Circuit breakers

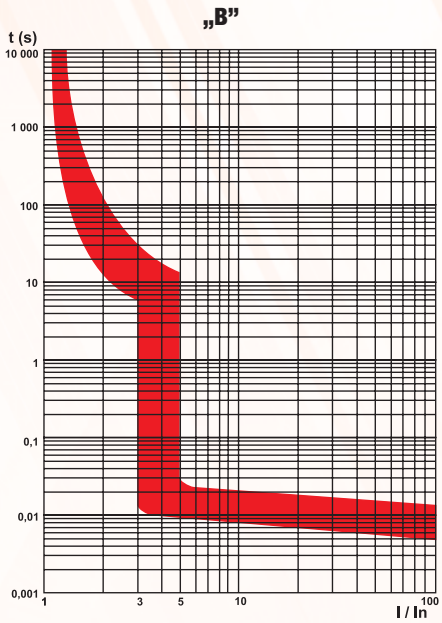
Circuit breakers are meant for overload protection and damage prevention in electrical networks and for the protection against environmental damage and accidents. A bimetal (in case of overload) or electromagnetic (in case of short circuit) breaker unit is used to interrupt the circuit, interruption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

Technical data

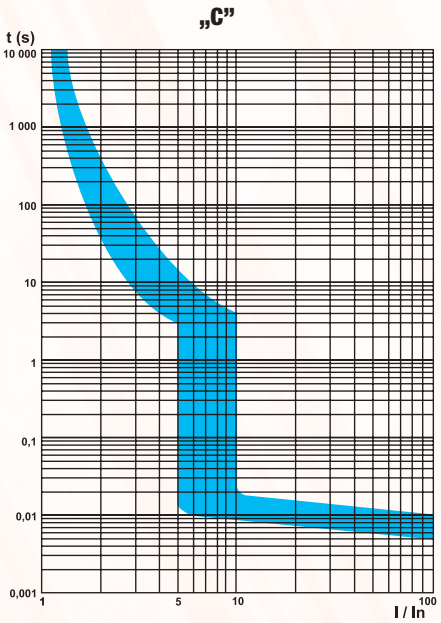
Rated operating voltage:	230 / 400 V AC	Mounting:	Clip on 35×7,5 mm size rail
Selectivity class:	3	Way of termination:	With female clips
Electrical life:	min. 6000 switching	Terminal capacity:	1,0 ... 25 mm^2
Mechanical life:	min. 20000 switching	Locking:	The switching arm is lockable on the „OFF" position
Material of housing:	Shock and UV-proof plastic		
Protection degree:	IP 40	Ambient temperature:	-25 °C ... +55 °C
		Thermal trip units are inaccessible from outside.	

Trip characteristics

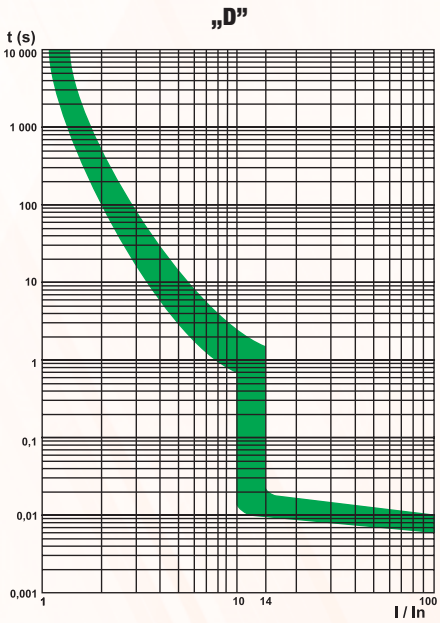
The EN 60898 standard determines the operating parameters, the requirements of performance and structure, and the order of tests. All three type of characteristics (B, C, D) of circuit breakers are operating on the same way (<2,55×I_n) on the overload range. The different is seen on the overload range 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

Range

Tracon code	Tripping characteristic	Number of poles	Rated current (I_n)	Rated short circuit breaking ability
C60N	B, C	1, 2, 3	2 – 63 A	2 – 40 A: 6 kA; 50 – 63 A: 4,5 kA
DPN	C	1+N	6 – 32 A	4,5 kA
TDZ	B, C, D	1, 2, 3, 4	1 – 63 A	6 kA
TDS	B, C, D	1, 2, 3, 4	1 – 63 A	1 – 40 A: 6 kA; 50 – 63 A: 4,5 kA
TDA	B, C	1, 2, 3, 4	1 – 63 A	10 kA
KMH	C	1, 2, 3, 4	63 – 125 A	6 kA

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Accessories

Tracon code	Name	C60N	DPN	TDZ	TDS	TDA	KMH
ED...	Distribution boxes	✓	✓	✓	✓	✓	✓
TFSS-...	Normal connecting rails	✓	✓	✓	✓	✓	–
TFSS-...V	Spade type connecting rails (*connection above)	–	–	✓	✓*	–	–
TFSS-1CS	Connecting clip with screw	✓	✓	✓	✓	✓	–
35/7.5...SIN	Mounting rails according to EN 50022	✓	✓	✓	✓	✓	✓
TDT	Protective cover	✓	✓	✓	✓	–	–

