Eaton

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Protective Devices

EATON

Powering Business Worldwide

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Table of Contents Protective Devices / Components

Residual Current Devices - General Data

Short description of the most important RCD types:

Symbol	Description
-25	Eaton standard. Suitable for outdoor installation (distribution boxes for outdoor installation and building sites) up to -25° C.
	Conditionally surge-current proof (>250 A, 8/20 µs) for general application.
	Type AC: AC current sensitive RCCB
	Type A: AC and pulsating DC current sensitive RCCB
	Type F: AC and pulsating DC current sensitive RCCB, trip also at frequency composition (10 Hz, 50 Hz, 1000 Hz)
kHz	Frequency range up to 20 kHz
	Trip also at frequency composition (10 Hz, 50 Hz, 1000 Hz)
	Type B: All-current sensitive RCD switchgear for applications where DC fault currents may occur. Non-selective, non-delayed. Protection against all kinds of fault currents.
kHz	Type B+: All-current sensitive RCD switchgear for applications where DC fault currents may occur. Non-selective, non-delayed. Protection against all kinds of fault currents. Also meets the requirements of the VDE 0664-400 standard (formerly known as VDE V 0664-110) and therefore provides enhanced fire safety.
G ÖVE E 8601	RCD of type G (min 10 ms time delay) surge current-proof up to 3 kA. For system components where protection against unwanted tripping is compulsory to avoid personal injury and damage to property (§ 12.1.6 of ÖVE/ÖNORM E 8001-1). Also for systems involving long lines and high line capacity. Some versions are sensitive to pulsating DC. Some versions are available in all-current sensitive design.
	RCD of type S (selective, min 40 ms time delay) surge current-proof up to 5 kA. Mainly used as main switch according to ÖVE/ÖNORM E 8001-1 § 12.1.5, as well as in combination with surge arresters.This is the only RCD suitable for series connection with other types if the rated tripping current of the downstream RCD does not exceed one third of the rated tripping current of the device of type S. Some versions are sensitive to pulsating DC. Some versions are available in all-current sensitive design.
"röntgenfest"	„X-ray-proof", for avoiding unwanted tripping caused by x-ray devices.
„umrichterfest"	„Frequency converter-proof", for avoiding unwanted tripping caused by frequency converters, speed-controlled drives, etc.

Kind of residual current and correct use of RCD Types

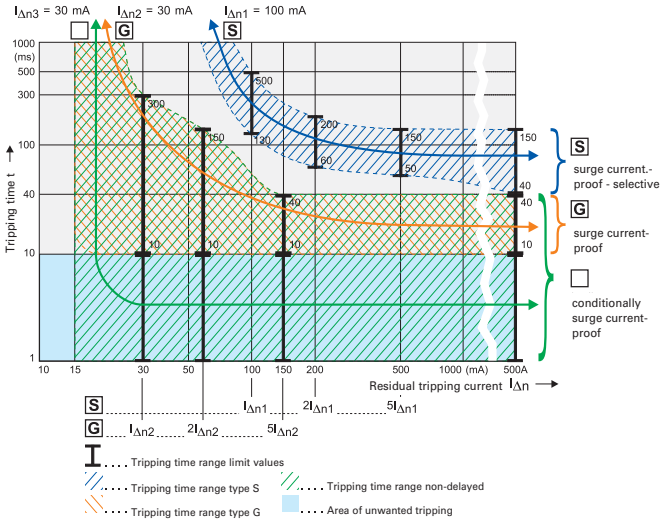
Kind of current	Current profile	Correct use / application field of RCCB types AC	A	F	B	/ B+	Tripping current
Sinusoidal AC residual current		✔	✔	✔	✔		0.5 to 1.0 $I_{\Delta n}$
Pulsating DC residual current (positive or negative half-wave)		–	✔	✔	✔		0.35 to 1.4 $I_{\Delta n}$
Cut half-wave current		–	✔	✔	✔		Lead angle 90°: 0.25 to 1.4 $I_{\Delta n}$
Lead angle 90° el			✔	✔	✔		Lead angle 135°: 0.11 to 1.4 $I_{\Delta n}$
Lead angle 135° el				✔			
Half-wave with smooth DC current of 6 mA		–	✔	✔	✔		max. 1.4 $I_{\Delta n}$ + 6 mA
Half-wave with smooth DC current of 10 mA		–	–	✔	✔		max. 1.4 $I_{\Delta n}$ + 10 mA
Smooth DC current		–	–	–	✔		0.5 to 2.0 $I_{\Delta n}$

Tripping time

Classification		$I_{\Delta n}$	2 x $I_{\Delta n}$	5 x $I_{\Delta n}$	500 A
Standard RCCB Conditionally surge current-proof 250 A	Max. tripping time (s)	0.3	0.15	0.04	0.04
RCCB Type G (Short-time-delayed) Surge current-proof 3 kA	Min. non tripping time (s) Max. tripping time (s)	0.01 0.3	0.01 0.15	0.01 0.04	0.01 0.04
RCCB Type S (Selective) Surge current-proof 5 kA	Min. non tripping time (s) Max. tripping time (s)	0.13 0.5	0.06 0.2	0.05 0.15	0.04 0.15

Tripping Characteristics (IEC/EN 61008)

Tripping characteristics, tripping time range and selectivity of instantaneous, surge current-proof „G“ and surge current-proof - selective „S“ residual current devices.

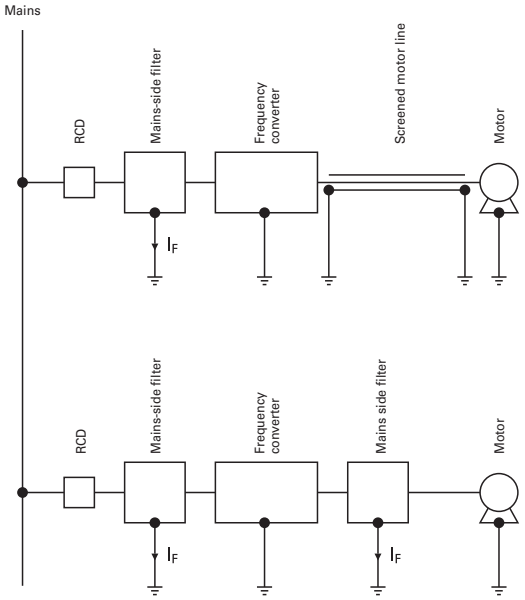


§ 6.1.1 of ÖVE/ÖNORM E 8001-1/A1 deals with **additional protection** and provides essentially the following:
In circuits with **sockets up to 16 A** with fault current/residual current protection by protective earthing, protective multiple earthing or residual current devices (RCDs), additional residual current protection devices with a rated tripping current of **0.03 A** must be installed. **This means when using RCDs for fault current/residual current protection two RCDs must be connected in series.**

Testing:
RCDs with tripping time delay (Types -G and -S) may be function tested with conventional testing equipment which must be set according to the instructions for operation of the testing device. Due to reasons inherent in the measuring process, the tripping time determined in this way may be longer than expected in accordance with the specifications of the manufacturer of the measuring instrument.
However, the device is ok if the result of measurement is within the time range specified by the manufacturer of the measuring instrument.

Hints for the application of our frequency converter-proof RCDs:

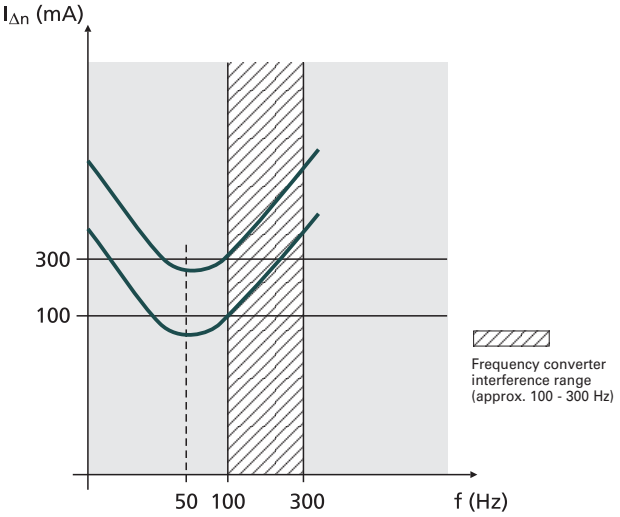
Due to the currents flowing off through the filters (designated IF), the sum of currents through the RCD is not exactly zero, which causes unwanted tripping.



Frequency converters are used in a wide variety of systems and equipment requiring variable speed, such as lifts, escalators, conveyor belts, and large washing machines. Using them for such purposes in circuits with conventional residual current devices causes frequent problems with unwanted tripping.

The technical root cause of this phenomenon is the following: Fast switching operations involving high voltages cause high interference levels which propagate through the lines on the one hand, and in the form of interfering radiation on the other. In order to eliminate this problem, a mains-side filter (also referred to as input filter or EMC-filter) is connected between the RCD and frequency converter. The anti-interference capacitors in the filters produce discharge currents against earth which may cause unwanted tripping of the RCD due to the apparent residual currents. Connecting a filter on the output side between frequency converter and 3-phase AC motor results in the same behaviour.

Tripping characteristic



This sample tripping characteristic of a 100 mA RCD and a 300 mA RCD shows the following: In the frequency range around 50 Hz, the RCDs trip as required (50 - 100 % of the indicated $I_{\Delta n}$).
In the range shown hatched in the diagram, i. e. from approx. 100 to 300 Hz, unwanted tripping occurs frequently due to the use of frequency converters. Frequency converter-proof residual current devices are much less sensitive in this frequency range than in the 50 - 60 Hz range, which leads to an enormous increase in the reliability of systems.

Therefore, we recommend to use frequency converter-proof RCDs!
These special residual current devices can be recognised by an extension of the type designation („**-U**"). They meet the requirements of compatibility between RCDs and frequency converters with respect to unwanted tripping.

These are **NOT AC/DC-sensitive** RCDs of type B !!!

Our **RCDs of type „-U"** are characterised by **SENSITIVITY TO RESIDUAL PULSATING DC** ⩘ and **SELECTIVITY** S or **SHORT-TIME DELAY** G.

Protective Measures

The following rules for the application of RCDs of type" -U" are only applicable in those cases where an RCD of type „-B" is not explicitly demanded in the instructions of the manufacturer of the frequency converter.

How can you make sure that the required protective measures are in place when using RCDs type "-U" and frequency converters in one system?

In Austria, the ÖVE Decision EN 219 is applicable.

Under this standard

- frequency converters must be equipped with current limiting devices in order to ensure disconnection in cause of faults or overload, and
- the installer of a system is obliged to make sure that additional equipotential bonding is provided (additional inclusion of all metal components, such as frequency converters, mains filters, motor filters, etc. into the existing equipotential bonding), in order to ensure that the permissible touch voltage of 50 V AC or 120 V DC is not exceeded. (In ÖVE/ÖNORM E 8001-1 the term „touch voltage" has been omitted. There is only a fault voltage limit of 65 V AC or 120 V DC which must not be exceeded).

In Germany, VDE 0100 is applicable, in Switzerland SEV 1000.

In case of application in any **other country** than those mentioned take into account national rules and recommendations.

Residual Current Devices PFIM MW

SG17011

- A complete spectrum of compact residual current devices for a wide range of applications
- For fault current/residual current protection and additional protection
- Wide variety of nominal currents
- Comprehensive range of accessories
- Real contact position indicator
- Automatic re-setting possible

Residual Current Devices PFIM — MW

Conditionally surge current-proof 250 A, type AC

SG16611

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
16/0.01	PFIM-16/2/001	235389	1/60
25/0.03	PFIM-25/2/003	235390	1/60
25/0.10	PFIM-25/2/01	235391	1/60
25/0.30	PFIM-25/2/03	235392	1/60
25/0.50	PFIM-25/2/05	235393	1/60
40/0.03	PFIM-40/2/003	235394	1/60
40/0.10	PFIM-40/2/01	235395	1/60
40/0.30	PFIM-40/2/03	235396	1/60
40/0.50	PFIM-40/2/05	235397	1/60
63/0.03	PFIM-63/2/003	235398	1/60
63/0.10	PFIM-63/2/01	235399	1/60
63/0.30	PFIM-63/2/03	235400	1/60
63/0.50	PFIM-63/2/05	235401	1/60
80/0.03	PFIM-80/2/003	235402	1/60
80/0.10	PFIM-80/2/01	235403	1/60
80/0.30	PFIM-80/2/03	235404	1/60
80/0.50	PFIM-80/2/05	235405	1/60
100/0.03	PFIM-100/2/003	102821	1/60
100/0.10	PFIM-100/2/01	102874	1/60
100/0.30	PFIM-100/2/03	102822	1/60

SG17011

4-pole			
25/0.03	PFIM-25/4/003	235406	1/30
25/0.10	PFIM-25/4/01	235407	1/30
25/0.30	PFIM-25/4/03	235408	1/30
25/0.50	PFIM-25/4/05	235409	1/30
40/0.03	PFIM-40/4/003	235410	1/30
40/0.10	PFIM-40/4/01	235411	1/30
40/0.30	PFIM-40/4/03	235412	1/30
40/0.50	PFIM-40/4/05	235413	1/30
63/0.03	PFIM-63/4/003	235414	1/30
63/0.10	PFIM-63/4/01	235415	1/30
63/0.30	PFIM-63/4/03	235416	1/30
63/0.50	PFIM-63/4/05	235417	1/30
80/0.03	PFIM-80/4/003	235418	1/30
80/0.10	PFIM-80/4/01	235419	1/30
80/0.30	PFIM-80/4/03	235420	1/30
80/0.50	PFIM-80/4/05	235421	1/30
100/0.03	PFIM-100/4/003	102823	1/30
100/0.10	PFIM-100/4/01	102824	1/30
100/0.30	PFIM-100/4/03	102825	1/30
100/0.50	PFIM-100/4/05	102826	1/30

Residual Current Devices PFIM — MW

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG79511

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
16/0.01	PFIM-16/2/001-A	235422	1/60
16/0.03	PFIM-16/2/003-A	235423	1/60
25/0.03	PFIM-25/2/003-A	235424	1/60
25/0.10	PFIM-25/2/01-A	235425	1/60
25/0.30	PFIM-25/2/03-A	235426	1/60
40/0.03	PFIM-40/2/003-A	235427	1/60
40/0.10	PFIM-40/2/01-A	235428	1/60
40/0.30	PFIM-40/2/03-A	235429	1/60
40/0.50	PFIM-40/2/05-A	235430	1/60
63/0.03	PFIM-63/2/003-A	235431	1/60
63/0.10	PFIM-63/2/01-A	235432	1/60
63/0.30	PFIM-63/2/03-A	235433	1/60
63/0.50	PFIM-63/2/05-A	235434	1/60
100/0.10	PFIM-100/2/01-A	102827	1/60
100/0.30	PFIM-100/2/03-A	102828	1/60

Explanation PFIM:
P = XPole, FI = Residual Current Devices, M = 10 kA

SG17011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
25/0.03	PFIM-25/4/003-A	235435	1/30
25/0.10	PFIM-25/4/01-A	235436	1/30
25/0.30	PFIM-25/4/03-A	235437	1/30
25/0.50	PFIM-25/4/05-A	235438	1/30
40/0.03	PFIM-40/4/003-A	235439	1/30
40/0.10	PFIM-40/4/01-A	235440	1/30
40/0.30	PFIM-40/4/03-A	235441	1/30
40/0.50	PFIM-40/4/05-A	235442	1/30
63/0.03	PFIM-63/4/003-A	235443	1/30
63/0.10	PFIM-63/4/01-A	235444	1/30
63/0.30	PFIM-63/4/03-A	235445	1/30
63/0.50	PFIM-63/4/05-A	235446	1/30
80/0.03	PFIM-80/4/003-A	235447	1/30
80/0.30	PFIM-80/4/03-A	235448	1/30
100/0.03	PFIM-100/4/003-A	102829	1/30
100/0.10	PFIM-100/4/01-A	102870	1/30
100/0.30	PFIM-100/4/03-A	102871	1/30
100/0.50	PFIM-100/4/05-A	102872	1/30

Residual Current Devices PFIM — MW

Surge current-proof 3 kA, type G (ÖVE E 8601)

SG16611

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
25/0.03	PFIM-25/2/003-G	235449	1/60
25/0.10	PFIM-25/2/01-G	235450	1/60
40/0.03	PFIM-40/2/003-G	235451	1/60
40/0.10	PFIM-40/2/01-G	235452	1/60
100/0.10	PFIM-100/2/01-G	110100	1/60

SG17011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
40/0.03	PFIM-40/4/003-G	235453	1/30
40/0.10	PFIM-40/4/01-G	235455	1/30
63/0.03	PFIM-63/4/003-G	235456	1/30
63/0.10	PFIM-63/4/01-G	235458	1/30
80/0.03	PFIM-80/4/003-G	104385	1/30
100/0.03	PFIM-100/4/003-G	104383	1/30
100/0.3	PFIM-100/4/03-G	104384	1/30

Residual Current Devices PFIM — MW

Surge current-proof 3 kA, sensitive to residual pulsating DC, type G/A (ÖVE E 8601)

SG16611

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
40/0.03	PFIM-40/2/003-G/A	108045	1/60
40/0.1	PFIM-40/2/01-G/A	109429	1/60
63/0.03	PFIM-63/2/003-G/A	108046	1/60
80/0.03	PFIM-80/2/003-G/A	108047	1/60
100/0.03	PFIM-100/2/003-G/A	108048	1/60

SG17011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
40/0.03	PFIM-40/4/003-G/A	235454	1/30
63/0.03	PFIM-63/4/003-G/A	235457	1/30
63/0.1	PFIM-63/4/01-G/A	109771	1/30
100/0.03	PFIM-100/4/003-G/A	102875	1/30
100/0.3	PFIM-100/4/03-G/A	102873	1/30

Explanation PFIM:
P = XPole, FI = Residual Current Devices, M = 10 kA

Residual Current Devices PFIM — MW

Surge current-proof 3 kA, X-ray application, type R

SG17011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
63/0.03	PFIM-63/4/003-R	235459	1/30
100/0.03	PFIM-100/4/003-R	102876	1/30

Residual Current Devices PFIM — MW

Selective + surge current-proof 5 kA, type S

SG16611

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
40/0.10	PFIM-40/2/01-S	235460	1/60
40/0.30	PFIM-40/2/03-S	235461	1/60

SG17011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
25/0.30	PFIM-25/4/03-S	235463	1/30
80/0.10	PFIM-80/4/01-S	235473	1/30

Residual Current Devices PFIM — MW

Selective + surge current-proof 5 kA, sensitive to residual pulsating DC, type S/A

SG16611

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
40/0.10	PFIM-40/2/01-S/A	109770	1/60

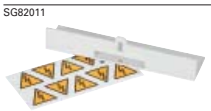
SG17011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
25/0.10	PFIM-25/4/01-S/A	235464	1/30
40/0.10	PFIM-40/4/01-S/A	235467	1/30
40/0.30	PFIM-40/4/03-S/A	235468	1/30
63/0.10	PFIM-63/4/01-S/A	235471	1/30
63/0.30	PFIM-63/4/03-S/A	235472	1/30
80/0.30	PFIM-80/4/03-S/A	235475	1/30
100/0.30	PFIM-100/4/03-S/A	290220	1/30

Sealing Cover Set Z-RC/AK

- for PFIM, PFR, PF6, PF7, CFI6, dRCM (not to use for PFDM)

SG82011



	Type Designation	Article No.	Units per package
2-pole	Z-RC/AK-2MU	285385	10/30
4-pole	Z-RC/AK-4MU	101062	10/600

Residual Current Devices PFIM MY

wa_sg01015

- MEM Series for Malaysia
- For fault current/residual current protection and additional protection
- Real contact position indicator
- Automatic re-setting possible
- Comprehensive range of accessories

Residual Current Devices PFIM

MY

Conditionally surge current-proof 250 A, type AC

wa_sg00915

wa_sg01015

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
16/0.03	PFIM-16/2/003-MY	182981	1/60
25/0.03	PFIM-25/2/003-MY	182982	1/60
40/0.03	PFIM-40/2/003-MY	182983	1/60
40/0.30	PFIM-40/2/01-MY	182984	1/60
40/0.30	PFIM-40/2/03-MY	182985	1/60
63/0.03	PFIM-63/2/003-MY	182987	1/60
63/0.10	PFIM-63/2/01-MY	182988	1/60
63/0.30	PFIM-63/2/03-MY	182989	1/60
4-pole			
40/0.03	PFIM-40/4/003-MY	184482	1/30
40/0.10	PFIM-40/4/01-MY	183197	1/30
40/0.30	PFIM-40/4/03-MY	182986	1/30
63/0.03	PFIM-63/4/003-MY	184483	1/30
63/0.10	PFIM-63/4/01-MY	182990	1/30
63/0.30	PFIM-63/4/03-MY	182991	1/30

Explanation PFIM:
P = XPole, FI = Residual Current Devices, M = 10 kA

Residual Current Devices PFIM-U

SG62111

- Special residual current devices
  – for frequency converter applications
- For fault current/residual current protection and additional protection
- Comprehensive range of accessories
- Real contact position indicator
- Selective or short-time delayed

Residual Current Devices PFIM-U

Selective + surge current-proof 5 kA, frequency converter-proof, type U

SG62111

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
40/0.10	PFIM-40/4/01-U	235744	1/30
40/0.30	PFIM-40/4/03-U	235745	1/30
63/0.10	PFIM-63/4/01-U	235746	1/30
63/0.30	PFIM-63/4/03-U	235747	1/30
80/0.30	PFIM-80/4/03-U	290221	1/30
100/0.30	PFIM-100/4/03-U	290222	1/30

Residual Current Devices PFIM-U

Short-time delayed + surge current-proof 3 kA, frequency converter-proof, type U

SG62111

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
63/0.03	PFIM-63/4/003-U	285465	1/30

Residual Current Devices PFIM-X

SG62011

- Special residual current devices
  – back up protection with nominal value possible (overload protection)
- For fault current/residual current protection and additional protection
- Comprehensive range of accessories
- Real contact position indicator
- Automatic re-setting possible
- Special U-types available

Residual Current Devices PFIM-X

Conditionally surge current-proof 250 A, type AC , type A

SG16611

2-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
40/0.03	PFIM-40/2/003-X	110089	1/60

SG62011

4-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
40/0.03	PFIM-40/4/003-X	235737	1/30
40/0.10	PFIM-40/4/01-X	235738	1/30
63/0.03	PFIM-63/4/003-X	274293	1/30
63/0.10	PFIM-63/4/01-X	274296	1/30
40/0.03	PFIM-40/4/003-XA	235739	1/30
63/0.03	PFIM-63/4/003-XA	294163	1/30
63/0.10	PFIM-63/4/01-XA	293304	1/30
63/0.30	PFIM-63/4/03-XA	293305	1/30

Residual Current Devices PFIM-X

Surge current-proof 3 kA, type G (ÖVE E 8601), type G , type G/A

SG62011

4-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
40/0.03	PFIM-40/4/003-XG	235742	1/30
40/0.10	PFIM-40/4/01-XG	274292	1/30
63/0.10	PFIM-63/4/01-XG	293306	1/30
40/0.03	PFIM-40/4/003-XG/A	235743	1/30
63/0.03	PFIM-63/4/003-XG/A	103016	1/30

Residual Current Devices PFIM-X

Selective + surge current-proof 5 kA, sensitive to residual pulsating DC, type S/A

SG62011

4-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
40/0.10	PFIM-40/4/01-XS/A	235740	1/30
40/0.30	PFIM-40/4/03-XS/A	235741	1/30
63/0.10	PFIM-63/4/01-XS/A	274294	1/30
63/0.30	PFIM-63/4/03-XS/A	274295	1/30

Residual Current Devices PFIM-X

Selective + surge current-proof 5 kA, frequency converter-proof, type U

SG62011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
40/0.10	PFIM-40/4/01-XU	235748	1/30
40/0.30	PFIM-40/4/03-XU	235749	1/30

Specifications | Residual Current Devices PFIM

Description

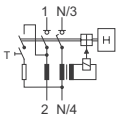
- Residual Current Devices
- Shape compatible with and suitable for standard busbar connection to other devices of the P-series
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Universal tripping signal switch, also suitable for PLS., PKN., Z-A. can be mounted subsequently
- Auxiliary switch Z-HK can be mounted subsequently
- Contact position indicator red - green
- Delayed types suitable for being used with standard fluorescent tubes with or without electronical ballast (30mA-RCD: 30 units per phase conductor, 100mA-RCD: 90 units per phase conductor).
  Notes: Depending of the fluorescent lamp ballast manufacturer partly more possible. Symmetrical allocation of the fluorescent lamp ballasts on all phases favourably. Shifting references of the fluorescent lamp ballast manufacturer consider.
- The device functions irrespective of the position of installation
- Tripping is line voltage-independent. Consequently, the RCD is suitable for “fault current/residual current protection” and “additional protection” within the the meaning of the applicable installation rules
- Mains connection at either side
- The 4-pole device can also be used for 2- or 3-pole connection. See connection possibilities.
- The test key “T” must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it’s recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key “T” serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed
- **Type -G**: High reliability against unwanted tripping. Compulsory for any circuit where personal injury or damage to property may occur in case of unwanted tripping (ÖVE/ÖNORM E 8001-1 § 12.1.6)
- **Type -G/A:** Additionally protects against special forms of residual pulsating DC which have not been smoothed.
  Special types for X-ray application PFIM-...-R
- **Type -R:** To aviod unwanted tripping due to X-ray devices.
- **Type -S**: Selective residual current device sensitive to AC, type -S. Compulsory for systems with surge arresters downstream of the RCD (ÖVE/ÖNORM E 8001-1 § 12.1.5).
- **Type -S/A:** Additionally protects against special forms of residual pulsating DC which have not been smoothed.
- **Type -U**: Suitable for speed-controlled drives with frequency converters in household, trade, and industry.
  Unwanted tripping is avoided thanks to a tripping characteristic designed particularly for frequency converters.
  See also explanation “Frequency Converter-Proof RCDs - What for?”
  Application according to ÖVE/ÖNORM E 8001-1 and Decision EN 219 (1989), VDE 0100, SEV 1000.

