2 way switch	10	10/100
190032	1 button cross switch	10	10/100
190722	<b>1 button 1 way switch</b>	20	10/100
190069	1 button double pole switch	20	10/100



**ONE BUTTON SWITCHES WITH LIGHT**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190012L	1 button 1 way switch with light	10	10/100
190022L	1 button 2 way switch with light	10	10/100



**TWO BUTTONS SWITCHES**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190042	2 buttons 1 way switch	10	10/100
190052	2 buttons 2 way switch	10	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended





### THREE BUTTONS SWITCHES

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190065	3 buttons 1 way switch	10	10/100



### DOORBELL SWITCH

Catalogue number	Type	Packing/Box (pcs)
190182	Doorbell switch	10/100



### DOORBELL SWITCH WITH NAME CARD

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190748	Doorbell switch with light name card	10	10/100



### PUSH LIGHT BUTTON

Catalogue number	Type	Packing/Box (pcs)
190184	Type: Push light button	10/100



### KEY CARD POWER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190044	Key card power switch *Not compatible with another decorative frame.	10	10/60





### CURTAIN CONTROL & INTERLOCK SHUTTER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190046	1-2 mode curtain control switch	10	10/60
190067	Interlock shutter switch	10	10/100



### DIMMER SWITCH

Catalogue number	Type	Packing/Box (pcs)
190192	Dimmer switch LED 3-300W	10/60
190194	Dimmer switch 0-10V	



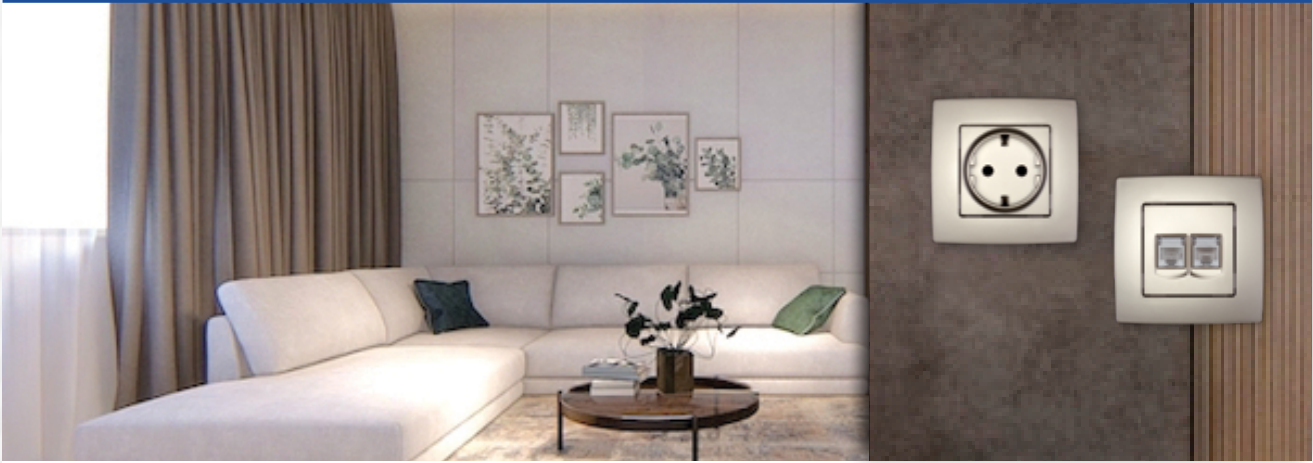
### MOTION SENSOR

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190782	Motion sensor 200W	10	10/60



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

SOCKETS PLUS PANEL | CHAMPAGNE METALLIC



**FRENCH TYPE SOCKET**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190212F	French screw type socket	16	10/100



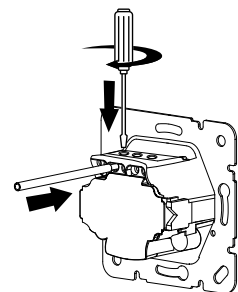
**GERMAN TYPE SOCKET**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190212S	German screw type socket	16	10/100



**GERMAN TYPE SOCKET IP44**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190212D	German screw type socket IP44	16	10/100



Screw type sockets

**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### GERMAN TYPE SOCKET - DOUBLE

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190372S	German screw type socket - double	16	10/100



### AUDIO & NETWORKING SOCKETS

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190742	Audio socket- double	10	10/100



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190752	USB socket - double	2	10/100



Catalogue number	Type	Packing/Box (pcs)
190772	HDMI socket	10/100



Catalogue number	Type	Packing/Box (pcs)
190282	Computer socket RJ45 CAT5E	10/100
190035	Computer socket RJ45 CAT6	10/100



Catalogue number	Type	Packing/Box (pcs)
190712	Computer socket RJ45 - double	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



## TELEPHONE & TV SOCKETS

Catalogue number	Type	Packing/Box (pcs)
190262	Phone socket RJ11	10/100



Catalogue number	Type	Packing/Box (pcs)
190732	Phone socket RJ11 + Computer socket RJ45	10/100



Catalogue number	Type	Packing/Box (pcs)
190252	TV socket	10/100



Catalogue number	Type	Packing/Box (pcs)
190034F	TV+FM+SAT socket	10/100



## ACCESSORIES

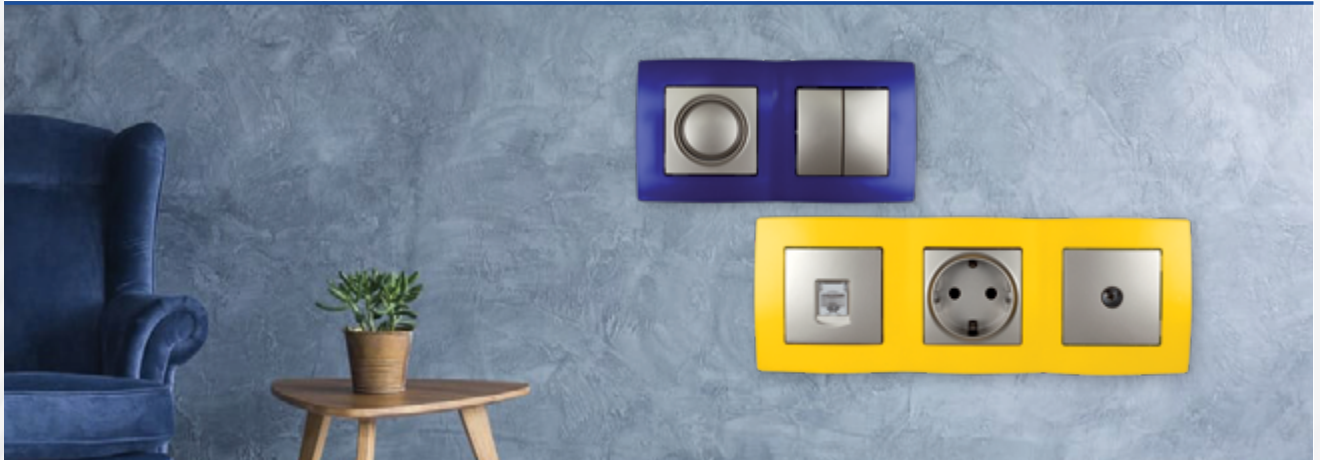


Catalogue number	Type	Packing/Box (pcs)
190172	1 gang blank plate	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

## DECORATIVE PANELS CITY SERIES



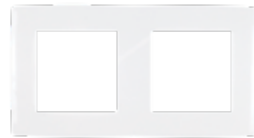
## WHITE PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
190441	One gang panel	85x85	1/200
190551	Two gangs panel	85x155	1/100
190661	Three gangs panel	85x225	1/150
190361	Four gangs panel	85x298	1/100
190601	Five gangs panel	85x367	1/100



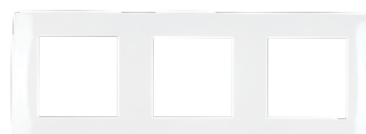
One gang panel



Two gangs panel



Four gangs panel



Three gangs panel



Five gangs panel



### ANTHRACITE PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
190440	One gang panel	85x85	1/200
193551	Two gangs panel	85x155	1/100
193661	Three gangs panel	85x225	1/150
193361	Four gangs panel	85x298	1/100
193601	Five gangs panel	85x367	1/100



