Pictograms of he table heads

- Notes, additions
- $I_{imptotal}$ 10/350µs — Total lightning impulse current
- U_p — Voltage protection level
- I_{cn} EN60698 — Rated operating short circuit breaking capacity limit of MCB
- $I\Delta_n$ (mA) — Rated residual current
- U_{up} — Upper voltage protection level
- ×P — Number of poles
- I_{sec} — Upper secondary voltage limit
- side protective contacts
- Network system
- Bridging time
- I_n — Rated current (A)
- I_{imp} 1P 10/350µs — Lightning impulse current
- U_c — Continuous operation voltage limit
- I_e — Nominal operational current
- P_{max} — Rated power
- U_{down} — Lower current protection level
- ×17.5 — Modules
- U_{sec} — Secondary voltage
- male protective contact
- Colour
- L E D — Number of LED's (pcs)
- U_n — Raged voltage (V)
- I_{max} 8/20µs — Total discharge current
- U_m — Nominal control voltage
- P_s — Self consumption
- C — Tripping characteristic
- Left side of the circuit breaker
- U_{pr} — Primary voltage
- Normal socket
- L — Length of pushbutton circuit
- IP.. — Protection degree
- I_n L-N 8/20µs — Rated operating current
- H, L, W — Dimensions (L × W × H)
- mm² — Terminal capacity
- NC, NO, CO — Contacts
- Socket with hinged cover
- Σ — Number of applicable pushbuttons

Pictograms of the technical data

- 230 V AC — Raged voltage (V)
- Volume
- Changeable insert
- Ft — Thermal fuse
- 63 A gG — Suggested backup fuse
- LCD — Meter with LCD display
- U_{imp} 6 kV — Rated impulse withstand voltage
- I_{cn} EN60698 10 kA — Rated operating short circuit breaking capacity limit of MCB
- 1 0 2 — Seal-leadable on 0-1-2 position
- 35×7.5 — Can be install on mounting rail
- 50/60 Hz — Rated frequency
- rel % 30-90 — Relativ humidity
- Block type
- Spark gap
- I^2t 3 — Energy efficiency class
- Protection class: II.
- U_i 690 V — Rated insulation voltage
- Lamp bodies to be installed on side walls
- OFF — Seal-leadable on OFF position
- The devices can be mounted on normal type connecting rails
- Lamp bodies to be installed on ceilings or side walls
- Ta -40..+105 °C — Ambient temperature
- AUX 1×NO — Auxiliary contacts
- V — Varistor
- E3 — Energy efficiency class
- AC — For AC systems
- ×10.000 — Electrical life
- P_m 0,8 W — Self consumption
- 8mm OFF — Distance between open contacts
- The devices can be mounted on normal or spade type connecting rails
- IP 54 — Protection degree
- low batt — Low battery display
- [mm²] 0,75-2,5 — Connectable cable
- R ≥ 0.5mΩ — Resistance
- A, AC — For AC and pulsed DC systems
- ×10.000 — Mechanical life
- [h] 20.000 — Lifespan
- V0 UL94 — Flammability according to UL94

F

Place of installation: Row house in block or building standing in group

Place of installation: Independent building, standing alone

Has the building an outer lightning protection system?

Yes

Internal lightning arrester must be used!

Do you want to use a combined arrester?

No

Type 1 lightning arrester

Further

Yes

No

No

Is there at least 15 m long cable/wire between distribution boards?

Type 1+2 combined lightning and surge arrester

Further

Termination of building to the supply network

Aerial cable

Insulated aerial bounded cable?

No

Yes

Ground cable

Yes

Decoupling coil

Type 2 surge arrester

Further

Is there at least 15 m long cable/wire between distribution boards?

No

Decoupling coil

No

Is there at least 15 m long cable/wire between distribution boards?

Yes

Yes

Type 3 surge arrester

Guide to find the suitable overvoltage protection

The process of planning the suitable internal lightning and overvoltage protection of buildings are very complex so we are suggest to contact with a professional to find the best solution!

For easier planning we have prepared a short guide in flow chart form where you can find the needed elements to protect your low voltage devices on the place of installation.

The flow chart must start from the proper box according to the type of the place of installation and the arrows must follow until the type 3 arresters. For the minimal protection at least the type 2 and type 3 arresters must installed. The common place of type 1 and type 1+2 arresters is the main distribution board of building; we are suggest to install the type2 and type 3 arresters to the side distribution boards. If the length of supply cable/wire between type 3 arrester and the protected device is longer than 30 m the type 3 arrester have to repeat at the connection of device. For protection of data network we recommend to use our extension cords with data network protection option.

Further detailed information see on ANNEX!

Type 1 lightning arrester

F/4

Surge arresters for DC

M/6

Type 1+2 combined lightning and surge arrester

F/4

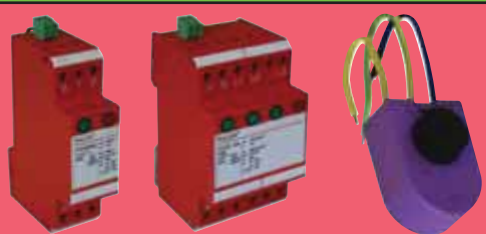
Decoupling coil

F/8

Type 2 surge arrester

F/5 - F/6

Type 3 surge arrester

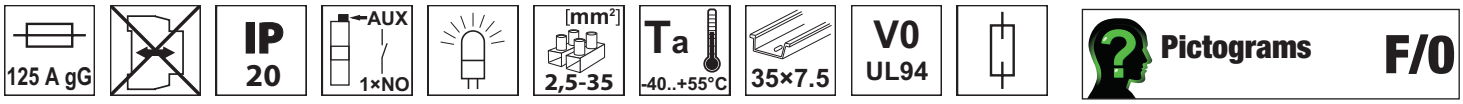


F/6 - F/7

Protected multi-plug extension cords

G/6 - G/7

Type 1 lightning arresters



TRACON	×P	I_{imp} 1P 10/350µs	$I_{imptotal}$ 10/350µs	U_n	U_p	U_c	W (mm)	
TTV1-50-1P	1P	25 kA	50 kA	230 V, 50 Hz; 1~	0,9/1,5 kV	260 V, AC	18	TN, TT
TTV1-50-2P	2P	25 kA	50 kA				36	TN, IT
TTV1-50-3P	3P	25 kA	50 kA	3×230/400 V, 50 Hz; 3~			54	TN, TT
TTV1-50-3P+N/PE	3P+N/PE	25 kA	50 kA				72	TN, TT
TTV1-50-4P	4P	25 kA	50 kA				72	TN, IT

These devices are applicable to arrest high energy current impulses (10/350µs waveform) which can appear in one- or three-phase overhead lines by lightning. These arresters have compact (block type) mounting form. The type 1 lightning arresters must be installed into the main distribution box of the building right after the first main current limitation device and before the power meter.

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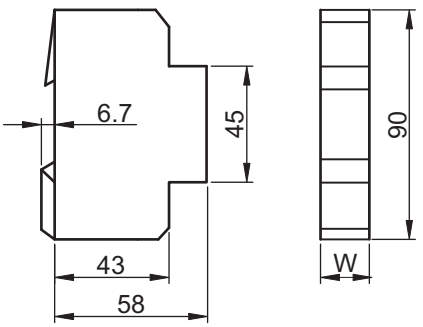
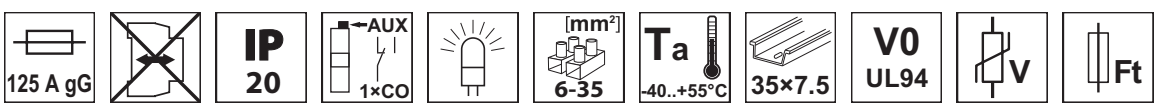
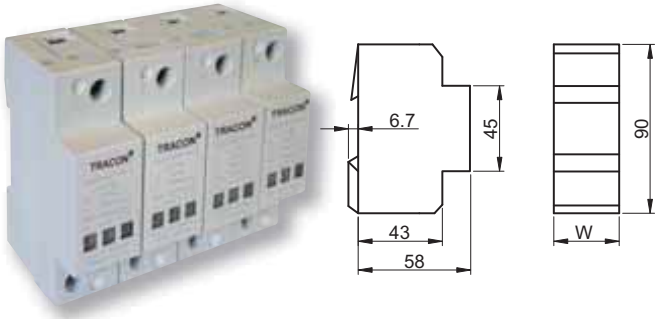


The selection guide see on page F/2-3, the connection diagrams on page F/8.

Combined (type 1 + 2) lightning and surge arresters



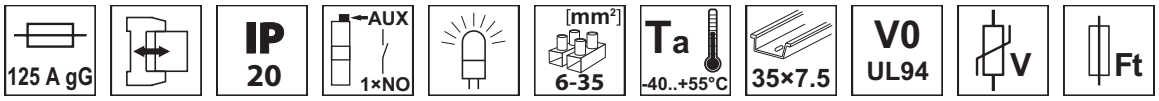
TRACON	×P	I_{imp} 1P 10/350µs	I_{max} 8/20µs	U_n	U_p	U_c	W (mm)	
TTV1+2-100-1P	1P	8 kA	100 kA	230/400 V, 50 Hz	2,2 kV	385 V AC, 500 V DC	27	TN, TT, IT
TTV1+2-100-2P	2P	8 kA	100 kA				54	TN, TT, IT
TTV1+2-100-3P	3P	8 kA	100 kA				81	TN, TT, IT
TTV1+2-100-4P	4P	8 kA	100 kA				108	TN, TT, IT
TTV1+2-100-3P+N/PE	3P+N/PE	8 kA	100 kA				108	TN, TT, IT
TTV1+2-80-1P	1	8 kA	80 kA		2,2 kV	385 V AC, 500 V DC	27	TN, TT, IT
TTV1+2-80-2P	2	8 kA	80 kA				54	TN, TT, IT
TTV1+2-80-3P	3	8 kA	80 kA				81	TN, TT, IT
TTV1+2-80-4P	4	8 kA	80 kA				108	TN, TT, IT
TTV1+2-80-3P+N/PE	3P+N/PE	8 kA	80 kA				108	TN, TT, IT



The combined devices are applicable to arrest high energy current impulses (10/350µs waveform) which can appear in one- or three-phase overhead lines by lightning and/or discharge overvoltage occurred by switch-type (8/20µs wave-form) over-currents. These arresters have compact (block type) mounting form. The type 1 + 2 lightning arresters must be installed into the main distribution box of the building right after the first main current limitation device and before the power meter.
Attention! The discharge capability of combined devices cannot reach the discharge capability of single devices!
These devices can also be used in properly planned photovoltaic (DC) systems as well.

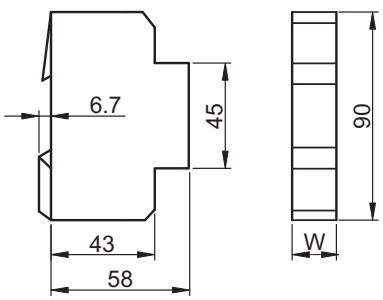
The selection guide see on page F/2-3, the connection diagrams on page F/8.

Type 2 surge arresters



TRACON	×P	I_n L-N 8/20µs	I_{max} 8/20µs	U_n	U_p	U_c	W (mm)	
TTV2-60-1P	1P	30 kA	60 kA	230 V, 3×230/400 V	2,0 kV	385 V AC	18	TN, TT, IT
TTV2-60-2P	2P	30 kA	60 kA				36	TN, TT, IT
TTV2-60-3P	3P	30 kA	60 kA				54	TN, TT, IT
TTV2-60-3P+N/PE	3P+N/PE	30 kA	60 kA				72	TN, TT, IT
TTV2-60-4P	4P	30 kA	60 kA				72	TN, TT, IT
TTV2-40-1P	1P	20 kA	40 kA		1,8 kV		18	TN, TT, IT
TTV2-40-2P	2P	20 kA	40 kA				36	TN, TT, IT
TTV2-40-3P	3P	20 kA	40 kA				54	TN, TT, IT
TTV2-40-3P+N/PE	3P+N/PE	20 kA	40 kA				72	TN, TT, IT
TTV2-40-4P	4P	20 kA	40 kA				72	TN, TT, IT
TTV2-30-1P+N/PE*	1P+N/PE	15 kA	30 kA		1,5 kV	320 V AC	18	TN, TT, IT
TTV2-30-3P+N-PE**	3P+N-PE	15 kA	30 kA				36	TN, TT, IT
TTV2-20-1P	1P	10 kA	20 kA		1,5 kV	385 V AC	18	TN, TT, IT
TTV2-20-2P	2P	10 kA	20 kA				36	TN, TT, IT
TTV2-20-3P	3P	10 kA	20 kA				54	TN, TT, IT
TTV2-20-3P+N/PE	3P+N/PE	10 kA	20 kA				72	TN, TT, IT
TTV2-20-4P	4P	10 kA	20 kA				72	TN, TT, IT

* 2 pcs arrester in one module width for one phase TNC-S and TNS type networks
** 4 pcs arrester in two modules width for three phase TNC-S and TNS type networks



The type 2 surge arresters are applicable to discharge overvoltage caused by switch-type (8/20µs wave-form) over currents.
The type 2 arresters must be installed into sub-distribution boards (at condominium into distribution boards of flats) after main distribution boards containing type 1 arresters. For proper operation at least 10- 15 m cable or wire must be placed between type 1 and type 2 arresters. Otherwise a decoupling coil has to be installed between the two devices. These protectors are modular types with changeable insert; the auxiliary contact is built-in into the housing of the device.

Inserts for type 2 arresters

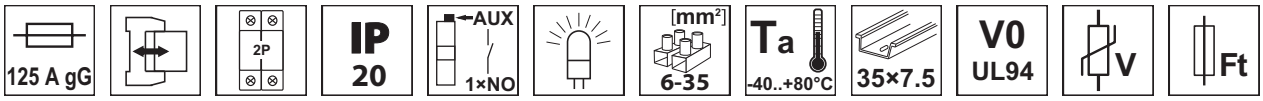
TRACON	I_n L-N 8/20µs	I_{max} 8/20µs	W (mm)
TTV2-60-M	30 kA	60 kA	18
TTV2-40-M	20 kA	40 kA	18
TTV2-30-A-M*	15 kA	30 kA	18
TTV2-30-B-M**	15 kA	30 kA	18
TTV2-20-M	10 kA	20 kA	18
TTV2-40-NPE-M	20 kA	40 kA	18

*2P insert for **TTV2-30-3P+N/PE** arrester
1P+N/PE insert for **TTV2-30-1P+N/PE and **TTV2-30-3P+N/PE** arresters.