Accessories:

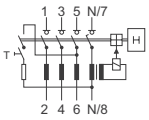
Auxiliary switch for subsequent installation to the left	Z-HK	248432
Tripping signal contact for subsequent installation to the right	Z-NHK	248434
Remote control and automatic switching device	Z-FW/LP	248296
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Sealing cover set	Z-RC/AK-2MU	285385
	Z-RC/AK-4MU	101062

Connection diagrams

2-pole



4-pole



Technical Data

Electrical

Design according to	IEC/EN 61008 Type G acc. to ÖVE E 8601	
Current test marks as printed onto the device		
Tripping	instantaneous	
Type G, R	10 ms delay	
Type S	40 ms delay - with selective disconnecting function	
Type U (only 30 mA)	10 ms delay	
Type U (without 30 mA)	40 ms delay - with selective disconnecting function	
Rated voltage U_n	230/400 V, 50 Hz	
Rated tripping current $I_{\Delta n}$	10, 30, 100, 300, 500 mA	
Sensitivity	AC and pulsating DC	
Rated insulation voltage U_i	440 V	
Rated impulse withstand voltage U_{imp}	4 kV	
Rated short circuit strength I_{nc}	10 kA	
Maximum back-up fuse	Short circuit	Overload
I_n = 16 A	63 A gG/gL	10 A gG/gL
I_n = 25A	63 A gG/gL	16 A gG/gL
I_n = 40A	63 A gG/gL	25 A gG/gL
I_n = 63A	63 A gG/gL	40 A gG/gL
I_n = 80A	80 A gG/gL	50 A gG/gL
I_n = 100A	100 A gG/gL	63 A gG/gL
Type PFIM-X:		
I_n = 40A	40 A gG/gL	40 A gG/gL
I_n = 63A	63 A gG/gL	63 A gG/gL

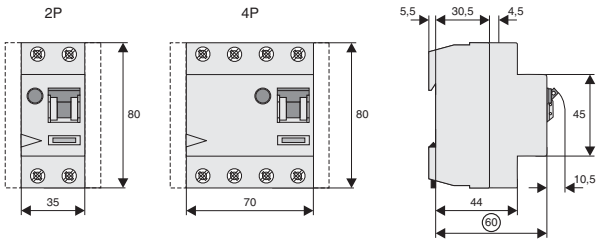
In the case that the maximal possible operating current of the electrical installation don´t exceed the rated current of the RCD only short circuit protection must be implemented.
Overload protection must be implemented in the case if the maximal possible operating current of the electrical installation can exceed the rated current of the RCD.

Rated breaking capacity I_m or Rated fault breaking capacity $I_{\Delta m}$	
I_n = 16-40 A	500 A
I_n = 63 A	630 A
I_n = 80 A	800 A
I_n = 100 A	1000 A
Voltage range of test button	
2-pole	196 - 264 V~
4-pole 30 mA	196 - 264 V~
4-pole 10, 100, 300, 500 mA	196 - 456 V~
Endurance electrical comp.	≥ 4,000 switching op.
mechanical comp.	≥ 20,000 switching op.

Mechanical

Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU), 70 mm (4MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Deg. of prot. in moisture-proof encl.	IP54
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1.5 - 35 mm² single wire 2 x 16 mm² multi wire
Busbar thickness	0.8-2 mm
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

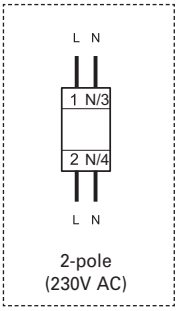
Dimensions (mm)



Correct connection

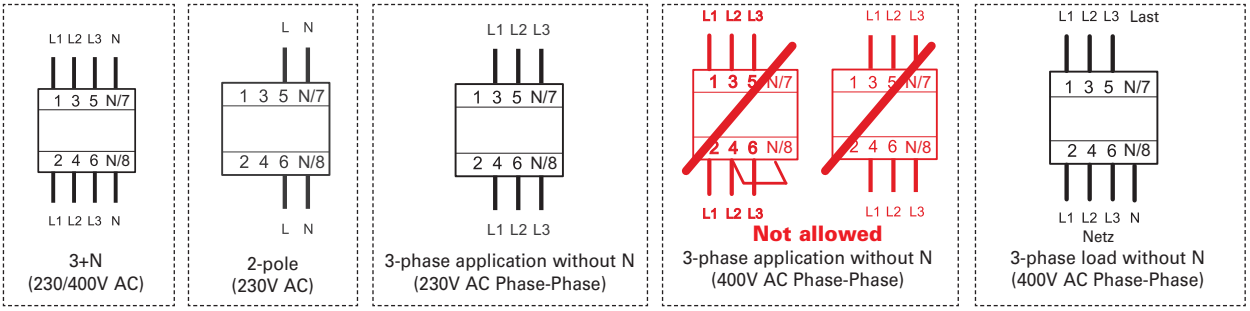
2-pole

30, 100, 300, 500mA Types:

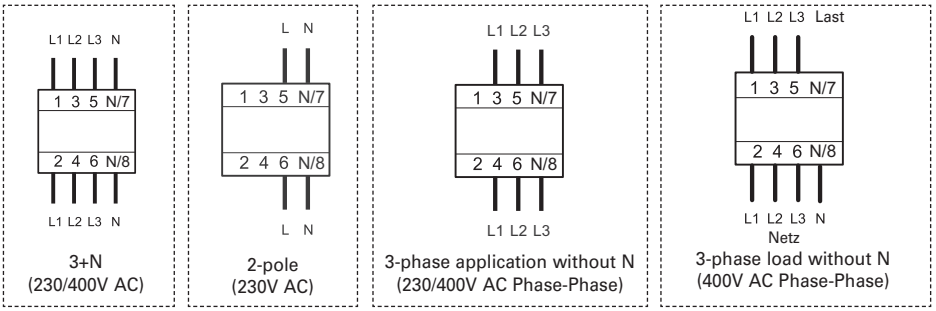


4-pole

30mA Types:



10, 100, 300, 500mA Types:



Influence of the ambient temperature to the maximum continuous current (A)

	16A		25A		40A		63A		80A		100A	
Ambient temperature	**2p**	**4p**	**2p**	**4p**	**2p**	**4p**	**2p**	**4p**	**2p**	**4p**	**2p**	**4p**
40°	16	16	25	25	40	40	63	63	80	80	100	100
45°	14	14	21	22	37	37	59	59	76	76	95	95
50°	11	11	18	19	33	34	55	55	72	72	90	90
55°	9	9	14	16	30	31	50	50	68	68	85	85
60°	– *)	–	–	–	26	27	45	45	64	64	80	80

Annotation: It has to be ensured that the values in the table are not exceeded and the back-up fuse/thermal protection works properly

*) not applicable

Residual Current Devices PFIM-F

wa_sg02716

- Increased protection in applications with 1phase frequency converter due to the detection of mixed frequencies
- Reduction of nuisance tripping thanks to
  - time delayed tripping
  - increased current withstand capability > 3 kA
- Higher load rating with DC residual currents up to 10 mA
- For fault current/residual current protection and additional protection
- Comprehensive range of accessories
- Real contact position indicator
- Automatic re-setting possible

Residual Current Devices PFIM-F

Surge current-proof 3 kA, sensitive to residual pulsating DC, type G/F (ÖVE E 8601)

wa_sg02816

2-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
25/0.03	PFIM-25/2/003-G/F	187449	1/60
25/0.3	PFIM-25/2/03-G/F	187452	1/60
40/0.03	PFIM-40/2/003-G/F	187450	1/60
40/0.3	PFIM-40/2/03-G/F	187453	1/60
63/0.03	PFIM-63/2/003-G/F	187451	1/60
63/0.3	PFIM-63/2/03-G/F	187454	1/60

wa_sg02716

4-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
25/0.03	PFIM-25/4/003-G/F	187455	1/30
25/0.3	PFIM-25/4/03-G/F	187359	1/30
40/0.03	PFIM-40/4/003-G/F	187456	1/30
40/0.3	PFIM-40/4/03-G/F	187360	1/30
63/0.03	PFIM-63/4/003-G/F	187358	1/30
63/0.3	PFIM-63/4/03-G/F	187361	1/30

Residual Current Devices PFIM-F

Selective + surge current-proof 5 kA, sensitive to residual pulsating DC, type S/F

wa_sg02716

4-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
25/0.3	PFIM-25/4/03-S/F	187362	1/30
40/0.3	PFIM-40/4/03-S/F	187363	1/30
63/0.3	PFIM-63/4/03-S/F	187364	1/30

Explanation PFIM:
P = XPole, FI = Residual Current Devices, M = 10 kA

Specifications | Residual Current Devices PFIM-F

Description

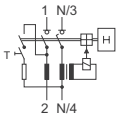
- Residual Current Devices
- Shape compatible with and suitable for standard busbar connection to other devices of the P-series
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Universal tripping signal switch, also suitable for PLS., PKN., Z-A. can be mounted subsequently
- Auxiliary switch Z-HK can be mounted subsequently
- Contact position indicator red - green
- Delayed types suitable for being used with standard fluorescent tubes with or without electronical ballast (30mA-RCD: 30 units per phase conductor). Notes: Depending of the fluorescent lamp ballast manufacturer partly more possible. Symmetrical allocation of the fluorescent lamp ballasts on all phases favourably. Shifting references of the fluorescent lamp ballast manufacturer consider.
- The device functions irrespective of the position of installation
- Tripping is line voltage-independent. Consequently, the RCD is suitable for “fault current/residual current protection” and “additional protection” within the the meaning of the applicable installation rules
- Mains connection at either side
- The 4-pole device can also be used for 2- or 3-pole connection. See connection possibilities.
- The test key “T” must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it’s recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key “T” serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -F**: Increased protection in applications with 1phase frequency converter due to the detection of mixed frequencies, höhere Load Capacity mit glatten Gleichfehlerströmen to 10 mA.

Accessories:

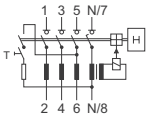
Auxiliary switch for subsequent installation to the left	Z-HK	248432
Tripping signal contact for subsequent installation to the right	Z-NHK	248434
Remote control and automatic switching device	Z-FW/LP	248296
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Sealing cover set	Z-RC/AK-2MU	285385
	Z-RC/AK-4MU	101062

Connection diagrams

2-pole



4-pole



Technical Data

Electrical

Design according to	IEC/EN 62423 Type G acc. to ÖVE E 8601	
Current test marks as printed onto the device		
Tripping		
Type G	10 ms delay	
Type S	40 ms delay - with selective disconnecting function	
Rated voltage U_n	230/400 V, 50 Hz	
Rated tripping current $I_{\Delta n}$	30, 300 mA	
Sensitivity	AC and pulsating DC	
Rated insulation voltage U_i	440 V	
Rated impulse withstand voltage U_{imp}	4 kV	
Rated short circuit strength I_{nc}	10 kA	
Maximum back-up fuse	Short circuit	Overload
I_n = 25A	63 A gG/gL	16 A gG/gL
I_n = 40A	63 A gG/gL	25 A gG/gL
I_n = 63A	63 A gG/gL	40 A gG/gL

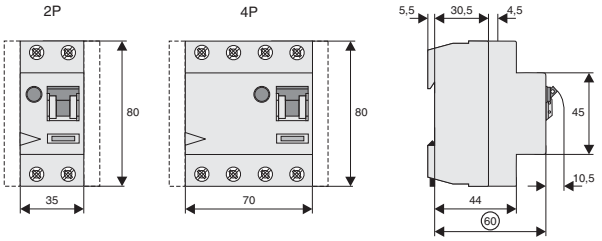
In the case that the maximal possible operating current of the electrical installation don´t exceed the rated current of the RCD only short circuit protection must be implemented.
Overload protection must be implemented in the case if the maximal possible operating current of the electrical installation can exceed the rated current of the RCD.

Rated breaking capacity I_m or Rated fault breaking capacity $I_{\Delta m}$		
I_n = 16-40 A	500 A	
I_n = 63 A	630 A	
Voltage range of test button		
2-pole	196 - 264 V~	
4-pole 30 mA	196 - 264 V~	
4-pole 300 mA	196 - 456 V~	
Endurance electrical comp.	≥ 4,000 switching op.	
mechanical comp.	≥ 20,000 switching op.	

Mechanical

Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU), 70 mm (4MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Deg. of prot. in moisture-proof encl.	IP54
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1.5 - 35 mm² single wire 2 x 16 mm² multi wire
Busbar thickness	0.8-2 mm
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

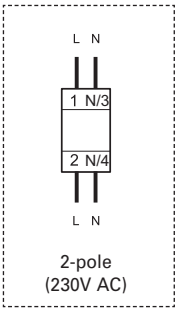
Dimensions (mm)



Correct connection

2-pole

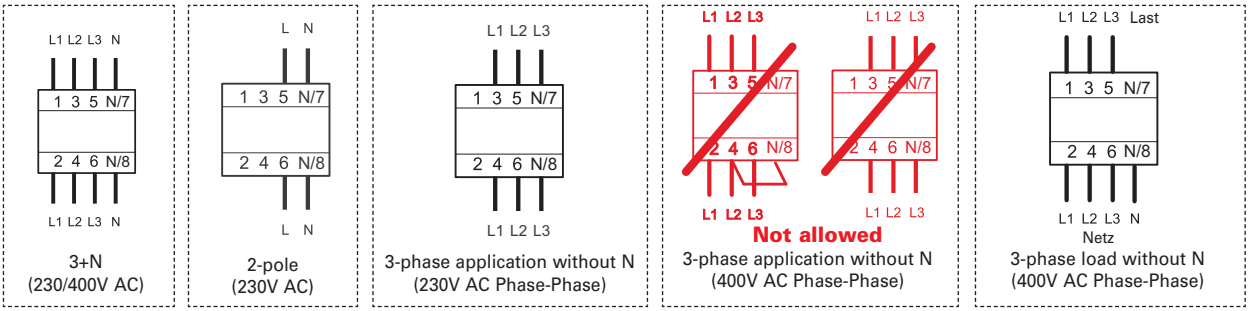
30, 300mA Types:



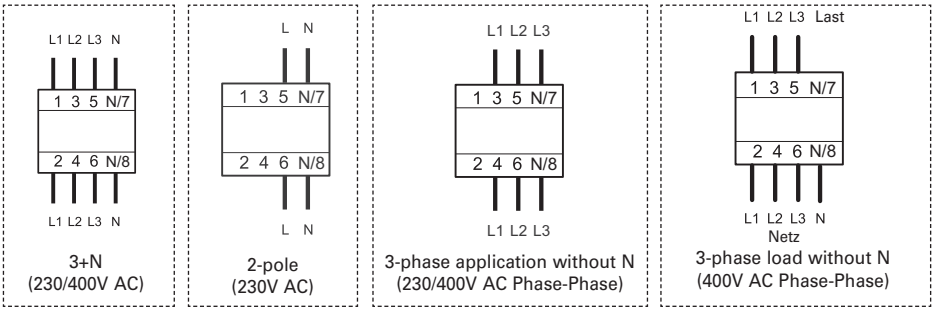
2-pole
(230V AC)

4-pole

30mA Types:



300mA Types:



Residual Current Devices PF7

SG08211

- A complete spectrum of compact residual current devices for a wide range of applications to 100 A
- Rated short circuit strength 10 kA
- Especially for protection against accidents caused by current and property protection
- Wide variety of types (G, S, A, G/A, S/A, R, U, ...)
- Special type U for frequency converter applications with high surge current proof
- Comprehensive range of accessories can be mounted subsequently
- Frost resistance -25

Residual Current Devices PF7
Conditionally surge current-proof 250 A, type AC

SG07411

SG08211

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
25/0.03	PF7-25/2/003	263577	1/60
25/0.10	PF7-25/2/01	263578	1/60
40/0.03	PF7-40/2/003	263579	1/60
40/0.10	PF7-40/2/01	263580	1/60
63/0.03	PF7-63/2/003	263581	1/60
63/0.10	PF7-63/2/01	263582	1/60
63/0.30	PF7-63/2/03	263583	1/60
100/0.03	PF7-100/2/003	166797	1/60
100/0.10	PF7-100/2/01	166799	1/60
100/0.30	PF7-100/2/03	166822	1/60
4-pole			
25/0.03	PF7-25/4/003	263584	1/30
25/0.10	PF7-25/4/01	263585	1/30
40/0.03	PF7-40/4/003	263586	1/30
40/0.10	PF7-40/4/01	263587	1/30
40/0.30	PF7-40/4/03	263588	1/30
40/0.50	PF7-40/4/05	263589	1/30
63/0.03	PF7-63/4/003	263590	1/30
63/0.10	PF7-63/4/01	263591	1/30
63/0.30	PF7-63/4/03	263592	1/30
63/0.50	PF7-63/4/05	263593	1/30
80/0.03	PF7-80/4/003	263594	1/30
80/0.10	PF7-80/4/01	263595	1/30
80/0.30	PF7-80/4/03	263596	1/30
80/0.50	PF7-80/4/05	263597	1/30
100/0.03	PF7-100/4/003	102925	1/30
100/0.10	PF7-100/4/01	102926	1/30
100/0.30	PF7-100/4/03	102927	1/30
100/0.50	PF7-100/4/05	102928	1/30

Residual Current Devices PF7
Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG07411

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
16/0.01	PF7-16/2/001-A	263598	1/60
25/0.03	PF7-25/2/003-A	263599	1/60
25/0.10	PF7-25/2/01-A	263600	1/60
25/0.30	PF7-25/2/03-A	263601	1/60
40/0.03	PF7-40/2/003-A	263602	1/60
40/0.10	PF7-40/2/01-A	263603	1/60
40/0.30	PF7-40/2/03-A	263604	1/60
63/0.03	PF7-63/2/003-A	263605	1/60
63/0.10	PF7-63/2/01-A	263606	1/60
63/0.30	PF7-63/2/03-A	263607	1/60
100/0.10	PF7-100/2/01-A	166820	1/60
100/0.30	PF7-100/2/03-A	166823	1/60

SG08211

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
25/0.03	PF7-25/4/003-A	263608	1/30
25/0.10	PF7-25/4/01-A	263609	1/30
25/0.30	PF7-25/4/03-A	263610	1/30
40/0.03	PF7-40/4/003-A	263611	1/30
40/0.10	PF7-40/4/01-A	263612	1/30
40/0.30	PF7-40/4/03-A	263613	1/30
63/0.03	PF7-63/4/003-A	263614	1/30
63/0.10	PF7-63/4/01-A	263615	1/30
63/0.30	PF7-63/4/03-A	263616	1/30
80/0.03	PF7-80/4/003-A	263617	1/30
80/0.30	PF7-80/4/03-A	263618	1/30
100/0.03	PF7-100/4/003-A	102929	1/30
100/0.10	PF7-100/4/01-A	102930	1/30
100/0.30	PF7-100/4/03-A	102931	1/30
100/0.50	PF7-100/4/05-A	102932	1/30

Residual Current Devices PF7

Surge current-proof 3 kA, type G (ÖVE E 8601), type G , type G/A

SG07411

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
25/0.03	PF7-25/2/003-G	263619	1/60
25/0.10	PF7-25/2/01-G	263620	1/60
40/0.03	PF7-40/2/003-G	263621	1/60
40/0.10	PF7-40/2/01-G	263622	1/60
40/0.03	PF7-40/2/003-G/A	166826	1/60
63/0.03	PF7-63/2/003-G/A	166827	1/60
80/0.03	PF7-80/2/003-G/A	166828	1/60
100/0.03	PF7-100/2/003-G/A	166798	1/60

SG08211

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
40/0.03	PF7-40/4/003-G	263623	1/30
40/0.10	PF7-40/4/01-G	263624	1/30
63/0.03	PF7-63/4/003-G	263625	1/30
63/0.10	PF7-63/4/01-G	263627	1/30
80/0.03	PF7-80/4/003-G/A	166824	1/30
100/0.03	PF7-100/4/003-G/A	166829	1/30
100/0.3	PF7-100/4/03-G/A	166825	1/30

Residual Current Devices PF7

Surge current-proof 3 kA, X-ray application, type R

SG08211

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
63/0.03	PF7-63/4/003-R	263628	1/30
100/0.03	PF7-100/4/003-R	102935	1/30