Flush mounted distribution boxes

E/41

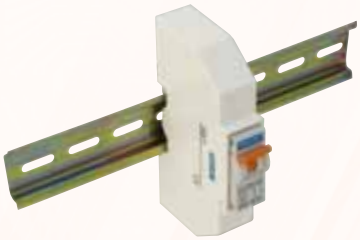
Surface mounted distribution boxes

E/41

DC type MCB for direct current electric networks

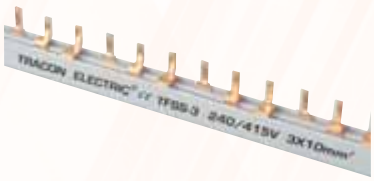
K/7

Enclosure for moulded devices



E/43

Normal connecting rails

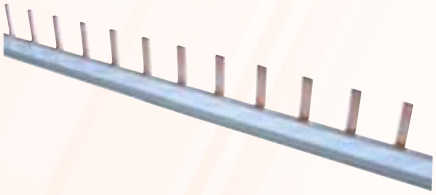


J/8

Spade type connecting rails

J/8

Connectig rails for high current devices



J/8

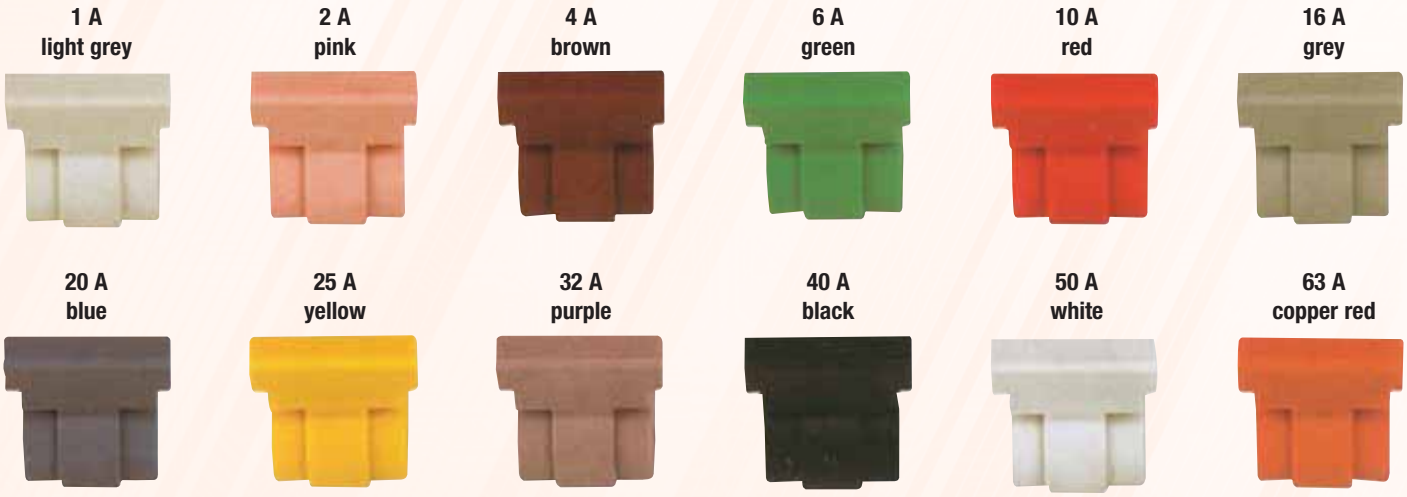
Mounting rails according to EN 50022

J/9

Connecting clip with screw

J/8

Color code for tripping arms (at TDS types)



Auxiliary units

These units can be attached to the sides of circuit breakers by help of screws, trough rivet holes in the plastic housing.
They are useful for remote switching and for auxiliary protection functions. The units can be combined as shown below:

Left side of the circuit breaker	Type of circuit breaker	Right side of the circuit breaker
C60-F2 + (C60-F2)	C60N, TDS	C60-S2 or C60-U2/02
–	TDZ	C60-S2 or C60-U2/02

Auxiliary contact

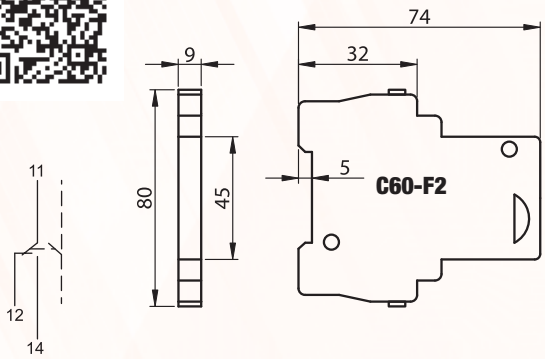
This contact shows the ON/OFF state of the circuit breaker's contact.

Technical data

Rated insulation voltage: 500 V
Mechanical life: 5000 cycles
Switching capacity:

AC:	U_n=415V	I_n=3A
	U_n=240V	I_n=6A
DC:	U_n=125V	I_n=1A
	U_n=48V	I_n=2A
	U_n=24V	I_n=4A

Tracon code	Name
C60-F2	Auxiliary contact



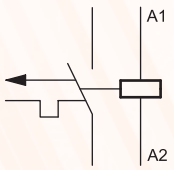
Working current (shunt) release

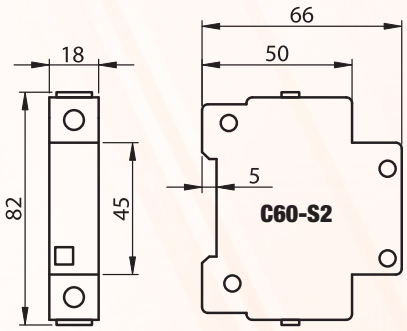
It switches off the connected circuit breaker by impulse operating voltage, thus being suitable for remote control. In case of release the reset button jumps out and the circuit breaker can be switched on again only after pushing this button in. Attention: the operating coil is allowed to be under voltage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

Technical data

Rated insulating voltage (U_i): 500 V
Rated operating voltage (U_s): 110-415 V AC
110-220 V DC
Mechanical life: 4000 cycles

Tracon code	Name
C60-S2	Working current (shunt) release





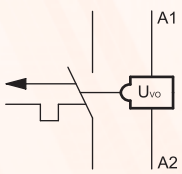
Under/over voltage release

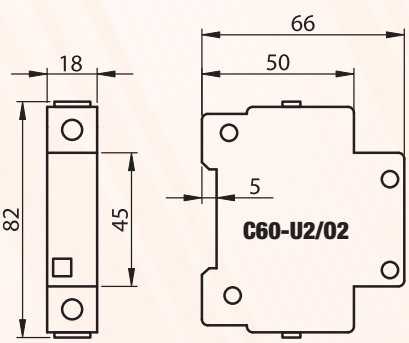
The release switches off the circuit breaker if the supply voltage is beyond rated operating range, protecting the attached device from harmful impacts of voltage variation. The circuit breaker is able to switch on only when the voltage on the contacts of the release gets back into the operating range (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.