Arrester bases

TRACON	×P	W (mm)
TTV2-BASE-1P	1P	18
TTV2-BASE-2P	2P	36
TTV2-BASE-3P	3P	54
TTV2-BASE-4P	4P	72

Type 2 surge arresters for DC (PV) networks



TRACON	×P	U_n	U_p	U_c	I_n L-N 8/20µs	I_{max} 8/20µs
TTV2-40-DC-600	2 P	600 V DC	3 kV	800 V DC	20 kA	40 kA
TTV2-40-DC-1000	2 P	1000 V DC	4 kV	1200 V DC	20 kA	40 kA

* codes of changeable inserts: **TTV2-40-DC-600-M** and **TTV2-40-DC-1000-M**

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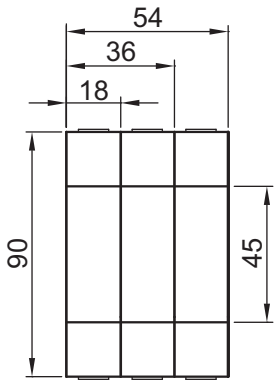
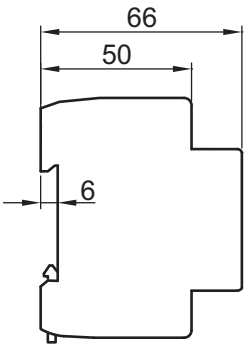
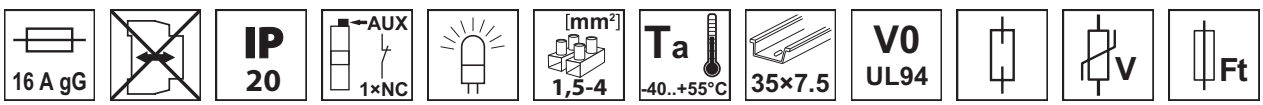




The type 2 surge arresters are applicable to discharge overvoltage occurred by switch-type (**8/20 µs** wave-form) over-currents.
The DC arresters were developed especially for direct current networks of photovoltaic (PV) systems.
These protectors are modular types with changeable insert; the auxiliary contact is mounted to the base of device.

Type 3 surge arresters (fine protection), modular (block) type



TRACON	×P	I_n L-N 8/20µs	I_{max} 8/20µs	U_n	U_p	U_c	W (mm)	
TTV3-10-1P+N/PE	1P+N/PE	5 kA	10 kA	230 V, 50 Hz; 1~	1,5 kV	385/440 V	36	TN, TT
TTV3-10-3P+N/PE	3P+N/PE	5 kA	10 kA	3×230/400 V, 50 Hz; 3~			72	TN, IT

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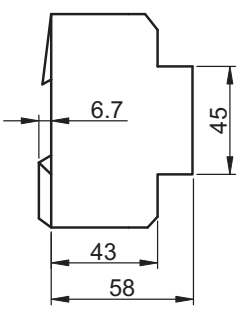
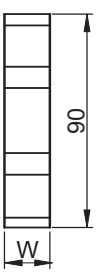
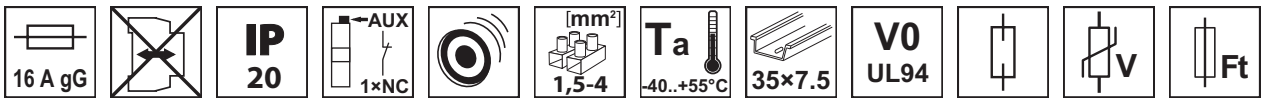




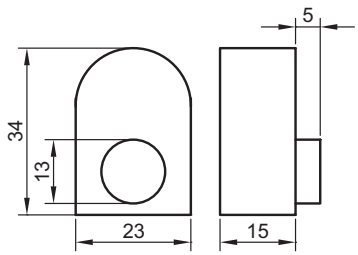
The arresters of type 3 must be installed as close to the protected device as possible. These arresters are secondary protection devices and applicable to protection against discharge overvoltage occurred by switch-type (8/20µs wave-form) over-currents. These arresters have compact (block type) construction.
Attention!
The type 3 devices alone cannot provide complete protection of electric devices against overvoltage!

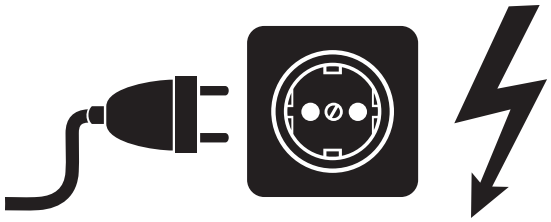
These types of arresters have to be connected in series or parallel with the protected device and can be mounted into distribution boards for one- and three-phase networks. In case of serial connection the device to be protected has to be installed after the short circuit protection device.

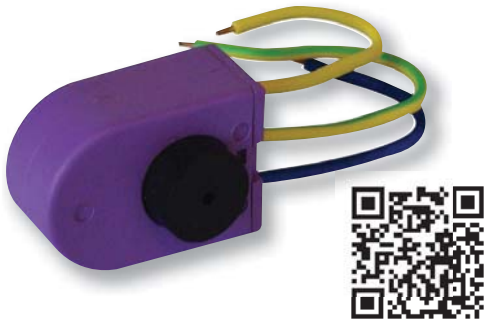
Type 3 surge arresters (fine protection), for wall box mount



TRACON	×P	I_n L-N 8/20µs	I_{max} 8/20µs	U_n	U_p	U_c	
TTV3-5-1P+N-PE	1P+N-PE	2,5 kA	5 kA	230 V, 50 Hz; 1~	1,25 kV	255 V AC	TN, IT



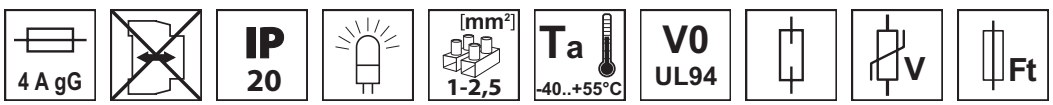




The arresters of type 3 must be installed as close to the protected device as possible. These arresters are secondary protection devices and applicable to protection against discharge overvoltage occurred by switch-type (8/20µs wave-form) over-currents. These arresters have compact (block type) construction.
Attention!
The type 3 devices alone cannot provide complete protection of electric devices against overvoltage!

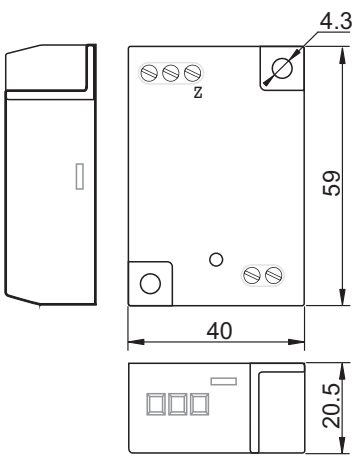
This arrester can be built into electronic actuating devices, household devices, channels or deep wall boxes with parallel connection.
The protection unit is integrated into a plastic case; in case of arresting an acoustic signal give message to the user.

Type 2+3 surge arresters (for LED driver)



TRACON	I_n L-N 8/20µs	I_{max} 8/20µs	U_n	U_p	U_c	
TTVL2+3-10	5 kA	10 kA	230 V, 50 Hz	1,5 kV	320 V AC	TN, IT

The TTVL2+3-10 is a compact typ 2+3 SPD for LED Drivers. The SPD protects any 120-277 VAC single phase driver from the effects of lightning and switching transients.
Failure is indicated by illuminated lights on unit.



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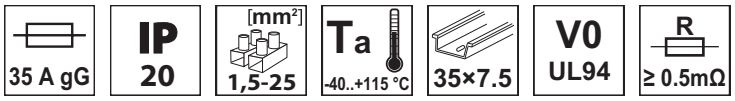
- Be updated

Our assortment is expanding quickly and continuously!
Our catalogue shows the assortment of March 2016.
Be up to date by our web page!

Decoupling coil



TRACON	×17.5	In	Un	L
TTV-CSF35	2	35 A	500 V AC/DC	18 µH ± 10 %

For well coordinated operation between the type 1 lightning arrester and the type 2 surge arrester, in complex lightning and overvoltage protection systems sufficient value of cable/wire impedance must be provided to enable voltage drop.
This condition is satisfied if the length of cable/wire is at least 10 – 15 meters. If this condition cannot be satisfied, an inductive reactance (decoupling coil) must be used.

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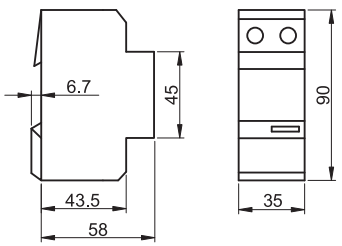
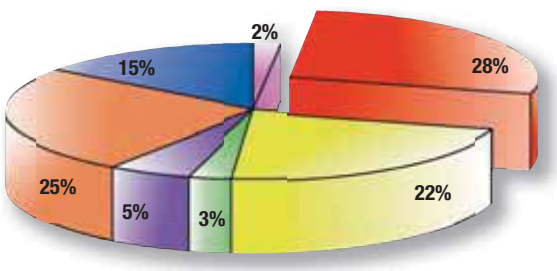
EN 61558



Distribution of insurance damages

- Storm damages (2 %)
- Lightning and overvoltage (28 %)
- Robbing, vandalism (22 %)
- Fire damages (3 %)
- Flooding, drainage (5 %)
- Human omission (25 %)
- Other (15 %)



TRACON APPLICATION

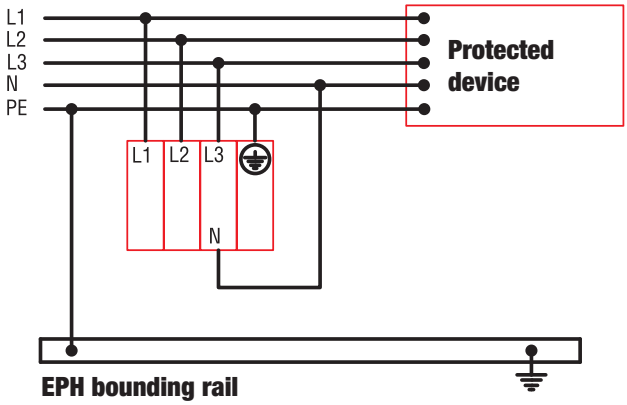
ANDROID APP ON Google play

Available on the App Store

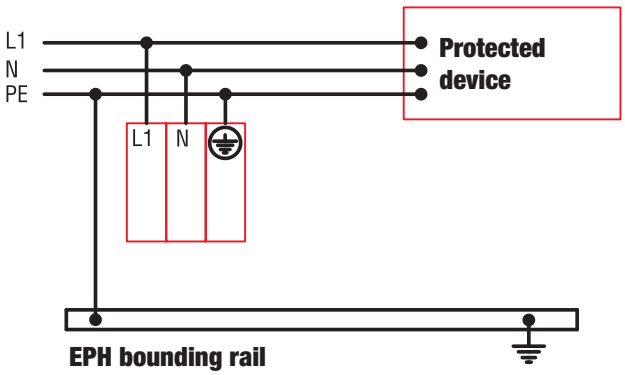
Examples of connection of surge protection devices

The necessary number of surge protection devices – to be installed – is defined by the number of conductors independent from PE. This way by looking through the basic wiring diagrams of the three-phase energy supplying network you will see that for TN-C network 3 pcs, for TN-S, TT and IT network 4 pcs of one-pole surge protection devices or a corresponding number of multi-pole surge protection devices should be installed at every protection point.

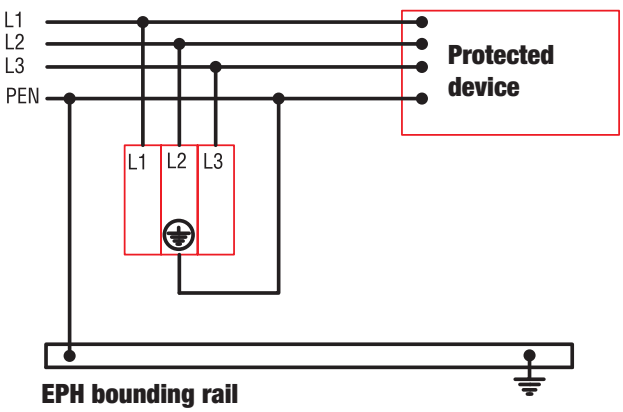
TN-S Three phases + N/PE link



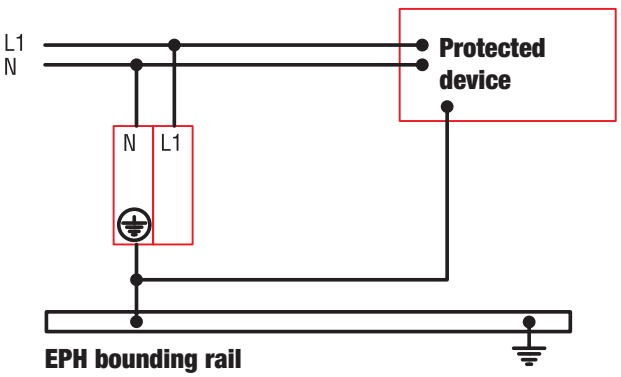
TT- One phase + N/PE link



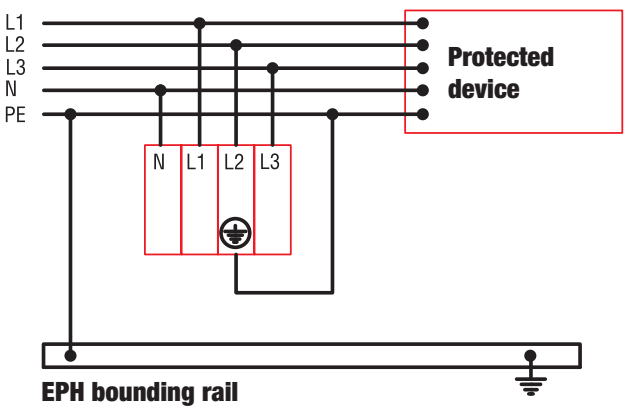
TN-C Three phases link



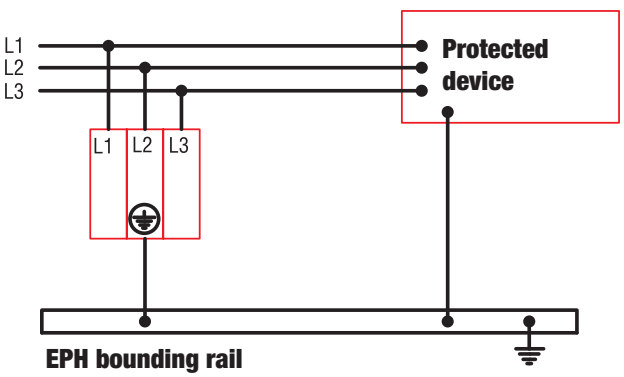
TT- One phase link



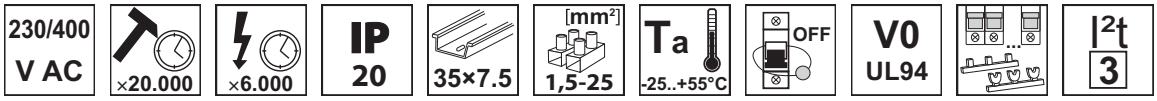
TN-S Three phases + neutral link



IT- Three phases link



Circuit breakers

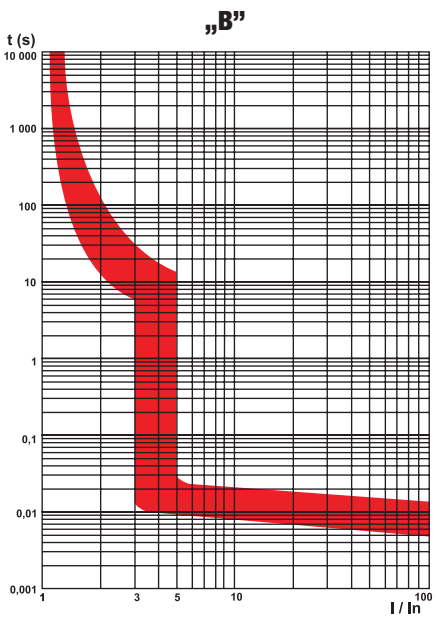


TRACON		×P	In	Icn EN60698
DPN	C	1+N	6 – 32 A	4,5 kA
MB	B, C	1, 2, 3	6 – 63 A	4,5 kA
TDZ	B, C, D	1, 2, 3, 4	1 – 63 A	6 kA
TDA	B, C	1, 2, 3, 4	1 – 63 A	10 kA
KMH	C	1, 2, 3, 4	63 – 125 A	6 kA