One gang panel



Two gangs panel



Four gangs panel



Three gangs panel



Five gangs panel

### CHAMPAGNE METALLIC PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
190442	One gang panel	85x85	1/200
190552	Two gangs panel	85x155	1/100
190662	Three gangs panel	85x225	1/150
190362	Four gangs panel	85x298	1/100
190602	Five gangs panel	85x367	1/100



One gang panel



Two gangs panel



Four gangs panel



Three gangs panel



Five gangs panel

## ORANGE PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
190443	One gang panel	85x85	1/200
190553	Two gangs panel	85x155	1/100
190663	Three gangs panel	85x225	1/150
190363	Four gangs panel	85x298	1/100
190603	Five gangs panel	85x367	1/100



One gang panel



Two gangs panel



Four gangs panel



Three gangs panel



Five gangs panel

## YELLOW PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
190444	One gang panel	85x85	1/200
190554	Two gangs panel	85x155	1/100
190664	Three gangs panel	85x225	1/150
190364	Four gangs panel	85x298	1/100
190604	Five gangs panel	85x367	1/100



One gang panel



Two gangs panel



Four gangs panel



Three gangs panel



Five gangs panel

### GREEN PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
190445	One gang panel	85x85	1/200
190555	Two gangs panel	85x155	1/100
190665	Three gangs panel	85x225	1/150
190365	Four gangs panel	85x298	1/100
190605	Five gangs panel	85x367	1/100



One gang panel



Two gangs panel



Four gangs panel



Three gangs panel



Five gangs panel

### RED PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
190446	One gang panel	85x85	1/200
190556	Two gangs panel	85x155	1/100
190666	Three gangs panel	85x225	1/150
190366	Four gangs panel	85x298	1/100
190606	Five gangs panel	85x367	1/100



One gang panel



Two gangs panel



Four gangs panel



Three gangs panel



Five gangs panel

## BLUE PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
190447	One gang panel	85x85	1/200
190557	Two gangs panel	85x155	1/100
190667	Three gangs panel	85x225	1/150
190367	Four gangs panel	85x298	1/100
190607	Five gangs panel	85x367	1/100



One gang panel



Two gangs panel



Four gangs panel



Three gangs panel



Five gangs panel

## GREY PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
190450	One gang panel	85x85	1/200
190560	Two gangs panel	85x155	1/100
190670	Three gangs panel	85x225	1/150
190370	Four gangs panel	85x298	1/100
190610	Five gangs panel	85x367	1/100



One gang panel



Two gangs panel



Four gangs panel



Three gangs panel



Five gangs panel

### ORANGE METALLIC PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
190448	One gang panel	85x85	1/200
190558	Two gangs panel	85x155	1/100
190668	Three gangs panel	85x225	1/150
190368	Four gangs panel	85x298	1/100
190608	Five gangs panel	85x367	1/100



One gang panel



Two gangs panel



Four gangs panel



Three gangs panel



Five gangs panel

### BORDO METALLIC PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
190449	One gang panel	85x85	1/200
190559	Two gangs panel	85x155	1/100
190669	Three gangs panel	85x225	1/150
190369	Four gangs panel	85x298	1/100
190609	Five gangs panel	85x367	1/100



One gang panel



Two gangs panel



Four gangs panel



Three gangs panel



Five gangs panel

# SWITCHES & SOCKETS

ITALY TYPE

LECCE SERIES







White/White



Black/White



Silver grey/White



Green/White



Golden/White



Graphite mat/White



Graphite/White



Blue/White



Champagne/White



Onix/White



Cherry-tree/White



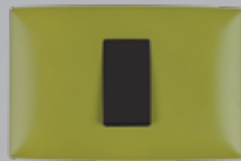
White/Black



Black/Black



Silver grey/Black



Green/Black



Golden/Black



Graphite mat/Black



Graphite/Black



Blue/Black



Champagne/Black



Onix/Black



Cherry-tree/Black

# LECCE SERIES ITALY TYPE



1 gang Black/White



2 gangs Green/White



2 gangs Blue/White



6 gangs White/White



3 gangs Onix/White



6 gangs Black/White



3x2 gangs Champagne/White

MODULE SWITCHES | WHITE



ONE BUTTON SWITCHES



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
26001	1 button 1 way switch	1 mod	16	10/100
26003	1 button 2 way switch	1 mod	16	10/100
26004	1 button cross switch	1 mod	10	10/100
26027	Push light button	1 mod	10	10/100



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
26026	1 button 2 pole switch	1 mod	16	10/100



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
26002	1 button 1 way switch with light	1 mod	16	10/100



CURTAIN CONTROL SWITCH



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
26006	Curtain switch	1 mod	6	10/60



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### DOORBELL SWITCHES

Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
26005	Door bell switch	1 mod	10	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
26015	Door bell	2mod	10/100



### DIMMER SWITCHES

Catalogue number	Type	Size	Packing/Box (pcs)
26055	Dimmer 250W	1 mod	10/60



Catalogue number	Type	Size	Packing/Box (pcs)
26053	LED dimmer 200VA	3 mod	10/60



### BOILER SWITCHES

Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
26024	Boiler switch with neon * Not included decorative triple panel.	3 mod	45A	10/60



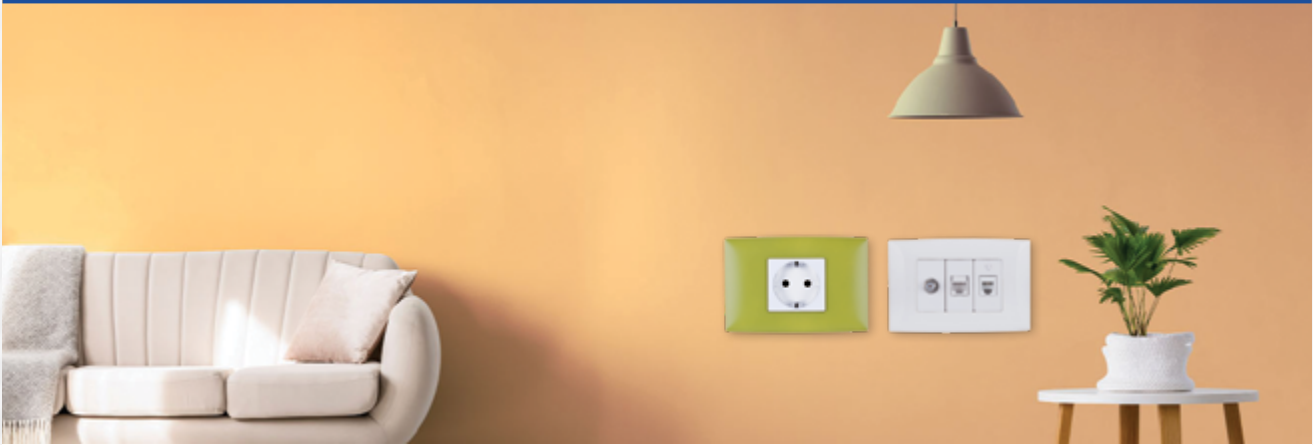
### KEY POWER SWITCH

Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
26025	Key power switch	3 mod	30	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

MODULE SOCKETS | WHITE



**GERMAN TYPE SOCKET**



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
26008	German type socket	2 mod	16	10/100



**ITALIAN TYPE SOCKET**



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
26020	Italian type socket	2 mod	16	10/100



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
26007	Italian standard multi socket	1 mod	16	10/100



**UNIVERSAL TYPE SOCKET**



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
26009	Universal socket	2 mod	13	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended





## DOUBLE PIN SOCKET

Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
260075A	Double pin socket	1 mod	16	10/100



## AUDIO & NETWORKING SOCKETS

Catalogue number	Type	Size	Packing/Box (pcs)
26021	Audio socket	1 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
26016	Sound dimmer	2 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
26014	2 port USB socket 90-240V / Output: 5V 2A	1 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
26022	HDMI socket	1 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
26013	Computer socket RJ45 CAT5E	1 mod	10/100
26013C	Computer socket RJ45 CAT6	1 mod	10/100



**5 YEARS TOTAL WARRANTY**  
 + 5 standard  
 0 extended





## TELEPHONE & TV SOCKETS

Catalogue number	Type	Size	Packing/Box (pcs)
26012	Phone socket	1 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
26010	TV socket	1 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
26011	Satellite socket	1 mod	10/100