Residual Current Devices PF7

Selective + surge current-proof 5 kA, type S

SG07411

SG08211

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
40/0.10	PF7-40/2/01-S	263629	1/60
40/0.30	PF7-40/2/03-S	263630	1/60
4-pole			
80/0.10	PF7-80/4/01-S	263636	1/30

Residual Current Devices PF7

Selective + surge current-proof 5 kA, sensitive to residual pulsating DC, type S/A

SG08211

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
25/0.10	PF7-25/4/01-S/A	263631	1/30
40/0.10	PF7-40/4/01-S/A	263632	1/30
40/0.30	PF7-40/4/03-S/A	263633	1/30
63/0.10	PF7-63/4/01-S/A	263634	1/30
63/0.30	PF7-63/4/03-S/A	263635	1/30
80/0.30	PF7-80/4/03-S/A	263637	1/30
100/0.30	PF7-100/4/03-S/A	292494	1/30

Residual Current Devices PF7-U

SG08211

- Special residual current devices
  – for frequency converter applications
- For fault current/residual current protection and additional protection
- Comprehensive range of accessories can be mounted subsequently
- Real contact position indicator
- Selective
- Frost resistance -25

Residual Current Devices PF7-U

Selective + surge current-proof 5 kA, frequency converter-proof, type U

SG08211

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
40/0.10	PF7-40/4/01-U	263638	1/30
40/0.30	PF7-40/4/03-U	263639	1/30
63/0.10	PF7-63/4/01-U	263640	1/30
63/0.30	PF7-63/4/03-U	263641	1/30
80/0.30	PF7-80/4/03-U	292495	1/30
100/0.30	PF7-100/4/03-U	292496	1/30

Sealing Cover Set Z-RC/AK

- for PFIM, PFR, PF6, PF7, CFI6, dRCM (not to use for PFDM)

SG82011

	Type Designation	Article No.	Units per package
2-pole	Z-RC/AK-2MU	285385	10/30
4-pole	Z-RC/AK-4MU	101062	10/600

Specifications | Residual Current Devices PF7

Description

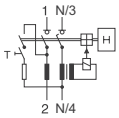
- Residual Current Devices
- Shape compatible with and suitable for standard busbar connection to other devices of the P-series
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Universal tripping signal switch, also suitable for PL., PFL., Z-A. can be mounted subsequently
- Auxiliary switch Z-HK can be mounted subsequently
- Contact position indicator red - green
- Delayed types suitable for being used with standard fluorescent tubes with or without electronical ballast (30mA-RCD: 30 units per phase conductor, 100mA-RCD: 90 units per phase conductor).
  Notes: Depending of the fluorescent lamp ballast manufacturer partly more possible. Symmetrical allocation of the fluorescent lamp ballasts on all phases favourably. Shifting references of the fluorescent lamp ballast manufacturer consider.
- The device functions irrespective of the position of installation
- Tripping is line voltage-independent. Consequently, the RCD is suitable for “fault current/residual current protection” and “additional protection” within the the meaning of the applicable installation rules
- Mains connection at either side
- Types with 80 a 100 A permissible short-circuit back-up fuse (PF7-80, PF7-100): Take into account overload protection
- The 4-pole device can also be used for 2- or 3-pole connection. See connection possibilities.
- The test key “T” must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it’s recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key “T” serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed
- **Type -G**: High reliability against unwanted tripping. Compulsory for any circuit where personal injury or damage to property may occur in case of unwanted tripping (ÖVE/ÖNORM E 8001-1 § 12.1.6)
- **Type -G/A:** Additionally protects against special forms of residual pulsating DC which have not been smoothed.
  Special types for X-ray application PF7-...-R
- **Type -S**: Selective residual current device sensitive to AC, type -S. Compulsory for systems with surge arresters downstream of the RCD (ÖVE/ÖNORM E 8001-1 § 12.1.5).
- **Type -S/A:** Additionally protects against special forms of residual pulsating DC which have not been smoothed.

Accessories:

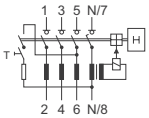
Auxiliary switch for subsequent installation to the left	Z-HK	248432
Tripping signal contact for subsequent installation to the right	Z-NHK	248434
Remote control and automatic switching device	Z-FW/LP	248296
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Sealing cover set	Z-RC/AK-2MU	285385
	Z-RC/AK-4MU	101062

Connection diagrams

2-pole



4-pole



Technical Data

Electrical

Design according to	IEC/EN 61008 Type G acc. to ÖVE E 8601	
Current test marks as printed onto the device		
Tripping	instantaneous	
Type G	10 ms delay	
Type S	40 ms delay - with selective disconnecting function	
Rated voltage U_n	230/400 V, 50 Hz	
Rated tripping current $I_{\Delta n}$	10, 30, 100, 300, 500 mA	
Sensitivity	AC and pulsating DC	
Rated insulation voltage U_i	440 V	
Rated impulse withstand voltage U_{imp}	4 kV	
Rated short circuit strength I_{nc}	10 kA	
Maximum back-up fuse	Short circuit	Overload
I_n = 16 A	63 A gG/gL	10 A gG/gL
I_n = 25A	63 A gG/gL	16 A gG/gL
I_n = 40A	63 A gG/gL	25 A gG/gL
I_n = 63A	63 A gG/gL	40 A gG/gL
I_n = 80A	80 A gG/gL	50 A gG/gL
I_n = 100A	100 A gG/gL	63 A gG/gL

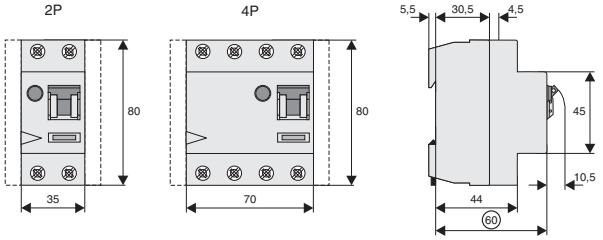
In the case that the maximal possible operating current of the electrical installation don´t exceed the rated current of the RCD only short circuit protection must be implemented.
Overload protection must be implemented in the case if the maximal possible operating current of the electrical installation can exceed the rated current of the RCD.

Rated breaking capacity I_m or Rated fault breaking capacity $I_{\Delta m}$	
I_n = 16-40 A	500 A
I_n = 63 A	630 A
I_n = 80 A	800 A
I_n = 100 A	1000 A
Voltage range of test button	
2-pole	196 - 264 V~
4-pole 30 mA	196 - 264 V~
4-pole 10, 100, 300, 500 mA	196 - 456 V~
Endurance electrical comp.	≥ 4,000 switching op.
mechanical comp.	≥ 20,000 switching op.

Mechanical

Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU), 70 mm (4MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Deg. of prot. in moisture-proof encl.	IP54
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1x (1.5 - 35) mm² single wire 2x (1.5 - 16) mm² multi wire
Busbar thickness	0.8-2 mm
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

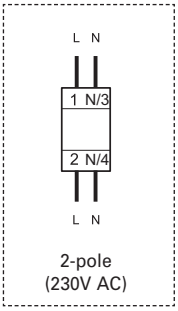
Dimensions (mm)



Correct connection

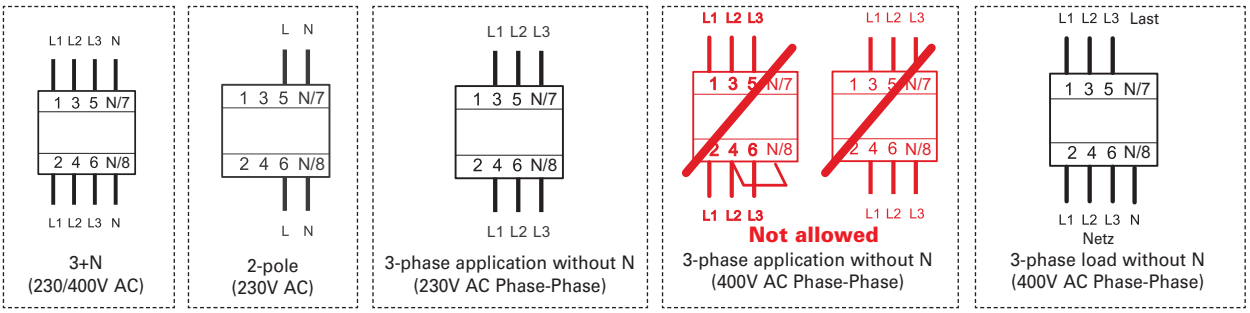
2-pole

30, 100, 300, 500mA Types:

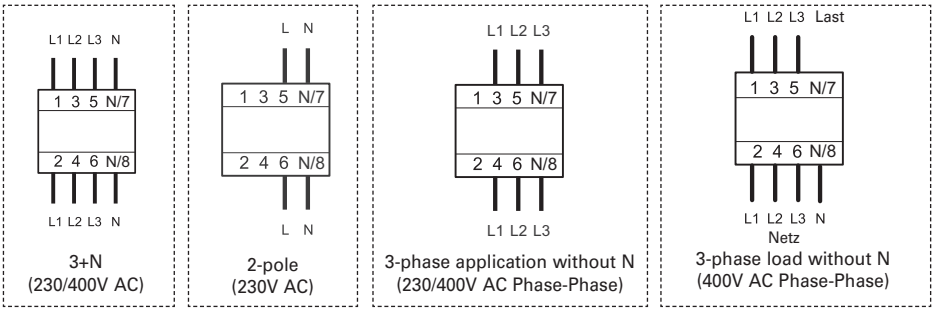


4-pole

30mA Types:



10, 100, 300, 500mA Types:



Influence of the ambient temperature to the maximum continuous current (A)

	16A	25A		40A		63A		80A	100A
Ambient temperature	**2p**	**2p**	**4p**	**2p**	**4p**	**2p**	**4p**	**4p**	**4p**
40°	16	25	25	40	40	63	63	80	100
45°	14	21	22	37	37	59	59	76	95
50°	11	18	19	33	34	55	55	72	90
55°	9	14	16	30	31	50	50	68	85
60°	– *)	–*)	–*)	26	27	45	45	64	80

Annotation: It has to be ensured that the values in the table are not exceeded and the back-up fuse/thermal protection works properly

*) not applicable

Residual Current Devices PF6

SG80011

- Economy series of RCD
- Rated short circuit strength 6 kA
- For fault current/residual current protection and additional protection
- Comprehensive range of accessories can be mounted subsequently
- Frost resistance -25

Residual Current Devices PF6

Conditionally surge current-proof 250 A, type AC

SG79411

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
16/0.01	PF6-16/2/001	165756	1/60
16/0.03	PF6-16/2/003	119429	1/60
25/0.03	PF6-25/2/003	286492	1/60
25/0.1	PF6-25/2/01	286493	1/60
25/0.3	PF6-25/2/03	286494	1/60
25/0.5	PF6-25/2/05	286495	1/60
40/0.03	PF6-40/2/003	286496	1/60
40/0.1	PF6-40/2/01	286497	1/60
40/0.3	PF6-40/2/03	286498	1/60
40/0.5	PF6-40/2/05	286499	1/60
63/0.03	PF6-63/2/003	286500	1/60
63/0.1	PF6-63/2/01	286501	1/60
63/0.3	PF6-63/2/03	286502	1/60
63/0.5	PF6-63/2/05	286503	1/60
80/0.03	PF6-80/2/003	165790	1/60
80/0.1	PF6-80/2/01	165791	1/60
80/0.3	PF6-80/2/03	165792	1/60
80/0.5	PF6-80/2/05	165793	1/60

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4-pole			
25/0.03	PF6-25/4/003	286504	1/30
25/0.1	PF6-25/4/01	286505	1/30
25/0.3	PF6-25/4/03	286506	1/30
25/0.5	PF6-25/4/05	286507	1/30
40/0.03	PF6-40/4/003	286508	1/30
40/0.1	PF6-40/4/01	286509	1/30
40/0.3	PF6-40/4/03	286510	1/30
40/0.5	PF6-40/4/05	286511	1/30
63/0.03	PF6-63/4/003	286512	1/30
63/0.1	PF6-63/4/01	286513	1/30
63/0.3	PF6-63/4/03	286514	1/30
63/0.5	PF6-63/4/05	286515	1/30
80/0.03	PF6-80/4/003	165795	1/30
80/0.1	PF6-80/4/01	165796	1/30
80/0.3	PF6-80/4/03	165799	1/30
80/0.5	PF6-80/4/05	165802	1/30

Residual Current Devices PF6

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG79411

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
16/0.01	PF6-16/2/001-A	165755	1/60
16/0.03	PF6-16/2/003-A	165757	1/60
25/0.03	PF6-25/2/003-A	112921	1/60
25/0.1	PF6-25/2/01-A	112922	1/60
25/0.3	PF6-25/2/03-A	112923	1/60
40/0.03	PF6-40/2/003-A	112924	1/60
40/0.1	PF6-40/2/01-A	112925	1/60
40/0.3	PF6-40/2/03-A	112926	1/60
40/0.5	PF6-40/2/05-A	165770	1/60
63/0.03	PF6-63/2/003-A	112927	1/60
63/0.1	PF6-63/2/01-A	112928	1/60
63/0.3	PF6-63/2/03-A	112929	1/60
63/0.5	PF6-63/2/05-A	165779	1/60

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
25/0.03	PF6-25/4/003-A	112930	1/30
25/0.1	PF6-25/4/01-A	112931	1/30
25/0.3	PF6-25/4/03-A	112932	1/30
25/0.5	PF6-25/4/05-A	165763	1/30
40/0.03	PF6-40/4/003-A	112933	1/30
40/0.1	PF6-40/4/01-A	112934	1/30
40/0.3	PF6-40/4/03-A	112935	1/30
40/0.5	PF6-40/4/05-A	165778	1/30
63/0.03	PF6-63/4/003-A	112936	1/30
63/0.1	PF6-63/4/01-A	112937	1/30
63/0.3	PF6-63/4/03-A	112938	1/30
63/0.5	PF6-63/4/05-A	165789	1/30
80/0.03	PF6-80/4/003-A	165794	1/30
80/0.3	PF6-80/4/03-A	165798	1/30

Residual Current Devices PF6
Surge current-proof 3 kA, type G (ÖVE E 8601)

SG79411

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
25/0.03	PF6-25/2/003-G	165758	1/60
25/0.1	PF6-25/2/01-G	165759	1/60
40/0.03	PF6-40/2/003-G	165764	1/60
40/0.1	PF6-40/2/01-G	165766	1/60

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4-pole			
40/0.03	PF6-40/4/003-G	165772	1/30
40/0.1	PF6-40/4/01-G	165773	1/30
63/0.03	PF6-63/4/003-G	165781	1/30
63/0.1	PF6-63/4/01-G	165784	1/30

Residual Current Devices PF6
Surge current-proof 3 kA, sensitive to residual pulsating DC, type G/A (ÖVE E 8601)

SG79411

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
40/0.1	PF6-40/2/01-G/A	165765	1/60

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4-pole			
40/0.03	PF6-40/4/003-G/A	165771	1/30
63/0.03	PF6-63/4/003-G/A	165780	1/30
63/0.1	PF6-63/4/01-G/A	165783	1/30

Residual Current Devices PF6
Surge current-proof 3 kA, X-ray application, type R

SG80011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
63/0.03	PF6-63/4/003-R	165782	1/30

Residual Current Devices PF6
Selective + surge current-proof 5 kA, type S

SG79411

SG80011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
40/0.1	PF6-40/2/01-S	165768	1/60
40/0.3	PF6-40/2/03-S	165769	1/60
4-pole			
25/0.1	PF6-25/4/01-S	165761	1/30
25/0.3	PF6-25/4/03-S	165762	1/30
40/0.1	PF6-40/4/01-S	165775	1/30
40/0.3	PF6-40/4/03-S	165777	1/30
63/0.1	PF6-63/4/01-S	165786	1/30
63/0.3	PF6-63/4/03-S	165788	1/30
80/0.1	PF6-80/4/01-S	165797	1/30
80/0.3	PF6-80/4/03-S	165801	1/30

Residual Current Devices PF6
Selective + surge current-proof 5 kA, sensitive to residual pulsating DC, type S/A

SG79411

SG80011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
40/0.1	PF6-40/2/01-S/A	165767	1/60
4-pole			
25/0.1	PF6-25/4/01-S/A	165760	1/30
40/0.1	PF6-40/4/01-S/A	165774	1/30
40/0.3	PF6-40/4/03-S/A	165776	1/30
63/0.1	PF6-63/4/01-S/A	165785	1/30
63/0.3	PF6-63/4/03-S/A	165787	1/30
80/0.3	PF6-80/4/03-S/A	165800	1/30

Sealing Cover Set Z-RC/AK

- for PFIM, PFR, PF6, PF7, CFI6, dRCM (not to use for PFDM)

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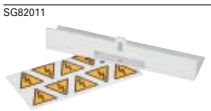


	Type Designation	Article No.	Units per package
2-pole	Z-RC/AK-2MU	285385	10/30
4-pole	Z-RC/AK-4MU	101062	10/600

Specifications | Residual Current Devices PF6

Description

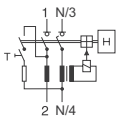
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Universal tripping signal switch, also suitable for PLS., PKN., Z-A. can be mounted subsequently
- Auxiliary switch Z-HK can be mounted subsequently
- Contact position indicator red - green
- Delayed types suitable for being used with standard fluorescent tubes with or without electronical ballast (30mA-RCD: 30 units per phase conductor, 100mA-RCD: 90 units per phase conductor).
  Notes: Depending of the fluorescent lamp ballast manufacturer partly more possible. Symmetrical allocation of the fluorescent lamp ballasts on all phases favourably. Shifting references of the fluorescent lamp ballast manufacturer consider.
- The device functions irrespective of the position of installation
- Tripping is line voltage-independent. Consequently, the RCD is suitable for “fault current/residual current protection” and “additional protection” within the the meaning of the applicable installation rules
- Mains connection at either side
- The 4-pole device can also be used for 2- or 3-pole connection. See connection possibilities.
- The test key “T” must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it’s recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key “T” serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have not been smoothed
- **Type -G**: High reliability against unwanted tripping. Compulsory for any circuit where personal injury or damage to property may occur in case of unwanted tripping (ÖVE/ÖNORM E 8001-1 § 12.1.6)
- **Type -G/A:** Additionally protects against special forms of residual pulsating DC which have not been smoothed.
  Special types for X-ray application PFIM-...-R
- **Type -R:** To aviod unwanted tripping due to X-ray devices.
- **Type -S**: Selective residual current device sensitive to AC, type -S. Compulsory for systems with surge arresters downstream of the RCD (ÖVE/ÖNORM E 8001-1 § 12.1.5).
- **Type -S/A:** Additionally protects against special forms of residual pulsating DC which have not been smoothed.

Accessories:

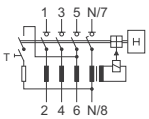
Auxiliary switch for subsequent installation to the left	Z-HK	248432
Tripping signal contact for subsequent installation to the right	Z-NHK	248434
Remote control and automatic switching device	Z-FW/LP	248296
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Sealing cover set	Z-RC/AK-2MU	285385
	Z-RC/AK-4MU	101062

Connection diagrams

2-pole



4-pole



Technical Data

Electrical

Design according to	IEC/EN 61008 Type G acc. to ÖVE E 8601	
Current test marks as printed onto the device		
Tripping	instantaneous	
Type G, R	10 ms delay	
Type S	40 ms delay - with selective disconnecting function	
Rated voltage U_n	230/400 V, 50 Hz	
Rated tripping current $I_{\Delta n}$	10, 30, 100, 300, 500 mA	
Sensitivity	AC and pulsating DC	
Rated insulation voltage U_i	440 V	
Rated impulse withstand voltage U_{imp}	4 kV	
Rated short circuit strength I_{nc}	6 kA	
Maximum back-up fuse	Short circuit	Overload
I_n = 16 A	63 A gG/gL	10 A gG/gL
I_n = 25A	63 A gG/gL	16 A gG/gL
I_n = 40A	63 A gG/gL	25 A gG/gL
I_n = 63A	63 A gG/gL	40 A gG/gL
I_n = 80A	80 A gG/gL	50 A gG/gL

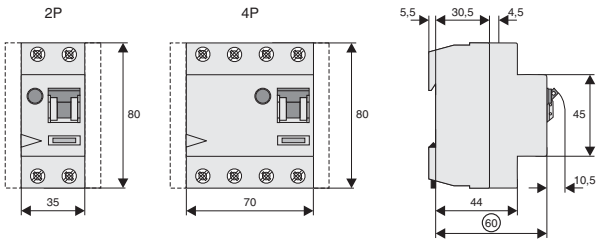
In the case that the maximal possible operating current of the electrical installation don´t exceed the rated current of the RCD only short circuit protection must be implemented.
Overload protection must be implemented in the case if the maximal possible operating current of the electrical installation can exceed the rated current of the RCD.

Rated breaking capacity I_m or Rated fault breaking capacity $I_{\Delta m}$	
I_n = 16-40 A	500 A
I_n = 63 A	630 A
I_n = 80 A	800 A
Voltage range of test button	
2-pole	196 - 264 V~
4-pole 30 mA	196 - 264 V~
4-pole 10, 100, 300, 500 mA	196 - 456 V~
Endurance electrical comp.	≥ 4,000 switching op.
mechanical comp.	≥ 20,000 switching op.