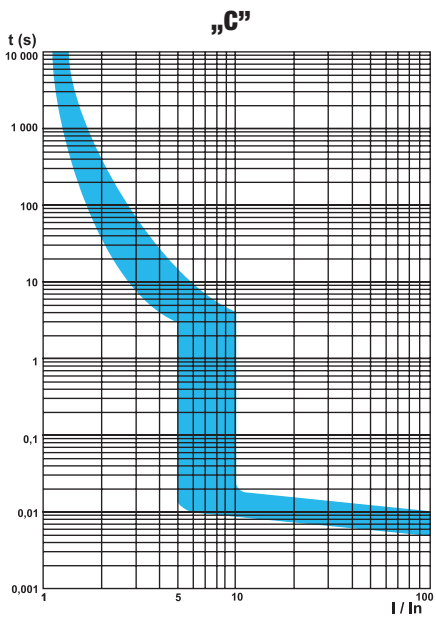
Circuit breakers are meant for overload protection and damage prevention in electrical networks and for the protection against environmental damage and accidents. A bimetal (in case of overload) or electromagnetic (in case of short circuit) breaker unit is used to interrupt the circuit, interruption by hand being an alternative. All poles operate together, simultaneously.

Trip characteristics

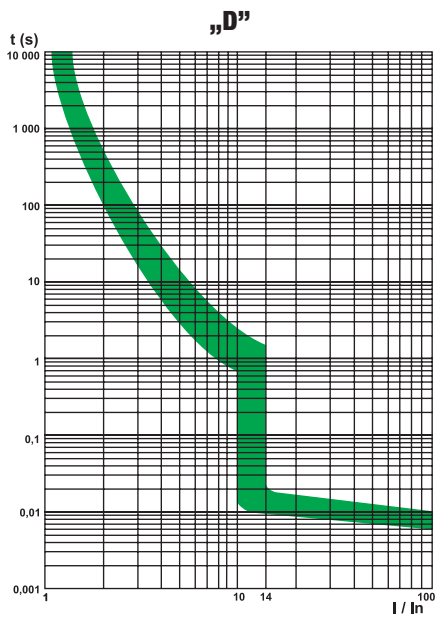
The EN 60898 standard determines the operating parameters, the requirements of performance and structure, and the order of tests. All three type of characteristics (B, C, D) of circuit breakers are operating on the same way (<2,55×I_n) on the overload range. The different is seen on the overload range up to 3×I_n , where the B type is tripping at 3…5×I_n , the C type is tripping at 5…10×I_n , the D type is tripping at 10…15×I_n fail current.



For general use – for protection of consumers with small starting current, circuits with incandescent lamps, for the protection of wires.



For general use – for protection of household electrical machines, equipments, small shock current motors.



For protection of motors with powerful starting current, transformers and other inductive type users.

Data in relation to the outer temperature

The maximum loading current of the circuit breaker decreases with the rise
in the outer temperature. E.g. If more circuit breakers are installed side by side into the same distribution box, then the rise in temperature, inside the box has to be considered when choosing the appropriate circuit breakers.
E.g. while the loading current of a 16A rated current circuit breaker (I=16A) can be 17,9A on 20 °C ,then this value on 40 °C is only the same 16A, while on 60 °C it can only be 13,9A.

The operating **reference temperature of the circuit breakers is 40 °C.**

Allowed maximum loading current (A)

I_n (A)	20 °C	30 °C	40 °C	50 °C	60 °C
2	2.18	2.08	2	1 .9	1.8
4	4.52	4.24	4	3.72	3.44
6	6.48	6.24	6	5.76	5.46
10	11.4	10.7	10	9.2	8.4
16	17.9	16.9	16	15	13.9
20	22.2	21.2	20	18.8	17.6
25	27.7	26.5	25	23.5	21.7
32	35.2	33.6	32	30.4	28.4
40	44.4	42.4	40	37.5	34.8
50	56	53	50	46.5	43
63	71.8	67.4	63	57.9	52.9

Accessories

TRACON	Denomination	DPN	MB	TDZ	TDA	KMH
EDS-❑, EDFK-❑	Distribution boxes	✓	✓	✓	✓	✓
TFSS-❑	Normal connecting rails	✓	✓	✓	✓	–
TFSS-❑V	Spade type connecting rails	–	✓	✓	–	–
TFSS-1CS	Connecting clip with screw	✓	✓	✓	✓	–
35/7,5❑SIN	Mounting rails according to EN 50022	✓	✓	✓	✓	✓
TDT, TDT-2	Protective cover	✓	✓	✓	–	–

Flush mounted distribution boxes

H/2

Surface mounted distribution boxes

H/2

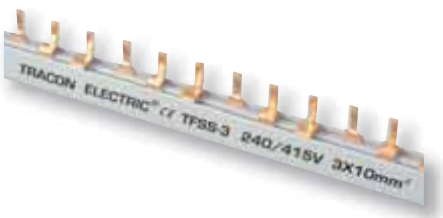
DC type MCB for direct current electric networks

M/7

Enclosure for moulded devices

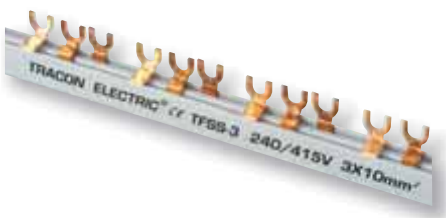
H/5

Normal connecting rails



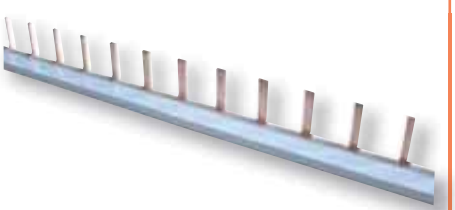
N/10

Spade type connecting rails



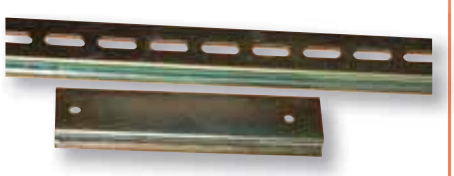
N/10

Connectig rails for high current devices



N/10

Mounting rails according to EN 50022



N/11

Connecting clip with screw

N/10

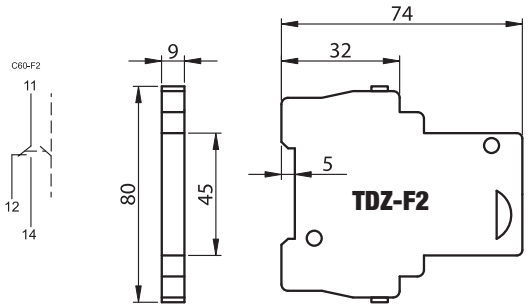
Auxiliary units

230/400 V AC | ×5.000 | ×6.000 | IP 20 | 35×7.5 | [mm²] 1,5-25 | Ta -25..+55°C | Ui 500 V | V0 UL94

Pictograms F/0

TRACON		In (A) (415 V AC)	In (A) (240 V AC)	In (A) (125 V DC)	In (A) (48 V DC)	In (A) (24 V DC)
TDZ-F2	TDZ	3 A	6 A	1 A	2 A	4 A

This contact shows the ON/OFF state of the circuit breaker's contact.

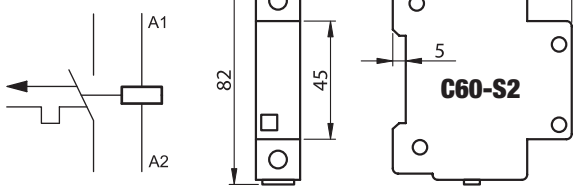


Working current (shunt) release

230/400 V AC | ×4.000 | ×6.000 | IP 20 | 35×7.5 | [mm²] 1,5-25 | Ta -25..+55°C | Ui 500 V | V0 UL94

TRACON		Us
C60-S2	TDZ	110-415 V AC/ 110-220 V DC

It switches off the connected circuit breaker by impulse operating voltage, thus being suitable for remote control. In case of release the reset button jumps out and the circuit breaker can be switched on again only after pushing this button in. Attention: the operating coil is allowed to be under voltage for 10 sec
maximum!

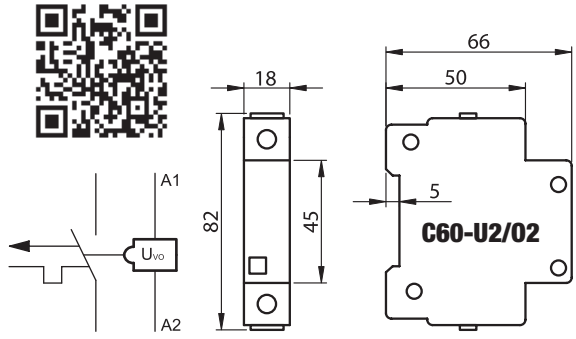


Under/over voltage release

230/400 V AC | ×4.000 | ×6.000 | IP 20 | 35×7.5 | [mm²] 1,5-25 | Ta -25..+55°C | Ui 500 V | V0 UL94

TRACON		Uup	Udown
C60-U2/02	TDZ	280 V ± 5 %	170 V ± 5 %

The release switches off the circuit breaker if the supply voltage is beyond rated operating range, protecting the attached device from harmful impacts of voltage variation. The circuit breaker is able to switch on only when the voltage on the contacts of the release gets back into the operating range
(170 V – 280 V). In case of release the reset button jumps out and the circuit breaker can be switched on again only after pushing this button in.

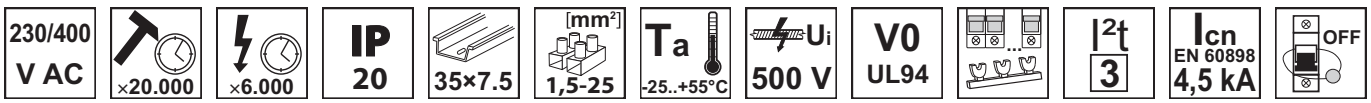


Lockable latch for modular protecting devices

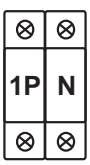
Using this latch the modular protecting devices can be locked with padlock on “OFF” position. The latch is applicable for devices with 8 – 10 mm actuator lever cutting and two 1 - 1,5 mm hole needed on the top of lever arch to fix the latch. The shackle diameter of used padlock can be up to 8 mm. Using the latch in „ON” position is forbidden!

TRACON	
MDL	MB, RB, TDZ,TDA, KVKM, KVK, KVKVE, TFG, TFIG, TFV, TIK, SVK

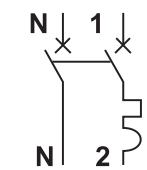
DPN (1+N poles) type circuit breakers

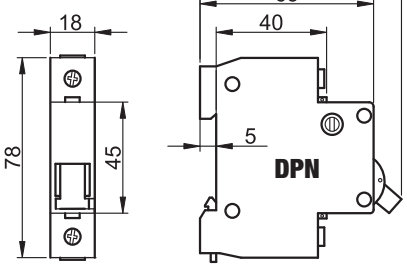


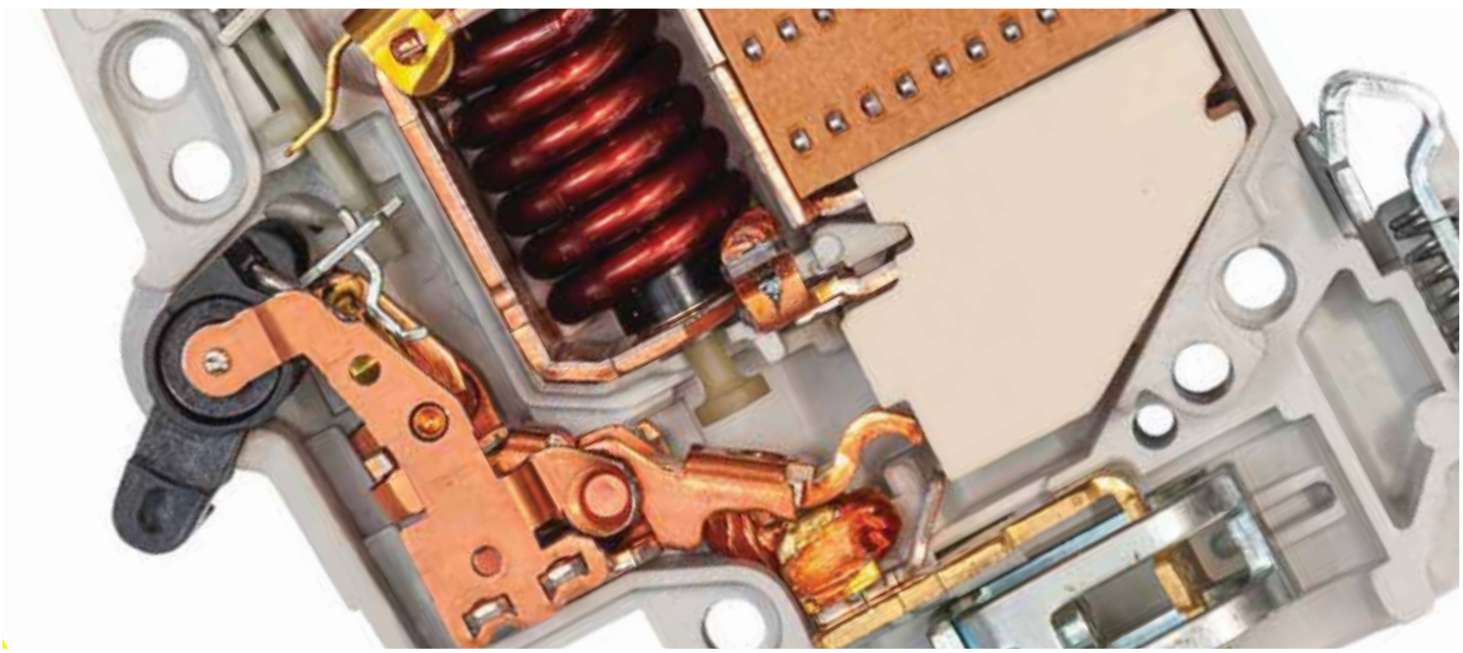
TRACON	I_n (A)
DPN-C-6	6
DPN-C-10	10
DPN-C-13	13
DPN-C-16	16
DPN-C-20	20
DPN-C-25	25
DPN-C-32	32



* Devices with two poles, have one protected (phase) and one switched neutral (N) pole.