## ACCESSORIES

Catalogue number	Type	Size	Packing/Box (pcs)
26017	Blank cover	1 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
26023	Button without functional part	3 mod	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

MODULE SWITCHES | ANTHRACITE



ONE BUTTON SWITCHES



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27001	1 button 1 way switch	1 mod	16	10/100
27003	1 button 2 way switch	1 mod	16	10/100
27004	1 button cross switch	1 mod	10	10/100
27027	Push light button	1 mod	10	10/100



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27026	1 button 2 pole switch	1 mod	16	10/100



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27002	1 button 1 way switch with light	1 mod	16	10/100



CURTAIN CONTROL SWITCH



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27006	Curtain switch	1 mod	6	10/60



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### DOORBELL SWITCHES

Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27005	Door bell switch	1 mod	10	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
27015	Door bell	2mod	10/100



### DIMMER SWITCHES

Catalogue number	Type	Size	Packing/Box (pcs)
27055	Dimmer 250W	1 mod	10/60



Catalogue number	Type	Size	Packing/Box (pcs)
27053	LED dimmer 200VA	1 mod	10/60



### BOILER SWITCHES

Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27024	Boiler switch with neon * Not included decorative triple panel.	3 mod	45A	10/60



### KEY POWER SWITCH

Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27025	Key power switch	3 mod	30	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

MODULE SOCKETS | ANTHRACITE



**GERMAN TYPE SOCKET**



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27008	German type socket	2 mod	16	10/100



**ITALIAN TYPE SOCKET**



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27020	Italian type socket	2 mod	16	10/100



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27007	Italian standard multi socket	1 mod	16	10/100



**UNIVERSAL TYPE SOCKET**



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27009	Universal socket	2 mod	13	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### DOUBLE PIN SOCKET

Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27007SA	Double pin socket	1 mod	16	10/100



### AUDIO & NETWORKING SOCKETS

Catalogue number	Type	Size	Packing/Box (pcs)
27021	Audio socket	1 mod	10/100



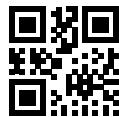
Catalogue number	Type	Size	Packing/Box (pcs)
27016	Sound dimmer	2 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
27014	2 port USB socket 90-240V / Output: 5V 2A	1 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
27022	HDMI socket	1 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
27013	Computer socket RJ45 CAT5E	1 mod	10/100
27013C	Computer socket RJ45 CAT6	1 mod	



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

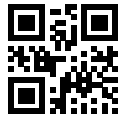


### TELEPHONE & TV SOCKETS

Catalogue number	Type	Size	Packing/Box (pcs)
27012	Phone socket	1 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
27010	TV socket	1 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
27011	Satellite socket	1 mod	10/100



### ACCESSORIES

Catalogue number	Type	Size	Packing/Box (pcs)
27017	Blank cover	1 mod	10/100



Catalogue number	Type	Size	Packing/Box (pcs)
27023	Button without functional part	3 mod	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



## INSTALLATION FRAMES & CONSOLES

### INSTALLATION FRAMES



Catalogue number	Type	Size	Mounting	Packing/Box (pcs)
26019	Mounting frame	1 mod/ 3 mod	Recessed	10/100



Catalogue number	Type	Size	Mounting	Packing/Box (pcs)
26018	Mounting frame	2 mod	Recessed	10/100



Catalogue number	Type	Size	Mounting	Packing/Box (pcs)
26054	Mounting frame	4 mod	Recessed	10/100



Catalogue number	Type	Size	Mounting	Packing/Box (pcs)
26156	Mounting frame	6 mod	Recessed	10/100



Catalogue number	Type	Size	Mounting	Packing/Box (pcs)
26056	Mounting frame	2x3 mod	Recessed	10/100



Catalogue number	Type	Size	Mounting	Packing/Box (pcs)
2604	Mounting frame with cover IP65	4 mod	Surface	10/100





Catalogue number	Type	Size	Mounting	Packing/Box (pcs)
2603	Mounting box with cover IP65	3 mod	Surface	10/100



### CONSOLE BOXES FOR PLASTERBOARD



Catalogue number	Type	Size	Mounting	Packing/Box (pcs)
24205	Console for plasterboard	Triple	Recessed	10/100



Catalogue number	Type	Size	Mounting	Packing/Box (pcs)
24206	Console for plasterboard	Quadruple	Recessed	10/100



Catalogue number	Type	Size	Mounting	Packing/Box (pcs)
26636	Console for plasterboard	Sixfold	Recessed	10/100



### CONSOLE FOR BRICK AND CONCRETE



Catalogue number	Type	Length (mm)	Width (mm)	Depth (mm)	Packing (pcs)
24207	1-3 Module Console Box	95	70	48	10/400
24208	4 Module Console Box	118	70	48	10/240
24209	6 Module Console Box	178	70	48	10/150
24210	Console Box Spacer				20/200



DECORATIVE PANELS LECCE SERIES



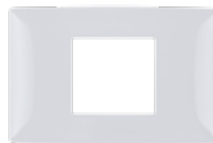
**WHITE PANELS**



Catalogue number	Type	Size: HxL (mm)	Packing/ Box (pcs)
26100	1 gang panel	82x122	1/200
26200	2 gangs panel	82x122	1/100
26300	3 gangs panel	82x122	1/150
26400	4 gangs panel	82x147	1/100
266001	6 gangs panel	82x194	1/100
26600	3x2 gangs panel	122x122	



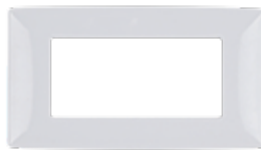
1 gang panel



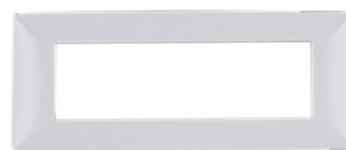
2 gangs panel



3 gang panel



4 gangs panel



6 gangs panel



3x2 gangs panel

## ANTHRACITE PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
26111	1 gang panel	82x122	1/200
26211	2 gangs panel	82x122	1/100
26311	3 gangs panel	82x122	1/150
26411	4 gangs panel	82x147	1/100
26611	6 gangs panel	82x194	1/100



1 gang panel



2 gangs panel



3 gang panel



4 gangs panel



6 gangs panel

## BLUE PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
26101	1 gang panel	82x122	1/200
26201	2 gangs panel	82x122	1/100
26301	3 gangs panel	82x122	1/150
26401	4 gangs panel	82x147	1/100
26601	6 gangs panel	82x194	1/100



1 gang panel



2 gangs panel



3 gang panel



4 gangs panel



6 gangs panel

### GOLDEN PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
26103	1 gang panel	82x122	1/200
26203	2 gangs panel	82x122	1/100
26303	3 gangs panel	82x122	1/150
26403	4 gangs panel	82x147	1/100
26603	6 gangs panel	82x194	1/100



1 gang panel



2 gangs panel



3 gangs panel



4 gangs panel



6 gangs panel

### SILVER GREY PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
26102	1 gang panel	82x122	1/200
26202	2 gangs panel	82x122	1/100
26302	3 gangs panel	82x122	1/150
26402	4 gangs panel	82x147	1/100
266021	6 gangs panel	82x194	1/100
26602	3x2 gangs panel	122x122	



1 gang panel



2 gangs panel



3 gangs panel



3x2 gangs panel



4 gangs panel



6 gangs panel

### GRAPHITE MAT PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
26104	1 gang panel	82x122	1/200
26204	2 gangs panel	82x122	1/100
26304	3 gangs panel	82x122	1/150
26404	4 gangs panel	82x147	1/100
26604	6 gangs panel	82x194	1/100



1 gang panel



2 gangs panel



3 gangs panel



4 gangs panel



6 gangs panel

### GRAPHITE PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
26105	1 gang panel	82x122	1/200
26205	2 gangs panel	82x122	1/100
26305	3 gangs panel	82x122	1/150
26405	4 gangs panel	82x147	1/100
266051	6 gangs panel	82x194	1/100
26605	3x2 gangs panel	122x122	



1 gang panel



2 gangs panel



3 gangs panel



3x2 gangs panel



4 gangs panel



6 gangs panel



### GREEN PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
26107	1 gang panel	82x122	1/200
26207	2 gangs panel	82x122	1/100
26307	3 gangs panel	82x122	1/150
26407	4 gangs panel	82x147	1/100
26607	6 gangs panel	82x194	1/100