Mechanical

Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU), 70 mm (4MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Deg. of prot. in moisture-proof encl.	IP54
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1x (1.5 - 35) mm² single wire 2x (1.5 - 16) mm² multi wire
Busbar thickness	0.8-2 mm
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

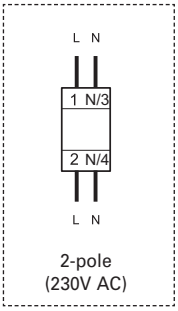
Dimensions (mm)



Correct connection

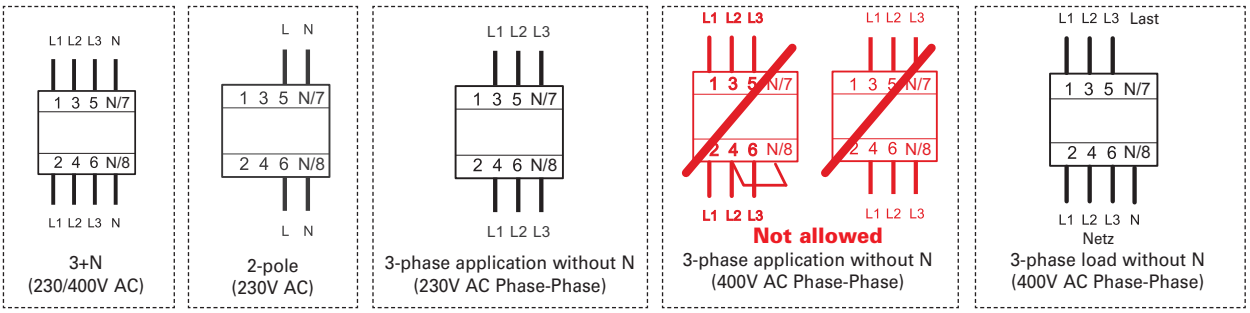
2-pole

30, 100, 300, 500mA Types:

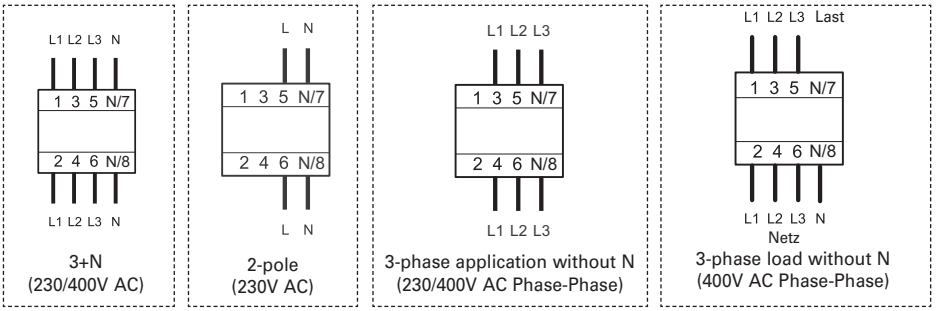


4-pole

30mA Types:



10, 100, 300, 500mA Types:



Influence of the ambient temperature to the maximum continuous current (A)

	16A	25A		40A		63A		80A	
Ambient temperature	**2p**	**2p**	**4p**	**2p**	**4p**	**2p**	**4p**	**2p**	**4p**
40°	16	25	25	40	40	63	63	80	80
45°	14	21	22	37	37	59	59	76	76
50°	11	18	19	33	34	55	55	72	72
55°	9	14	16	30	31	50	50	68	68
60°	– *)	– *)	– *)	26	27	45	45	64	64

Annotation: It has to be ensured that the values in the table are not exceeded and the back-up fuse/thermal protection works properly

*) not applicable

Residual Current Relays PFR, Core Balance Transformers Z-WFR

SG17311

- Especially matched residual current relays and core balance transformers
- Nominal fault currents 0,3 A and 1 A
- Standard (-S/A) and frequency converter-proof (-U) models
- Auxiliary switch can be mounted subsequently

SG47212

Residual Current Relays PFR

Selective + surge current-proof 5 kA, sensitive to residual pulsating DC, type S/A

SG17311

$I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
0.30	PFR2-03-S/A	235864	1/30
0.30	PFR3-03-S/A	235865	1/30
1.0	PFR2-1-S/A	235866	1/30
1.0	PFR3-1-S/A	235867	1/30

Core Balance Transformers for PFR-S/A

SG47112

Maximum cable lead-through diameter (mm)	Type Designation	Article No.	Units per package
60	Z-WFR 2-S/A	236981	1
130	Z-WFR 3-S/A	236982	1

Residual Current Relays PFR

Selective + surge current-proof 5 kA, frequency converter-proof, type U

SG17211

$I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
0.30	PFR2-03-U	235868	1/30
0.30	PFR3-03-U	235869	1/30
1.0	PFR2-1-U	235870	1/30
1.0	PFR3-1-U	235871	1/30

Core Balance Transformers for PFR-U

SG47112

Maximum cable lead-through diameter (mm)	Type Designation	Article No.	Units per package
60	Z-WFR 2-U	104386	1
130	Z-WFR 3-U	104387	1

Sealing Cover Set Z-RC/AK

• for PFIM, PFR, PF6, PF7, CFI6, dRCM (not to use for PFDM)

SG82011

	Type Designation	Article No.	Units per package
2-pole	Z-RC/AK-2MU	285385	10/30
4-pole	Z-RC/AK-4MU	101062	10/600

Specifications | Residual Current Relays PFR, Core Balance Transformers Z-WFR

Description

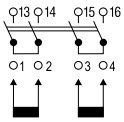
- Residual Current Relays
- Shape compatible with and suitable for standard busbar connection to other devices of the P-series
- Universal tripping signal switch, also suitable for PLS., PKN., Z-A. can be mounted subsequently
- Auxiliary switch Z-HK can be mounted subsequently
- Contact position indicator red - green
- Delayed types suitable for being used with standard fluorescent tubes with or without electronical ballast (30mA-RCD: 30 units per phase conductor, 100mA-RCD: 90 units per phase conductor).
  Notes: Depending of the fluorescent lamp ballast manufacturer partly more possible. Symmetrical allocation of the fluorescent lamp ballasts on all phases favourably. Shifting references of the fluorescent lamp ballast manufacturer consider.
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- **Type -U**: Suitable for speed-controlled drives with frequency converters in household, trade, and industry.
  Unwanted tripping is avoided thanks to a tripping characteristic designed particularly for frequency converters.
  See also explanation "Frequency Converter-Proof RCDs - What for?"
  Application according to ÖVE/ÖNORM E 8001 and Decision EN 219 (1989), VDE 0100, SEV 1000.

Accessories:

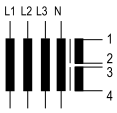
Auxiliary switch for subsequent installation to the left	Z-HK	248432
Tripping signal contact for subsequent installation to the right	Z-NHK	248434
Compact enclosure	KLV-TC-4	276241
Sealing cover set	Z-RC/AK-4MU	101062

Connection diagrams

Relais



Core Balance Transformers



Technical Data

Electrical

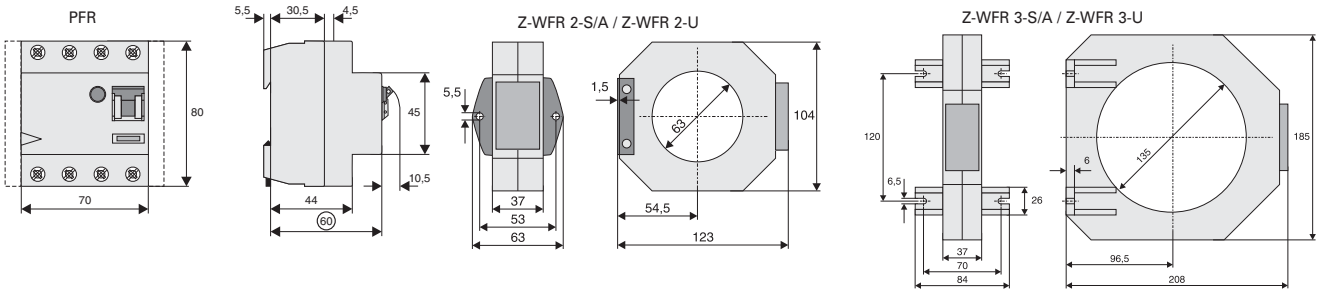
Design according to		IEC/EN 61008
Current test marks as printed onto the device		
Tripping		40 ms delay with selective disconnecting function
Rated voltage U_n		230/400 V; 50 Hz
Rated tripping current $I_{\Delta n}$		(0.1)*), 0.3 and 1 A
Rated current of relay contacts		25 A / 400 V~, 16 A / 230 V AC 15
Maximum nominal current		400 A
Sensitivity		pulsating DC
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Voltage range of test button		184 - 440 V~
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical

Frame size	45 mm
Device height	80 mm
Device width	70 mm (4MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity	1.5 - 35 mm² single wire 2 x 16 mm² multi wire
Busbar thickness	0.8-2 mm
Control line	1.5 - 2.l5 mm²
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

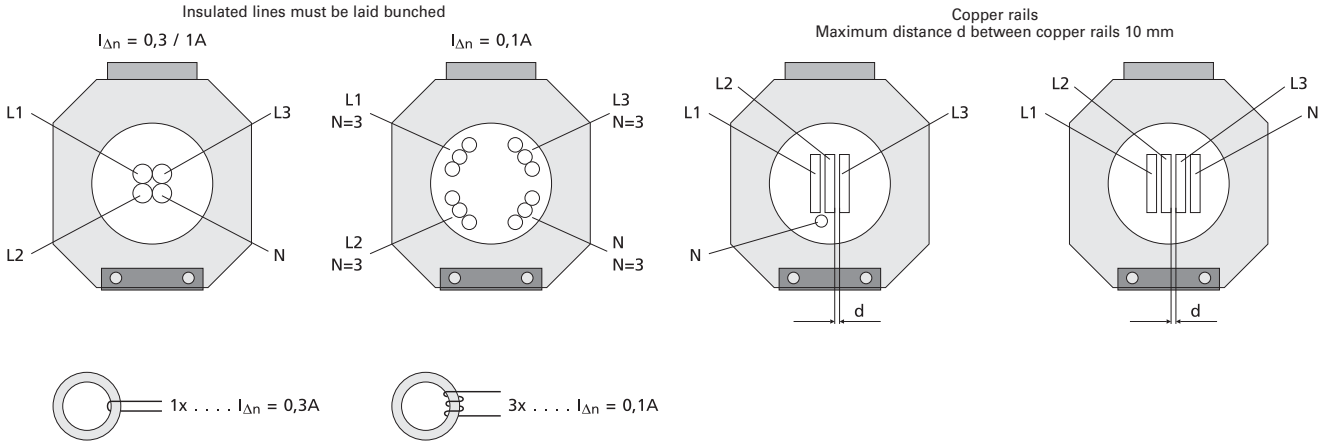
*) see Important Information for Installation

Dimensions (mm)

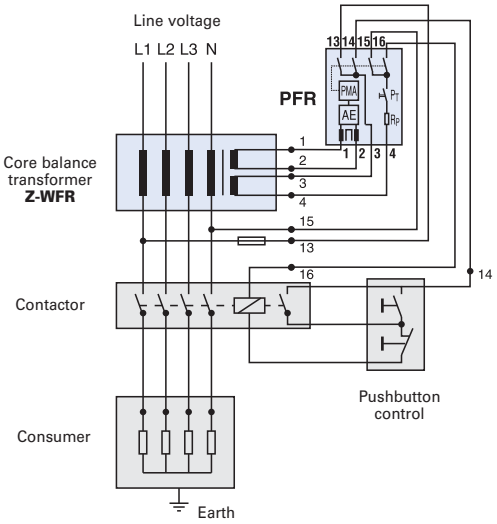


Important Information for Installation

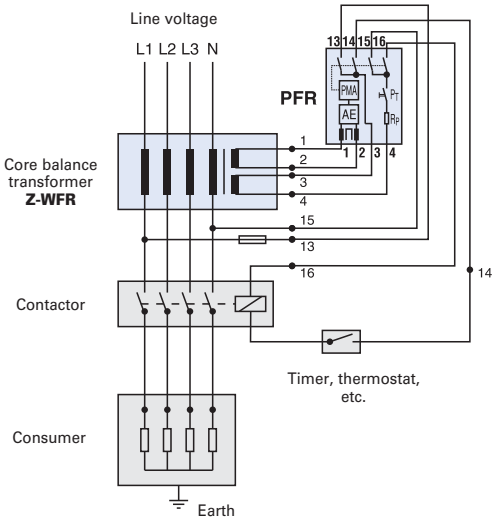
All lines required for operation, L1, L2, and L3 including neutral N, must be routed through the transformer as follows:



Impulse Contact Control



Continuous Contact Control



Two possible switching examples.

Attention: • Connect terminals 1-4 of the relay to the terminals 1-4 of the transformer (see switching examples)!
1+2: secondary winding; 3+4: test winding
• Supply terminals 13 and 15 as shown, so that the test circuit can work correkt!

Rated Tripping Current Matching

Matching of the rated tripping current, 0.1 or 0.3 A, is achieved by the number of turns in the primary winding of the transformer (in PFR2-03-S/A, PFR3-03-S/A, PFR2-03-U and PFR3-03-U).

Residual Current Relay	Transformer	Rated tripping current $I_{\Delta N}$ (A)	Number of primary turns	Maximum cable diameter (mm)	Maximum primary current (A)
PFR2-03-U (S/A)	Z-WFR2	0.1	3	60	150
		0.3	1	60	400
PFR3-03-U (S/A)	Z-WFR3	0.1	3	130	65
		0.3	1	130	400
PFR2-1-U (S/A)	Z-WFR2	1.0	1	60	400
PFR3-1-U (S/A)	Z-WFR3	1.0	1	130	400

Residual Current Devices PFDM

SG31011

- Advanced residual current devices for the 125 A nominal current range
- For fault current/residual current protection and additional protection
- Auxiliary switch
- Selective types

Residual Current Devices PFDM
Conditionally surge current-proof, type AC

SG30611

SG31011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
125/0.03	PFDM-125/2/003	249031	1/60
125/0.30	PFDM-125/2/03	249033	1/60
4-pole			
125/0.03	PFDM-125/4/003	235916	1/30
125/0.10	PFDM-125/4/01	235917	1/30
125/0.30	PFDM-125/4/03	235918	1/30
125/0.50	PFDM-125/4/05	235919	1/30

Residual Current Devices PFDM
Conditionally surge current-proof, type A

SG30611

SG31011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
125/0.03	PFDM-125/2/003-A	249035	1/60
125/0.30	PFDM-125/2/03-A	249037	1/60
4-pole			
125/0.03	PFDM-125/4/003-A	235920	1/30
125/0.10	PFDM-125/4/01-A	235921	1/30
125/0.30	PFDM-125/4/03-A	235922	1/30
125/0.50	PFDM-125/4/05-A	235923	1/30

Residual Current Devices PFDM
Selective + surge current-proof, type S/A

SG31011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
125/0.30	PFDM-125/4/03-S/A	285639	1/30

	Description	Type Designation	Article No.	Units per package
Auxiliary switch				
SG34412 	6 A, 230 V AC	Z-HD	265620	1

Specifications | Residual Current Devices PFDM

Description

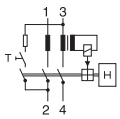
- Residual Current Devices
- Tripping is line voltage-independent. Consequently, the RCD is suitable for the protection of humans and additional protection (ÖVE/ÖNORM E 8001-1 § 6.1.2)
- Twin-purpose terminal (lift/open-mouthed) above and below
- Not busbar-compatible with other devices of the P-series
- Auxiliary switch Z-HD can be mounted subsequently
- Contact position indicator red - green
- The device functions irrespective of the position of installation
- Tripping is line voltage-independent. Consequently, the RCD is suitable for “fault current/residual current protection” and “additional protection” within the the meaning of the applicable installation rules
- Mains connection at either side
- The test key “T” must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it’s recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key “T” serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Additionally protects against special forms of residual pulsating DC which have not been smoothed.
- **Type -S/A**: Compulsory for systems with surge arresters downstream of the RCD (ÖVE/ÖNORM E 8001-1 § 12.1.5)

Accessories:

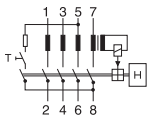
Auxiliary switch for subsequent installation to the left	Z-HD	265620

Connection diagrams

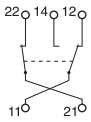
2-pole



4-pole



Z-HD



Technical Data PFDM

Electrical		
Design according to		IEC/EN 61008
Current test marks as printed onto the device		
Tripping		instantaneous
Type S/A		50 ms delay - with selective disconnecting function
Rated voltage U_n		230/400 V; 50 Hz
Rated tripping current $I_{\Delta n}$		30, 100, 300, 500 mA
Sensitivity		AC and pulsating DC
Rated short circuit strength I_{nc}		10 kA with back-up fuse
Maximum back-up fuse		Short circuit 125 A gG/gL
Rated breaking capacity I_m or Rated fault breaking capacity $I_{\Delta m}$		1250 A
Voltage range of test button		
2-pole		100 - 250 V~
4-pole		185 - 440 V~
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

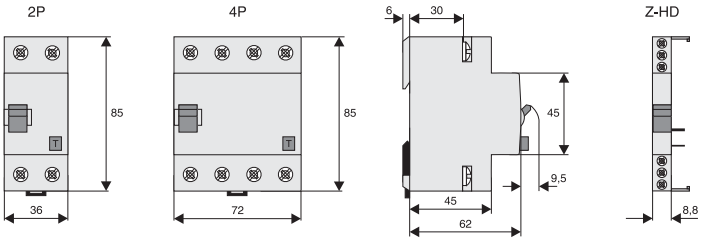
Mechanical	
Frame size	45 mm
Device height	85 mm
Device width	36 mm (2P), 72 mm (4P)
Mounting	quick fastening on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity	1,5 - 50 mm²
Busbar thickness	0.8-2 mm
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +75°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

Technical Data Auxiliary switch Z-HD

Electrical	
Subsequent installation to the left onto PFDM	
Contacts	1CO + 1NC
Load rating	
AC11	6 A / 230 V AC
DC11	1 A / 230 V DC

Mechanical	
Terminal capacity	bis 2,5 mm²

Dimensions (mm)



Function Auxiliary Switch

Tripping signal switch: detects if RCD tripping occured by an fault current

Auxiliary switch: shows the contact position of the RCD

Residual Current Devices CFI6 DE

wa_sg01215

- A large spectrum of compact residual current devices for a wide range of applications
- For fault current/residual current protection and additional protection
- Wide variety of nominal currents
- Comprehensive range of accessories
- Real contact position indicator

Residual Current Devices CFI6 — DE

Conditionally surge current-proof 250 A, type AC

wa_sg01115

2-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
25/0.03	CFI6-25/2/003	235753	1/60
25/0.10	CFI6-25/2/01	235754	1/60
25/0.30	CFI6-25/2/03	235755	1/60
25/0.50	CFI6-25/2/05	235756	1/60
40/0.03	CFI6-40/2/003	235760	1/60
40/0.10	CFI6-40/2/01	235761	1/60
40/0.30	CFI6-40/2/03	235762	1/60
40/0.50	CFI6-40/2/05	235763	1/60
63/0.03	CFI6-63/2/003	235768	1/60
63/0.10	CFI6-63/2/01	235769	1/60
63/0.30	CFI6-63/2/03	235770	1/60
63/0.50	CFI6-63/2/05	235771	1/60

wa_sg01215

4-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
25/0.03	CFI6-25/4/003	235776	1/30
25/0.10	CFI6-25/4/01	235777	1/30
25/0.30	CFI6-25/4/03	235778	1/30
25/0.50	CFI6-25/4/05	235779	1/30
40/0.03	CFI6-40/4/003	235784	1/30
40/0.10	CFI6-40/4/01	235785	1/30
40/0.30	CFI6-40/4/03	235786	1/30
40/0.50	CFI6-40/4/05	235787	1/30
63/0.03	CFI6-63/4/003	235792	1/30
63/0.10	CFI6-63/4/01	235793	1/30
63/0.30	CFI6-63/4/03	235794	1/30
63/0.50	CFI6-63/4/05	235795	1/30

Residual Current Devices CFI6 — DE

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

wa_sg01115

2-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
25/0.03	CFI6-25/2/003-A	235757	1/60
25/0.10	CFI6-25/2/01-A	235758	1/60
25/0.30	CFI6-25/2/03-A	235759	1/60
40/0.03	CFI6-40/2/003-A	235764	1/60
40/0.10	CFI6-40/2/01-A	235765	1/60
40/0.30	CFI6-40/2/03-A	235766	1/60
40/0.50	CFI6-40/2/05-A	235767	1/60
63/0.03	CFI6-63/2/003-A	235772	1/60
63/0.10	CFI6-63/2/01-A	235773	1/60
63/0.30	CFI6-63/2/03-A	235774	1/60
63/0.50	CFI6-63/2/05-A	235775	1/60

wa_sg01215

4-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
25/0.03	CFI6-25/4/003-A	235780	1/30
25/0.10	CFI6-25/4/01-A	235781	1/30
25/0.30	CFI6-25/4/03-A	235782	1/30
25/0.50	CFI6-25/4/05-A	235783	1/30
40/0.03	CFI6-40/4/003-A	235788	1/30
40/0.10	CFI6-40/4/01-A	235789	1/30
40/0.30	CFI6-40/4/03-A	235790	1/30
40/0.50	CFI6-40/4/05-A	235791	1/30
63/0.03	CFI6-63/4/003-A	235796	1/30
63/0.10	CFI6-63/4/01-A	235797	1/30
63/0.30	CFI6-63/4/03-A	235798	1/30
63/0.50	CFI6-63/4/05-A	235799	1/30

Explanation CFI6:
C = XClear, FI = Residual Current Devices, 6 = 6 kA

Sealing Cover Set Z-RC/AK

• for PFIM, PFR, PF6, PF7, CFI6, dRCM (not to use for PFDM)

SG82011

	Type Designation	Article No.	Units per package
2-pole	Z-RC/AK-2MU	285385	10/30
4-pole	Z-RC/AK-4MU	101062	10/600

Specifications | Residual Current Devices CFI6

Description

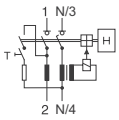
- Residual Current Devices
- Tripping is line voltage-independent. Consequently, the RCD is suitable for fault current/residual current protection and additional protection (ÖVE/ÖNORM E 8001-1 § 6.1.2)
- Matching with CLS6, CLS4
- Shape compatible with and suitable for standard busbar connection to other devices of the C-series
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Universal tripping signal switch, also suitable for CLS., CKN., Z-A. can be mounted subsequently
- Auxiliary switch Z-HK can be mounted subsequently
- Contact position indicator red - green
- Suitable for being used with standard fluorescent tubes with or without electronical ballast (typically up to 20 units per phase conductor)
- The device functions irrespective of the position of installation
- Tripping is line voltage-independent. Consequently, the RCD is suitable for “fault current/residual current protection” and “additional protection” within the the meaning of the applicable installation rules
- Mains connection at either side
- The 4-pole device can also be used for 2- or 3-pole connection. See connection possibilities.
- The test key “T” must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it’s recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key “T” serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed

Accessories:

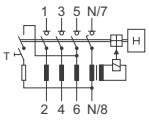
Auxiliary switch for subsequent installation to the left	Z-HK	248432
Remote tripping module	Z-FAM	248293

Connection diagrams

2-pole



4-pole

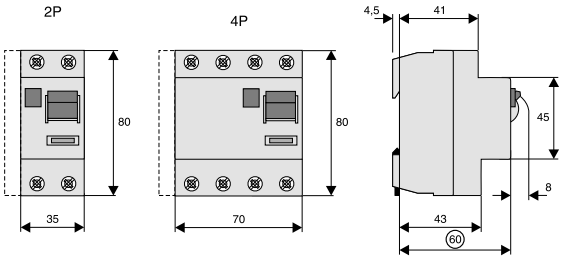


Technical Data

Electrical		
Design according to	IEC/EN 61008	
Current test marks as printed onto the device		
Tripping	instantaneous	
Rated voltage U_n	230/400 V; 50 Hz	
Rated tripping current $I_{\Delta n}$	30, 100, 300, 500 mA	
Sensitivity	AC and pulsating DC	
Rated insulation voltage U_i 440 V		
Rated impulse withstand voltage U_{imp}	4 kV	
Rated short circuit strength I_{nc} 6 kA		
Maximum back-up fuse	Short circuit	Overload
I_n = 16 A	63 A gG/gL	10 A gG/gL
I_n = 25A	63 A gG/gL	16 A gG/gL
I_n = 40A	63 A gG/gL	25 A gG/gL
I_n = 63A	63 A gG/gL	40 A gG/gL
I_n = 80A	80 A gG/gL	50 A gG/gL
In the case that the maximal possible operating current of the electrical installation don´t exceed the rated current of the RCD only short circuit protection must be implemented. Overload protection must be implemented in the case if the maximal possible operating current of the electrical installation can exceed the rated current of the RCD.		
Rated breaking capacity I_m or Rated fault breaking capacity $I_{\Delta m}$		
I_n = 25-40A	500 A	
I_n = 63A	630 A	
Voltage range of test button		
2-pole	196 - 264 V~	
4-pole 30 mA	196 - 264 V~	
4-pole 100, 300, 500 mA	196 - 456 V~	
Endurance electrical comp.	≥ 4,000 switching op.	
mechanical comp.	≥ 20,000 switching op.	

Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU), 70 mm (4MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
terminals	open-mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1.5 - 35 mm² single wire 2 x 16 mm² multi wire
Busbar thickness	0.8-2 mm
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

Dimensions (mm)



Correct connection

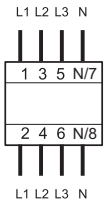
2-pole

30, 100, 300, 500mA Types:

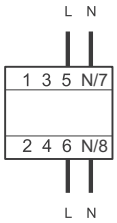
2-pole
(230V AC)

4-pole

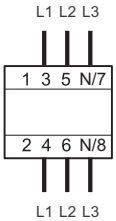
30mA Types:



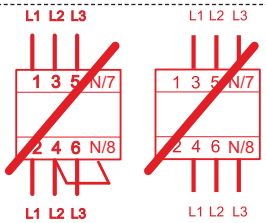
3+N
(230/400V AC)



2-pole
(230V AC)

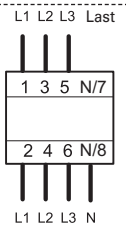


3-phase application without N
(230V AC Phase-Phase)



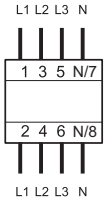
Not allowed

3-phase application without N
(400V AC Phase-Phase)

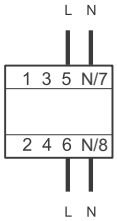


3-phase load without N
(400V AC Phase-Phase)

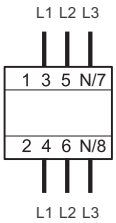
100, 300, 500mA Types:



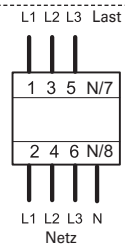
3+N
(230/400V AC)



2-pole
(230V AC)



3-phase application without N
(230/400V AC Phase-Phase)



3-phase load without N
(400V AC Phase-Phase)

Residual Current Devices dRCM Digital

SG08310

- Line voltage independent RCCB for fault or additional protection with additional digital features
- System Monitoring: Preventive information / warning before the RCD trips in case of leakage currents
  - Integrated auxiliary contact(s)
  - Local Indication
- New level of accuracy -> Reduced unwanted tripping
- Local status indication of residual current through 3 LEDs
- No monthly test required
- Comprehensive range of accessories
- Real contact position indicator
- Fault current tripping indicator
- Automatic re-setting possible
- Transparent designation plate

Residual Current Devices dRCM

Surge current-proof 3 kA, sensitive to residual pulsating DC, type G/A (ÖVE E 8601)

SG08310

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
25/0.03	dRCM-25/4/003-G/A+	120834	1/30
25/0.3	dRCM-25/4/03-G/A+	120835	1/30
40/0.03	dRCM-40/4/003-G/A+	120836	1/30
40/0.3	dRCM-40/4/03-G/A+	120837	1/30
63/0.03	dRCM-63/4/003-G/A+	120838	1/30
63/0.3	dRCM-63/4/03-G/A+	120839	1/30
80/0.03	dRCM-80/4/003-G/A+	120840	1/30
80/0.3	dRCM-80/4/03-G/A+	120841	1/30

Residual Current Devices dRCM

Surge current-proof 3 kA, X-ray application, type R

SG08310

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
63/0.03	dRCM-63/4/003-R+	120842	1/30

Residual Current Devices dRCM

Selective + surge current-proof typ. 5 kA, sensitive to residual pulsating DC, type S/A

SG08310

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
40/0.30	dRCM-40/4/03-S/A+	120843	1/30
63/0.30	dRCM-63/4/03-S/A+	120844	1/30
80/0.30	dRCM-80/4/03-S/A+	120845	1/30

Residual Current Devices dRCM

Selective + surge current-proof typ. 5 kA, frequency converter-proof, type U

SG08310

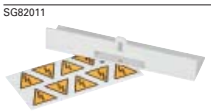
$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
40/0.03*)	dRCM-40/4/003-U+	120850	1/30
40/0.30	dRCM-40/4/03-U+	120851	1/30
63/0.03*)	dRCM-63/4/003-U+	120846	1/30
63/0.30	dRCM-63/4/03-U+	120847	1/30
80/0.30	dRCM-80/4/03-U+	120848	1/30

*) Short time delayed + surge current-proof 3 kA

Sealing Cover Set Z-RC/AK

• for PFIM, PFR, PF6, PF7, CFI6, dRCM (not to use for PFDM)

SG82011



	Type Designation	Article No.	Units per package
2-pole	Z-RC/AK-2MU	285385	10/30
4-pole	Z-RC/AK-4MU	101062	10/600

Specifications | Residual Current Devices dRCM Digital

Description

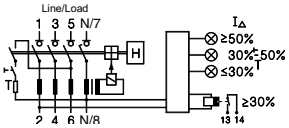
- Residual Current Devices
- Shape compatible with and suitable for standard busbar connection to other devices of the P-series
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Universal tripping signal switch, also suitable for PLS., PKN., ZP-A. can be mounted subsequently
- Auxiliary switch Z-HK can be mounted subsequently
- Contact position indicator red - green
- Tripping indicator white - blue
- Additional Safety
  - possibility to seal
  - possibility to lock in ON and OFF position
- Delayed types suitable for being used with standard fluorescent tubes with or without electronical ballast (30mA-RCD: 30 units per phase conductor). Notes: Depending of the fluorescent lamp ballast manufacturer partly more possible. Symmetrical allocation of the fluorescent lamp ballasts on all phases favourably. Shifting references of the fluorescent lamp ballast manufacturer consider.
- The device functions irrespective of the position of installation
- Tripping is line voltage-independent. Consequently, the RCD is suitable for “fault current/residual current protection” and “additional protection” within the meaning of the applicable installation rules
- Mains connection at either side
- The 4-pole device can also be used for 3- and 2-pole connection. See connection possibilities.
- The test key “T” must be pressed every year. The system operator must be informed of this obligation and his responsibility in a way that can be proven. The yearly test interval is only valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environment), it’s precommended to test in shorter intervals (e.g. monthly).
  A test is further needed if red and yellow LED are on together.
- Pressing the test key “T” serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Functioning**
  - The green LED becomes active at 0-30% $I_{\Delta n}$
  - The yellow LED becomes active at 30-50% $I_{\Delta n}$
  - The red LED becomes active at >50% $I_{\Delta n}$
- Potential-free relay (NO contact, in parallel with the yellow LED, up to 1 A ohmic load / 230 V~) for external prewarning function. Bistabile, means the warning stays on also when the breaker trips, until reset.
- **Type -A:** Protects against special forms of residual pulsating DC which have have not been smoothed
- **Type -G**: High reliability against unwanted tripping. Compulsory for any circuit where personal injury or damage to property may occur in case of unwanted tripping (ÖVE/ÖNORM E 8001-1 § 12.1.6)
- **Type -G/A:** Additionally protects against special forms of residual pulsating DC which have not been smoothed.
- **Type -R:** To aviod unwanted tripping due to X-ray devices.
- **Type -S**: Selective residual current device sensitive to AC, type -S. Compulsory for systems with surge arresters downstream of the RCD (ÖVE/ÖNORM E 8001-1 § 12.1.5).
- **Type -S/A:** Additionally protects against special forms of residual pulsating DC which have not been smoothed.
- **Type -U**: Suitable for speed-controlled drives with frequency converters in household, trade, and industry.
  Unwanted tripping is avoided thanks to a tripping characteristic designed particularly for frequency converters.
  See also explanation “Frequency Converter-Proof RCDs - What for?”
  Application according to ÖVE/ÖNORM E 8001-1 and Decision EN 219 (1989), VDE 0100, SEV 1000.

Accessories:

Auxiliary switch for subsequent installation to the left	Z-HK	248432
Tripping signal contact for subsequent installation to the right	Z-NHK	248434
Remote control and automatic switching device	Z-FW/LP	248296
Compact enclosure	KLV-TC-4	276241
Sealing cover set	Z-RC/AK-4MU	101062

Connection diagram

4-pole



Technical Data

Electrical	
Design according to	IEC/EN 61008 Type G and G/A acc. to ÖVE E 8601
Current test marks as printed onto the device	
Tripping	instantaneous
Type G, R	10 ms delay
Type S	40 ms delay - with selective disconnecting function
Type U (only 30 mA)	10 ms delay
Type U (without 30 mA)	40 ms delay - with selective disconnecting function
Rated voltage U_n	230/400 V AC, 50 Hz
Minimum operational voltage Elektronik	50 – 254V AC
Minimum operational voltage Testkreis	196 – 264V AC
Rated tripping current $I_{\Delta n}$	30, 300 mA
Sensitivity	AC and pulsating DC
Rated insulation voltage U_i	440 V
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50 µs)
Rated short circuit strength I_{nc}	10 kA
Peak withstand current	
Type G, G/A, R, U (30mA)	3 kA (8/20 µs) surge current proof
Type S/A, U (except 30mA)	typ. 5 kA (8/20 µs) selective + surge current proof
Electrical isolation	> 4 mm contact space
Maximum back-up fuse	Short circuit and overload protection
I_n = 16-63A	63 A gG/gL
I_n = 80A	80 A gG/gL

In the case that the maximal possible operating current of the electrical installation don´t exceed the rated current of the RCD only short circuit protection must be implemented.
Overload protection must be implemented in the case if the maximal possible operating current of the electrical installation can exceed the rated current of the RCD.

Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	70 mm (4MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Deg. of prot. in moisture-proof encl.	IP54
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1.5 - 35 mm² single wire 2 x 16 mm² multi wire
Terminal screw	M5 (Pozidriv PZ2)
Terminal capacity warning contact(s)	0.25-1.5 mm² (plug in terminals)
Terminal torque	2 - 2.4 Nm
Busbar thickness	0.8-2 mm
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2
Real contact position indicator	red / green
Tripping indicator	white / blue

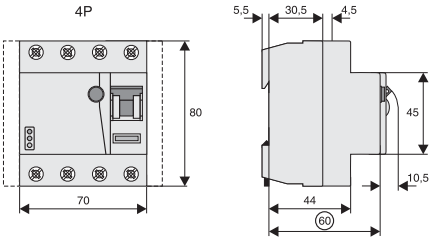
Local Indication RCCB

Status indication LED		**red / yellow / green**
Permanent light green		Normal operation
Permanent light yellow		The measured residual current is bigger than 30% of the nominal tripping value.
Permanent light red		The measured residual current is bigger than 50% of the nominal tripping value.

Remote Indication

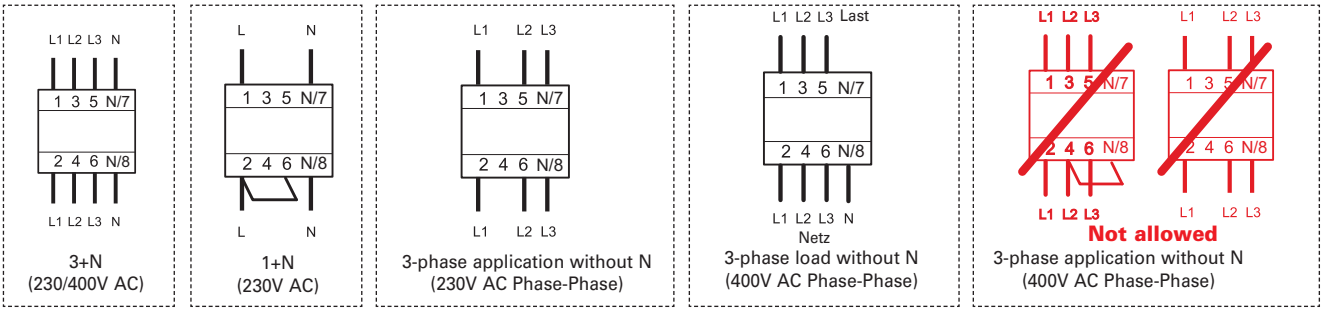
Standard Version:	1 contact NO up to 230V AC, 2 terminals, 1 A ohmic load
Optional Version: (available upon request)	1 NO + 1 NC up to 110V AC/contact, 2x2 terminals, 1 A ohmic load
Terminal capacity of contacts:	0.25 - 1.5 mm²

Dimensions (mm)



Correct connection

30, 300mA Types:



Electronic works within 50-254V AC !

Add-on Residual Current Protection Unit PBSM MW

SG18211

- Combining this device with a top-quality miniature circuit breaker of type PLS. will form a top-quality RCBO unit (combined RCD/MCB device)
- Draw-out connection bar locked in installation position
- For subsequent mounting onto 2-, 3-, 3+N- and 4-pole miniature circuit breakers PLS.
- Rated current 40 and 63 A

Add-on Residual Current Protection Unit PBSM

MW

Conditionally surge current-proof 250 A, type AC

SG17811

SG18111

SG18211

Max. nominal current of PLS./$I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
40/0.03	PBSM-402/003	262323	1/20
40/0.10	PBSM-402/01	262324	1/20
40/0.30	PBSM-402/03	262325	1/20
40/0.50	PBSM-402/05	262326	1/20
40/1.00	PBSM-402/1	262327	1/20
63/0.03	PBSM-632/003	262426	1/20
63/0.10	PBSM-632/01	262427	1/20
63/0.30	PBSM-632/03	262428	1/20
63/0.50	PBSM-632/05	262429	1/20
63/1.00	PBSM-632/1	262431	1/20
3-pole			
40/0.03	PBSM-403/003	262537	1/20
40/0.10	PBSM-403/01	262538	1/20
40/0.30	PBSM-403/03	262539	1/20
40/0.50	PBSM-403/05	262541	1/20
40/1.00	PBSM-403/1	262542	1/20
63/0.03	PBSM-633/003	262556	1/20
63/0.10	PBSM-633/01	262557	1/20
63/0.30	PBSM-633/03	262558	1/20
63/0.50	PBSM-633/05	262559	1/20
63/1.00	PBSM-633/1	262560	1/20
4-pole			
40/0.03	PBSM-404/003	262568	1/13
40/0.10	PBSM-404/01	262569	1/13
40/0.30	PBSM-404/03	262570	1/13
40/0.50	PBSM-404/05	262571	1/13
40/1.00	PBSM-404/1	262572	1/13
63/0.03	PBSM-634/003	262590	1/13
63/0.10	PBSM-634/01	262591	1/13
63/0.30	PBSM-634/03	262592	1/13
63/0.50	PBSM-634/05	262595	1/13
63/1.00	PBSM-634/1	262596	1/13

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG17811

SG18111

SG18211

2-pole			
40/0.03	PBSM-402/003-A	262328	1/20
40/0.10	PBSM-402/01-A	262329	1/20
40/0.30	PBSM-402/03-A	262420	1/20
40/1.00	PBSM-402/1-A	262421	1/20
63/0.03	PBSM-632/003-A	262530	1/20
63/0.10	PBSM-632/01-A	262531	1/20
63/0.30	PBSM-632/03-A	262532	1/20
63/1.00	PBSM-632/1-A	262533	1/20
3-pole			
40/0.03	PBSM-403/003-A	262543	1/20
40/0.03	PBSM-403/003-A-230	180634	1/20
40/0.10	PBSM-403/01-A	262544	1/20
40/0.30	PBSM-403/03-A	262545	1/20
40/1.00	PBSM-403/1-A	262546	1/20
63/0.03	PBSM-633/003-A	262561	1/20
63/0.03	PBSM-633/003-A-230	180635	1/20
63/0.10	PBSM-633/01-A	262562	1/20
63/0.30	PBSM-633/03-A	262563	1/20
63/1.00	PBSM-633/1-A	262564	1/20
4-pole			
40/0.03	PBSM-404/003-A	262573	1/13
40/0.10	PBSM-404/01-A	262574	1/13
40/0.30	PBSM-404/03-A	262575	1/13
40/1.00	PBSM-404/1-A	262576	1/13
63/0.03	PBSM-634/003-A	262597	1/13
63/0.10	PBSM-634/01-A	262598	1/13
63/0.30	PBSM-634/03-A	262600	1/13
63/1.00	PBSM-634/1-A	262602	1/13

Explanation PBSM:
P = XPole, BS = Add-on Residual Current Protection Unit onto PLS., M = 10 kA

Add-on Residual Current Protection Unit PBSM

MW

Surge current-proof 3 kA, type G (ÖVE E 8601)

SG17811

SG18111

SG18211

Max. nominal current of PLS./$I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
40/0.03	PBSM-402/003-G	262422	1/20
3-pole			
40/0.03	PBSM-403/003-G	262552	1/20
4-pole			
40/0.03	PBSM-404/003-G	262577	1/13

Selective + surge current-proof 5 kA, type S

SG17811

SG18111

SG18211

2-pole			
40/0.10	PBSM-402/01-S	262423	1/20
40/0.30	PBSM-402/03-S	262424	1/20
40/1.00	PBSM-402/1-S	262425	1/20
63/0.10	PBSM-632/01-S	262534	1/20
63/0.30	PBSM-632/03-S	262535	1/20
63/1.00	PBSM-632/1-S	262536	1/20
3-pole			
40/0.10	PBSM-403/01-S	262553	1/20
40/0.30	PBSM-403/03-S	262554	1/20
40/1.00	PBSM-403/1-S	262555	1/20
63/0.10	PBSM-633/01-S	262565	1/20
63/0.30	PBSM-633/03-S	262566	1/20
63/1.00	PBSM-633/1-S	262567	1/20
4-pole			
40/0.10	PBSM-404/01-S	262586	1/13
40/0.30	PBSM-404/03-S	262587	1/13
40/1.00	PBSM-404/1-S	262588	1/13
63/0.10	PBSM-634/01-S	262603	1/13
63/0.30	PBSM-634/03-S	262605	1/13
63/1.00	PBSM-634/1-S	262607	1/13

Explanation PBSM:
P = XPole, **BS =** Add-on Residual Current Protection Unit onto PLS., **M =** 10 kA

Add-on Residual Current Protection Unit PBSM

MW

Selective + surge current-proof typ. 5 kA, sensitive to residual pulsating DC, type S/A

SG17811

SG18111

SG18211

Max. nominal current of PLS./$I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
2-pole			
63/0.30	PBSM-632/03-S/A	167017	1/20
3-pole			
63/0.30	PBSM-633/03-S/A	167020	1/20
4-pole			
63/0.30	PBSM-634/03-S/A	167023	1/13

Specifications | Add-on Residual Current Protection Unit PBSM

Description

- Add-on residual current unit
- Line voltage-independent tripping
- By combining this device with a top-quality miniature circuit breaker type PLS. a top-quality RCBO unit (combined RCD/MCB device) is formed.
- Rated current 40 and 63 A
- Permits combinations with a variety of characteristics thanks to the different rated currents and characteristics of the PLS.-miniature circuit breakers which can be connected
- Comrehensive range of accessories suitable for subsequent installation onto PLS.
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed
- **Type -G**: High reliability against unwanted tripping. Compulsory for any circuit where personal injury or damage to property may occur in case of unwanted tripping (ÖVE-EN1, Teil1, §12.14)
- **Type -S**: Selective residual current device, either sensitive to AC, type -S, or sensitive to pulsating DC, type -S/A, for protection against special forms of residual pulsating DC which have not been smoothed. Compulsory for systems with surge arresters downstream of the RCD (ÖVE-EN1, Part 1, § 12.15).

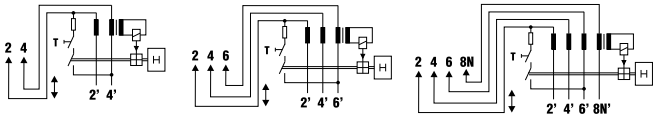
Accessories:		
Abdeckkappe for Verschienungsbügel	im Lieferumfang	
Zylinderkopf-Einwegschraube mit Schlitz	im Lieferumfang	

Accessories (on PLS.):		
Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal contact for subsequent installation	ZP-NHK	248437
Shunt trip release	ZP-ASA/..	248438, 248439
Undervoltage release	Z-USA/..	248288-248291
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Additional terminal 35 mm²	Z-HA-EK/35	263960

Explanation PBSM:
P = XPole, BS = Add-on Residual Current Protection Unit onto PLS., M = 10 kA

Connection diagrams

2-pole 3-pole 4-pole

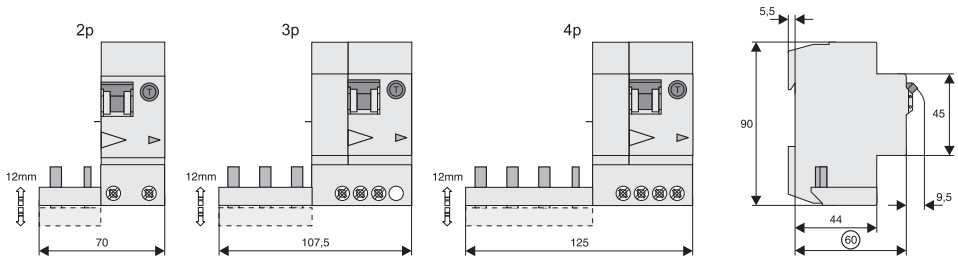


Technical Data

Electrical	
Design according to	IEC/EN 61009
Current test marks as printed onto the device	
Tripping	instantaneous 250A (8/20µs), surge current proof
Type G	10 ms delay 3kA (8/20µs), surge current proof
Type S	40 ms delay 6kA - with selective disconnecting function
Rated voltage U_n	230/400 V AC
Limits operation voltage test circuit	
2-pole, 30mA	196-264 V
2-pole, 100, 300, 500, 1000mA	196-456 V
3-pole, 30mA	340-456 V
3-pole, 30mA-230	196-264 V
3-pole, 100, 300, 500, 1000mA	196-456 V
4-pole, 30mA	340-456 V
4-pole, 100, 300, 500, 1000mA	196-456 V
Rated frequency	50 Hz
Use at 16⅔ Hz	Recesses time between the single switchings increases to 88 s, I_n max. 63 A
Use at 400 Hz	I_n max. 40 A
Rated current I_n	≤ 40 A, ≤ 63 A
Rated tripping current $I_{\Delta n}$	30, 100, 300, 500, 1000 mA
Rated non-tripping current $I_{\Delta no}$	0.5 $I_{\Delta n}$
Sensitivity	AC and pulsating DC
Service short circuit breaking capacity I_{cs}	same as connected PLS. (7.5 kA)
Rated breaking capacity I_{cn}	same as connected PLS. (10 kA)
Rated fault breaking capacity $I_{\Delta m}$	6 kA (U_n = 230V) 3 kA (U_n = 400V)

Mechanical	
Frame size	45 mm
Device height	90 mm
Device width	70 mm (2p), 107,5 mm (3p), 125 mm (4p)
Mounting	fix mounted onto PLS.
Degree of protection, built-in	IP40
Fastening screw	M 2.5 (slotted one-way cheese head screw;
Screw head breaking torque	> 0.6 Nm
Upper and lower terminals	lift terminals
Terminal screws	M 5 (Kcombined Philips standard head screws acc. to DIN7962-Z2, Pozidrive)
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	
Rigid conductors	1 x (1 - 25) mm²
Flexible conductors (with wire end sleeve)	1 x (0.75 - 16) mm²
Busbar thickness	0.8-2 mm
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 60068-2 (25..55°C/90..95%)

Dimensions (mm)



Add-on Residual Current Protection Unit PBHT

SG17711

- By combining this device with a top-quality miniature circuit breaker of type PLHT a top-quality RCBO unit (combined RCD/MCB device) is formed.
- Add-on residual current unit (screw connection) for 80 or 125 A (2-pole and 4-pole)
- High flexibility and ease of installation thanks to variable wiring
- Free selection of main power supply
- Auxiliary switch 1 make contact included as standard in all PBHT versions
- Permits combinations with a variety of characteristics thanks to the different rated currents and characteristics of the miniature circuit breakers PLHT which can be connected
- For commercial and industry applications
- For subsequent mounting onto 2, 3, 3+N and 4-pole-miniature circuit breakers PLHT
- The screw connection to the PLHT-device can be unscrewed at any time. Consequently, in case of modifications of the systems to be protected, the installation can be adapted to new requirements at any time.