MB Circuit breakers

230/400 V AC | ×20.000 | ×6.000 | IP 20 | 35×7.5 | [mm²] 1,5-25 | Ta -25..+55°C | Ui 500 V | V0 UL94 | I²t 3 | Icn EN 60898 4,5 kA | OFF

TRACON B	TRACON C	In (A)
MB-1B-6	MB-1C-6	6
MB-1B-10	MB-1C-10	10
MB-1B-13	MB-1C-13	13
MB-1B-16	MB-1C-16	16
MB-1B-20	MB-1C-20	20
MB-1B-25	MB-1C-25	25
MB-1B-32	MB-1C-32	32
MB-1B-40	MB-1C-40	40
MB-1B-50	MB-1C-50	50
MB-1B-63	MB-1C-63	63

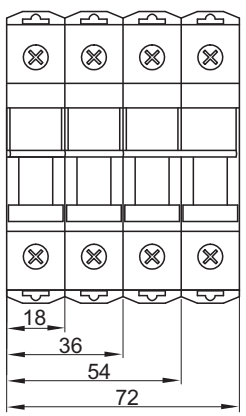
1P

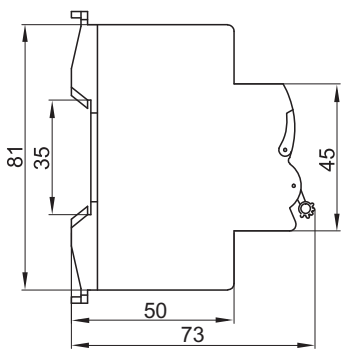
TRACON B	TRACON C	In (A)
MB-2B-6	MB-2C-6	6
MB-2B-10	MB-2C-10	10
MB-2B-13	MB-2C-13	13
MB-2B-16	MB-2C-16	16
MB-2B-20	MB-2C-20	20
MB-2B-25	MB-2C-25	25
MB-2B-32	MB-2C-32	32
MB-2B-40	MB-2C-40	40
MB-2B-50	MB-2C-50	50
MB-2B-63	MB-2C-63	63

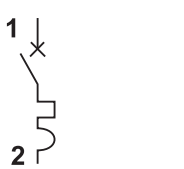
2P

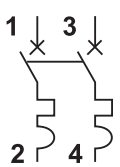
TRACON B	TRACON C	In (A)
MB-3B-6	MB-3C-6	6
MB-3B-10	MB-3C-10	10
MB-3B-13	MB-3C-13	13
MB-3B-16	MB-3C-16	16
MB-3B-20	MB-3C-20	20
MB-3B-25	MB-3C-25	25
MB-3B-32	MB-3C-32	32
MB-3B-40	MB-3C-40	40
MB-3B-50	MB-3C-50	50
MB-3B-63	MB-3C-63	63

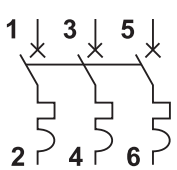
3P









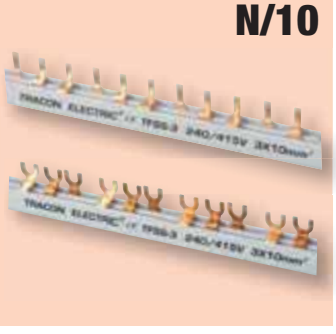


RELEVANT STANDARD
EN 60898

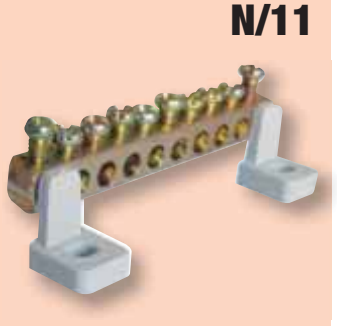
H/2

H/5

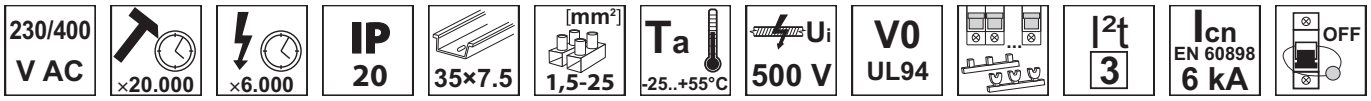
N/10



N/11

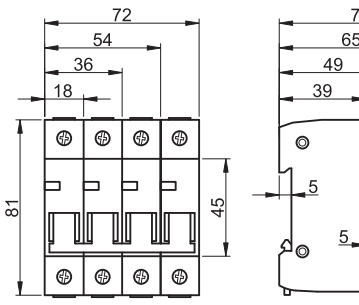


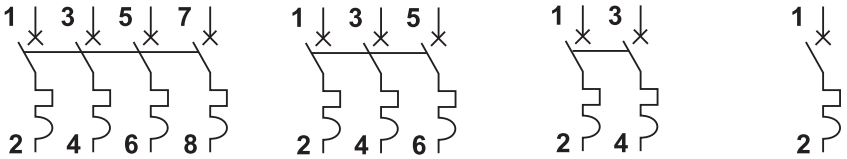
TDZ Circuit breakers



TRACON	B	C	D	In (A)
1P	TDZ-1B-1	TDZ-1C-1	TDZ-1D-1	1
	TDZ-1B-2	TDZ-1C-2	TDZ-1D-2	2
	TDZ-1B-4	TDZ-1C-4	TDZ-1D-4	4
	TDZ-1B-6	TDZ-1C-6	TDZ-1D-6	6
	TDZ-1B-10	TDZ-1C-10	TDZ-1D-10	10
	TDZ-1B-13	TDZ-1C-13	TDZ-1D-13	13
	TDZ-1B-16	TDZ-1C-16	TDZ-1D-16	16
	TDZ-1B-20	TDZ-1C-20	TDZ-1D-20	20
	TDZ-1B-25	TDZ-1C-25	TDZ-1D-25	25
	TDZ-1B-32	TDZ-1C-32	TDZ-1D-32	32
	TDZ-1B-40	TDZ-1C-40	TDZ-1D-40	40
	TDZ-1B-50	TDZ-1C-50	TDZ-1D-50	50
	TDZ-1B-63	TDZ-1C-63	TDZ-1D-63	63
2P	TDZ-2B-1	TDZ-2C-1	TDZ-2D-1	1
	TDZ-2B-2	TDZ-2C-2	TDZ-2D-2	2
	TDZ-2B-4	TDZ-2C-4	TDZ-2D-4	4
	TDZ-2B-6	TDZ-2C-6	TDZ-2D-6	6
	TDZ-2B-10	TDZ-2C-10	TDZ-2D-10	10
	TDZ-2B-13	TDZ-2C-13	TDZ-2D-13	13
	TDZ-2B-16	TDZ-2C-16	TDZ-2D-16	16
	TDZ-2B-20	TDZ-2C-20	TDZ-2D-20	20
	TDZ-2B-25	TDZ-2C-25	TDZ-2D-25	25
	TDZ-2B-32	TDZ-2C-32	TDZ-2D-32	32
	TDZ-2B-40	TDZ-2C-40	TDZ-2D-40	40
	TDZ-2B-50	TDZ-2C-50	TDZ-2D-50	50
	TDZ-2B-63	TDZ-2C-63	TDZ-2D-63	63

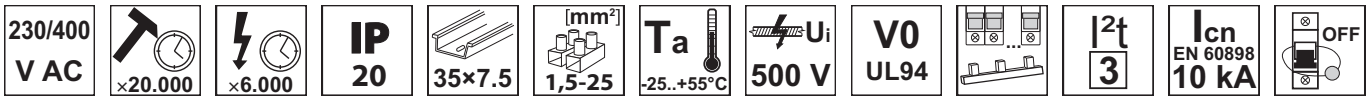
TRACON	B	C	D	In (A)
3P	TDZ-3B-1	TDZ-3C-1	TDZ-3D-1	1
	TDZ-3B-2	TDZ-3C-2	TDZ-3D-2	2
	TDZ-3B-4	TDZ-3C-4	TDZ-3D-4	4
	TDZ-3B-6	TDZ-3C-6	TDZ-3D-6	6
	TDZ-3B-10	TDZ-3C-10	TDZ-3D-10	10
	TDZ-3B-13	TDZ-3C-13	TDZ-3D-13	13
	TDZ-3B-16	TDZ-3C-16	TDZ-3D-16	16
	TDZ-3B-20	TDZ-3C-20	TDZ-3D-20	20
	TDZ-3B-25	TDZ-3C-25	TDZ-3D-25	25
	TDZ-3B-32	TDZ-3C-32	TDZ-3D-32	32
	TDZ-3B-40	TDZ-3C-40	TDZ-3D-40	40
	TDZ-3B-50	TDZ-3C-50	TDZ-3D-50	50
	TDZ-3B-63	TDZ-3C-63	TDZ-3D-63	63
4P	TDZ-4B-1	TDZ-4C-1	TDZ-4D-1	1
	TDZ-4B-2	TDZ-4C-2	TDZ-4D-2	2
	TDZ-4B-4	TDZ-4C-4	TDZ-4D-4	4
	TDZ-4B-6	TDZ-4C-6	TDZ-4D-6	6
	TDZ-4B-10	TDZ-4C-10	TDZ-4D-10	10
	TDZ-4B-13	TDZ-4C-13	TDZ-4D-13	13
	TDZ-4B-16	TDZ-4C-16	TDZ-4D-16	16
	TDZ-4B-20	TDZ-4C-20	TDZ-4D-20	20
	TDZ-4B-25	TDZ-4C-25	TDZ-4D-25	25
	TDZ-4B-32	TDZ-4C-32	TDZ-4D-32	32
	TDZ-4B-40	TDZ-4C-40	TDZ-4D-40	40
	TDZ-4B-50	TDZ-4C-50	TDZ-4D-50	50
	TDZ-4B-63	TDZ-4C-63	TDZ-4D-63	63





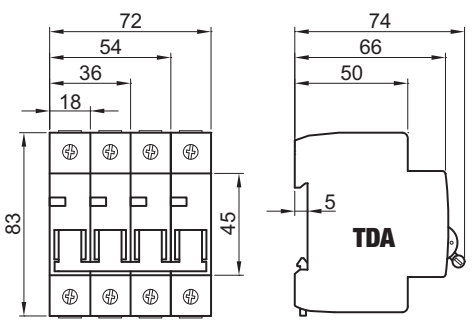
ETL-SEMKO CERTIFICATE NO.	TÜV MEEI TEST DOCUMENTATION	RELEVANT STANDARD
SE-303872	D0128V0605	EN 60898

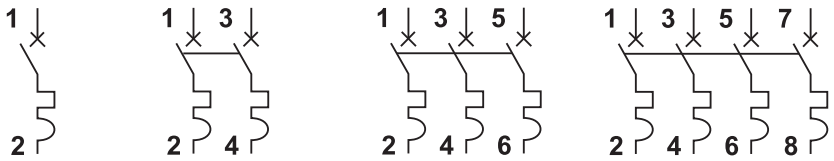
TDA type circuit breakers



	TRACON B	TRACON C	In (A)
1P	TDA-1B-1	TDA-1C-1	1
	TDA-1B-2	TDA-1C-2	2
	TDA-1B-4	TDA-1C-4	4
	TDA-1B-6	TDA-1C-6	6
	TDA-1B-10	TDA-1C-10	10
	TDA-1B-13	TDA-1C-13	13
	TDA-1B-16	TDA-1C-16	16
	TDA-1B-20	TDA-1C-20	20
	TDA-1B-25	TDA-1C-25	25
	TDA-1B-32	TDA-1C-32	32
	TDA-1B-40	TDA-1C-40	40
	TDA-1B-50	TDA-1C-50	50
	TDA-1B-63	TDA-1C-63	63
2P	TDA-2B-1	TDA-2C-1	1
	TDA-2B-2	TDA-2C-2	2
	TDA-2B-4	TDA-2C-4	4
	TDA-2B-6	TDA-2C-6	6
	TDA-2B-10	TDA-2C-10	10
	TDA-2B-13	TDA-2C-13	13
	TDA-2B-16	TDA-2C-16	16
	TDA-2B-20	TDA-2C-20	20
	TDA-2B-25	TDA-2C-25	25
	TDA-2B-32	TDA-2C-32	32
	TDA-2B-40	TDA-2C-40	40
	TDA-2B-50	TDA-2C-50	50
	TDA-2B-63	TDA-2C-63	63

	TRACON B	TRACON C	In (A)
3P	TDA-3B-1	TDA-3C-1	1
	TDA-3B-2	TDA-3C-2	2
	TDA-3B-4	TDA-3C-4	4
	TDA-3B-6	TDA-3C-6	6
	TDA-3B-10	TDA-3C-10	10
	TDA-3B-13	TDA-3C-13	13
	TDA-3B-16	TDA-3C-16	16
	TDA-3B-20	TDA-3C-20	20
	TDA-3B-25	TDA-3C-25	25
	TDA-3B-32	TDA-3C-32	32
	TDA-3B-40	TDA-3C-40	40
	TDA-3B-50	TDA-3C-50	50
	TDA-3B-63	TDA-3C-63	63
4P	TDA-4B-1	TDA-4C-1	1
	TDA-4B-2	TDA-4C-2	2
	TDA-4B-4	TDA-4C-4	4
	TDA-4B-6	TDA-4C-6	6
	TDA-4B-10	TDA-4C-10	10
	TDA-4B-13	TDA-4C-13	13
	TDA-4B-16	TDA-4C-16	16
	TDA-4B-20	TDA-4C-20	20
	TDA-4B-25	TDA-4C-25	25
	TDA-4B-32	TDA-4C-32	32
	TDA-4B-40	TDA-4C-40	40
	TDA-4B-50	TDA-4C-50	50
	TDA-4B-63	TDA-4C-63	63