1 gang panel

2 gangs panel

3 gang panel



4 gangs panel

6 gangs panel

### CHAMPAGNE PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
26106	1 gang panel	82x122	1/200
26206	2 gangs panel	82x122	1/100
26306	3 gangs panel	82x122	1/150
26406	4 gangs panel	82x147	1/100
266061	6 gangs panel	82x194	1/100
26606	3x2 gangs panel	122x122	



1 gang panel

2 gangs panel

3 gang panel



3x2 gangs panel

4 gangs panel

6 gangs panel

## ONIX PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
26108	1 gang panel	82x122	1/200
26208	2 gangs panel	82x122	1/100
26308	3 gangs panel	82x122	1/150
26408	4 gangs panel	82x147	1/100
26608	6 gangs panel	82x194	1/100



1 gang panel



2 gangs panel



3 gang panel



4 gangs panel



6 gangs panel

## CHERRY-TREE PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
26109	1 gang panel	82x122	1/200
26209	2 gangs panel	82x122	1/100
26309	3 gangs panel	82x122	1/150
26409	4 gangs panel	82x147	1/100
26609	6 gangs panel	122x122	



1 gang panel



2 gangs panel



3 gang panel



4 gangs panel



6 gangs panel

# SWITCHES & SOCKETS

GERMAN AND FRENCH TYPE

RHYME SERIES



# RHYME SERIES GERMAN AND FRENCH TYPE



White metallic



Champagne metallic



Grey metallic



Graphite metallic



Coffee metallic



2 gangs/ White metallic



3 gangs/ Champagne metallic



5 gangs/ Grey metallic



4 gangs/ Coffee metallic



6 gangs/ Graphite metallic

SWITCHES PLUS PANEL | WHITE METALLIC



**ONE BUTTON SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11011	1 button 1 way switch	10	10/100
11021	1 button 2 way switch	10	10/100
11341	1 button cross switch	10	10/100



**TWO BUTTON SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11041	2 buttons 1 way switch	10	10/100
11051	2 buttons 2 way switch	10	10/100



**THREE BUTTON SWITCH**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11721	3 buttons 1 way switch	10	10/100



**DOORBELL SWITCH**



Catalogue number	Type	Packing/Box (pcs)
11181	Doorbell switch	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### DOORBELL SWITCH WITH NAME CARD

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11181B	Doorbell switch with light name card	10	10/100



### PUSH LIGHT BUTTON

Catalogue number	Type	Packing/Box (pcs)
11181C	Type: Push light button	10/100



### CURTAIN CONTROL & INTERLOCK SHUTTER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11171A	Curtain control switch	10	10/100



### DIMMER SWITCH

Catalogue number	Type	Packing/Box (pcs)
11191	Dimmer switch	10/100



### SENSOR SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11411	Sensor switch	10	10/60



### KEY CARD POWER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11331	Key card power switch *Not compatible with another decorative frame.	10	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



SOCKETS PLUS PANEL | WHITE METALLIC



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



**FRENCH TYPE SOCKET**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11211F	French type socket	16	10/100



**GERMAN TYPE SOCKET**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11211	German screw type socket	16	10/100



**GERMAN TYPE SOCKET WITH COVER**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11211C	German screw type socket with cover	16	10/100





### GERMAN TYPE SOCKET DOUBLE

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11371	German screw type socket - double	16	10/100



### NETWORKING SOCKETS

Catalogue number	Type	Packing/Box (pcs)
11281	Computer socket RJ45 CAT5E	10/100
112816E	Computer socket RJ45 CAT6	10/100



Catalogue number	Type	Packing/Box (pcs)
11711	Computer socket RJ45 - double	10/100



### TELEPHONE & TV SOCKETS

Catalogue number	Type	Packing/Box (pcs)
11261	Phone socket RJ11	10/100



Catalogue number	Type	Packing/Box (pcs)
11741	Phone socket RJ11 - double	10/100



**5 YEARS TOTAL WARRANTY**  
 + 5 standard  
 0 extended



Catalogue number	Type	Packing/Box (pcs)
11731	Phone socket RJ11 + Computer socket RJ45	10/100



Catalogue number	Type	Packing/Box (pcs)
11251	TV socket	10/100

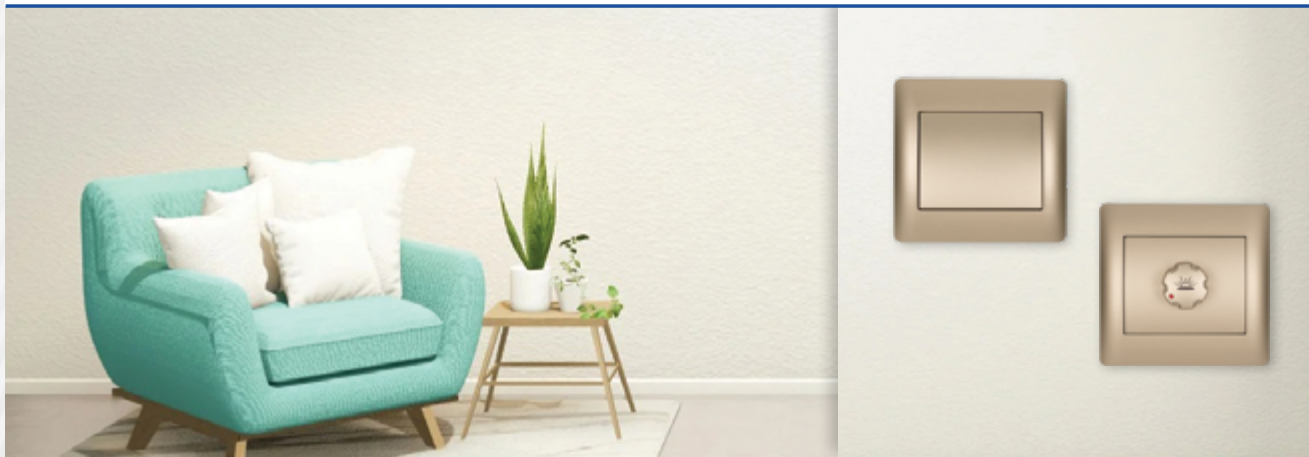


Catalogue number	Type	Packing/Box (pcs)
11681	TV socket+FM socket + SAT socket *Not compatible with another decorative frame.	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

SWITCHES PLUS PANEL | CHAMPAGNE METALLIC



**ONE BUTTON SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11012	1 button 1 way switch	10	10/100
11022	1 button 2 way switch	10	10/100
11342	1 button cross switch	10	10/100



**TWO BUTTON SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11042	2 buttons 1 way switch	10	10/100
11052	2 buttons 2 way switch	10	10/100



**THREE BUTTON SWITCH**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11722	3 buttons 1 way switch	10	10/100



**DOORBELL SWITCH**



Catalogue number	Type	Packing/Box (pcs)
11182	Doorbell switch	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

### DOORBELL SWITCH WITH NAME CARD



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11182B	Doorbell switch with light name card	10	10/100



### PUSH LIGHT BUTTON



Catalogue number	Type	Packing/Box (pcs)
11182C	Type: Push light button	10/100



### CURTAIN CONTROL & INTERLOCK SHUTTER SWITCH



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11172A	Curtain control switch	10	10/100



### DIMMER SWITCH



Catalogue number	Type	Packing/Box (pcs)
11192	Dimmer switch	10/100



### SENSOR SWITCH



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11412	Sensor switch	10	10/60