Technical data

Rated voltage (U_e): AC 230 V
Over voltage tripping level: 280 V±5%
Under voltage tripping level: 170 V±5%
Mechanical life: 4000 cycles

Tracon code	Name
C60-U2/02	Under/over voltage release





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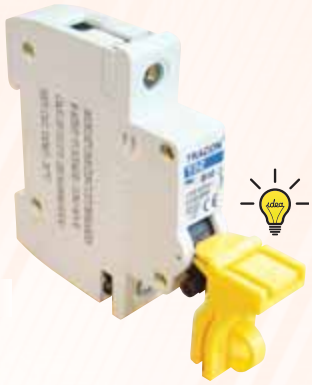
Lockable latch for modular protecting devices

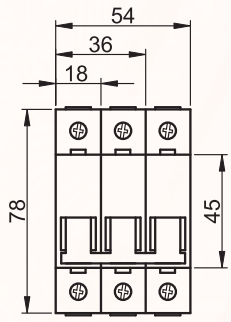
Using this latch the modular protecting devices can be locked with padlock on “OFF” position. The latch is applicable for devices with 8 – 10 mm actuator lever cutting and two 1 - 1,5 mm hole needed on the top of lever arch to fix the latch. The shackle diameter of used padlock can be up to 8 mm. Using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

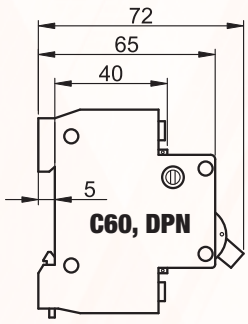


Tracon code	Name	Applicable for	Not applicable for
MDL	Lockable latch for modular protecting devices	C60/B60, TDZ, TDS, TDA, KVK, KVKV, KVKVE, NF, TFV	KMH, TFG, TFVH, TFIG

C60N type circuit breakers

These circuit breakers are reliable, of good quality, with 6 kA rated short circuit breaking ability and with B or C characteristic. The devices can be mounted on normal connecting rails.





Rated short circuit breaking ability:	2-40 A : 6 kA 50-63 A : 4,5 kA
Rated current (I_n)	2-63 A
Number of poles:	1, 2, 3, 1+N
Tripping characteristic:	B, C

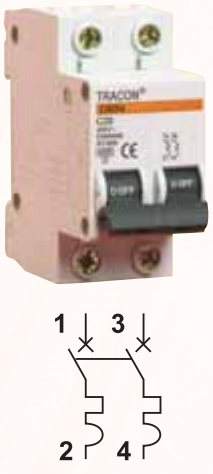
RELEVANT STANDARD	CCA CERTIFICATE NO.
EN 60898	CCA/HU 0191

1-poles

Tracon code „B”	Tracon code „C”	I_n (A)
B60-2-1	C60-2-1	2
B60-4-1	C60-4-1	4
B60-6-1	C60-6-1	6
B60-10-1	C60-10-1	10
B60-13-1	C60-13-1	13
B60-16-1	C60-16-1	16
B60-20-1	C60-20-1	20
B60-25-1	C60-25-1	25
B60-32-1	C60-32-1	32
B60-40-1	C60-40-1	40
B60-50-1	C60-50-1	50
B60-63-1	C60-63-1	63

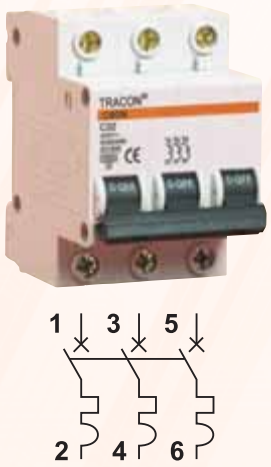
2-poles

Tracon code „B”	Tracon code „C”	I_n (A)
B60-4-2	C60-4-2	4
B60-6-2	C60-6-2	6
B60-10-2	C60-10-2	10
B60-13-2	C60-13-2	13
B60-16-2	C60-16-2	16
B60-20-2	C60-20-2	20
B60-25-2	C60-25-2	25
B60-32-2	C60-32-2	32
B60-40-2	C60-40-2	40
B60-50-2	C60-50-2	50
B60-63-2	C60-63-2	63



3-poles

Tracon code „B”	Tracon code „C”	I_n (A)
B60-4-3	C60-4-3	4
B60-6-3	C60-6-3	6
B60-10-3	C60-10-3	10
B60-13-3	C60-13-3	13
B60-16-3	C60-16-3	16
B60-20-3	C60-20-3	20
B60-25-3	C60-25-3	25
B60-32-3	C60-32-3	32
B60-40-3	C60-40-3	40
B60-50-3	C60-50-3	50
B60-63-3	C60-63-3	63



DPN (1+N poles)*

Tracon code „B”	Tracon code „C”	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

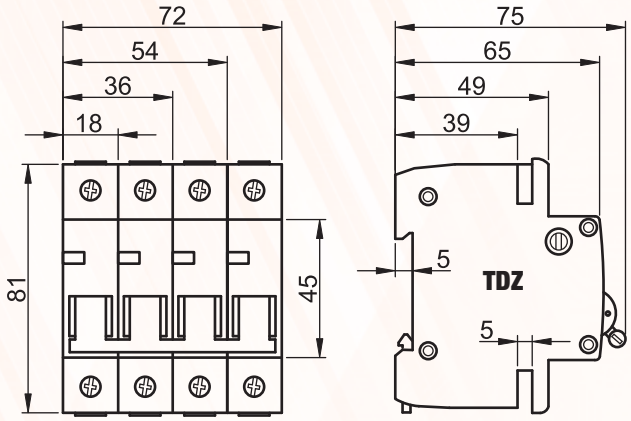
* Devices with two poles, have one protected (phase) and one switched neutral (N) pole. Rated short circuit breaking ability: 4,5 kA

TDZ type circuit breakers

These circuit breakers are reliable, of good quality, with 6 kA rated short circuit breaking ability and with B, C or D characteristic. The devices can be mounted on normal or spade type connecting rails.