TÜV MEEI TEST DOCUMENTATION
M1 2692428 01

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Our catalogue shows the assortment of March 2016.
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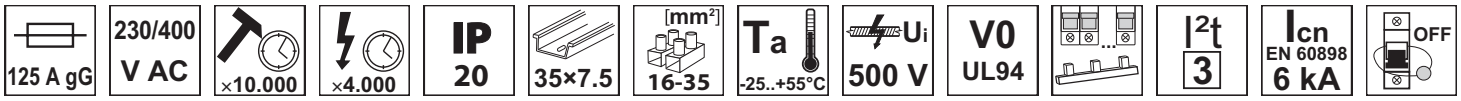
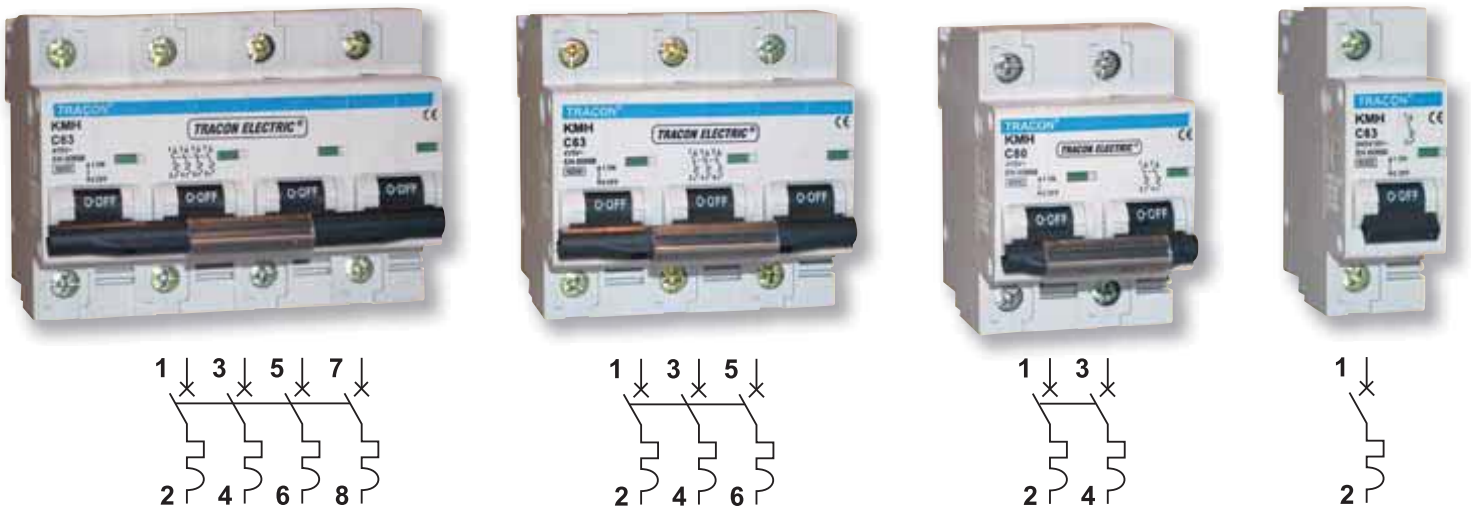
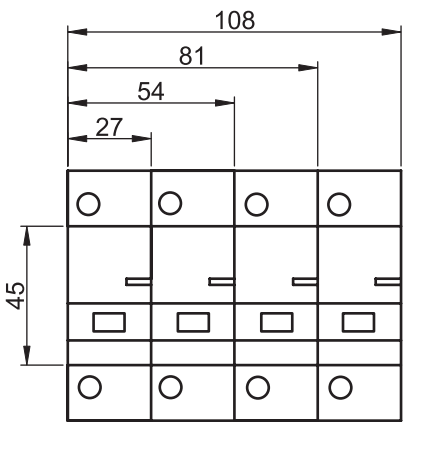
KMH type high current overload circuit breakers



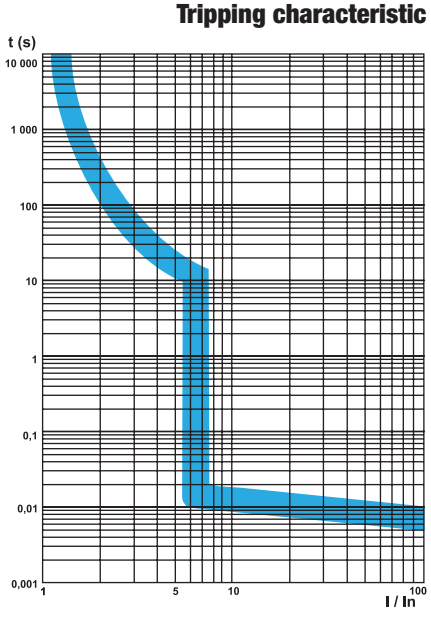
TRACON C	In (A)
1P	
KMH-163	63
KMH-180	80
KMH-1100	100
KMH-1125	125
2P	
KMH-263	63
KMH-280	80
KMH-2100	100
KMH-2125	125

TRACON C	In (A)
3P	
KMH-363	63
KMH-380	80
KMH-3100	100
KMH-3125	125
4P	
KMH-463	63
KMH-480	80
KMH-4100	100
KMH-4125	125





Tripping characteristic



Pictograms **F/0**

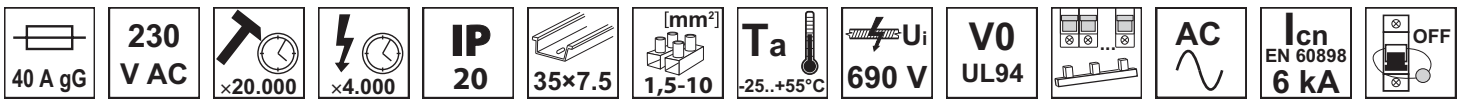
RELEVANT STANDARD
EN 60898

Combined protection switches

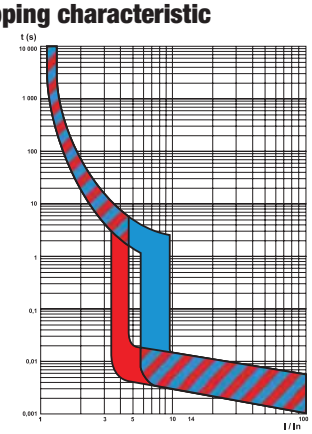
TRACON		×P	×17.5	I_n (A)	I_{cn} EN60698
KVKE	B, C	2	1	6 – 32 A	6 kA
KVK	B, C	2	2	6 – 32 A	3 kA
KVKM	B, C	2	2	6 – 40 A	6 kA

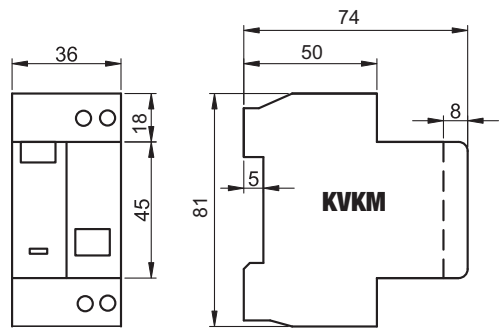
The combined protective switch is mainly used in electrical installations of buildings, for personal, overload and short circuit protection. It is especially suitable for electrical protection of rooms with increased safety requirements.
The current transformer of the protective switch, namely the magnetic quick breaker and the bimetallic, thermal, residual current breaker are placed in the same box. The device has an optical sign, which turns red if the break occurs due to a defect (overload, short circuit, or earth circuit). At manual switching-off, this red colour does not appear. By pressing the "T" pushbutton, the residual current switching part of the product can be checked. This check should be made at least once in a month.
Thanks to its dimensions, this switch can easily replace the existing protective device (circuit breaker).

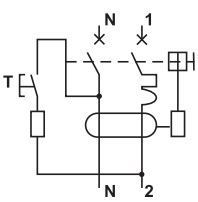
KVKM type combined protective switches, electromechanical



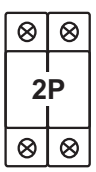
Tripping characteristic







TRACON B	TRACON C	I_n (A)	$I_{\Delta n}$ (mA)
KVKMB-6/030	**KVKM-6/030**	6	30
KVKMB-6/100	**KVKM-6/100**	6	100
KVKMB-6/300	**KVKM-6/300**	6	300
KVKMB-10/030	**KVKM-10/030**	10	30
KVKMB-10/100	**KVKM-10/100**	10	100
KVKMB-10/300	**KVKM-10/300**	10	300
KVKMB-16/030	**KVKM-16/030**	16	30
KVKMB-16/100	**KVKM-16/100**	16	100
KVKMB-16/300	**KVKM-16/300**	16	300
KVKMB-20/030	**KVKM-20/030**	20	30
KVKMB-20/100	**KVKM-20/100**	20	100
KVKMB-20/300	**KVKM-20/300**	20	300
KVKMB-25/030	**KVKM-25/030**	25	30
KVKMB-25/100	**KVKM-25/100**	25	100
KVKMB-25/300	**KVKM-25/300**	25	300
KVKMB-32/030	**KVKM-32/030**	32	30
KVKMB-32/100	**KVKM-32/100**	32	100
KVKMB-32/300	**KVKM-32/300**	32	300
KVKMB-40/030	**KVKM-40/030**	40	30
KVKMB-40/100	**KVKM-40/100**	40	100
KVKMB-40/300	**KVKM-40/300**	40	300



RELEVANT STANDARD
EN 60898-1

RELEVANT STANDARD
EN 61009-1

The electro-mechanic RCCB protects against electric shock even in case of braking of neutral-wire!

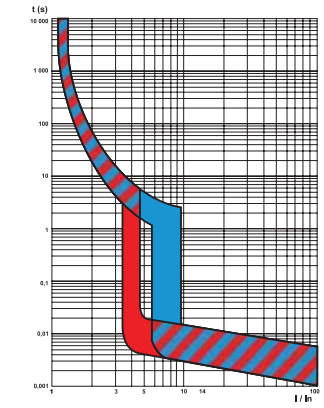
KVK type combined protective switches

40 A gG | 230 V AC | ×20.000 | ×4.000 | IP 20 | 35×7.5 | [mm²] 1-10 | Ta -25..+55°C | Ui 690 V | V0 UL94 | AC | Icn EN 60898 3 kA | OFF

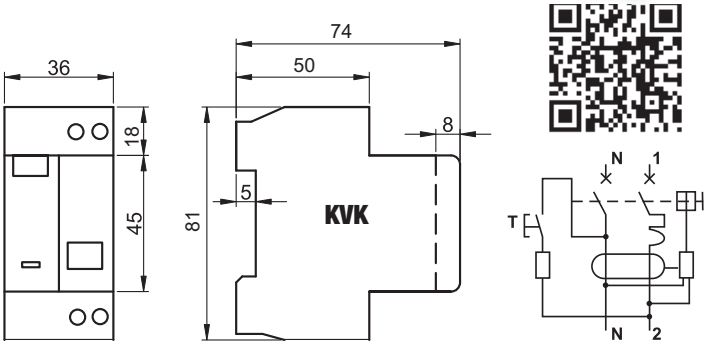
TRACON B	TRACON C	In (A)	IΔn (mA)
KVKB-6/03	KVK-6/03	6	30
KVKB-6/10	KVK-6/10	6	100
KVKB-6/30	KVK-6/30	6	300
KVKB-10/03	KVK-10/03	10	30
KVKB-10/10	KVK-10/10	10	100
KVKB-10/30	KVK-10/30	10	300
KVKB-16/03	KVK-16/03	16	30
KVKB-16/10	KVK-16/10	16	100
KVKB-16/30	KVK-16/30	16	300
KVKB-20/03	KVK-20/03	20	30
KVKB-20/10	KVK-20/10	20	100
KVKB-20/30	KVK-20/30	20	300
KVKB-25/03	KVK-25/03	25	30
KVKB-25/10	KVK-25/10	25	100
KVKB-25/30	KVK-25/30	25	300
KVKB-32/03	KVK-32/03	32	30
KVKB-32/10	KVK-32/10	32	100
KVKB-32/30	KVK-32/30	32	300

2P

Tripping characteristic



E3



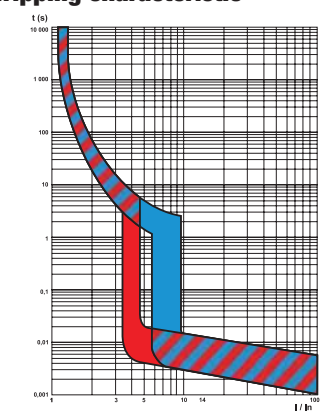
KVKVE Combined protective switch with one-module width

40 A gG | 230 V AC | ×20.000 | ×4.000 | IP 20 | 35×7.5 | [mm²] 1-16 | Ta -25..+55°C | Ui 690 V | V0 UL94 | AC | Icn EN 60898 6 kA | OFF

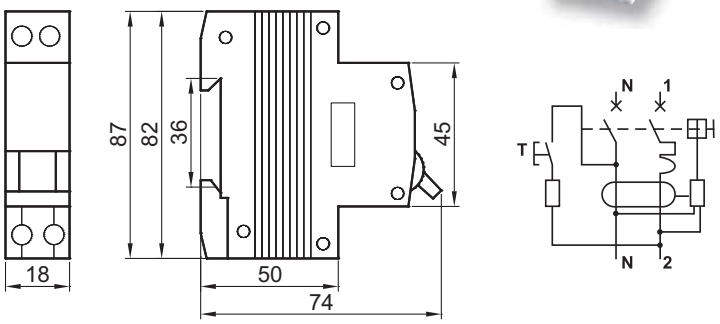
TRACON B	TRACON C	In (A)	IΔn (mA)
KVKVEB-6/30	KVKVE-6/30	6	30
KVKVEB-6/100	KVKVE-6/100	6	100
KVKVEB-10/30	KVKVE-10/30	10	30
KVKVEB-10/100	KVKVE-10/100	10	100
KVKVEB-13/30	KVKVE-13/30	13	30
KVKVEB-13/100	KVKVE-13/100	13	100
KVKVEB-16/30	KVKVE-16/30	16	30
KVKVEB-16/100	KVKVE-16/100	16	100
KVKVEB-20/30	KVKVE-20/30	20	30
KVKVEB-20/100	KVKVE-20/100	20	100
KVKVEB-25/30	KVKVE-25/30	25	30
KVKVEB-25/100	KVKVE-25/100	25	100
KVKVEB-32/30	KVKVE-32/30	32	30
KVKVEB-32/100	KVKVE-32/100	32	100

2P

Tripping characteristic



E3



RELEVANT STANDARD
EN 61009-1

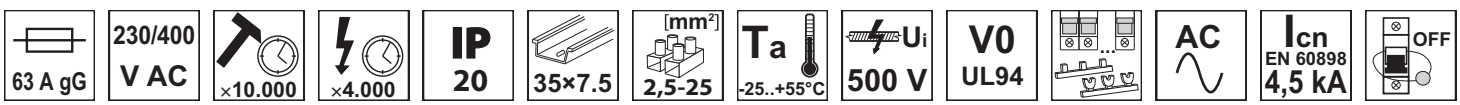
Residual current circuit breakers

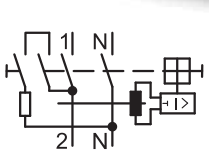
TRACON		×P	I_n (A)	$I\Delta_n$ (mA)	I_{cn} EN60698
RB	AC	2, 4	25, 40, 63	30, 100, 300, 500	4,5 kA
TFV		2, 4	16, 25, 40, 63	30, 100, 300	6 kA
TFVH		4	80, 100, 125	30, 100, 300	6 kA
TFG	A, AC	2, 4	16, 25, 40, 63	30, 100, 300	6 kA
TFGA		–	16	30	6 kA
TFIG		2, 4	16, 25, 40, 63, 80, 100	30, 100, 300	10 kA

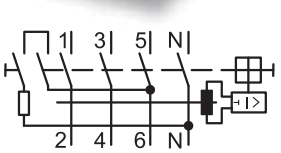
TRACON	Denomination	RB	TFV	TFVH	TFG	TFIG
EDS-❑, EDFK-❑	Distribution boxes	✓	✓	✓	✓	✓
TFSS-❑	Normal connecting rails	✓	✓	✓	✓	✓
TFSS-❑V	Spade type connecting rails	✓	✓	✓	✓	✓
TFSS-1CS	Connecting clip with screw	✓	✓	✓	✓	–
35/7,5❑SIN	Mounting rails according to EN 50022	✓	✓	✓	✓	✓

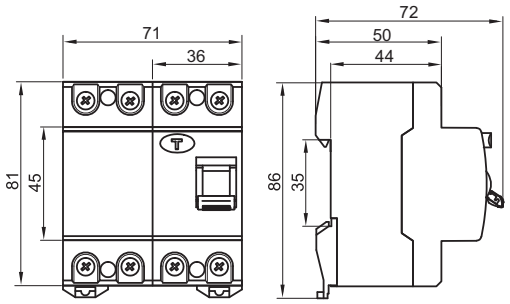
The residual current circuit breakers are most up-to-date devices mainly used for protection against indirect contact, but in some cases also against direct contact. The residual current breaker automatically starts to operate if the defect current (eg. insulation defect, short circuit etc.) in the protected network exceeds
a critical value. Installation is suggested and in some cases even compulsory, in outdoor connections, in building site boxes, concrete mixers, bathrooms, etc.
Over 6000 A independent short circuit current one must be use a shunt fuse!