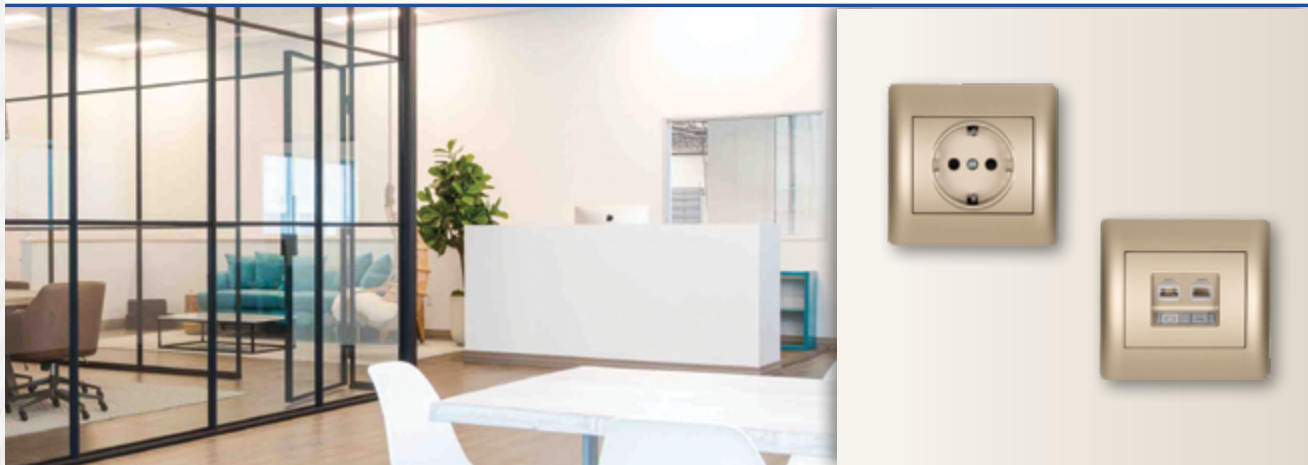
### KEY CARD POWER SWITCH



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11332	Key card power switch *Not compatible with another decorative frame.	10	10/100



SOCKETS PLUS PANEL | CHAMPAGNE METALLIC



**FRENCH TYPE SOCKET**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11212F	French type socket	16	10/100



**GERMAN TYPE SOCKET**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11212	German screw type socket	16	10/100



**GERMAN TYPE SOCKET WITH COVER**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11212C	German screw type socket with cover	16	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended





### GERMAN TYPE SOCKET DOUBLE

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11372	German screw type socket - double	16	10/100



### NETWORKING SOCKETS



Catalogue number	Type	Packing/Box (pcs)
11282	Computer socket RJ45 CAT5E	10/100
112826E	Computer socket RJ45 CAT6	10/100



Catalogue number	Type	Packing/Box (pcs)
11712	Computer socket RJ45 - double	10/100



### TELEPHONE & TV SOCKETS



Catalogue number	Type	Packing/Box (pcs)
11262	Phone socket RJ11	10/100



Catalogue number	Type	Packing/Box (pcs)
11742	Phone socket RJ11 - double	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



Catalogue number	Type	Packing/Box (pcs)
11732	Phone socket RJ11 + Computer socket RJ45	10/100



Catalogue number	Type	Packing/Box (pcs)
11252	TV socket	10/100



Catalogue number	Type	Packing/Box (pcs)
11682	TV socket+FM socket + SAT socket *Not compatible with another decorative frame.	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

SWITCHES PLUS PANEL | GREY METALLIC



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

**ONE BUTTON SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11014	1 button 1 way switch	10	10/100
11024	1 button 2 way switch	10	10/100
11344	1 button cross switch	10	10/100



**TWO BUTTONS SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11044	2 buttons 1 way switch	10	10/100
11054	2 buttons 2 way switch	10	10/100



**THREE BUTTONS SWITCH**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11724	3 buttons 1 way switch	10	10/100



**DOORBELL SWITCH**



Catalogue number	Type	Packing/Box (pcs)
11184	Doorbell switch	10/100





### DOORBELL SWITCH WITH NAME CARD

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11184B	Doorbell switch with light name card	10	10/100



### PUSH LIGHT BUTTON

Catalogue number	Type	Packing/Box (pcs)
11184C	Type: Push light button	10/100



### CURTAIN CONTROL & INTERLOCK SHUTTER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11174A	Curtain control switch	10	10/100



### DIMMER SWITCH

Catalogue number	Type	Packing/Box (pcs)
11194	Dimmer switch	10/100



### SENSOR SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11414	Sensor switch	10	10/60



### KEY CARD POWER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11334	Key card power switch *Not compatible with another decorative frame.	10	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

SOCKETS PLUS PANEL | GREY METALLIC



**FRENCH TYPE SOCKET**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11214F	French type socket	16	10/100



**GERMAN TYPE SOCKET**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11214	German screw type socket	16	10/100



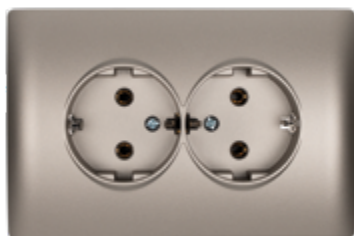
**GERMAN TYPE SOCKET WITH COVER**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11214C	German screw type socket with cover	16	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### GERMAN TYPE SOCKET DOUBLE

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11374	German screw type socket - double	16	10/100



### NETWORKING SOCKETS

Catalogue number	Type	Packing/Box (pcs)
11284	Computer socket RJ45 CAT5E	10/100
112846E	Computer socket RJ45 CAT6	10/100



Catalogue number	Type	Packing/Box (pcs)
11714	Computer socket RJ45 - double	10/100



### TELEPHONE & TV SOCKETS

Catalogue number	Type	Packing/Box (pcs)
11264	Phone socket RJ11	10/100



Catalogue number	Type	Packing/Box (pcs)
11744	Phone socket RJ11 - double	10/100



**5 YEARS TOTAL WARRANTY**  
 + 5 standard  
 0 extended





Catalogue number	Type	Packing/Box (pcs)
11734	Phone socket RJ11 + Computer socket RJ45	10/100



Catalogue number	Type	Packing/Box (pcs)
11254	TV socket	10/100

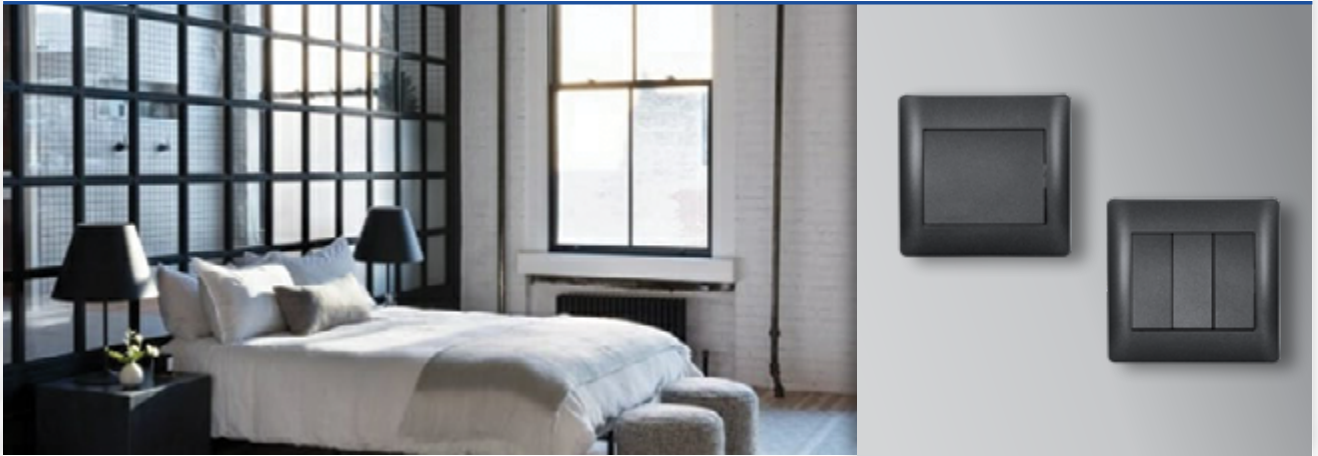


Catalogue number	Type	Packing/Box (pcs)
11684	TV socket+FM socket + SAT socket *Not compatible with another decorative frame.	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

SWITCHES PLUS PANEL | GRAPHITE METALLIC



**ONE BUTTON SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11015	1 button 1 way switch	10	10/100
11025	1 button 2 way switch	10	10/100
11345	1 button cross switch	10	10/100



**TWO BUTTONS SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11045	2 buttons 1 way switch	10	10/100
11055	2 buttons 2 way switch	10	10/100



**THREE BUTTONS SWITCH**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11725	3 buttons 1 way switch	10	10/100



**DOORBELL SWITCH**



Catalogue number	Type	Packing/Box (pcs)
11185	Doorbell switch	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### DOORBELL SWITCH WITH NAME CARD