Rated short circuit breaking ability:	6 kA
Rated current (I_n)	1-63 A
Number of poles:	1, 2, 3, 4
Tripping characteristic:	B, C, D

IECEE-CB CERTIFICATE NO.	ETL-SEMKO CERTIFICATE NO.
SE-34378	303872

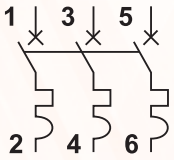


E

1-poles

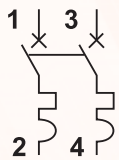
Tracon code „B”	Tracon code „C”	Tracon code „D”	I_n (A)
TDZ-1B-1	TDZ-1C-1	TDZ-1D-1	1
TDZ-1B-2	TDZ-1C-2	TDZ-1D-2	2
TDZ-1B-4	TDZ-1C-4	TDZ-1D-4	4
TDZ-1B-6	TDZ-1C-6	TDZ-1D-6	6
TDZ-1B-10	TDZ-1C-10	TDZ-1D-10	10
TDZ-1B-13	TDZ-1C-13	TDZ-1D-13	13
TDZ-1B-16	TDZ-1C-16	TDZ-1D-16	16
TDZ-1B-20	TDZ-1C-20	TDZ-1D-20	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

3-poles



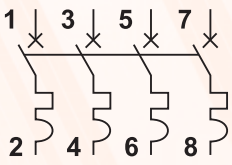
Tracon code „B”	Tracon code „C”	Tracon code „D”	I_n (A)
TDZ-3B-1	TDZ-3C-1	TDZ-3D-1	1
TDZ-3B-2	TDZ-3C-2	TDZ-3D-2	2
TDZ-3B-4	TDZ-3C-4	TDZ-3D-4	4
TDZ-3B-6	TDZ-3C-6	TDZ-3D-6	6
TDZ-3B-10	TDZ-3C-10	TDZ-3D-10	10
TDZ-3B-13	TDZ-3C-13	TDZ-3D-13	13
TDZ-3B-16	TDZ-3C-16	TDZ-3D-16	16
TDZ-3B-20	TDZ-3C-20	TDZ-3D-20	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

2-poles



Tracon code „B”	Tracon code „C”	Tracon code „D”	I_n (A)
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

4-poles



Tracon code „B”	Tracon code „C”	Tracon code „D”	I_n (A)
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

RELEVANT STANDARD	TÜV MEEI TEST DOCUMENTATION	IECEE-CB CERTIFICATE NO.
EN 60898	D0128V0605	SE-34378

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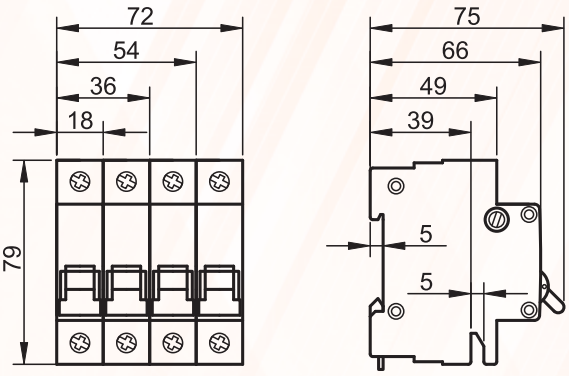
TDS type circuit breakers

These circuit breakers are reliable, of good quality, with 6 kA rated short circuit breaking ability and with B, C or D characteristic. The devices can be mounted on normal or spade type connecting rails.



Rated short circuit breaking ability:	1-40 A : 6 kA 50-63 A : 4,5 kA
Rated current (I_n)	1-63 A
Number of poles:	1, 2, 3, 4
Tripping characteristic:	B, C, D

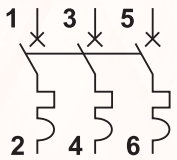
IECEE-CB CERTIFICATE NO.	ETL-SEMKO CERTIFICATE NO.
SE-34378	303872

1-poles

Tracon code „B"	Tracon code „C"	Tracon code „D"	I_n (A)
TDS-1B-1	TDS-1C-1	TDS-1D-1	1
TDS-1B-2	TDS-1C-2	TDS-1D-2	2
TDS-1B-4	TDS-1C-4	TDS-1D-4	4
TDS-1B-6	TDS-1C-6	TDS-1D-6	6
TDS-1B-10	TDS-1C-10	TDS-1D-10	10
TDS-1B-16	TDS-1C-16	TDS-1D-16	16
TDS-1B-20	TDS-1C-20	TDS-1D-20	20
TDS-1B-25	TDS-1C-25	TDS-1D-25	25
TDS-1B-32	TDS-1C-32	TDS-1D-32	32
TDS-1B-40	TDS-1C-40	TDS-1D-40	40
TDS-1B-50	TDS-1C-50	TDS-1D-50	50
TDS-1B-63	TDS-1C-63	TDS-1D-63	63