RB residual current circuit breakers







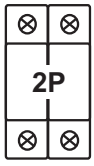


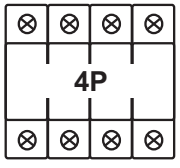
TRACON		I_n (A)	$I\Delta_n$ (mA)
2P	**RB2-25030**	25	30
	RB2-25100	25	100
	RB2-25300	25	300
	RB2-25500	25	500
	RB2-40030	40	30
	RB2-40100	40	100
	RB2-40300	40	300
	RB2-40500	40	500
4P	**RB4-25030**	25	30
	RB4-25100	25	100
	RB4-25300	25	300
	RB4-25500	25	500
	RB4-40030	40	30
	RB4-40100	40	100
	RB4-40300	40	300
	RB4-40500	40	500
	RB4-63030	63	30
	RB4-63100	63	100
	RB4-63300	63	300
	RB4-63500	63	500

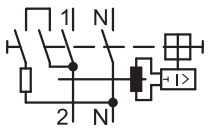
TFV residual current circuit breakers

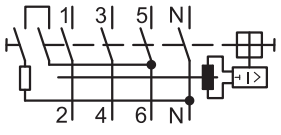
63 A gG | 230/400 V AC | ×10.000 | ×4.000 | IP 20 | 35×7.5 | [mm²] 2,5-25 | Ta -25..+55°C | Ui 500 V | V0 UL94 | AC | Icn EN 60898 6 kA | OFF

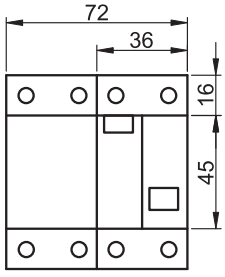
TRACON	In (A)	IΔn (mA)
TFV2-16030	16	30
TFV2-16100	16	100
TFV2-16300	16	300
TFV2-25030	25	30
TFV2-25100	25	100
TFV2-25300	25	300
TFV2-40030	40	30
TFV2-40100	40	100
TFV2-40300	40	300
TFV2-63030	63	30
TFV2-63100	63	100
TFV2-63300	63	300
TFV4-16030	16	30
TFV4-16100	16	100
TFV4-16300	16	300
TFV4-25030	25	30
TFV4-25100	25	100
TFV4-25300	25	300
TFV4-40030	40	30
TFV4-40100	40	100
TFV4-40300	40	300
TFV4-63030	63	30
TFV4-63100	63	100
TFV4-63300	63	300

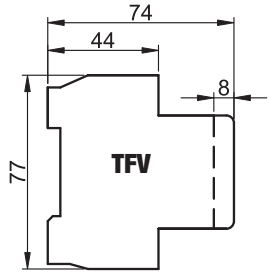












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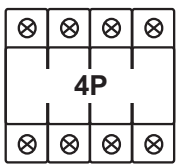
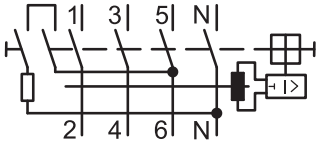
CCA CERTIFICATE NO.
CCA/HU0212/A1

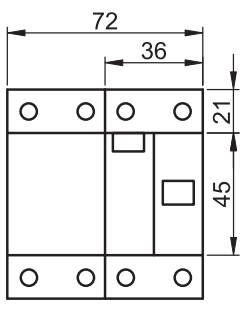
TFVH residual current circuit breakers for high current

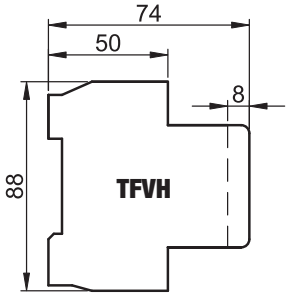
100 A gG | 230/400 V AC | ×10.000 | ×4.000 | IP 20 | 35×7.5 | [mm²] 2,5-50 | Ta -25..+55°C | Ui 500 V | V0 UL94 | AC | Icn EN 60898 6 kA | OFF

TRACON	In (A)	IΔn (mA)
TFVH4-80030	80	30
TFVH4-80100	80	100
TFVH4-80300	80	300
TFVH4-100030	100	30
TFVH4-100100	100	100
TFVH4-100300	100	300
TFVH4-125030	125	30
TFVH4-125100	125	100
TFVH4-125300	125	300





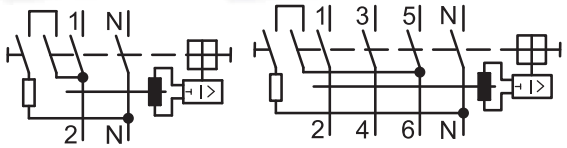


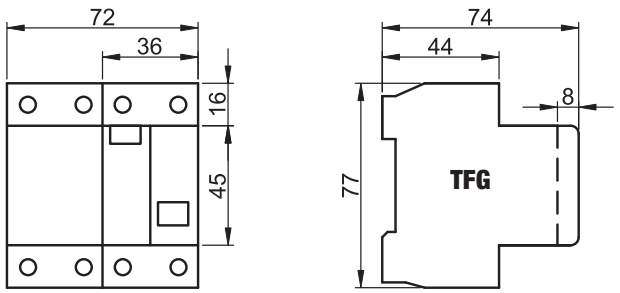


TÜV MEEI TEST DOCUMENTATION
M1 2792130 01

TFG residual current circuit breakers

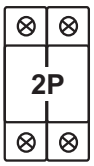
63 A gG | 230/400 V AC | ×10.000 | ×4.000 | IP 20 | 35×7.5 | [mm²] 2,5-25 | Ta -25..+55°C | Ui 500 V | V0 UL94 | A, AC | Icn EN 60898 6 kA | OFF

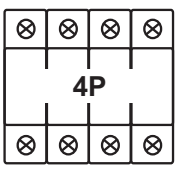




IECEE-CB CERTIFICATE NO.
CN-2734

ETL-SEMKO CERTIFICATE NO.
615432





TRACON	In (A)	IΔn (mA)
TFG2-16030	16	30
TFG2-16100	16	100
TFG2-16300	16	300
TFG2-25030	25	30
TFG2-25100	25	100
TFG2-25300	25	300
TFG2-40030	40	30
TFG2-40100	40	100
TFG2-40300	40	300
TFG2-63030	63	30
TFG2-63100	63	100
TFG2-63300	63	300
TFG4-16030	16	30
TFG4-16100	16	100
TFG4-16300	16	300
TFG4-25030	25	30
TFG4-25100	25	100
TFG4-25300	25	300
TFG4-40030	40	30
TFG4-40100	40	100
TFG4-40300	40	300
TFG4-63030	63	30
TFG4-63100	63	100
TFG4-63300	63	300

TFGA adaptor with residual current circuit breaker

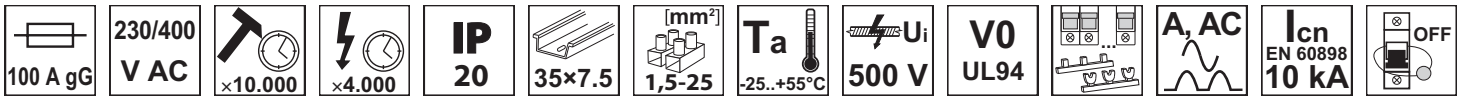
TRACON		In (A)	IΔn (mA)	Pmax	IP..
TFGA-1		16	30	3.600 W	IP 40
TFGA-4		16	30	3.600 W	IP 44
TFGA-1F		16	30	3.600 W	IP 40
TFGA-4F		16	30	3.600 W	IP 44

230 V AC | Ta -25..+55°C | ×20.000 | Ui 500 V | V0 UL94 | A, AC | Icn EN 60898 6 kA

The TFGA type adaptor with residual current circuit breaker is a very modern protective device against direct touch of electric network with protective conductor, moreover in such of cases protects against indirect touch, too. The RCCB switches off automatically when the leakage current is too high on the protected network.
Being portable, it can be used for any network not provided with residual current protection.

The device can be switched on by the RESET button. Before first use the operation of the device must tested by the TEST button; after pushing the button the device has to switch off the plug from the network. While using the device continuously it must be tested monthly by pushing the TEST button. After installing the adaptor the protected device or net can be plugged into the socket-outlet.

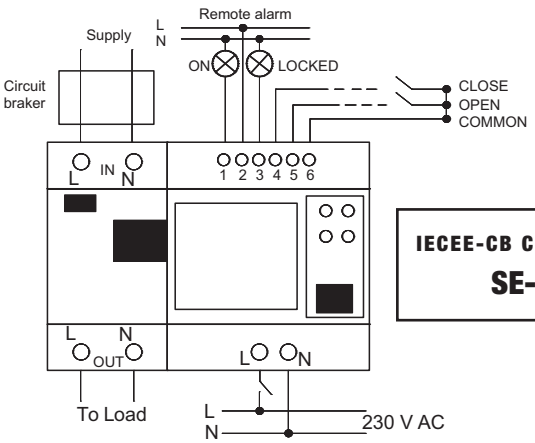
Motor-driven automatic re-connection device



	TRACON			I_n (A)
	IΔn= 30 mA	IΔn= 100 mA	IΔn= 300 mA	
2P	TFIG2-16030	TFIG2-16100	TFIG2-16300	16
	TFIG2-25030	TFIG2-25100	TFIG2-25300	25
	TFIG2-40030*	TFIG2-40100*	TFIG2-40300	40
	TFIG2-63030	TFIG2-63100	TFIG2-63300	63
	TFIG2-80030	TFIG2-80100	TFIG2-80300	80
4P	TFIG4-16030	TFIG4-16100	TFIG4-16300	16
	TFIG4-25030	TFIG4-25100	TFIG4-25300	25
	TFIG4-40030	TFIG4-40100*	TFIG4-40300	40
	TFIG4-63030	TFIG4-63100	TFIG4-63300*	63
	TFIG4-80030	TFIG4-80100	TFIG4-80300	80

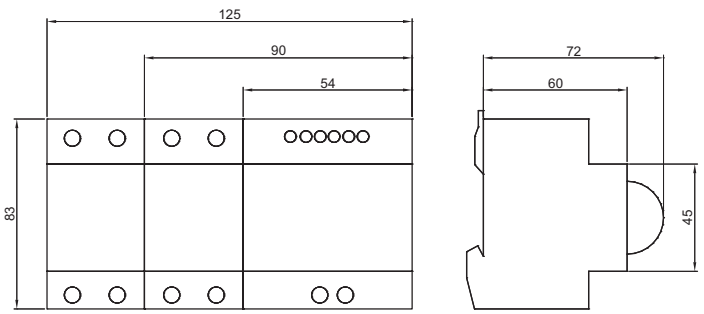
*Available from stock; other types can be ordered with 4 weeks shipping time

This device automatically re-connects the previously disconnected consumer (due to overcurrent generated by failure or atmospheric phenomena), once the current into the circuit has fallen back into the normal range. Such devices are an advantage in places where circuit break-off is expected to take long until the arrival of the service personnel (telecommunication stations, traffic control by signal lamps, remote control switching devices).
The cause of the overcurrent is usually transitory, long tome interruption is unnecessary and causes important disturbance.



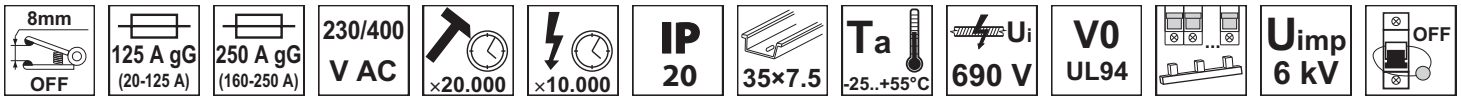
IECEE-CB CERTIFICATE NO.
SE-58939

Re-connection devices are easy to be installed and adjusted. For automatic operation just pull the convex cover in the direction of the ON arrow.
If the re-connection device fails to re-connect the controlled circuit breaker after the pre-set number of attempts (1 - 8), the break-off status will persist. Once the defection causing break-off was eliminated, the contactor can be switched on manually. For maintenance work on the circuit, before switching off the circuit breaker, the convex cover of the re-connection device shall be pushed in the direction of the OFF arrow; otherwise the reconnection device will automatically switch on the circuit breaker. To prevent unwanted reconnection, the re-connection device can be locked.