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11185B	Doorbell switch with light name card	10	10/100



### PUSH LIGHT BUTTON

Catalogue number	Type	Packing/Box (pcs)
11185C	Type: Push light button	10/100



### CURTAIN CONTROL & INTERLOCK SHUTTER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11175A	Curtain control switch	10	10/100



### DIMMER SWITCH

Catalogue number	Type	Packing/Box (pcs)
11195	Dimmer switch	10/100



### SENSOR SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11415	Sensor switch	10	10/60



### KEY CARD POWER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11335	Key card power switch *Not compatible with another decorative frame.	10	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

SOCKETS PLUS PANEL | GRAPHITE METALLIC



**FRENCH TYPE SOCKET**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11215F	French type socket	16	10/100



**GERMAN TYPE SOCKET**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11215	German screw type socket	16	10/100



**GERMAN TYPE SOCKET WITH COVER**

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11215C	German screw type socket with cover	16	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### GERMAN TYPE SOCKET DOUBLE

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11375	German screw type socket - double	16	10/100



### NETWORKING SOCKETS



Catalogue number	Type	Packing/Box (pcs)
11285	Computer socket RJ45 CAT5E	10/100
112856E	Computer socket RJ45 CAT6	10/100



Catalogue number	Type	Packing/Box (pcs)
11715	Computer socket RJ45 - double	10/100



### TELEPHONE & TV SOCKETS



Catalogue number	Type	Packing/Box (pcs)
11265	Phone socket RJ11	10/100



Catalogue number	Type	Packing/Box (pcs)
11745	Phone socket RJ11 - double	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



Catalogue number	Type	Packing/Box (pcs)
11735	Phone socket RJ11 + Computer socket RJ45	10/100



Catalogue number	Type	Packing/Box (pcs)
11255	TV socket	10/100



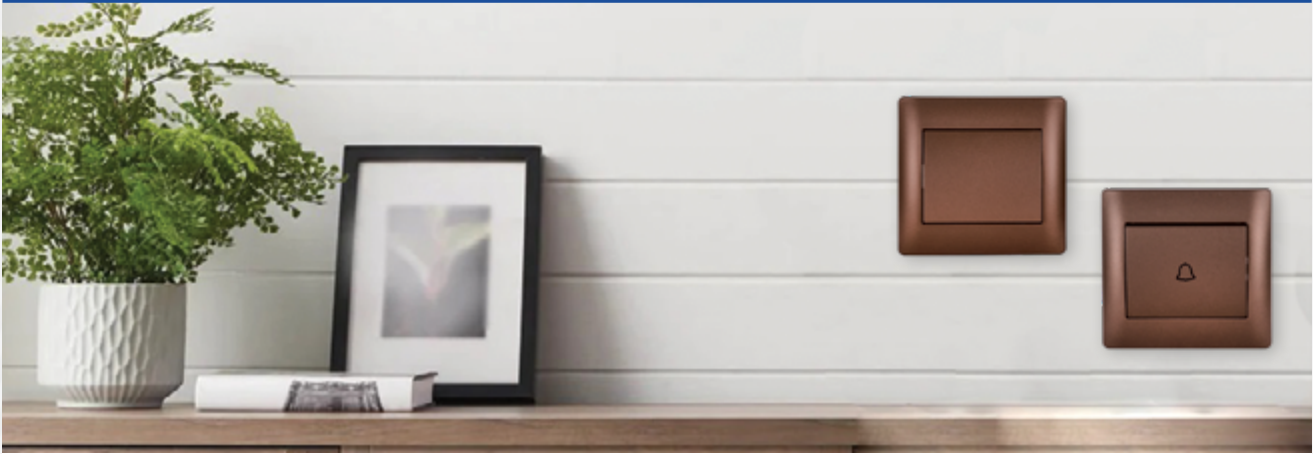
Catalogue number	Type	Packing/Box (pcs)
11685	TV socket+FM socket + SAT socket *Not compatible with another decorative frame.	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



SWITCHES PLUS PANEL | COFFEE METALLIC



**ONE BUTTON SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11016	1 button 1 way switch	10	10/100
11026	1 button 2 way switch	10	10/100
11346	1 button cross switch	10	10/100



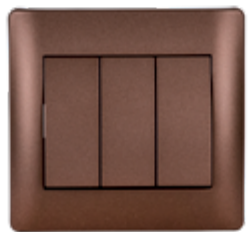
**TWO BUTTONS SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11046	2 buttons 1 way switch	10	10/100
11056	2 buttons 2 way switch	10	10/100



**THREE BUTTONS SWITCH**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11726	3 buttons 1 way switch	10	10/100



**DOORBELL SWITCH**



Catalogue number	Type	Packing/Box (pcs)
11186	Doorbell switch	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



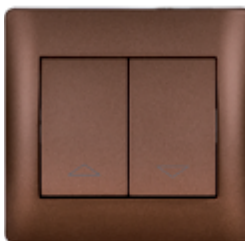
### DOORBELL SWITCH WITH NAME CARD

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11186B	Doorbell switch with light name card	10	10/100



### PUSH LIGHT BUTTON

Catalogue number	Type	Packing/Box (pcs)
11186C	Type: Push light button	10/100



### CURTAIN CONTROL & INTERLOCK SHUTTER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11176A	Curtain control switch	10	10/100



### DIMMER SWITCH

Catalogue number	Type	Packing/Box (pcs)
11196	Dimmer switch	10/100



### SENSOR SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11416	Sensor switch	10	10/60



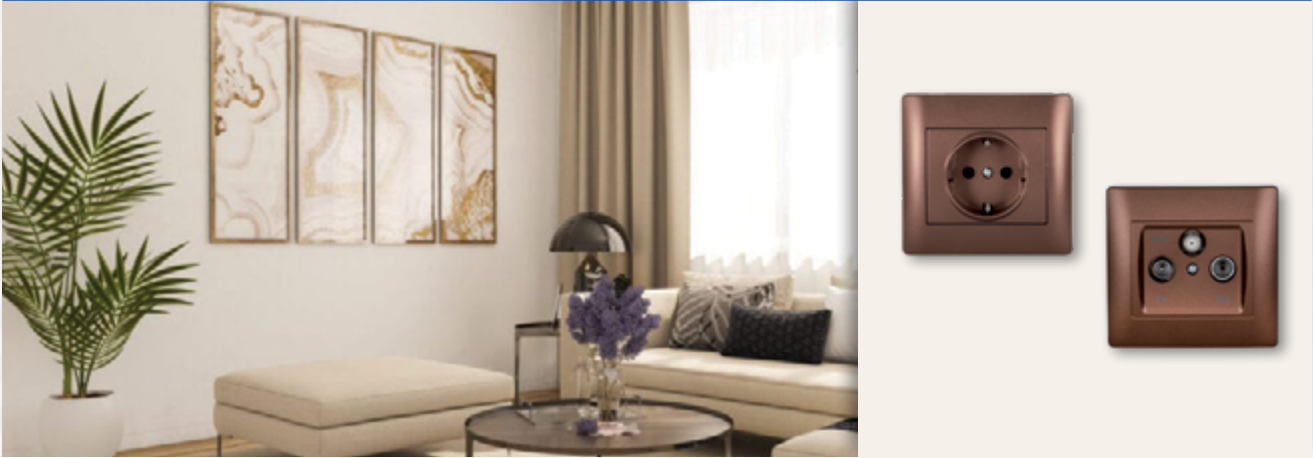
### KEY CARD POWER SWITCH

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11336	Key card power switch *Not compatible with another decorative frame.	10	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

SOCKETS PLUS PANEL | COFFEE METALLIC



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



**FRENCH TYPE SOCKET**

Catalogue number	Type	Rated current (A)	Packing/ Box (pcs)
11216F	French type socket	16	10/100



**GERMAN TYPE SOCKET**

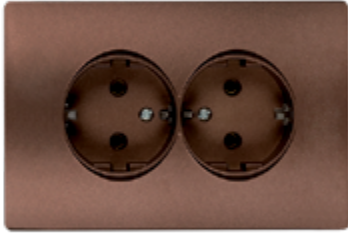
Catalogue number	Type	Rated current (A)	Packing/ Box (pcs)
11216	German screw type socket	16	10/100