3-poles

Tracon code „B"	Tracon code „C"	Tracon code „D"	I_n (A)
TDS-3B-1	TDS-3C-1	TDS-3D-1	1
TDS-3B-2	TDS-3C-2	TDS-3D-2	2
TDS-3B-4	TDS-3C-4	TDS-3D-4	4
TDS-3B-6	TDS-3C-6	TDS-3D-6	6
TDS-3B-10	TDS-3C-10	TDS-3D-10	10
TDS-3B-16	TDS-3C-16	TDS-3D-16	16
TDS-3B-20	TDS-3C-20	TDS-3D-20	20
TDS-3B-25	TDS-3C-25	TDS-3D-25	25
TDS-3B-32	TDS-3C-32	TDS-3D-32	32
TDS-3B-40	TDS-3C-40	TDS-3D-40	40
TDS-3B-50	TDS-3C-50	TDS-3D-50	50
TDS-3B-63	TDS-3C-63	TDS-3D-63	63

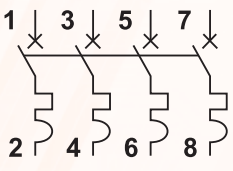


2-poles

Tracon code „B"	Tracon code „C"	Tracon code „D"	I_n (A)
TDS-2B-1	TDS-2C-1	TDS-2D-1	1
TDS-2B-2	TDS-2C-2	TDS-2D-2	2
TDS-2B-4	TDS-2C-4	TDS-2D-4	4
TDS-2B-6	TDS-2C-6	TDS-2D-6	6
TDS-2B-10	TDS-2C-10	TDS-2D-10	10
TDS-2B-16	TDS-2C-16	TDS-2D-16	16
TDS-2B-20	TDS-2C-20	TDS-2D-20	20
TDS-2B-25	TDS-2C-25	TDS-2D-25	25
TDS-2B-32	TDS-2C-32	TDS-2D-32	32
TDS-2B-40	TDS-2C-40	TDS-2D-40	40
TDS-2B-50	TDS-2C-50	TDS-2D-50	50
TDS-2B-63	TDS-2C-63	TDS-2D-63	63

4-poles

Tracon code „B"	Tracon code „C"	Tracon code „D"	I_n (A)
TDS-4B-1	TDS-4C-1	TDS-4D-1	1
TDS-4B-2	TDS-4C-2	TDS-4D-2	2
TDS-4B-4	TDS-4C-4	TDS-4D-4	4
TDS-4B-6	TDS-4C-6	TDS-4D-6	6
TDS-4B-10	TDS-4C-10	TDS-4D-10	10
TDS-4B-16	TDS-4C-16	TDS-4D-16	16
TDS-4B-20	TDS-4C-20	TDS-4D-20	20
TDS-4B-25	TDS-4C-25	TDS-4D-25	25
TDS-4B-32	TDS-4C-32	TDS-4D-32	32
TDS-4B-40	TDS-4C-40	TDS-4D-40	40
TDS-4B-50	TDS-4C-50	TDS-4D-50	50
TDS-4B-63	TDS-4C-63	TDS-4D-63	63



SCAN THE QR CODE!

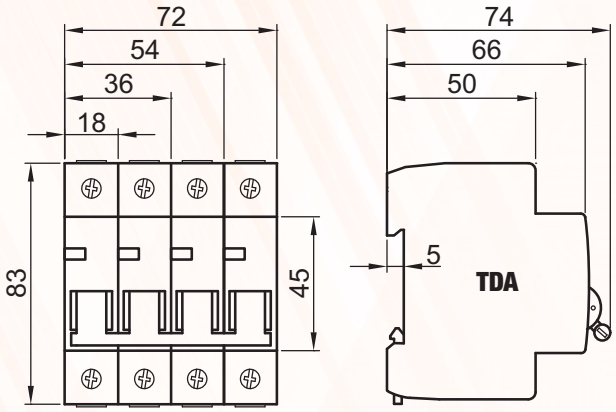
- Check our new products
- Be updated

Our assortment is expanding quickly and continuously! This catalogue reflects the status in November 2013.
Be up to date by our web page!

TDA type circuit breakers

These circuit breakers are reliable, of good quality, with 10 kA rated short circuit breaking ability and with B or C characteristic. The devices can be mounted on normal or spade type connecting rails.

Rated short circuit breaking ability:	10 kA
Rated current (I_n)	1-63 A
Number of poles:	1, 2, 3, 4
Tripping characteristic:	B, C



RELEVANT STANDARD
EN 60898

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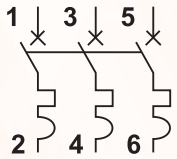
1-poles

Tracon code „B”	Tracon code „C”	I_n (A)
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

3-poles

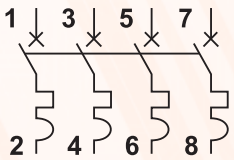


Tracon code „B”	Tracon code „C”	I_n (A)
TDA-3B-1	TDA-3C-1	1
TDA-3B-2	TDA-3C-2	2
TDA-3B-4	TDA-3C-4	4
TDA-3B-6	TDA-3C-6	6
TDA-3B-10	TDA-3C-10	10
TDA-3B-13	TDA-3C-13	13
TDA-3B-16	TDA-3C-16	16
TDA-3B-20	TDA-3C-20	20
TDA-3B-25	TDA-3C-25	25
TDA-3B-32	TDA-3C-32	32
TDA-3B-40	TDA-3C-40	40
TDA-3B-50	TDA-3C-50	50
TDA-3B-63	TDA-3C-63	63

2-poles

Tracon code „B”	Tracon code „C”	I_n (A)
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

4-poles



Tracon code „B”	Tracon code „C”	I_n (A)
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

ETL-SEMKO CERTIFICATE NO.
609529

TÜV MEEI TEST DOCUMENTATION
M1 2692428 01

IECEE-CB CERTIFICATE NO.
SE-46195

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KMH type high current overload circuit breakers