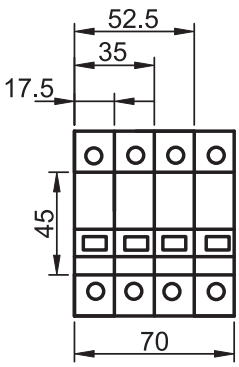
Technical data	Circuit breaker	Motor-driven automatic re-connection device
Adjustable number of re-connections	–	1, 2, 4, 6, 8
Break-off time / Switch-off time	0,1 s	1 s
Switch-on time	–	2 s
Adjustable re-connection time delay	–	10 – 30 – 60 – 120 – 180 s
Status LED-s	–	green: ON, red: OFF, flashing red: waiting for re-connection
Manual ON / OFF switching	with handle	with the convex cover
Load-bearing of the auxiliary contact	–	250 V AC, 5 A
Remote control input	–	NC / NO / CO

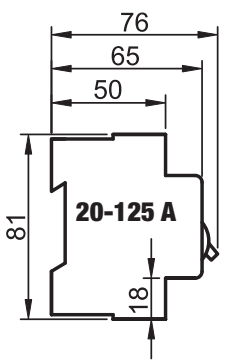
TIK type disconnector switches



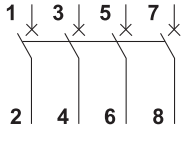
	TRACON	In (A)	mm²
1P	TIK1-20	20	16-50
	TIK1-25	25	
	TIK1-32	32	
	TIK1-40	40	
	TIK1-63	63	
	TIK1-80	80	
	TIK1-100	100	
	TIK1-125	125	
	TIK1-160	160	70-120
	TIK1-250	250	
2P	TIK2-20	20	16-50
	TIK2-25	25	
	TIK2-32	32	
	TIK2-40	40	
	TIK2-63	63	
	TIK2-80	80	
	TIK2-100	100	
	TIK2-125	125	
	TIK2-160	160	70-120
	TIK2-250	250	

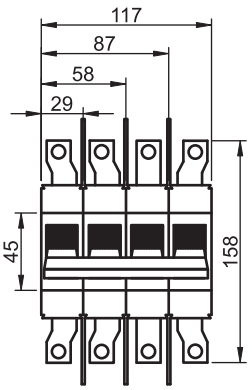
	TRACON	In (A)	mm²
3P	TIK3-20	20	16-50
	TIK3-25	25	
	TIK3-32	32	
	TIK3-40	40	
	TIK3-63	63	
	TIK3-80	80	
	TIK3-100	100	
	TIK3-125	125	
	TIK3-160	160	70-120
	TIK3-250	250	
4P	TIK4-20	20	16-50
	TIK4-25	25	
	TIK4-32	32	
	TIK4-40	40	
	TIK4-63	63	
	TIK4-80	80	
	TIK4-100	100	
	TIK4-125	125	
	TIK4-160	160	70-120
	TIK4-250	250	

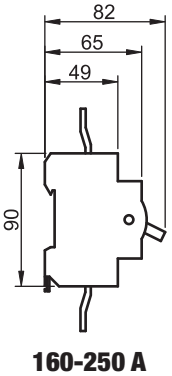




RELEVANT STANDARD
EN 60947-3







160-250 A

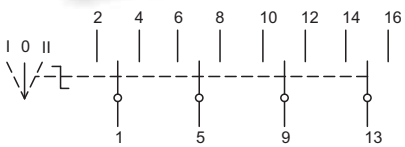
Serial selector switches

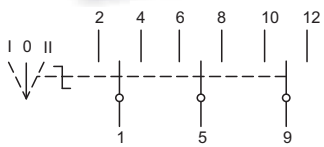
63 A gG | 230/400 V AC | ×30.000 | ×10.000 | IP 20 | 35×7.5 | [mm²] 1-16 | Ta -25..+55°C | Ui 690 V | V0 UL94 | Uimp 6 kV | 1 0 2

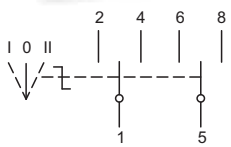
	TRACON	In (A)
1P	**SVK1-16**	16
	SVK1-32	32
	SVK1-63	63
2P	**SVK2-16**	16
	SVK2-32	32
	SVK2-63	63

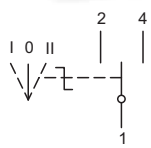
	TRACON	In (A)
3P	**SVK3-16**	16
	SVK3-32	32
	SVK3-63	63
4P	**SVK4-16**	16
	SVK4-32	32
	SVK4-63	63

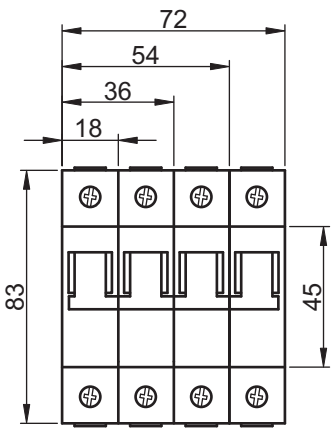


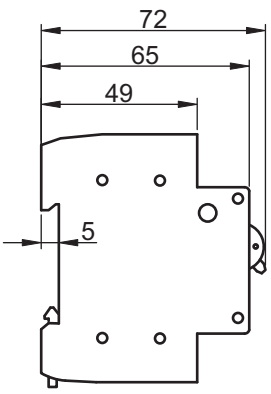



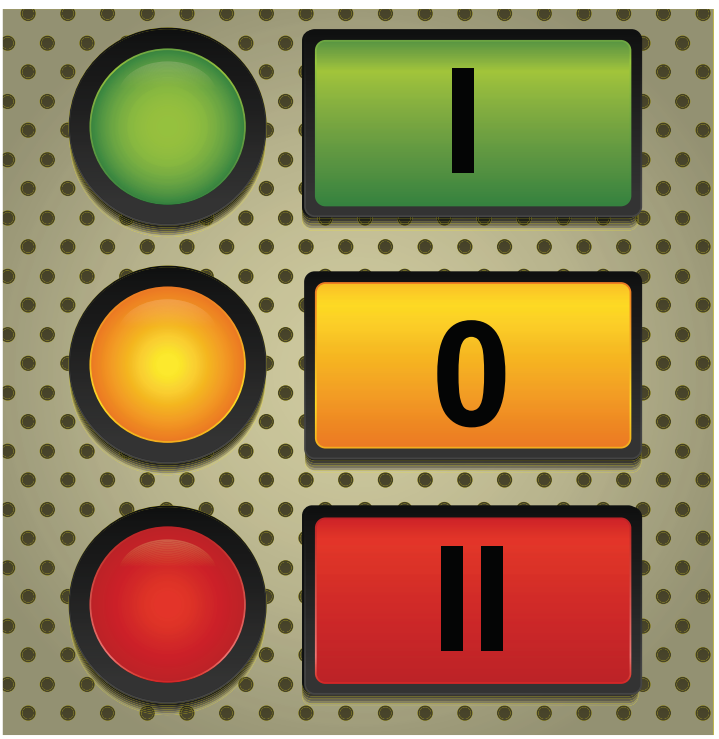












RELEVANT STANDARD
EN 60947-3

RELEVANT STANDARD
EN 60669-1

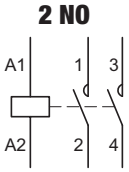
TÜV MEEI TEST DOCUMENTATION
28211822 001

Contactors for installations

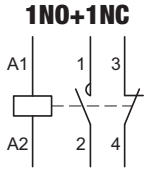
63 A gG | 230/400 V AC | ×1.000.000 | ×300.000 | IP 20 | 35×7.5 | [mm²] 1,5-25 | Ta -25..+55°C | Ui 500 V | V0 UL94 | Pictograms F/0

TRACON	Um	In (A)	Ie			NC / NO
			AC1/AC7a	AC3 (400V)	AC7b	
THK2-20-24	24 V AC	20 A	20	-	7	2 NO
THK2-20-24/1NO+1NC/	24 V AC	20 A	20	-	7	1NO+1NC
THK2-20	230 V AC	20 A	20	-	7	2 NO
THK2-20/1NO+1NC/	230 V AC	20 A	20	-	7	1NO+1NC
THK2-32-24	24 V AC	32 A	32	-	12	2 NO
THK2-32	230 V AC	32 A	32	-	12	2 NO
THK2-40-24	24 V AC	40 A	40	-	15	2 NO
THK2-40	230 V AC	40 A	40	-	15	2 NO
THK3-20-24	24 V AC	20 A	20	5	7	3 NO
THK3-20	230 V AC	20 A	20	5	7	3 NO
THK3-32-24	24 V AC	32 A	32	5.5	12	3 NO
THK3-32	230 V AC	32 A	32	5.5	12	3 NO
THK3-40-24	24 V AC	40 A	40	7	15	3 NO
THK3-40	230 V AC	40 A	40	7	15	3 NO
THK4-20-24	24 V AC	20 A	20	5	7	4 NO
THK4-20	230 V AC	20 A	20	5	7	4 NO
THK4-32-24	24 V AC	32 A	32	5.5	12	4 NO
THK4-32	230 V AC	32 A	32	5.5	12	4 NO
THK4-40-24	24 V AC	40 A	40	7	15	4 NO
THK4-40	230 V AC	40 A	40	7	15	4 NO
THK4-63	230 V AC	63 A	63	15	20	4 NO
THK4-63-24	24 V AC	63 A	63	15	20	4 NO
THK4-63/2NO+2NC/	230 V AC	63 A	63	15	20	2NO+2NC
THK4-63-24/2NO+2NC/	24 V AC	63 A	63	15	20	2NO+2NC

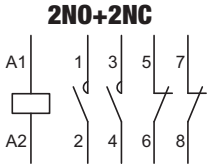
2 NO



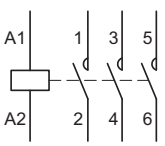
1NO+1NC



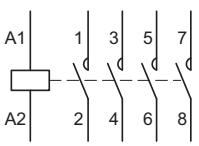
2NO+2NC



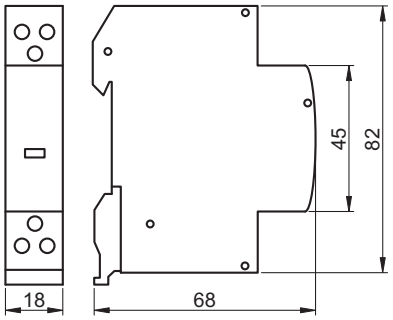
3 NO



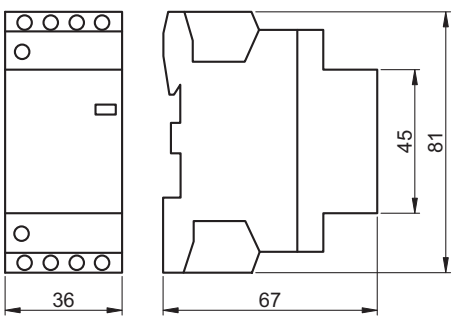
4 NO



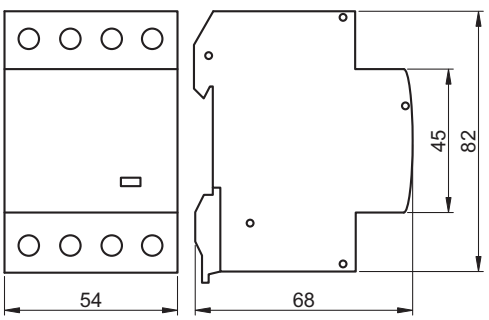
THK2-20



THK2-32, 2-40, 3-20, 4-20



THK3-32, 3-40, 4-32, 4-40, 4-63



Staircase time switch

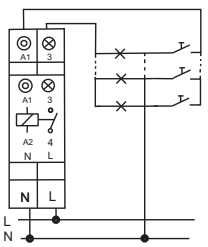
230 V AC | ×40.000 | IP 20 | 35×7.5 | [mm²] 1-2,5 | Ta -10..+55 °C | Ui 500 V | V0 UL94

Pictograms F/0

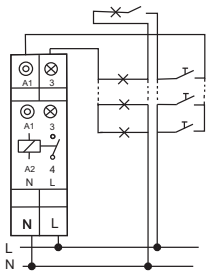
TRACON		Ps	In	L	Σ	Pmax	
TLA-3	30 sec – 12 min	1 VA	16 A (cos φ = 1)	max. 250 m	× 50	max. 2.300 W	max. 800 W

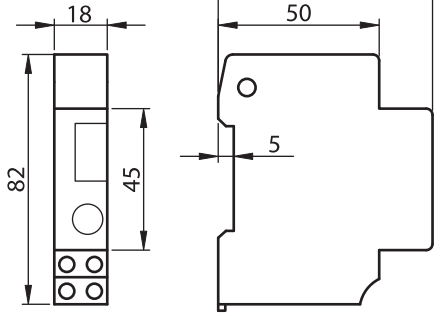
Selection between continuous operation and automatic programs can be made by the selector switch on the front plate of the device.

Three wire system



Four wire system





Impulse-Relay

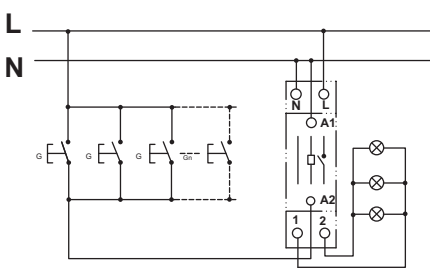
×10⁵ | ×10⁵ | Pm 0,02 VA | IP 20 | [mm²] 0,75-4 | 35×7.5 | Ta -25..+55°C | Ui 500 V

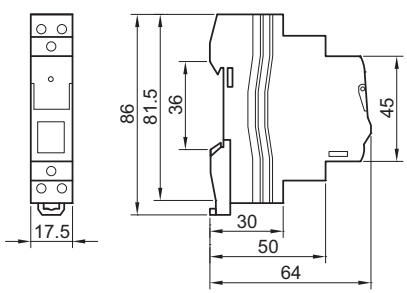
Pictograms F/0

TRACON	Um	Pmax		cosφ=1	cosφ=0,6
IMP-12	12 V AC	max. 3.500 W	max. 1.300 W	× 100.000	× 50.000
IMP-24	24 V AC	max. 3.500 W	max. 1.300 W	× 100.000	× 50.000
IMP-230	230 V AC	max. 3.500 W	max. 1.300 W	× 100.000	× 50.000

These bistabile modular Impulse-Relays can be used for remote control of electric circuits and can be switched manually as well. Both phase and neutral wire must carry trough relay but only phase will be switched.

1. The LED is lighting at „ON” state.
2. The LED is not lighting at „OFF” state.
3. The operation status of device can be changed manually by pressing the pushbutton on the front side.
4. After backout the output of device will stay in OFF state independent from the ON/OFF state of device before the blackout.





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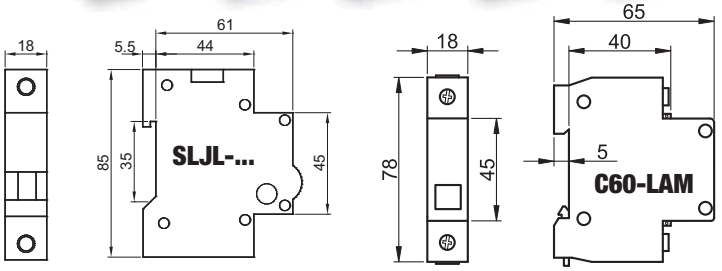
- Be updated

Our assortment is expanding quickly and continuously!
Our catalogue shows the assortment of March 2016.
Be up to date by our web page!