Add-on Residual Current Protection Unit PBHT
AC-sensitive, conditionally surge current-proof 250 A, type AC

SG17611

SG17711

2-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
80/0.03	PBHT-80/2/003	248818	1/4
80/0.30	PBHT-80/2/03	248820	1/4
80/0.50	PBHT-80/2/05	248822	1/4
80/1.00	PBHT-80/2/1	248824	1/4
125/0.03	PBHT-125/2/003	248799	1/4
125/0.30	PBHT-125/2/03	248801	1/4
125/0.50	PBHT-125/2/05	248803	1/4
125/1.00	PBHT-125/2/1	248805	1/4

4-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
80/0.03	PBHT-80/4/003	248826	1/4
80/0.30	PBHT-80/4/03	248828	1/4
80/0.50	PBHT-80/4/05	248831	1/4
80/1.00	PBHT-80/4/1	248834	1/4
125/0.03	PBHT-125/4/003	248807	1/4
125/0.30	PBHT-125/4/03	248809	1/4
125/0.50	PBHT-125/4/05	248812	1/4
125/1.00	PBHT-125/4/1	248815	1/4

Add-on Residual Current Protection Unit PBHT
Sensitive to residual pulsating DC, conditionally surge current-proof 250 A, type A

SG17611

SG17711

2-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
80/0.03	PBHT-80/2/003-A	248819	1/4
80/0.30	PBHT-80/2/03-A	248821	1/4
80/0.50	PBHT-80/2/05-A	248823	1/4
80/1.00	PBHT-80/2/1-A	248825	1/4
125/0.03	PBHT-125/2/003-A	248800	1/4
125/0.30	PBHT-125/2/03-A	248802	1/4
125/0.50	PBHT-125/2/05-A	248804	1/4
125/1.00	PBHT-125/2/1-A	248806	1/4

4-pole

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
80/0.03	PBHT-80/4/003-A	248827	1/4
80/0.30	PBHT-80/4/03-A	248829	1/4
80/0.50	PBHT-80/4/05-A	248832	1/4
80/1.00	PBHT-80/4/1-A	248835	1/4
125/0.03	PBHT-125/4/003-A	248808	1/4
125/0.30	PBHT-125/4/03-A	248810	1/4
125/0.50	PBHT-125/4/05-A	248813	1/4
125/1.00	PBHT-125/4/1-A	248816	1/4

Explanation PBHT:
P = XPole, BHT = Add-on Residual Current Protection Unit onto PLHT

Add-on Residual Current Protection Unit PBHT
Selective + surge current-proof 5 kA, type S/A

SG17711

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
80/0.30	PBHT-80/4/03-S/A	248830	1/4
80/0.50	PBHT-80/4/05-S/A	248833	1/4
80/1.00	PBHT-80/4/1-S/A	248836	1/4
125/0.30	PBHT-125/4/03-S/A	248811	1/4
125/0.50	PBHT-125/4/05-S/A	248814	1/4
125/1.00	PBHT-125/4/1-S/A	248817	1/4

Shunt trip release

SG09411

Operational voltage range V~	Type Designation	Article No.	Units per package
110-415	Z-BHASA/230	248445	8
12-60	Z-BHASA/24	248444	8

Specifications | Add-on Residual Current Protection Unit PBHT

Description

- By combination with miniature circuit breaker PLHT => RCBO-Unit (MCCB)
- Add-on residual current unit (screw connection) for 80 or 125 A (2-pole and 4-pole)
- High flexibility and ease of installation thanks to variable wiring (400 mm flexible connection wires 2p = 2 units, 4p = 4 units included in the set)
- Free selection of main power supply
- Auxiliary switch 1 NO included as standard in all PBHT versions
- Permits combinations with a variety of characteristics thanks to the different rated currents and characteristics of the miniature circuit breakers PLHT which can be connected
- For trade and industry applications
- For subsequent mounting onto 2, 3, 3+N and 4-pole-miniature circuit breakers PLHT
- Toggle (serves as switch position- and tripping indicator)
- The screw connection to the PLHT-device can be unscrewed at any time. Consequently, in case of modifications of the systems to be protected, the installation can be adapted to new requirements at any time.
- The test key “T” must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it’s recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key “T” serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.

Accessories:

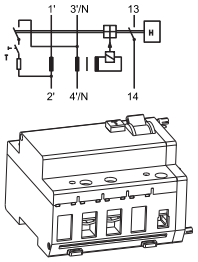
Flexible connection wires (connection to PLHT) are included in the standard set:

2-pole 80A	2 x 16mm² (á 400mm)
4-pole 80A	4 x 16mm² (á 400mm)
2-pole 125A	2 x 35mm² (á 400mm)
4-pole 125A	4 x 35mm² (á 400mm)

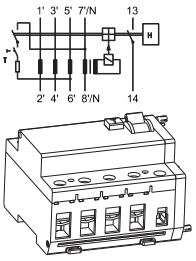
Explanation PBHT:
P = XPole, BHT = Add-on Residual Current Protection Unit onto PLHT

Connection diagrams

2-pole



4-pole



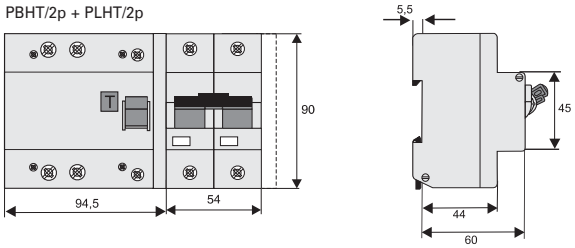
Technical Data

Electrical	
Design according to	IEC/EN 60947-2
Current test marks as printed onto the device	
Current flow paths	
Rated voltage U_e	230/400 V AC
Limits operation voltage test circuit	
2-pole	196-264 V
4-pole, 30mA	196-264 V
4-pole	196-456 V
Rated frequency	50 Hz
Rated current I_n	80 A, 125 A
Rated tripping current $I_{\Delta n}$	30, 300, 500, 1000 mA
Rated non-tripping current $I_{\Delta no}$ 0.5 $I_{\Delta n}$	
Sensitivity	AC and pulsating DC
Tripping Characteristic	instantaneous 250A (8/20µs), surge current proof;
Type S	40 ms delay 6kA (8/20µs) with selective disconnecting function, surge current proof
Rated service short circuit breaking capacity I_{cn}	same as connected PLHT
Rated ultimate circuit breaking capacity I_{cu}	same as connected PLHT
Rated fault short circuit breaking capacity $I_{\Delta/n}$	= I_{cu}
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50µs)
Endurance mechanical components	
PBHT-80	>10000
PBHT-125	>8000
Endurance electrical components	
PBHT-80	>1500
PBHT-125	>1000
Auxiliary Contact	
Utilisation category AC15	
Rated voltage U_e	250 V AC
Rated operational current I_e	16 A AC

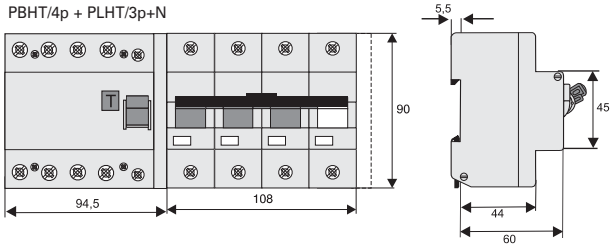
Mechanical	
Frame size	45 mm
Device height	90 mm
Device width	95 mm (5.5MU)
Depth of central body	60 mm
Mounting	screwed onto PLHT 2-, 3-, 4-pole; PBHT-ASA
Upper and lower terminals	lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity	
Main conductor	2.5 - 50 mm²
Auxiliary switch	1 - 25 mm²
Degree of protection, built-in	IP40
Permissible ambient temperature range	-25°C to +40°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

Dimensions (mm)

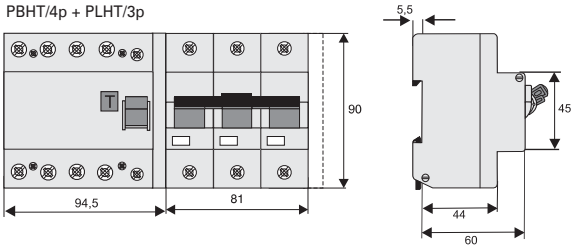
PBHT/2p + PLHT/2p



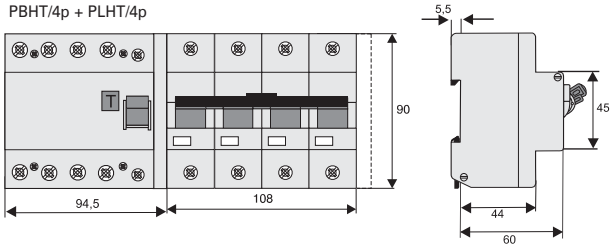
PBHT/4p + PLHT/3p+N



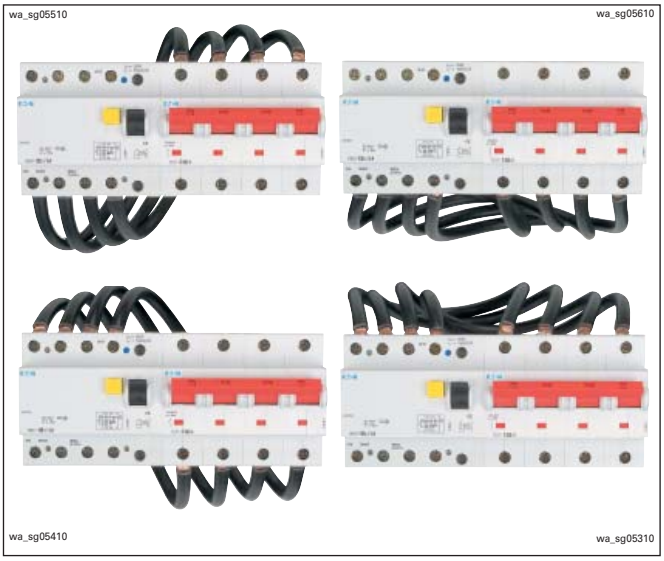
PBHT/4p + PLHT/3p



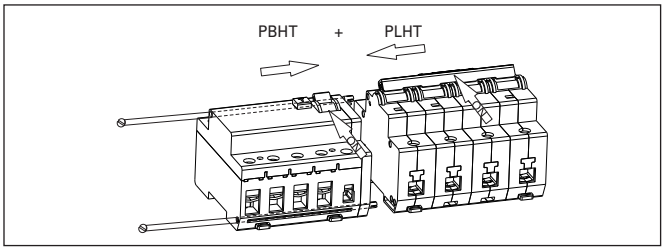
PBHT/4p + PLHT/4p



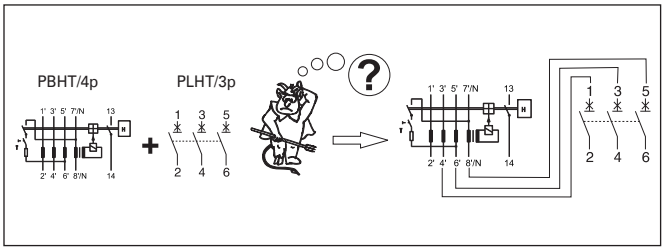
Wiring options



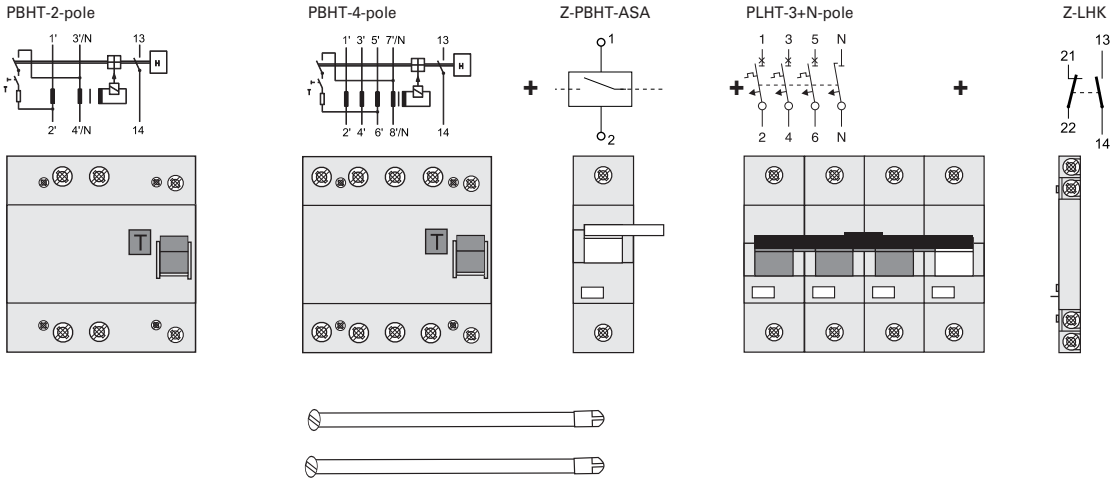
Mounting PBHT + PLHT



Connection PBHT/4p + PLHT/3p



Mounting arrangement residual current protection unit - shunt trip release - miniature circuit breaker - auxiliary contact

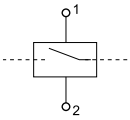


Accessories for PBHT

Shunt trip release Z-BHASA

- Can be mounted subsequently
- Contact position indicator red - green
- Marking labels can be fitted
- Wide operational voltage range
- Sufficient power of extra low voltage source must be ensured
  PBHT-ASA/24: min. 90 VA
- Screws for mounting included PBHT => BHASA => PLHT

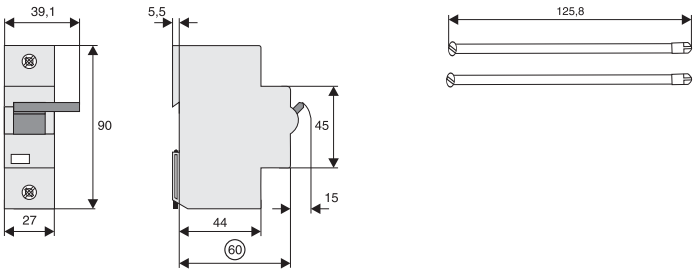
Connection diagram



Technical Data

	Z-BHASA/24	Z-BHASA/230
Electrical		
Minimum pulse duration	15 ms	10 ms
Internal resistance	2 Ω	130 Ω
Duty	100%	100%
Tripping time	< 20 ms	< 20 ms
Peak withstand voltage (1.2/50µs)	2 kV	2 kV
Endurance	>4000 switching operations	>4000 switching operations
AC voltage range:		
Responding limit	8 V	70 V
Operational voltage range	12-60 V	110-415 V
Maximum current consumption during switch-on	1.4-7 A	3.4 A (at 230V)
Current flow time at max. current consumption	4.0 ms	4.5 ms
DC voltage range:		
Responding limit	11 V	90 V
Operational voltage range	12-60 V	110-230 V
Maximum current consumption during switch-on	1.7 A typ.	1.7 A typ.
Current flow time at max. current consumption	2 ms	4 ms
Mechanical		
Frame size	45 mm	45 mm
Device height	90 mm	90 mm
Device width	27 mm	27 mm
Mounting	quick fastening on DIN rail IEC/EN 60715	
Degree of protection, built-in	IP40	IP40
Upper and lower terminal screws	lift terminals	lift terminals
Terminal capacity	2.5-30 mm^2	2.5-30 mm^2
Fastening torque of terminal screws	4 Nm	4 Nm

Dimensions (mm)



PBR Main Protective Device

SG79811

- Reliable fire protection for earthed networks
- Selective with regard to downstream protective devices
- Maximum protection against unwanted tripping
- Integrated overload protection
- No monthly checking required
- Comprehensive range of accessories
- Real contact position indicator

ATTENTION:

The main protective device does not replace a residual current device (RCD)

PBR Main Protective Device
Surge current proof 10 kA

SG79811

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
40/0.3	PBR-40/4/03	109259	1/24
63/0.3	PBR-63/4/03	109258	1/24

Specifications | PBR Main Protective Device

Description

ATTENTION:
The main protective device does not replace a residual current device (RCD).
For protection against residual current or additional protection you still need to install an RCD even if you use a main protective device.
The objective of the PBR main protective device is preventive fire protection only.

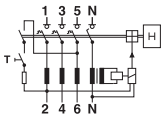
- Tripping current identification ($I_{\Delta n}$) is independent of the line voltage
- **Integrated overload protection** O.L.P.
- Contour and busbar compatible with other devices of the P series
- Double-comfort terminal lift/open-mouthed at top and bottom
- Free selection of the busbar arrangement at top and bottom
- Free terminal space despite the fitted busbar
- Universal Z-NHK tripping signal switch can be retro-fitted
- Auxiliary Z-HK switch can be retro-fitted
- Contact position indicator red - green
- Suitable for use with commercially available standard fluorescent lamps with or without electronic ballast
- The function of the switch is independent of its position
- Mains connection on any side
- The 4-pole switch cannot be used as a 3-pole switch
- The 4-pole switch can also be used as a 2-pole switch
  In this case use terminals 1-2 and N-N (+ wire bridge, see instructions).
- The test button “T” needs to be activated once a year. This fact and responsibility needs to be communicated to the system operator in a provable manner.
- Due to their tripping characteristics the main protective devices feature full selectivity with regard to downstream electromagnetic quick tripping relays of MCBs according to EN 60898-1 and of “general” and “S” types of RCD protective devices according to EN 61008-1.
  Main protective devices are particularly important as fire protection in 3L+PEN ~400/230 V networks (TN-systems).
  Main protective devices are particularly important as back-up protection against electrical shocks in 3L+N ~400/230 V networks (TT-systems)

Accessories:

Auxiliary switch for subsequent installation to the left (4p)	Z-HK	248432
Tripping signal contact for subsequent installation to the right	Z-NHK	248434
Remote control and automatic switching device	Z-FW/LP	248296
Compact enclosure	KLV-TC-4	276241
Sealing cover set	Z-RC/AK-4MU	101062

Connection diagram

4-pole

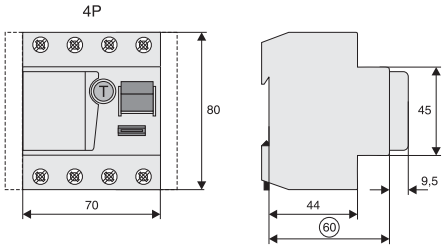


Technical Data

Electrical		
Current test marks as printed onto the device		
Tripping		200 ms delay with selective disconnecting function
Rated voltage U_n		230/400 V; 50 Hz
Fire protection residual current $I_{\Delta n}$		300 mA
Sensitivity		AC
Rated insulation voltage U_i		440 V
Rated impulse withstand voltage U_{imp}		4 kV
Rated short circuit strength I_{nc}		10 kA
Max. back-up fuse as overload and short-circuit protection		63 A gG/gL max. 63A gG/gL ÜL/OL+KS/SC
Rated breaking capacity I_m or Rated fault breaking capacity $I_{\Delta m}$		630 A
Voltage range of test button		195.5 - 440 V~
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	70 mm (4MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1.5 - 35 mm² single wire 2 x 16 mm² multi wire
Busbar thickness	0.8-2 mm
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

Dimensions (mm)



PDIM Leakage Current Monitor

SG31211

- Reliable, universal monitoring of residual current
- RCD characteristic and sensitivity are freely selectable
- Compact design, with integrated transformer
- DIN mounting, compatible with shapes and standard busbar connections of other Xpole devices
- Local status indication of residual current through 3 LEDs
- 2 potential-free signalling contacts

PDIM Leakage Current Monitor

+ , instantaneous, G, S => adjustable

SG31211

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
4-pole			
40/0.03; 0.1; 0.3; 0.5; 1	PDIM-40/4	111760	1/30
100/0.03; 0.1; 0.3; 0.5; 1	PDIM-100/4	111761	1/30

Specifications | PDIM Leakage Current Monitor

Description

- Shape compatible with and suitable for standard busbar connection to other devices of the P-series
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Power supply via 'OR' disjunction of the 4 conductors
- Electronic functioning (line-voltage dependent)
- The device works irrespective of the position of installation
- Mains connection at either side
- The 4-pole device can also be used for 3-pole connection. For this purpose use terminals 1-2, 3-4, and 5-6.
- The 4-pole device can also be used for 2-pole connection. For this purpose use terminals 5-6 and N-N.
- 2 potential-free relays (make contact, in parallel with the yellow and red LED) (up to 10 A / 230 V~)

Functioning

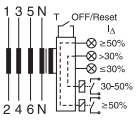
- The green LED becomes active at 0-30% of the preset $I_{\Delta n}$.
  The yellow LED becomes active at 30-50% of the preset $I_{\Delta n}$.
  The red LED becomes active at >50% of the preset $I_{\Delta n}$.
- The yellow LED turns off again when the identified residual current is <30% of the preset $I_{\Delta n}$.
- The red LED stays on even if the identified residual current is <50% of the preset $I_{\Delta n}$.
- The red LED will only turn off after pressing the reset button.
- Only one LED will be active at a time.
- An output relay will always be switched simultaneously with the yellow or red LED
- Depending on the setting of the type of RCD (instantaneous, G, S), the residual current needs to flow a sufficiently long time before an action is triggered.

Test function

- The rotary coding switch for the RCD switch function is to be set to "TEST".
  The device then alternately simulates residual currents of 30% and 50% of the $I_{\Delta n}$. In this process, the yellow and red LED flash alternately (1 Hz), both output relays remain permanently energised.

Connection diagram

4-pole

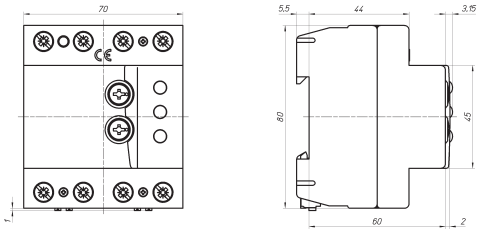


Technical Data

Electrical		
Design similar to	DIN/EN 62020	
Current test marks as printed onto the device		
Rated current I_n	40 A, 100 A	
Tripping behaviour (adjustable)	instantaneous	
Type G	10 ms delay	
Type S	40 ms delay - selektiv	
Rated voltage U_n	230/400 V, 50/60 Hz 240/415 V, 50/60 Hz	
Rated tripping current $I_{\Delta n}$ (adjustable)	30, 100, 300, 500, 1000 mA	
Sensitivity	AC and pulsating DC	
Rated insulation voltage U_i	440 V	
Rated short circuit strength I_{nc}	10 kA	
Maximum back-up fuse	Short circuit	Overload
I_n = 40A	63 A gG/gL	40 A gG/gL
I_n = 100A	100 A gG/gL	63 A gG/gL
Switching contacts	potential-free 10 A / 230 V~	
ATripping behaviour of the contacts	1: 30-50% $I_{\Delta n}$ 2: >50% $I_{\Delta n}$	
Endurance electrical comp.	≥ 4,000 switching op.	
mechanical comp.	≥ 20,000 switching op.	

Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	70 mm (4MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Deg. of prot. in moisture-proof encl.	IP54
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity (1, 2, 3, 4, 5, 6, N, N)	1.5 - 35 mm² single wire 2 x 16 mm² multi wire
Terminal capacity of switching contacts	0.25 - 1.5 mm²
Busbar thickness	0.8-2 mm
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

Dimensions (mm)



Electric Fire Protective Device, Arc Fault Detection Device AFDD+, 2-pole

sg06416

- Electric fire protective device acc. to IEC/EN-62606
- Detects and quenches arc faults in final circuits
- Fully combined with residual current circuit breaker (RCCB) and miniature circuit breaker (MCB)
- 2-pole: Both clearances between open contacts are protected
- Variable installation of N either left or right
- Rated currents from 10 to 40 A
- Contact position indicator red – green
- Tripped indication: MCB, RCCB or AFDD
- LED indication for arc faults
- Permanent self-monitoring
- Overvoltage and overheat monitoring
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories suitable for subsequent installation
- 10 and 30 mA rated residual currents
- Tripping characteristics B, C
- Rated breaking capacity up to 10 kA

Electric Fire Protective Device, Arc Fault Detection Device AFDD+
10 kA, 2-pole
Short-time delayed, sensitive to residual pulsating DC, type A

sg06416

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.01	AFDD-10/2/B/001-Li/A	187166	1/40
13/0.01	AFDD-13/2/B/001-Li/A	187178	1/40
15OL/0.01	AFDD-15/2/B/001-Li/A-OL	187190	1/40
16/0.01	AFDD-16/2/B/001-Li/A	187202	1/40
10/0.03	AFDD-10/2/B/003-Li/A	187169	1/40
13/0.03	AFDD-13/2/B/003-Li/A	187181	1/40
15OL/0.03	AFDD-15/2/B/003-Li/A-OL	187193	1/40
16/0.03	AFDD-16/2/B/003-Li/A	187205	1/40
20OL/0.03	AFDD-20/2/B/003-Li/A-OL	187214	1/40
20/0.03	AFDD-20/2/B/003-Li/A	187220	1/40
25/0.03	AFDD-25/2/B/003-Li/A	187226	1/40

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.01	AFDD-10/2/C/001-Li/A	187172	1/40
13/0.01	AFDD-13/2/C/001-Li/A	187184	1/40
15OL/0.01	AFDD-15/2/C/001-Li/A-OL	187196	1/40
16/0.01	AFDD-16/2/C/001-Li/A	187208	1/40
10/0.03	AFDD-10/2/C/003-Li/A	187175	1/40
13/0.03	AFDD-13/2/C/003-Li/A	187187	1/40
15OL/0.03	AFDD-15/2/C/003-Li/A-OL	187199	1/40
16/0.03	AFDD-16/2/C/003-Li/A	187211	1/40
20OL/0.03	AFDD-20/2/C/003-Li/A-OL	187217	1/40
20/0.03	AFDD-20/2/C/003-Li/A	187223	1/40
25/0.03	AFDD-25/2/C/003-Li/A	187229	1/40

Electric Fire Protective Device, Arc Fault Detection Device AFDD+
6 kA, 2-pole
Short-time delayed, sensitive to residual pulsating DC, type A

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
32/0.03	AFDD-32/2/B/003-Li/A	187232	1/40
40/0.03	AFDD-40/2/B/003-Li/A	187238	1/40

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
32/0.03	AFDD-32/2/C/003-Li/A	187235	1/40
40/0.03	AFDD-40/2/C/003-Li/A	187241	1/40

Electric Fire Protective Device, Arc Fault Detection Device AFDD+
10 kA, 2-pole
Non-delayed, sensitive to residual pulsating DC, type A

sg06416

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.01	AFDD-10/2/B/001-A	187165	1/40
13/0.01	AFDD-13/2/B/001-A	187177	1/40
15OL/0.01	AFDD-15/2/B/001-A-OL	187189	1/40
16/0.01	AFDD-16/2/B/001-A	187201	1/40
10/0.03	AFDD-10/2/B/003-A	187168	1/40
13/0.03	AFDD-13/2/B/003-A	187180	1/40
15OL/0.03	AFDD-15/2/B/003-A-OL	187192	1/40
16/0.03	AFDD-16/2/B/003-A	187204	1/40
20OL/0.03	AFDD-20/2/B/003-A-OL	187213	1/40
20/0.03	AFDD-20/2/B/003-A	187219	1/40
25/0.03	AFDD-25/2/B/003-A	187225	1/40

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.01	AFDD-10/2/C/001-A	187171	1/40
13/0.01	AFDD-13/2/C/001-A	187183	1/40
15OL/0.01	AFDD-15/2/C/001-A-OL	187195	1/40
16/0.01	AFDD-16/2/C/001-A	187207	1/40
10/0.03	AFDD-10/2/C/003-A	187174	1/40
13/0.03	AFDD-13/2/C/003-A	187186	1/40
15OL/0.03	AFDD-15/2/C/003-A-OL	187198	1/40
16/0.03	AFDD-16/2/C/003-A	187210	1/40
20OL/0.03	AFDD-20/2/C/003-A-OL	187216	1/40
20/0.03	AFDD-20/2/C/003-A	187222	1/40
25/0.03	AFDD-25/2/C/003-A	187228	1/40

Electric Fire Protective Device, Arc Fault Detection Device AFDD+
6 kA, 2-pole
Non-delayed, sensitive to residual pulsating DC, type A

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
32/0.03	AFDD-32/2/B/003-A	187231	1/40
40/0.03	AFDD-40/2/B/003-A	187237	1/40

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
32/0.03	AFDD-32/2/C/003-A	187234	1/40
40/0.03	AFDD-40/2/C/003-A	187240	1/40

Electric Fire Protective Device, Arc Fault Detection Device AFDD+
10 kA, 2-pole
Non-delayed, alternating-current-sensitive, type AC

sg06416

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.01	AFDD-10/2/B/001	187164	1/40
13/0.01	AFDD-13/2/B/001	187176	1/40
15OL/0.01	AFDD-15/2/B/001-OL	187188	1/40
16/0.01	AFDD-16/2/B/001	187200	1/40
10/0.03	AFDD-10/2/B/003	187167	1/40
13/0.03	AFDD-13/2/B/003	187179	1/40
15OL/0.03	AFDD-15/2/B/003-OL	187191	1/40
16/0.03	AFDD-16/2/B/003	187203	1/40
20OL/0.03	AFDD-20/2/B/003-OL	187212	1/40
20/0.03	AFDD-20/2/B/003	187218	1/40
25/0.03	AFDD-25/2/B/003	187224	1/40

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.01	AFDD-10/2/C/001	187170	1/40
13/0.01	AFDD-13/2/C/001	187182	1/40
15OL/0.01	AFDD-15/2/C/001-OL	187194	1/40
16/0.01	AFDD-16/2/C/001	187206	1/40
10/0.03	AFDD-10/2/C/003	187173	1/40
13/0.03	AFDD-13/2/C/003	187185	1/40
15OL/0.03	AFDD-15/2/C/003-OL	187197	1/40
16/0.03	AFDD-16/2/C/003	187209	1/40
20OL/0.03	AFDD-20/2/C/003-OL	187215	1/40
20/0.03	AFDD-20/2/C/003	187221	1/40
25/0.03	AFDD-25/2/C/003	187227	1/40

Electric Fire Protective Device, Arc Fault Detection Device AFDD+
6 kA, 2-pole
Non-delayed, alternating-current-sensitive, type AC

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
32/0.03	AFDD-32/2/B/003	187230	1/40
40/0.03	AFDD-40/2/B/003	187236	1/40

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
32/0.03	AFDD-32/2/C/003	187233	1/40
40/0.03	AFDD-40/2/C/003	187239	1/40

Specifications | Electric Fire Protective Device, Arc Fault Detection Device AFDD+, 2-pole

Description

- Electric fire protective device acc. to IEC/EN-62606
- Line-voltage-independent RCBO (combined switch) acc. to IEC/EN 61009
- 2-pole: Both clearances between open contacts are protected
- Variable installation of N either left or right
- Tripped indication: CB, RCD or AFDD
- LED indication for arc faults
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed
- **Type -Li/A**: As Type –A, but in addition it is short-time delayed. Highly reliable against unwanted tripping.

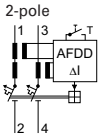
Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
Auxiliary switch	ZP-NHK	248437
Shunt trip release	ZP-ASA/..	248438, 248439
Switching interlock	Z-IS/SPE-1TE	274418
Busbars: ZV-SS; ZV-L1/N; ZV-L2/L3; ZV-ADP; ZV-AEK		

Error memory**:**
The AFDD saves the last reason for tripping at an arc fault. By turning off the device, press and hold the test key "T" and simultaneously turn on the last error can be queried again.

Connection diagram

2-pole



Technical Data

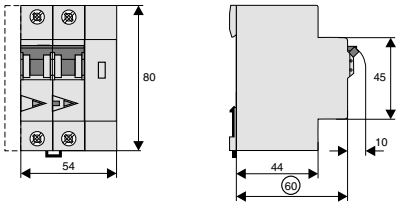
Electrical

Design according to	IEC/EN 62606, IEC/EN 61009
Current test marks as printed onto the device	
Tripping	
line-voltage-independent	instantaneous 250A (8/20µs) surge current proof
Rated voltage U_e	240 V AC; 50 Hz
Operational voltage range	170-264 V
Rated tripping current $I_{\Delta n}$	10, 30 mA
Rated non-tripping current $I_{\Delta no}$ 0.5 $I_{\Delta n}$	
Sensitivity	AC and pulsating DC
Selectivity class	3
Rated breaking capacity	
AFDD 10-25A	10 kA
AFDD 32-40A	6 kA
Rated current	10 - 40 A
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50µs)
Rated fault breaking capacity $I_{\Delta m}$	
EN 61009	3 kA
IEC 61009	10-16 A: 3 kA 20-40 A: 500 A
Arc fault tripping times after load current (acc. to IEC/EN62606):	
Load current (A)	Tripping time (s)
2.5	<1
5	<0.5
10	<0.25
16	<0.15
32	<0.12
40	<0.12
Characteristic	B, C
Maximum back-up fuse (short circuit)	100 A gL (>10 kA)
Endurance electrical comp.	≥ 4,000 switching op.
mechanical comp.	≥ 20,000 switching op.

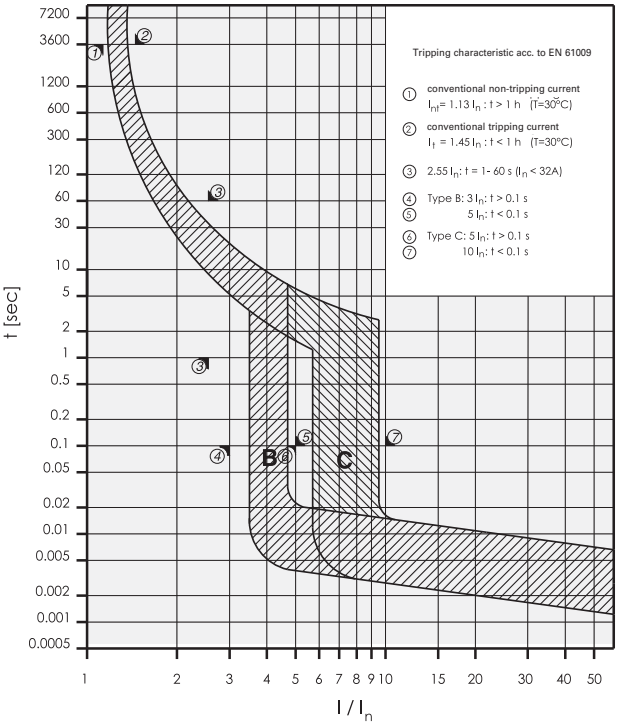
Mechanical

Frame size	45 mm
Device height	80 mm
Device width	54 mm (3MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)

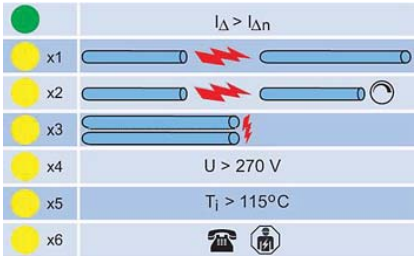


Tripping Characteristic AFDD+, Characteristics B and C



Declaration AFDD reason for tripping

After switching on the AFDD is initially a test LED (LED sequence red-yellow-green -> continuous green).
Any previous arc tripping reasons are shown only one time after switching on again.



Green, no arcing as tripping reason

1x yellow, serial arc

2x yellow, serial arc of a dimmed load

3x yellow, parallel arc

4x yellow, over voltage > 270V

5x yellow, overtemperature in the device > 115°C

6x yellow, device error, please check device by an expert

The last AFDD error can be caused by pressing the test key while the device is switched on.

Short Circuit Selectivity AFDD+ 10-20A towards Neozed1) / Diazed2) / NH003)

Short circuit currents in kA, Rated currents of fuses in A

Short circuit selectivity **AFDD+** towards fuse link **Neozed** [1]

AFDD+	Neozed [1]									
	16	**20**	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**
B10	<0.5	0.5	0.9	2	2.3	3.7	8	10	10	10
B13	<0.5	0.5	0.8	1.7	1.9	3	6	10	10	10
B16		0.5	0.7	1.5	1.7	2.4	4.4	6.8	10	10
B20			0.7	1.4	1.5	2.2	3.9	6	9.2	10
C10	<0.5	0.5	0.8	1.7	1.9	3	6.1	10	10	10
C13	<0.5	0.5	0.7	1.6	1.8	2.8	5.5	9.5	10	10
C16		<0.5	0.7	1.3	1.5	2.2	4	6.2	10	10
C20			0.6	1.3	1.4	2.1	3.7	5.6	8.5	10

Short circuit selectivity **AFDD+** towards fuse link **Diazed** [2]

AFDD+	Diazed [2]								
	16	**20**	**25**	**32**	**35**	**50**	**63**	**80**	**100**
B10	<0.5	0.5	0.9	1.8	2.9	5.6	10	10	10
B13	<0.5	0.5	0.8	1.5	2.4	4.5	10	10	10
B16		0.5	0.8	1.3	2	3.4	8	10	10
B20			0.7	1.3	1.9	3.1	7.1	10	10
C10	<0.5	0.5	0.8	1.5	2.4	4.4	10	10	10
C13	<0.5	0.5	0.8	1.4	2.3	4.2	10	10	10
C16		<0.5	0.7	1.2	1.9	3.2	7.6	10	10
C20			0.7	1.2	1.8	2.9	6.5	9.7	10

Short circuit selectivity **AFDD+** towards fuse link **NH00** [3]

AFDD+	NH00 [3]											
	16	**20**	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**	**125**	**160**
B10	<0.5	<0.5	0.8	1.5	2.3	3.2	5.7	9.1	10	10	10	10
B13	<0.5	<0.5	0.8	1.3	1.9	2.7	4.4	6.5	10	10	10	10
B16		<0.5	0.7	1.1	1.6	2.2	3.4	4.8	8	10	10	10
B20			0.6	1	1.4	2	3.1	4.3	7	10	10	10
C10	<0.5	<0.5	0.7	1.3	1.9	2.7	4.5	6.9	10	10	10	10
C13	<0.5	<0.5	0.7	1.2	1.8	2.5	4.1	6.1	10	10	10	10
C16		<0.5	0.6	1	1.5	2	3.1	4.4	7.5	10	10	10
C20			0.6	0.9	1.4	1.9	2.9	4.1	6.5	10	10	10

no selectivity

[1] SIEMENS Type 5SE2; Size: D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V
[2] SIEMENS Type 5SB2, 5SB4, 5SC2; Size: DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V
[3] SIEMENS Type 3NA3 8, 3NA6 8, 3NA7 8; Size: 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V

Short Circuit Selectivity AFDD+ 25-40A towards Neozed1) / Diazed2) / NH003)

Short circuit currents in kA, Rated currents of fuses in A

Short circuit selectivity **AFDD+** towards fuse link **Neozed** [1]

AFDD+	Neozed [1]									
	16	**20**	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**
B25				1.2	1.3	1.8	3.1	4.7	6	6
B32					1.2	1.7	2.7	3.8	5.5	6
B40						1.3	1.7	2.2	2.7	4.2
C25				1.1	1.3	1.8	2.8	3.9	5.6	6
C32					1.2	1.7	2.6	3.6	5.1	6
C40						1.3	1.9	3.3	3.2	5.8

Short circuit selectivity **AFDD+** towards fuse link **Diazed** [1]

AFDD+	Diazed [2]								
	16	**20**	**25**	**32**	**35**	**50**	**63**	**80**	**100**
B25				1.1	1.5	2.4	5.5	6	6
B32					1.4	2.1	4.3	6	6
B40						1.4	2.4	2.9	5.1
C25				1.1	1.5	2.3	4.4	6	6
C32					1.4	2.2	4.1	5.6	6
C40						1.6	2.8	3.6	6

Short circuit selectivity **AFDD+** towards fuse link **NH00** [3]

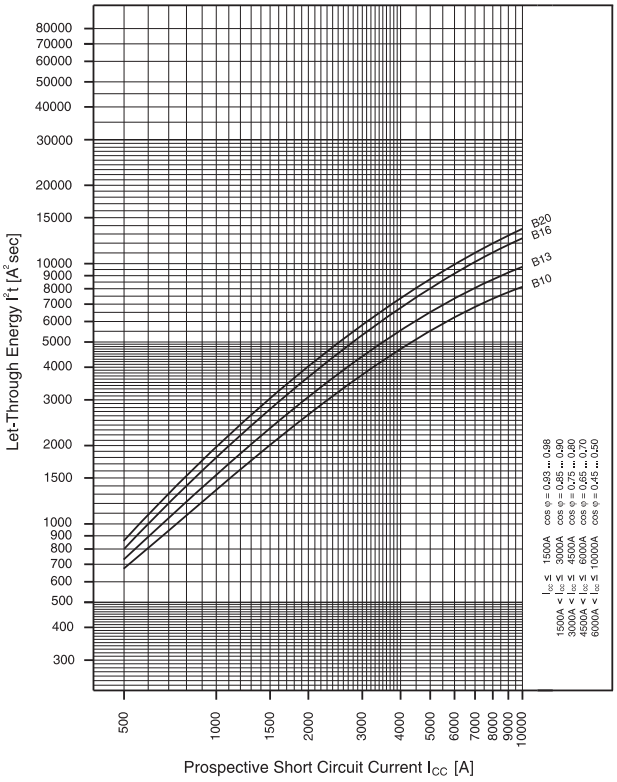
AFDD+	NH00 [3]											
	16	**20**	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**	**125**	**160**
B25				0.9	1.2	1.6	2.4	3.4	5.5	6	6	6
B32					1.1	1.4	2.1	2.9	4.3	6	6	6
B40							1.4	1.9	2.8	4.1	6	6
C25				0.9	1.2	1.6	2.3	3	4.6	6	6	6
C32					1.1	1.5	2.1	2.8	4.3	6	6	6
C40							1.5	2.1	3.1	5.4	6	6

no selectivity

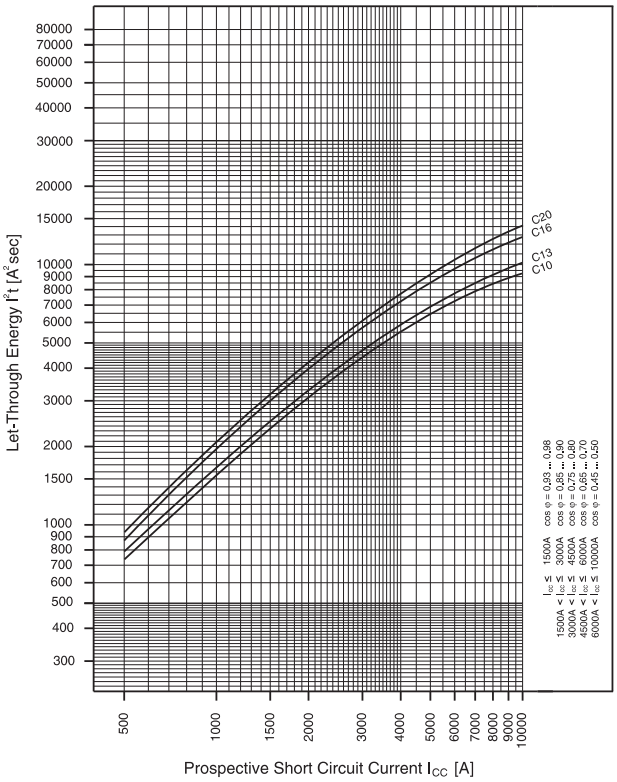
[1] SIEMENS Type 5SE2; Size: D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V
[2] SIEMENS Type 5SB2, 5SB4, 5SC2; Size: DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V
[3] SIEMENS Type 3NA3 8, 3NA6 8, 3NA7 8; Size: 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V

Let-through Energy AFDD+

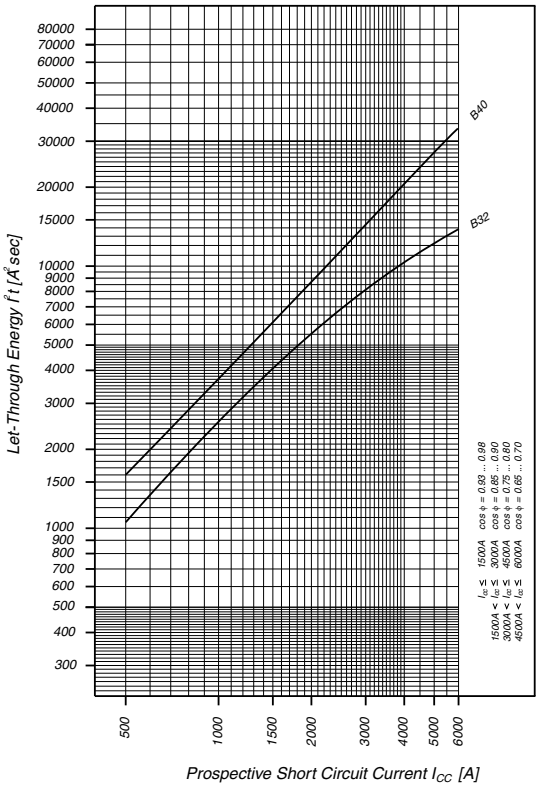
Let-through energy **AFDD+**, characteristic B, 2-pole, 10-20 A