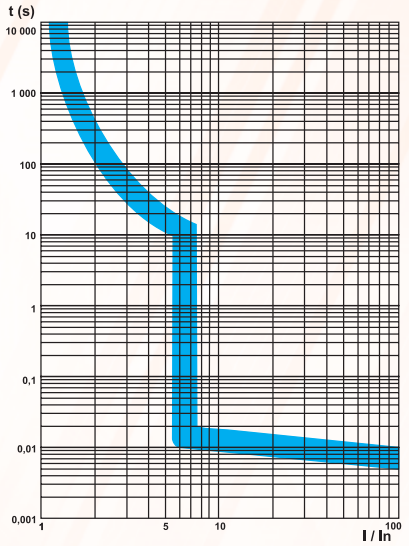
These high power overload circuit breakers are designed for circuits, where the constant value of the rated thermal current is higher than 63 A, the rated current of the last member of the circuit breaker family constructed for household and similar applications. Considering the higher rated current, the plastic house of the device is 1.5 module wide. Breaking is performed by thermal (in case of overload) or magnetic breaker (in case of short circuit), or manually.
The devices have a mechanically operated position sign. The poles of the multi-pole versions operate together; the switching arms are interconnected.

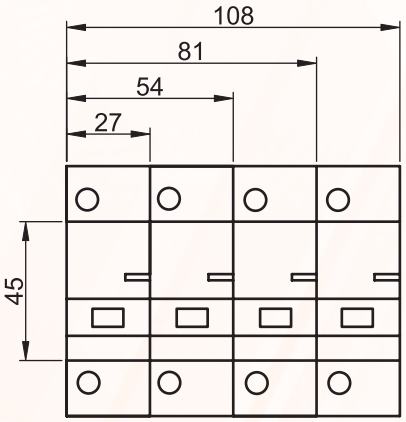
Technical data

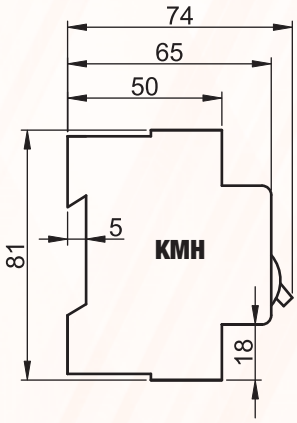
Rated operating voltage:	230 / 400 V AC
Selectivity class:	3
Electrical life:	min. 4000 switching
Mechanical life:	min. 10000 switching
Shunt fuse:	125A gG
Protection against outer effects:	Shock and UV-proof plastic housing IP 40 protection
Thermal trip units are inaccessible from outside.	
Mounting:	Clip-on 35×7,5 mm size mounting rail
Way of termination:	With female clips
Terminal capacity:	16 ... 35 mm²
Locking:	The switching arm is lockable on the „OFF” position
Ambient temperature:	-25 °C ... +55 °C

Rated short circuit breaking ability:	6 kA
Rated current (I_n)	63 - 125 A
Number of poles:	1, 2, 3, 4
Tripping characteristic:	C

Tripping characteristic:







RELEVANT STANDARD

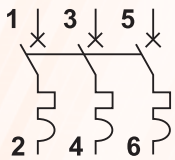
EN 60898

1-poles

Tracon code „C”	I_n (A)
KMH-163	63
KMH-180	80
KMH-1100	100
KMH-1125	125

3-poles

Tracon code „C”	I_n (A)
KMH-363	63
KMH-380	80
KMH-3100	100
KMH-3125	125

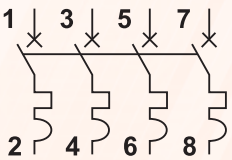


2-poles

Tracon code „C”	I_n (A)
KMH-263	63
KMH-280	80
KMH-2100	100
KMH-2125	125

4-poles

Tracon code „C”	I_n (A)
KMH-463	63
KMH-480	80
KMH-4100	100
KMH-4125	125



KVK type combined protective switches

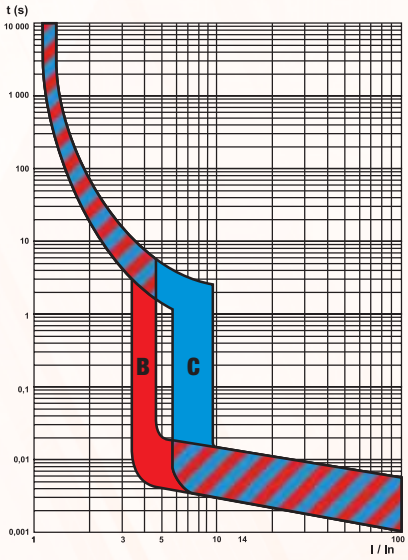
The combined protective switch is mainly used in electrical installations of buildings, for personal, overload and short circuit protection. It is especially suitable for electrical protection of rooms with increased safety requirements.
The current transformer of the protective switch, namely the magnetic 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 ground 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.