**GERMAN TYPE SOCKET WITH COVER**

Catalogue number	Type	Rated current (A)	Packing/ Box (pcs)
11216C	German screw type socket IP44	16	10/100





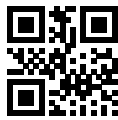
### GERMAN TYPE SOCKET DOUBLE

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
11376	German screw type socket - double	16	10/100



### NETWORKING SOCKETS

Catalogue number	Type	Packing/Box (pcs)
11286	Computer socket RJ45 CAT5E	10/100
11286E	Computer socket RJ45 CAT6	10/100



Catalogue number	Type	Packing/Box (pcs)
11716	Computer socket RJ45 - double	10/100



### TELEPHONE & TV SOCKETS

Catalogue number	Type	Packing/Box (pcs)
11266	Phone socket RJ11	10/100



Catalogue number	Type	Packing/Box (pcs)
11746	Phone socket RJ11 - double	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



Catalogue number	Type	Packing/Box (pcs)
11736	Phone socket RJ11 + Computer socket RJ45	10/100



Catalogue number	Type	Packing/Box (pcs)
11256	TV socket	10/100



Catalogue number	Type	Packing/Box (pcs)
11686	TV socket+FM socket + SAT socket *Not compatible with another decorative frame.	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

## DECORATIVE PANELS RHYME SERIES

## WHITE METALLIC PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
11551	Two gangs panel	82x158	20/200
11661	Three gangs panel	85x155	20/200
11361	Four gangs panel	85x225	20/200
11601	Five gangs panel	85x298	
11621	Six gangs panel	85x367	



Two gangs panel



Three gangs panel



Five gangs panel



Four gangs panel



Six gangs panel

## CHAMPAGNE METALLIC PANELS



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
11552	Two gangs panel	82x158	20/200
11662	Three gangs panel	85x155	20/200
11362	Four gangs panel	85x225	10/200
11602	Five gangs panel	85x298	
11622	Six gangs panel	85x367	



Two gangs panel



Three gangs panel



Five gangs panel



Four gangs panel



Six gangs panel



### GREY METALLIC



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
11554	Two gangs panel	82x158	20/200
11664	Three gangs panel	85x155	20/200
11364	Four gangs panel	85x225	20/200
11604	Five gangs panel	85x298	
11624	Six gangs panel	85x367	



Two gangs panel

Three gangs panel

Five gangs panel



Four gangs panel

Six gangs panel

### GRAPHITE METALLIC



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
11555	Two gangs panel	82x158	20/200
11665	Three gangs panel	85x155	20/200
11365	Four gangs panel	85x225	10/200
11605	Five gangs panel	85x298	
11625	Six gangs panel	85x367	



Two gangs panel

Three gangs panel

Five gangs panel



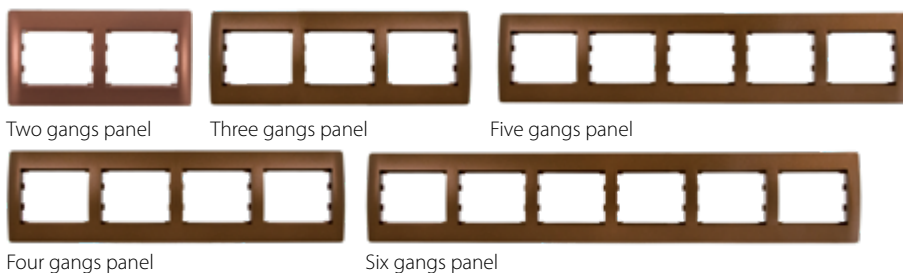
Four gangs panel

Six gangs panel

### COFFEE METALLIC



Catalogue number	Type	Size: HxL (mm)	Packing/Box (pcs)
11556	Two gangs panel	82x158	20/200
11666	Three gangs panel	85x155	20/200
11366	Four gangs panel	85x225	20/200
11606	Five gangs panel	85x298	
11626	Six gangs panel	85x367	



### ACCESSORIES

Catalogue number	Type	Colour
192215	Outlet safety cap	White
192214	Outlet safety cap	Brown



Catalogue number	Type	Colour
192121/WH	Wall protector	White
192121/TR	Wall protector	Transparent



# SWITCHES & SOCKETS

UK TYPE

## LONDON SERIES



# LONDON SERIES UK TYPE



1 button switch  
White



2 buttons switch  
White



3 buttons switch  
White



4 buttons switch  
White



Single pole switched  
socket/ White



Single pole switched double  
socket/ White



1 gang socket  
White



2 gang socket  
White



1 button switch  
Anthracite



2 buttons switch  
Anthracite



3 buttons switch  
Anthracite



4 buttons switch  
Anthracite



Single pole switched  
socket with USB/ Anthracite



Single pole switched double socket  
with 2xUSB/ Anthracite



1 gang socket  
Anthracite



2 gang socket  
Anthracite

SWITCHES PLUS PANEL | WHITE



SWITCHES & SOCKETS | LONDON

**ONE BUTTON SWITCHES**



Catalogue number	Type	Rated current (AX)	Material
190863/WH	1 button 1 way switch	10	Plastic PC
190864/WH	1 button 2 way switch	10	Plastic PC
190867/WH	1 button cross switch	10	Plastic PC



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



Catalogue number	Type	Rated current (AX)	Material
190872/WH	1 button double pole switch + neon	45	Plastic PC



**TWO BUTTONS SWITCHES**



Catalogue number	Type	Rated current (AX)	Material
190865/WH	2 buttons 1 way switch	10	Plastic PC
190866/WH	2 buttons 2 way switch	10	Plastic PC





## THREE BUTTONS SWITCH

Catalogue number	Type	Rated current (AX)	Material
190868/WH	3 buttons 1 way switch	10	Plastic PC



## FOUR BUTTONS SWITCH

Catalogue number	Type	Rated current (AX)	Material
190870/WH	4 buttons 1 way switch	10	Plastic PC



## CURTAIN CONTROL SWITCH

Catalogue number	Type	Rated current (AX)	Material
190875/WH	Curtain control switch	10	Plastic PC



## PUSH LIGHT BUTTON

Catalogue number	Type	Rated current (AX)	Material
190874/WH	Push light button	10	Plastic PC



## LIGHT DIMMER

Catalogue number	Type	Rated current (W)	Material
190876/WH	Light dimmer	600	Plastic PC



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



SOCKETS PLUS PANEL | WHITE



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



**SWITCHED BRITISH STANDARD SOCKET WITH NEON**

Catalogue number	Type	Rated current (AX)	Material
190879/WH	Single pole switched British standard socket with neon	13	Plastic PC
190886/WH	Double pole switched British standard socket with neon	13	Plastic PC



**SWITCHED BRITISH STANDARD SOCKET WITH NEON AND USB**

Catalogue number	Type	Rated current (AX)	Material
190880/WH	Single pole switched British standard socket with neon and USB	13	Plastic PC
190887/WH	Double pole switched British standard socket with neon and USB	13	Plastic PC



**SWITCHED BRITISH STANDARD DOUBLE SOCKET WITH NEON**

Catalogue number	Type	Rated current (AX)	Material
190881/WH	Single pole switched British standard double socket with neon	13	Plastic PC
190888/WH	Double pole switched British standard double socket with neon	13	Plastic PC





## SWITCHED BRITISH STANDARD DOUBLE SOCKET WITH NEON AND USB

Catalogue number	Type	Rated current (AX)	Material
190882/WH	Single pole switched British standard double socket with neon and USB	13	Plastic PC
190889/WH	Double pole switched British standard double socket with neon and USB	13	Plastic PC



## NETWORKING SOCKETS



Catalogue number	Type	Rated current (AX)	Outlet	Material
190884/WH	Outlet with fuse and LED indicator	13	13	Plastic PC



Catalogue number	Type	Material
190883/WH	1 gang RJ45 LAN socket	Plastic PC



Catalogue number	Type	Material
190885/WH	2 gangs RJ45 LAN socket	Plastic PC



**5 YEARS TOTAL WARRANTY**  
 + 5 standard  
 0 extended

SWITCHES PLUS PANEL | ANTHRACITE



ONE BUTTON SWITCHES



Catalogue number	Type	Rated current (AX)	Material
190863/A	1 button 1 way switch	10	Plastic PC
190864/A	1 button 2 way switch	10	Plastic PC
190867/A	1 button cross switch	10	Plastic PC