Signal lamps

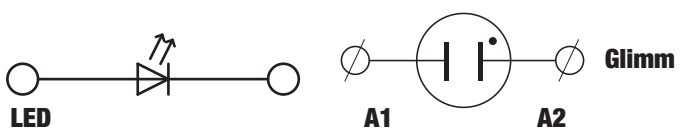
Pm 0,8 VA | [h] 20.000 | IP 20 | [mm²] 1-25 | 35×7.5 | Ta -25..+55°C | Ui 500 V

Pictograms F/0



TRACON		Un	LED
SLJL-AC230-P		230 V AC	× 1 LED
SLJL-AC230-Z		230 V AC	× 1 LED
SLJL-AC230-S		230 V AC	× 1 LED
SLJL-AC230-F		230 V AC	× 1 LED
SLJL-AC230-K		230 V AC	× 1 LED
SLJL-AC24-P		24 V AC	× 1 LED
SLJL-AC24-Z		24 V AC	× 1 LED
SLJL-AC24-S		24 V AC	× 1 LED
SLJL-AC24-F		24 V AC	× 1 LED
SLJL-AC24-K		24 V AC	× 1 LED
SLJL-AC230-SZP		3×230 V AC	× 3 LED
SLJL-DC220-P		220 V DC	× 1 LED
SLJL-DC220-Z		220 V DC	× 1 LED
SLJL-DC220-S		220 V DC	× 1 LED
SLJL-DC220-F		220 V DC	× 1 LED
SLJL-DC220-K		220 V DC	× 1 LED
SLJL-DC24-P		24 V DC	× 1 LED
SLJL-DC24-Z		24 V DC	× 1 LED
SLJL-DC24-S		24 V DC	× 1 LED
SLJL-DC24-F		24 V DC	× 1 LED
SLJL-DC24-K		24 V DC	× 1 LED
C60-LAM-P		230 V AC	× 1 GLIMM
C60-LAM-Z		230 V AC	× 1 GLIMM
C60-LAM-S		230 V AC	× 1 GLIMM

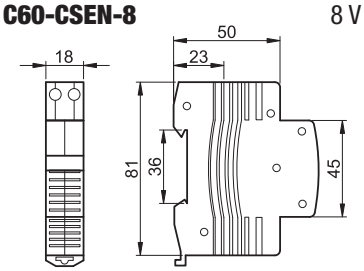
The **SLJL-AC230-SZP** type can display the supply the voltage in all three phases in one module width with three different colored LED.

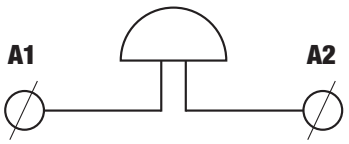


Signal bells

Pm 0,05 VA | 50/60 Hz | IP 20 | [mm²] 1-10 | 35×7.5 | Ta -25..+55°C | Ui 500 V

TRACON	Um		
C60-CSEN	230 V AC	60 dB	max. 60 min.
C60-CSEN-24	24 V AC	60 dB	max. 60 min.
C60-CSEN-12	12 V AC	60 dB	max. 60 min.
C60-CSEN-8	8 V AC	60 dB	max. 60 min.





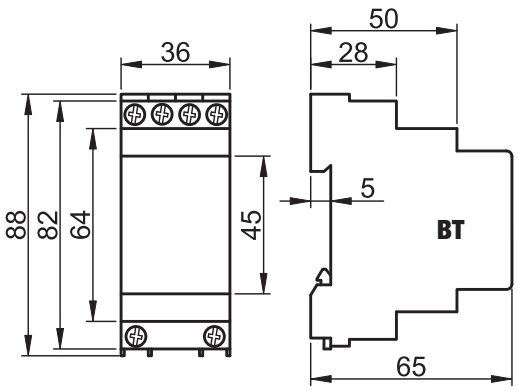
Safety (bell) transformer

IP 20 | 35×7.5 | [mm²] 0,75-2,5 | Ta -25..+55°C | Ui 500 V | V0 UL94

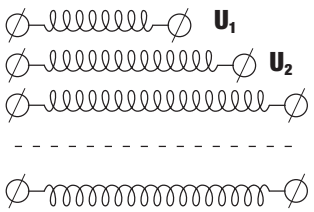
Pictograms F/0

TRACON	Ps	Upr	Usec	Isec
BT-8/1	max. 8 VA	230 V AC	4, 8, 12 V AC	0,66 A
BT-8/2			8, 12, 24 V AC	0,33 A

Safe separating transformers supplying extra low voltage. Used as bell power supply it can also used for other purposes according to the secondary voltage, e.g. supplier for other electric devices.



RELEVANT STANDARD
EN 61558-2-8

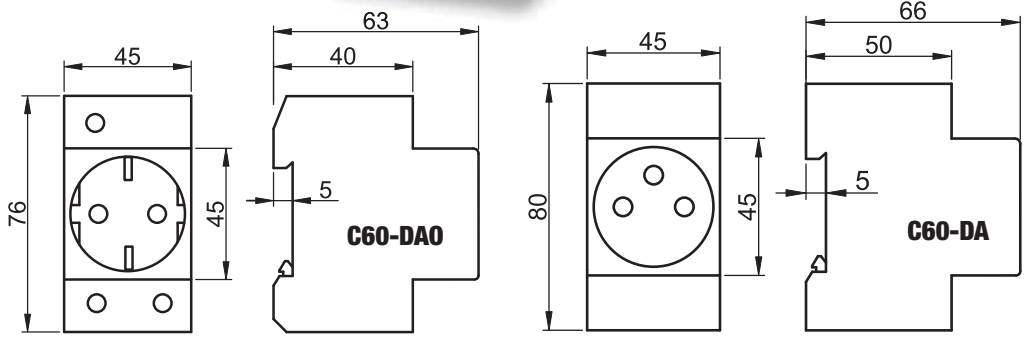


4-8-12 V AC
8-12-24 V AC
230 V, 50 Hz

Modular socket outlet

IP 20 | 35×7.5 | [mm²] 0,75-2,5 | Ta -25..+55°C | Ui 500 V | V0 UL94

TRACON		In (A)	Un
C60-DA0	2P+ ⏚	16	250 V AC
C60-DA	2P+ ⏚	16	250 V AC



RELEVANT STANDARD
MSZ 9872

RELEVANT STANDARD
IEC 60884-1

TÜV MEEI TEST DOCUMENTATION
28208191 001

Surface mounted type socket outlets and switches

230 V AC	V1 UL94	IP 54	[mm²] 1-2,5	Ta -25..+55°C	Ui 500 V

Pictograms F/0

TR-PH02

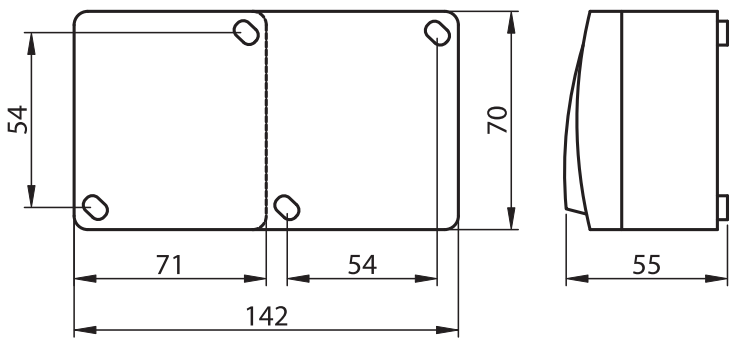
TR-PH01

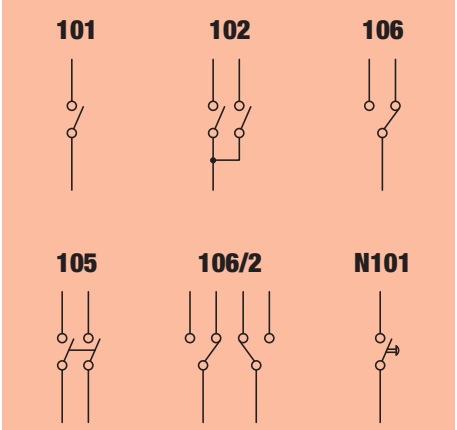
TR-PH09V

TR-PHF01

TR-PH03

TRACON		SHUKO	FRENCH	
TR-PH01		×1	-	-
TR-PHF01		-	×1	-
TR-PH02		×2	-	-
TR-PHF02		-	×2	-
TR-PH03		×1	-	101
TR-PHF03		-	×1	101
TR-PH08		×1	-	106
TR-PHF08		-	×1	106
TR-PH03V		×1	-	101
TR-PHF03V		-	×1	101
TR-PH08V		×1	-	106
TR-PHF08V		-	×1	106
TR-PH09V		×1	-	105
TR-PHF09V		-	×1	105
TR-PH10V		×1	-	106/2
TR-PHF10V		-	×1	106/2
TR-PH09		×1	-	105
TR-PHF09		-	×1	105
TR-PH10		×1	-	106/2
TR-PHF10		-	×1	106/2
TR-PH04		-	-	102
TR-PH05		-	-	101
TR-PH05L		-	-	101
TR-PH06		-	-	106
TR-PH06L		-	-	106
TR-PH07		-	-	N101
TR-PH07L		-	-	N101
TR-PH05-2		-	-	105
TR-PH06-2		-	-	106/2





RELEVANT STANDARD	TÜV MEEI TEST DOCUMENTATION
EN 60669-1	28208176 001

TTK types surface mounted switches and socket outlets

230 V AC	V1 UL94	IP 20	[mm²] 1-2,5	Ta -25..+55°C	Ui 500 V

Pictograms F/0

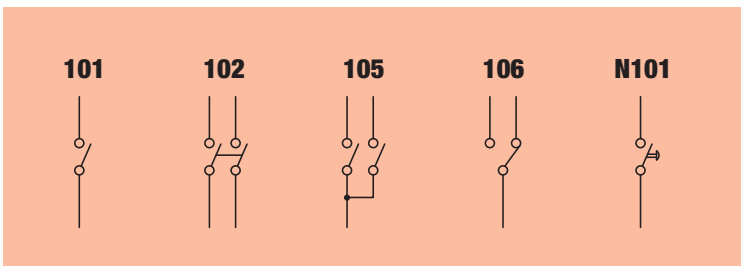
TRACON

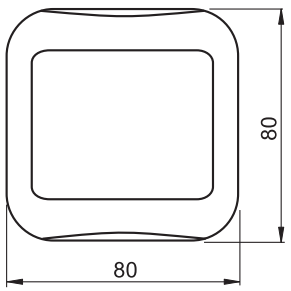
TTK-11	TTK-12	TTK-13*	TTK-21	TTK-31	TTK-32
					
SCHUKO	FRENCH	NO EARTH*	(RJ11 6/4) Telephone	9,5 mm TV	9,5 mm TV+FM

TRACON

TTK-01	TTK-02	TTK-03	TTK-04B	TTK-04L	TTK-04W	TTK-05	TTK-06	TTK-07
								
101	106	102	N101	N101	N101	105	2x101	

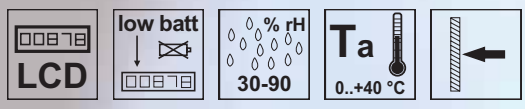
* to be used only for old installations as replacement;





RELEVANT STANDARD	RELEVANT STANDARD	RELEVANT STANDARD	TÜV MEEI TEST DOCUMENTATION
EN 60669-1	IEC 60884-1	MSZ 9871-2	28208176 001

CO sensor



Pictograms F/0

CO gas concentration	30 ppm	50 ppm	100 ppm	300 ppm
Requirement of EN 50291 standard	No alarm	60 - 90 min.	10 - 40 min.	<3 min.
Measuring values according to Test Report No. R-546875 by TÜV SÜD	No alarm	66 -71 min.	26 – 33 min.	64 – 85 s
Measuring values according to Test Report No. G/265/2015 by Szenzortechnika Ltd.	No alarm	71 – 72 min.	20 min.	31 – 50 s

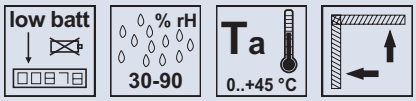
Using this compact size of sensors the presence of color and odorless CO gas can be detected in the air of flats. The CO gas can appear in the air by the defected heaters thanks for the incomplete combustion so causing even death by suffocation. The device gives visual and audio alarm signal in 4 steps if the sensed CO level steps over the pre-adjusted values so save the life of people living in the flat. But the device does not protect against the chronic effects of CO gas and does not give full protection against special risks! Using the sensor does not replace the proper installation and maintenance of heaters and the adequate ventilation!

Sensor type:	electro-chemistry cell	
Power supply:	3 pcs 1,5 V AA battery	
Current:	standby mode:	<80 µA
	alarm mode:	0,4 - 1,5 mA
Alarm signal:	optical and sound	
Display (LCD):	standby: PPM, room temperature, battery state alarm/test: ERR –error; --- - test; HCO – high CO value	
Optical display (LED):	operation (green), error (yellow), alarm(red)	
Standup time:	5 s	
Built-in test button		

TRACON		H, L, W
C0201A	> 85 dB / 1 m	90 × 120 mm

RELEVANT STANDARD
EN 50291

Wireless smoke detector with transmission



Pictograms F/0

TRACON		Hz	H L W
SD101LD	> 85 dB / 3 m	433,92 MHz	∅125 × 125 × 48 mm

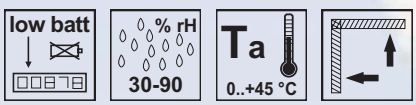
With help of these compact size wireless sensors the smoke can be detected on the air of rooms so they are applicable as excellent protective device on fire protection. The sensor gives tone alarm signal in case of smoke detection and this signal can be forwarded to other similar devices. This way the smoke detection inside closed areas can be signaling out to other open areas.

Power supply:	3 pcs1,5 V AA battery (sender)	
	1 pcs 9 V 6LR61 battery (receiver)	
Alarm signal:	optical and sound	
Current:	Standby (9 V):	<12 µA
	Alarm (9 V):	<20 mA
	Signal (4,5 V):	<230 µA

Built-in test and learn button

RELEVANT STANDARD
EN 14604:2005

Smoke detector without transmission



TRACON		H L W
SD133A	> 85 dB / 3 m	103×103×35 mm

The operation methods of these sensors are similar with the wireless sensors but having no wireless transmission modules.

Power supply:	1 pcs 9 V 6LR61 battery (receiver)	
Alarm signal:	optical and sound	
Current:	Standby (9 V):	<12 µA
	Alarm (9 V):	<20 mA
	Signal (4,5 V):	<230 µA

Built-in test and learn button

RELEVANT STANDARD
EN 14604:2005

THE DETAILED DATA SHEET OF PRODUCTS PLEASE FIND IN OUR WEB SHOP!