Technical data

Rated operating voltage:	240 V AC
Rated insulation voltage:	690 V
Rated impulse withstand voltage:	6 kV(1,2/50μs)
Applicable shunt fuse:	max. 40A gG
Short circuit withstand (with shunt fuse):	25 kA
Rated switching ability:	max. 300A (cos φ = 0.65)
Electrical life:	min. 4000 position switching
Mechanical life:	min. 20000 position switching
Protection against outer effects:	Shock and UV-proof plastic housing IP 40 protection Thermal trip units are inaccessible from outside.
Number of poles:	2
Mounting:	Clip-on 35×7,5 mm size mounting rail
Way of termination:	With female clips
Terminal capacity:	1,0 ... 10 mm²
Locking:	The switching arm is lockable on the „OFF" position
Ambient temperature:	-25 °C ... +55 °C

Rated current (A)	6, 10, 16, 20, 25, 32
Rated residual current (mA)	30, 100, 300
Rated short circuit breaking ability	3 kA
Type of operation	AC
Sensitivity	Alternate current
Tripping characteristic	B, C

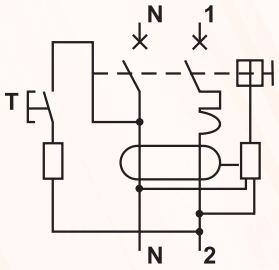
Tripping characteristic:

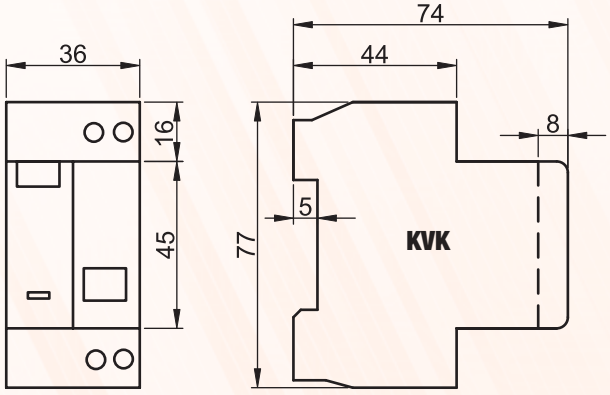


Accessories

ED... Distribution boxes (see on page E/41-43)
35/7.5SIN ... Mounting rails according to EN 50022 (see on page J/9)

RELEVANT STANDARD
EN 61009-1 **EN 61009-2-1**





IECEE-CB CERTIFICATE NO.	ETL-SEMKO CERTIFICATE NO.
SE-46231	**609426**

Tracon code „B"	Tracon code „C"	Rated current (A)	Rated residual current (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

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KVKVE Combined protective switch with one-module width.

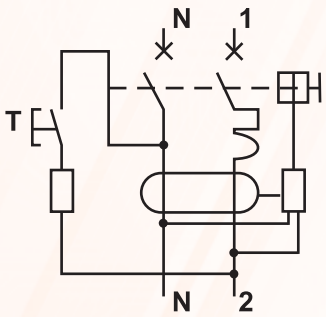
The combined protective switch is mainly used in electrical installations of buildings, for personal, overload and short circuit protection. It is especially suitable for electrical protection of rooms with increased safety requirements.
The current transformer of the protective switch, namely the magnetic 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).

Technical data

Rated operating voltage:	240 V AC
Rated insulation voltage:	690 V
Rated impulse withstand voltage:	6 kV(1,2/50μs)
Applicable shunt fuse:	max. 40A gG
Short circuit withstand (with shunt fuse):	25 kA
Rated switching ability:	max. 300A (cos φ = 0.65)
Electrical life:	min. 4000 position switching
Mechanical life:	min. 20000 position switching
Protection against outer effects:	Shock and UV-proof plastic housing IP 40 protection Thermal trip units are inaccessible from outside.
Mounting:	Clip-on 35×7,5 mm size mounting rail
Way of termination:	With female clips
Terminal capacity:	1,0 ... 16 mm²
Locking:	The switching arm is lockable on the „OFF" position
Ambient temperature:	-25 °C ... +55 °C

Rated current (A)	6, 10, 13, 16, 20, 25, 32
Rated residual current (mA)	30, 100
Rated short circuit breaking ability	6 kA
Type of operation	AC
Sensitivity	Alternate current
Tripping characteristic	B, C

Wiring diagram



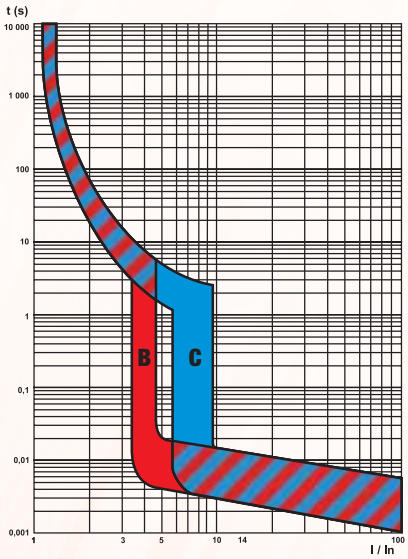
RELEVANT STANDARD
EN 60898-1

RELEVANT STANDARD
EN 61009-2-1

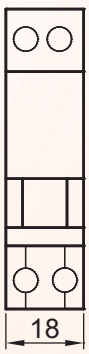
IECEE-CB CERTIFICATE NO.
CN15592

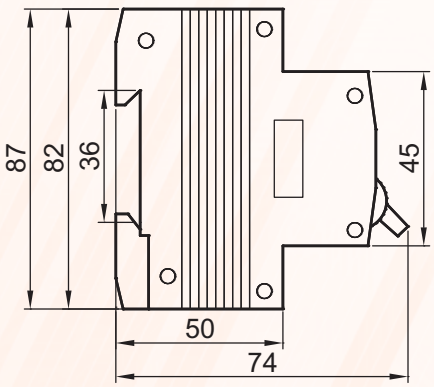
RELEVANT STANDARD
EN 61009-1

Tripping characteristic:



Tracon code „B"	Tracon code „C"	Rated current (A)	Rated residual current (mA)
KVKVEB-6/30	KVKVE-6/30	6 A	30 mA
KVKVEB-6/100	KVKVE-6/100	6 A	100 mA
KVKVEB-10/30	KVKVE-10/30	10 A	30 mA
KVKVEB-10/100	KVKVE-10/100	10 A	100 mA
KVKVEB-13/30	KVKVE-13/30	13 A	30 mA
KVKVEB-13/100	KVKVE-13/100	13 A	100 mA
KVKVEB-16/30	KVKVE-16/30	16 A	30 mA
KVKVEB-16/100	KVKVE-16/100	16 A	100 mA
KVKVEB-20/30	KVKVE-20/30	20 A	30 mA
KVKVEB-20/100	KVKVE-20/100	20 A	100 mA
KVKVEB-25/30	KVKVE-25/30	25 A	30 mA
KVKVEB-25/100	KVKVE-25/100	25 A	100 mA
KVKVEB-32/30	KVKVE-32/30	32 A	30 mA
KVKVEB-32/100	KVKVE-32/100	32 A	100 mA



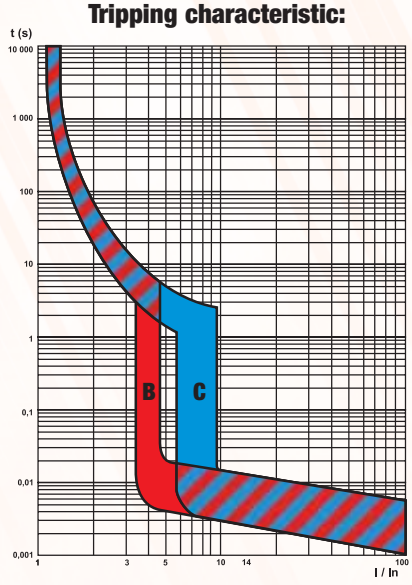


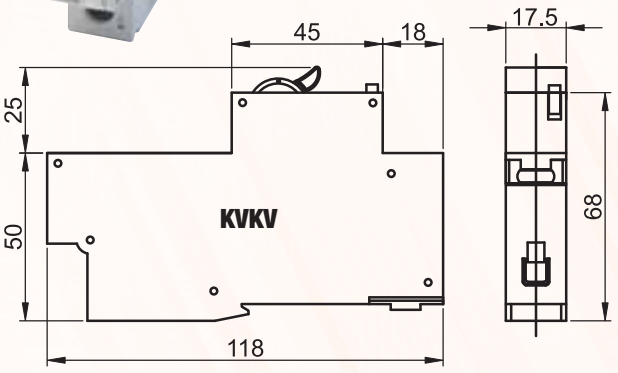
Combined protective switches (one module size)

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. It breaks the circuit of the protected device only in one pole. The device is equipped with optical display for signaling the operational state: the red color marks the "**ON**" state of the switch. Correct operation of the device can be controlled by pushing the "**T**" test button. The test should possibly be made monthly.

Rated current (A)	6; 10; 16; 20; 25, 32
Rated residual current (mA)	30; 100
Rated short circuit breaking ability	10 kA
Type of operation	AC
Sensibility	Alternate current
Tripping characteristics	B,C

Tripping characteristic:





Technical data

Rated operating voltage:	220 – 240 AC
Rated insulation voltage:	690 V, AC V
Rated impulse withstand voltage:	6 kV (1,2/50μs)
Applicable shunt fuse:	max. 40 A gG
Short circuit withstand (with shunt fuse):	25 kA
Rated switching ability:	max. 300A (cos φ = 0,65)
Electrical life:	4000 switching cycles
Mechanical life:	20 000 switching cycles
Protection against external effects:	Shock and UV proof plastic housing The thermal trip units are inaccessible from outside
Number of poles:	1
Protection degree:	IP 40
Mounting:	Clip-on 35×7,5 mm size mounting rail
Way of termination:	With female clips
Terminal capacity:	1,0 - 16 mm²
Locking:	The switching arm is lead-sealable in „OFF" position
Ambient temperature:	-25…+50 °C

Accessories

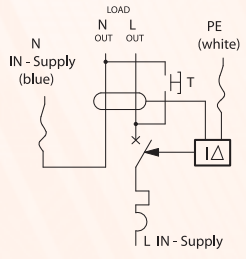
ED...	Distribution boxes (see on page E/41-43)
35/7.5SIN ...	Mounting rails according to EN 50022 (see on page J/9)
TFSS-...	connecting rails (see on page J/8)

Tracon code „B"	Tracon code „C"	Type of operation	Rated current (A)	Rated residual current (mA)
KVKVB-6/03	**KVKV-6/03**	AC	6	30
KVKVB-6/10	**KVKV-6/10**	AC	6	100
KVKVB-10/03	**KVKV-10/03**	AC	10	30
KVKVB-10/10	**KVKV-10/10**	AC	10	100
KVKVB-16/03	**KVKV-16/03**	AC	16	30
KVKVB-16/10	**KVKV-16/10**	AC	16	100
KVKVB-20/03	**KVKV-20/03**	AC	20	30
KVKVB-20/10	**KVKV-20/10**	AC	20	100
KVKVB-25/03	**KVKV-25/03**	AC	25	30
KVKVB-25/10	**KVKV-25/10**	AC	25	100
KVKVB-32/03	**KVKV-32/03**	AC	32	30
KVKVB-32/10	**KVKV-32/10**	AC	32	100
KVKVB-G16/30	**KVKV-G16/30**	A	16	30
KVKVB-G16/100	**KVKV-G16/100**	A	16	100

TÜV MEEI TEST DOCUMENTATION	RELEVANT STANDARDS	IECEE-CB	ETL-SEMKO
M1 2792629 01	**EN 61008-1**	**SE-40170**	**416835**

Installation

Installation of the protection switch must be performed exactly according to the marks at the terminals. The phase wire of the main circuit must be connected with the L_{IN} terminal; the phase wire of the protected circuit must be connected to the L_{OUT} terminal.
The other end of the blue wire (neutral) fixed directly to the device must be connected with the neutral wire of the main circuit. The neutral wire of the protected circuit must be connected with the N_{OUT} terminal.
The other end of the white wire fixed directly to the device must be connected with the PE main circuit.



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