Catalogue number	Type	Rated current (AX)	Material
190872/A	1 button double pole switch + neon	45	Plastic PC



TWO BUTTONS SWITCHES



Catalogue number	Type	Rated current (AX)	Material
190865/A	2 buttons 1 way switch	10	Plastic PC
190866/A	2 buttons 2 way switch	10	Plastic PC



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



## THREE BUTTONS SWITCH

Catalogue number	Type	Rated current (AX)	Material
190868/A	3 buttons 1 way switch	10	Plastic PC



## FOUR BUTTONS SWITCH

Catalogue number	Type	Rated current (AX)	Material
190870/A	4 buttons 1 way switch	10	Plastic PC



## CURTAIN CONTROL SWITCH

Catalogue number	Type	Rated current (AX)	Material
190875/A	Curtain control switch	10	Plastic PC



## PUSH LIGHT BUTTON

Catalogue number	Type	Rated current (AX)	Material
190874/A	Push light button	10	Plastic PC



## LIGHT DIMMER

Catalogue number	Type	Rated current (W)	Material
190876/A	Light dimmer	600	Plastic PC



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

SOCKETS PLUS PANEL | ANTHRACITE



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



**SWITCHED BRITISH STANDARD SOCKET WITH NEON**

Catalogue number	Type	Rated current (AX)	Material
190879/A	Single pole switched British standard socket with neon	13	Plastic PC
190886/A	Double pole switched British standard socket with neon	13	Plastic PC



**SWITCHED BRITISH STANDARD SOCKET WITH NEON AND USB**

Catalogue number	Type	Rated current (AX)	Material
190880/A	Single pole switched British standard socket with neon and USB	13	Plastic PC
190887/A	Double pole switched British standard socket with neon and USB	13	Plastic PC



**SWITCHED BRITISH STANDARD DOUBLE SOCKET WITH NEON**

Catalogue number	Type	Rated current (AX)	Material
190881/A	Single pole switched British standard double socket with neon	13	Plastic PC
190888/A	Double pole switched British standard double socket with neon	13	Plastic PC





### SWITCHED BRITISH STANDARD DOUBLE SOCKET WITH NEON AND USB

Catalogue number	Type	Rated current (AX)	Material
190882/A	Single pole switched British standard double socket with neon and USB	13	Plastic PC
190889/A	Double pole switched British standard double socket with neon and USB	13	Plastic PC



### NETWORKING SOCKETS

Catalogue number	Type	Rated current (AX)	Outlet	Material
190884/A	Outlet with fuse and LED indicator	13	13	Plastic PC



Catalogue number	Type	Material
190883/A	1 gang RJ45 LAN socket	Plastic PC



Catalogue number	Type	Material
190885/A	2 gang RJ45 LAN socket	Plastic PC



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



# SWITCHES & SOCKETS

GERMAN TYPE

ANTIQUE SERIES



SWITCHES & SOCKETS | WHITE



**ONE BUTTON SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190195	1 button 1 way switch	10	10/100
190197	1 button 2 way switch	10	10/100
190204	Push light button	10	10/100



**TWO BUTTON SWITCHES**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190199	2 buttons 1 way switch	10	10/100



**GERMAN TYPE SOCKET WITH COVER, IP44**



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190206	Socket with cover, IP44	16	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

### GERMAN TYPE DOUBLE SOCKET



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190202	German type socket - double	16	10/100



### DISTRIBUTION BOX, IP44



Catalogue number	Type	Packing/Box (pcs)
190208	Distribution box 400V, IP44	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

SWITCHES & SOCKETS | BLACK



ONE BUTTON SWITCHES



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190196	1 button 1 way switch	10	10/100
190198	1 button 2 way switch	10	10/100
190205	Push light button	10	10/100



TWO BUTTON SWITCHES



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190201	2 buttons 1 way switch	10	10/100



GERMAN TYPE SOCKET WITH COVER, IP44



Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190207	Socket with cover, IP44	16	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



### GERMAN TYPE DOUBLE SOCKET

Catalogue number	Type	Rated current (A)	Packing/Box (pcs)
190203	German type socket - double	16	10/100



### DISTRIBUTION BOX, IP44

Catalogue number	Type	Packing/Box (pcs)
190209	Distribution box 400V, IP44	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended



# WATERPROOF SWITCHES & SOCKETS

GERMAN TYPE





WATERPROOF SWITCHES IP44/ IP65

**ONE BUTTON SWITCHES, IP44**



Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
191011	1 button 1 way switch, IP44	White	10	10/100
191021	1 button 2 way switch, IP44	White	10	10/100
191031	1 gang intermediate switch, IP44	White	10	10/100



**TWO BUTTONS SWITCHES, IP44**



Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
191041	2 buttons 1 way switch, IP44	White	10	10/100



**ONE BUTTON SWITCHES, IP65**



Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
191111	1 button 1 way switch, IP65	Grey	10	10/100
191121	1 button 2 way switch, IP65	Grey	10	10/100
191181	1 gang push button switch, IP65	Grey	10	10/100



**TWO BUTTONS SWITCHES, IP65**



Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
191141	1 button 1 way switch, IP65	Grey	10	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard 0 extended

## WATERPROOF SOCKETS IP44/ IP65



### GERMAN TYPE SOCKET WITH COVER, IP44

Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
191012	German type socket, IP44	White	16	10/100



### GERMAN TYPE SOCKET WITH COVER - DOUBLE, IP44

Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
191071	German type socket - double, IP44	White	16	10/100



### GERMAN TYPE SOCKET WITH COVER, IP65

Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
191112	German type socket, IP65	Grey	16	10/100



### GERMAN TYPE SOCKET WITH COVER - DOUBLE, IP65

Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
191171	German type socket - double, IP65	Grey	16	10/100



**5 YEARS TOTAL WARRANTY**  
 + 5 standard  
 0 extended

WATERPROOF SWITCHES & SOCKETS IP44



**GERMAN TYPE SOCKET WITH COVER, IP44**

Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
190213	German type socket, IP44	White	16	10/100



**GERMAN TYPE SOCKET WITH COVER, IP44**

Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
190215	German type socket, IP44	White	16	10/100



**GERMAN TYPE SOCKET WITH COVER - DOUBLE, IP44**

Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
190214	German type socket - double, IP44	White	16	10/100



**ONE BUTTON SWITCH WITH GERMAN TYPE SOCKET, IP44**

Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
190216	1 button 1 way switch with German type socket, IP44	White	16	10/100
190218	1 button 2 way switch with German type socket, IP44	White	16	10/100



**TWO BUTTONS SWITCH WITH GERMAN TYPE SOCKET, IP44**

Catalogue number	Type	Colour	Rated current (A)	Packing/Box (pcs)
190217	2 buttons 1 way switch with German type socket, IP44	White	16	10/100



**5 YEARS TOTAL WARRANTY**  
+ 5 standard  
0 extended

## WATER HEATER SWITCHES



### BOILER SWITCH WITH NEON

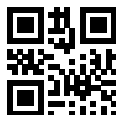
Catalogue number	Type	Voltage (V AC)	Rated current (A)	Colour	Size	Packing/Box (pcs)
26024	Boiler switch with neon * Not included decorative triple panel.	220	45	White	3 mod	1/60



### BOILER SWITCHES



Catalogue number	Type	Size	Rated current (A)	Packing/Box (pcs)
27024	Boiler switch with neon * Not included decorative triple panel.	3 mod	45A	10/60



**5 YEARS TOTAL WARRANTY**  
 + 5 standard  
 0 extended

WATER HEATER SWITCHES



**BOILER SWITCH FOR FLUSH MOUNTING**

Catalogue number	Type	Voltage (V AC)	Rated current (A)	Colour	Size LxHxW (mm)	Packing/Box (pcs)
M030137	Boiler switch for flush mounting	220	25	White	100x100x50	1



**BOILER SWITCH FOR SURFACE MOUNTING**

Catalogue number	Type	Voltage (V AC)	Rated current (A)	Colour	Size LxHxW (mm)	Packing/Box (pcs)
M030164	Boiler switch for surface mounting	220	25	White	100x100x50	1



**2 YEARS TOTAL WARRANTY**  
+ 2 standard  
0 extended