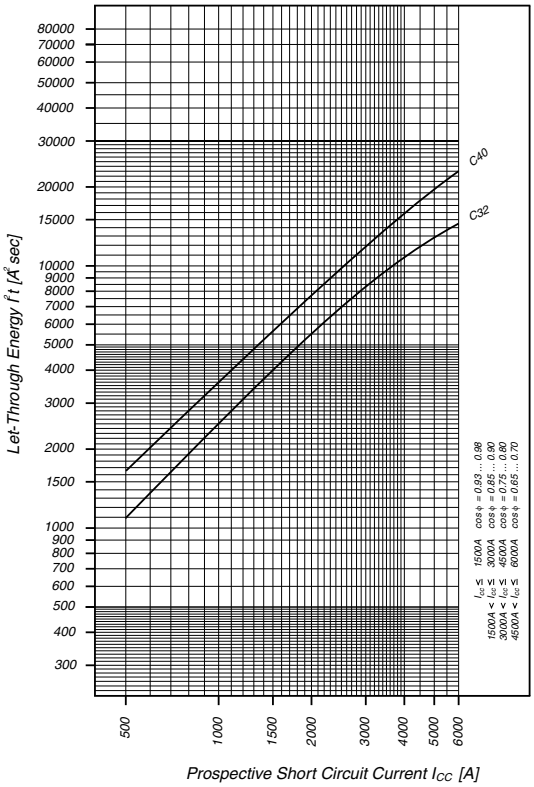
Let-through energy **AFDD+**, characteristic C, 2-pole, 10-20 A



Let-through energy **AFDD+**, characteristic B, 2-pole, 32-40 A



Let-through energy **AFDD+**, characteristic C, 2-pole, 32-40 A



Combined RCD/MCB Devices PKNM, 1+N-pole MW

SG13711

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 10 kA

Combined RCD/MCB Devices PKNM

MW

10 kA, 1+N-pole

Conditionally surge current-proof 250 A, type AC

SG13711

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	PKNM-2/1N/B/001	235926	1/60
4/0.01	PKNM-4/1N/B/001	235957	1/60
6/0.01	PKNM-6/1N/B/001	236006	1/60
10/0.01	PKNM-10/1N/B/001	236066	1/60
13/0.01	PKNM-13/1N/B/001	236127	1/60
16/0.01	PKNM-16/1N/B/001	236199	1/60
2/0.03	PKNM-2/1N/B/003	235927	1/60
4/0.03	PKNM-4/1N/B/003	235956	1/60
6/0.03	PKNM-6/1N/B/003	236007	1/60
10/0.03	PKNM-10/1N/B/003	236067	1/60
13/0.03	PKNM-13/1N/B/003	236128	1/60
16/0.03	PKNM-16/1N/B/003	236200	1/60
20/0.03	PKNM-20/1N/B/003	236235	1/60
25/0.03	PKNM-25/1N/B/003	236265	1/60
32/0.03	PKNM-32/1N/B/003	236295	1/60
40/0.03	PKNM-40/1N/B/003	236324	1/60
2/0.1	PKNM-2/1N/B/01	235928	1/60
4/0.1	PKNM-4/1N/B/01	235958	1/60
6/0.1	PKNM-6/1N/B/01	236008	1/60
10/0.1	PKNM-10/1N/B/01	236068	1/60
13/0.1	PKNM-13/1N/B/01	236129	1/60
16/0.1	PKNM-16/1N/B/01	236201	1/60
20/0.1	PKNM-20/1N/B/01	236236	1/60
25/0.1	PKNM-25/1N/B/01	236266	1/60
32/0.1	PKNM-32/1N/B/01	236296	1/60
40/0.1	PKNM-40/1N/B/01	236325	1/60
2/0.3	PKNM-2/1N/B/03	235929	1/60
4/0.3	PKNM-4/1N/B/03	235959	1/60
6/0.3	PKNM-6/1N/B/03	236009	1/60
10/0.3	PKNM-10/1N/B/03	236069	1/60
13/0.3	PKNM-13/1N/B/03	236130	1/60
16/0.3	PKNM-16/1N/B/03	236202	1/60
20/0.3	PKNM-20/1N/B/03	236237	1/60
25/0.3	PKNM-25/1N/B/03	236267	1/60
32/0.3	PKNM-32/1N/B/03	236297	1/60
40/0.3	PKNM-40/1N/B/03	236326	1/60

Explanation PKNM:
P = XPole, KN = Combined RCD/MCB Devices, M = 10 kA

SG13711

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	PKNM-2/1N/C/001	235936	1/60
4/0.01	PKNM-4/1N/C/001	235966	1/60
6/0.01	PKNM-6/1N/C/001	236016	1/60
10/0.01	PKNM-10/1N/C/001	236076	1/60
13/0.01	PKNM-13/1N/C/001	236139	1/60
16/0.01	PKNM-16/1N/C/001	236211	1/60
2/0.03	PKNM-2/1N/C/003	235937	1/60
4/0.03	PKNM-4/1N/C/003	235967	1/60
6/0.03	PKNM-6/1N/C/003	236017	1/60
10/0.03	PKNM-10/1N/C/003	236077	1/60
13/0.03	PKNM-13/1N/C/003	236140	1/60
16/0.03	PKNM-16/1N/C/003	236212	1/60
20/0.03	PKNM-20/1N/C/003	236245	1/60
25/0.03	PKNM-25/1N/C/003	236275	1/60
32/0.03	PKNM-32/1N/C/003	236305	1/60
40/0.03	PKNM-40/1N/C/003	236334	1/60
2/0.1	PKNM-2/1N/C/01	235938	1/60
4/0.1	PKNM-4/1N/C/01	235968	1/60
6/0.1	PKNM-6/1N/C/01	236018	1/60
10/0.1	PKNM-10/1N/C/01	236078	1/60
13/0.1	PKNM-13/1N/C/01	236141	1/60
16/0.1	PKNM-16/1N/C/01	236213	1/60
20/0.1	PKNM-20/1N/C/01	236246	1/60
25/0.1	PKNM-25/1N/C/01	236276	1/60
32/0.1	PKNM-32/1N/C/01	236306	1/60
40/0.1	PKNM-40/1N/C/01	236335	1/60
2/0.3	PKNM-2/1N/C/03	235939	1/60
4/0.3	PKNM-4/1N/C/03	235969	1/60
6/0.3	PKNM-6/1N/C/03	236019	1/60
10/0.3	PKNM-10/1N/C/03	236079	1/60
13/0.3	PKNM-13/1N/C/03	236142	1/60
16/0.3	PKNM-16/1N/C/03	236214	1/60
20/0.3	PKNM-20/1N/C/03	236247	1/60
25/0.3	PKNM-25/1N/C/03	236277	1/60
32/0.3	PKNM-32/1N/C/03	236307	1/60
40/0.3	PKNM-40/1N/C/03	236336	1/60

Combined RCD/MCB Devices PKNM

MW

10 kA, 1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG13711

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	PKNM-2/1N/B/001-A	235931	1/60
4/0.01	PKNM-4/1N/B/001-A	235961	1/60
6/0.01	PKNM-6/1N/B/001-A	236011	1/60
10/0.01	PKNM-10/1N/B/001-A	236071	1/60
13/0.01	PKNM-13/1N/B/001-A	236132	1/60
16/0.01	PKNM-16/1N/B/001-A	236204	1/60
2/0.03	PKNM-2/1N/B/003-A	235932	1/60
4/0.03	PKNM-4/1N/B/003-A	235962	1/60
6/0.03	PKNM-6/1N/B/003-A	236012	1/60
10/0.03	PKNM-10/1N/B/003-A	236072	1/60
13/0.03	PKNM-13/1N/B/003-A	236133	1/60
16/0.03	PKNM-16/1N/B/003-A	236205	1/60
20/0.03	PKNM-20/1N/B/003-A	236239	1/60
25/0.03	PKNM-25/1N/B/003-A	236269	1/60
32/0.03	PKNM-32/1N/B/003-A	236299	1/60
40/0.03	PKNM-40/1N/B/003-A	236328	1/60
2/0.1	PKNM-2/1N/B/01-A	235933	1/60
4/0.1	PKNM-4/1N/B/01-A	235963	1/60
6/0.1	PKNM-6/1N/B/01-A	236013	1/60
10/0.1	PKNM-10/1N/B/01-A	236073	1/60
13/0.1	PKNM-13/1N/B/01-A	236134	1/60
16/0.1	PKNM-16/1N/B/01-A	236206	1/60
20/0.1	PKNM-20/1N/B/01-A	236240	1/60
25/0.1	PKNM-25/1N/B/01-A	236270	1/60
32/0.1	PKNM-32/1N/B/01-A	236300	1/60
40/0.1	PKNM-40/1N/B/01-A	236329	1/60
2/0.3	PKNM-2/1N/B/03-A	235934	1/60
4/0.3	PKNM-4/1N/B/03-A	235964	1/60
6/0.3	PKNM-6/1N/B/03-A	236014	1/60
10/0.3	PKNM-10/1N/B/03-A	236074	1/60
13/0.3	PKNM-13/1N/B/03-A	236135	1/60
16/0.3	PKNM-16/1N/B/03-A	236207	1/60
20/0.3	PKNM-20/1N/B/03-A	236241	1/60
25/0.3	PKNM-25/1N/B/03-A	236271	1/60
32/0.3	PKNM-32/1N/B/03-A	236301	1/60
40/0.3	PKNM-40/1N/B/03-A	236330	1/60

Explanation PKNM:
P = XPole, KN = Combined RCD/MCB Devices, M = 10 kA

SG13711

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	PKNM-2/1N/C/001-A	235941	1/60
4/0.01	PKNM-4/1N/C/001-A	235971	1/60
6/0.01	PKNM-6/1N/C/001-A	236021	1/60
10/0.01	PKNM-10/1N/C/001-A	236081	1/60
13/0.01	PKNM-13/1N/C/001-A	236144	1/60
16/0.01	PKNM-16/1N/C/001-A	236216	1/60
2/0.03	PKNM-2/1N/C/003-A	235942	1/60
4/0.03	PKNM-4/1N/C/003-A	235972	1/60
6/0.03	PKNM-6/1N/C/003-A	236022	1/60
10/0.03	PKNM-10/1N/C/003-A	236082	1/60
13/0.03	PKNM-13/1N/C/003-A	236145	1/60
16/0.03	PKNM-16/1N/C/003-A	236217	1/60
20/0.03	PKNM-20/1N/C/003-A	236249	1/60
25/0.03	PKNM-25/1N/C/003-A	236279	1/60
32/0.03	PKNM-32/1N/C/003-A	236309	1/60
40/0.03	PKNM-40/1N/C/003-A	236338	1/60
2/0.1	PKNM-2/1N/C/01-A	235943	1/60
4/0.1	PKNM-4/1N/C/01-A	235973	1/60
6/0.1	PKNM-6/1N/C/01-A	236023	1/60
10/0.1	PKNM-10/1N/C/01-A	236083	1/60
13/0.1	PKNM-13/1N/C/01-A	236146	1/60
16/0.1	PKNM-16/1N/C/01-A	236218	1/60
20/0.1	PKNM-20/1N/C/01-A	236250	1/60
25/0.1	PKNM-25/1N/C/01-A	236280	1/60
32/0.1	PKNM-32/1N/C/01-A	236310	1/60
40/0.1	PKNM-40/1N/C/01-A	236339	1/60
2/0.3	PKNM-2/1N/C/03-A	235944	1/60
4/0.3	PKNM-4/1N/C/03-A	235974	1/60
6/0.3	PKNM-6/1N/C/03-A	236024	1/60
10/0.3	PKNM-10/1N/C/03-A	236084	1/60
13/0.3	PKNM-13/1N/C/03-A	236147	1/60
16/0.3	PKNM-16/1N/C/03-A	236219	1/60
20/0.3	PKNM-20/1N/C/03-A	236251	1/60
25/0.3	PKNM-25/1N/C/03-A	236281	1/60
32/0.3	PKNM-32/1N/C/03-A	236311	1/60
40/0.3	PKNM-40/1N/C/03-A	236340	1/60

Combined RCD/MCB Devices PKNM

MW

10 kA, 1+N-pole
Surge current-proof 3 kA, type G (ÖVE E 8601)

SG13711

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
13/0.03	PKNM-13/1N/B/003-G	236137	1/60
16/0.03	PKNM-16/1N/B/003-G	236209	1/60
20/0.03	PKNM-20/1N/B/003-G	236243	1/60
25/0.03	PKNM-25/1N/B/003-G	236273	1/60
32/0.03	PKNM-32/1N/B/003-G	236303	1/60
40/0.03	PKNM-40/1N/B/003-G	236332	1/60
13/0.3	PKNM-13/1N/B/03-G	236138	1/60
16/0.3	PKNM-16/1N/B/03-G	236210	1/60
20/0.3	PKNM-20/1N/B/03-G	236244	1/60
25/0.3	PKNM-25/1N/B/03-G	236274	1/60
32/0.3	PKNM-32/1N/B/03-G	236304	1/60
40/0.3	PKNM-40/1N/B/03-G	236333	1/60

SG13711

Characteristic C			
13/0.03	PKNM-13/1N/C/003-G	236149	1/60
16/0.03	PKNM-16/1N/C/003-G	236221	1/60
20/0.03	PKNM-20/1N/C/003-G	236253	1/60
25/0.03	PKNM-25/1N/C/003-G	236283	1/60
32/0.03	PKNM-32/1N/C/003-G	236313	1/60
40/0.03	PKNM-40/1N/C/003-G	236342	1/60
13/0.3	PKNM-13/1N/C/03-G	236150	1/60
16/0.3	PKNM-16/1N/C/03-G	236222	1/60
20/0.3	PKNM-20/1N/C/03-G	236254	1/60
25/0.3	PKNM-25/1N/C/03-G	236284	1/60
32/0.3	PKNM-32/1N/C/03-G	236314	1/60
40/0.3	PKNM-40/1N/C/03-G	236343	1/60

Explanation PKNM:
P = XPole, KN = Combined RCD/MCB Devices, M = 10 kA

Specifications | Combined RCD/MCB Devices PKNM, 1+N-pole

Description

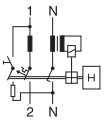
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed
- **Type -G:** 10 ms time delay in order to avoid unwanted tripping (e.g. during thunderstorms).
  Compulsory in Austria for any circuit where personal injury or damage to property may occur in case of unwanted tripping (§12.1.6 ÖVE/ÖNORM E 8001-1).

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal switch for subsequent installation	ZP-NHK	248437
Shunt trip release	ZP-ASA/..	248438, 248439
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm²	Z-HA-EK/35	263960

Connection diagram

1+N-pole

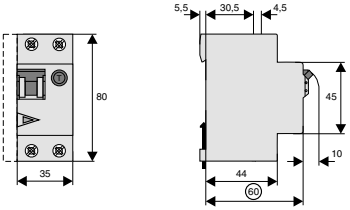


Technical Data

Electrical		
Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping		
line-voltage-independent		instantaneous 250A (8/20µs) surge current proof;
Type G		10 ms delay 3kA (8/20µs) surge current proof
Rated voltage U_e		230 V; 50 Hz
Operational voltage range		196-253 V
Rated tripping current $I_{\Delta n}$		10, 30, 100, 300 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Rated insulation voltage U_i		440 VAC
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity		10 kA
Rated current		2 - 40 A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>10 kA)
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)

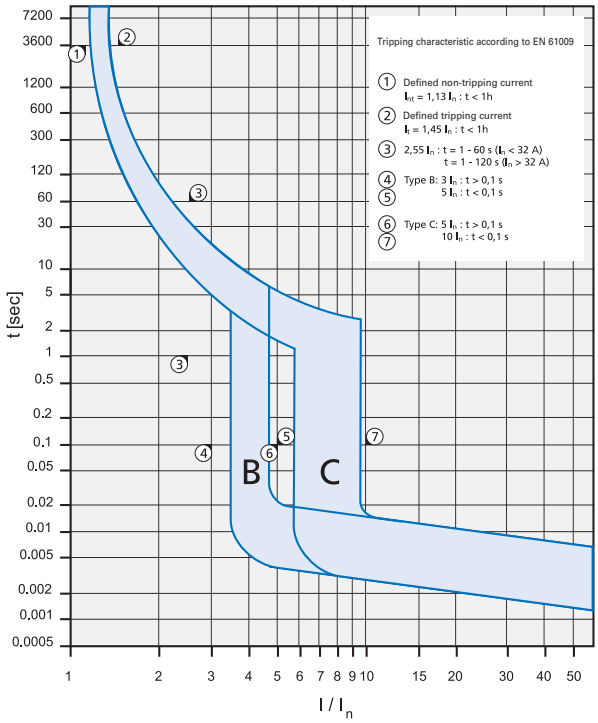


Load Capacity PKNM-../1N/

Effect of ambient temperature (MCB component)

	Ambient temperature **T [°C]**								
I_n [A]	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**35**	**40**
2	2.5	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9
4	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9
5	6.2	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8
6	7.4	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8
8	9.9	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7
10	12	12	12	11	11	10	10	9.9	9.7
12	15	14	14	13	13	13	12	12	12
13	16	16	15	15	14	14	13	13	13
15	19	18	17	17	16	16	15	15	15
16	20	19	19	18	17	17	16	16	15
20	25	24	23	22	22	21	20	20	19
25	31	30	29	28	27	26	25	25	24
32	40	38	37	36	35	33	32	32	31
40	49	48	47	45	43	42	40	39	39

Tripping Characteristic PKNM-../1N/, Characteristics B a. C



Short Circuit Selectivity PKNM-../1N/ towards DII-DIV fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PKNM../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

PKNM	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
2	<0.5[1)]	<0.5[1)]	2.2	8.5	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
4	<0.5[1)]	<0.5[1)]	0.7	1.2	3.7	10.0	10.0[2)]	10.0[2)]	10.0[2)]
6		<0.5[1)]	0.7	1.0	2.9	6.9	10.0[2)]	10.0[2)]	10.0[2)]
8		<0.5[1)]	0.6	1.0	2.4	5.1	10.0[2)]	10.0[2)]	10.0[2)]
10			0.6	0.9	1.9	3.3	7.0	10.0[2)]	10.0[2)]
13			0.5	0.7	1.6	2.8	5.7	9.0	10.0[2)]
16				0.7	1.4	2.4	4.4	7.0	10.0[2)]
20					1.3	2.2	4.0	6.3	10.0[2)]
25					1.3	2.1	3.8	5.8	10.0[2)]
32						2.0	3.5	5.2	9.5
40							3.1	4.5	8.1

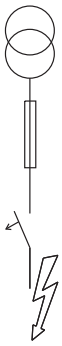
Short circuit selectivity **characteristic C** towards fuse link **DII-DIV***)

PKNM	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
2	<0.5[1)]	<0.5[1)]	1.7	6.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
4	<0.5[1)]	<0.5[1)]	0.7	1.3	4.2	8.5	10.0[2)]	10.0[2)]	10.0[2)]
5	<0.5[1)]	<0.5[1)]	0.6	1.1	3.6	7.0	10.0[2)]	10.0[2)]	10.0[2)]
6		<0.5[1)]	0.6	1.0	2.9	5.8	10.0[2)]	10.0[2)]	10.0[2)]
8		<0.5[1)]	<0.5	0.9	2.5	4.8	10.0[2)]	10.0[2)]	10.0[2)]
10			<0.5	0.7	1.5	2.6	5.3	9.0	10.0[2)]
13					1.4	2.3	4.6	7.6	10.0[2)]
16					1.2	1.8	3.4	5.5	10.0[2)]
20					1.2	1.7	3.1	5.0	10.0[2)]
25						1.6	2.9	4.6	10.0[2)]
32							2.3	3.4	7.7
40								2.9	6.2

[1)] Selectivity limit current I_s under 0.5 kA

[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device

Darker areas: no selectivity



Short Circuit Selectivity PKNM-../1N/ towards D01-D03 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PKNM../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

PKNM	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	0.7	1.6	3.3	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
4	<0.5[1)]	<0.5[1)]	0.6	0.9	2.9	10.0	10.0[2)]	10.0[2)]	10.0[2)]
6		<0.5[1)]	0.5	0.8	2.4	8.2	10.0[2)]	10.0[2)]	10.0[2)]
8			0.6	0.8	2.0	6.0	10.0[2)]	10.0[2)]	10.0[2)]
10			0.5	0.8	1.6	3.7	6.0	10.0[2)]	10.0[2)]
13			0.6	0.7	1.4	3.0	4.7	9.0	10.0[2)]
16				0.6	1.2	2.6	3.9	7.0	10.0[2)]
20					1.2	2.5	3.6	6.2	10.0[2)]
25					1.2	2.3	3.3	5.7	10.0[2)]
32						2.3	3.1	5.1	10.0[2)]
40							2.8	4.5	9.5

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

PKNM	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	0.5	0.5	2.4	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
4	<0.5[1)]	<0.5[1)]	<0.5[1)]	0.9	3.4	9.5	10.0[2)]	10.0[2)]	10.0[2)]
5	<0.5[1)]	<0.5[1)]	<0.5[1)]	0.9	2.9	8.0	10.0[2)]	10.0[2)]	10.0[2)]
6		<0.5[1)]	<0.5[1)]	0.8	2.3	6.5	10.0[2)]	10.0[2)]	10.0[2)]
8			<0.5	0.7	2.1	5.5	9.5	10.0[2)]	10.0[2)]
10			<0.5	0.6	1.3	2.9	4.5	8.9	10.0[2)]
13					1.2	2.5	3.9	7.6	10.0[2)]
16					1.0	2.1	3.0	5.5	10.0[2)]
20					1.0	2.0	2.7	5.0	10.0[2)]
25						1.9	2.6	4.5	10.0[2)]
32							2.1	3.4	10.0[2)]
40								3.0	8.7

Short Circuit Selectivity PKNM-../1N/ towards NH-00 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PKNM../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

PKNM	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5[1)]	1.1	3.6	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
4	<0.5[1)]	0.5	0.9	1.6	2.8	4.4	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
6	<0.5[1)]	0.5	0.8	1.4	2.2	3.3	7.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
8	<0.5[1)]	<0.5[1)]	0.7	1.0	1.9	2.8	5.3	7.8	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
10		<0.5[1)]	0.7	0.9	1.5	2.1	3.4	4.3	7.3	10.0[2)]	10.0[2)]	10.0[2)]
13		<0.5[1)]	0.6	0.8	1.4	1.8	2.8	3.6	5.7	10.0[2)]	10.0[2)]	10.0[2)]
16			0.6	0.7	1.2	1.5	2.4	3.0	4.5	10.0[2)]	10.0[2)]	10.0[2)]
20				0.7	1.1	1.5	2.2	2.8	4.2	9.2	10.0[2)]	10.0[2)]
25				0.7	1.1	1.4	2.1	2.6	4.0	8.2	10.0[2)]	10.0[2)]
32					1.0	1.4	2.0	2.5	3.7	7.1	10.0[2)]	10.0[2)]
40								2.3	3.4	6.2	8.8	10.0[2)]

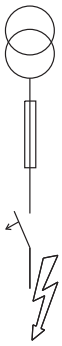
Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

PKNM	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5[1)]	0.6	2.6	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
4	<0.5[1)]	<0.5[1)]	0.9	1.8	3.2	4.8	8.7	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
5	<0.5[1)]	<0.5[1)]	0.8	1.6	2.7	4.1	7.2	9.7	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
6	<0.5[1)]	<0.5[1)]	0.7	1.3	2.2	3.3	5.9	8.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
8	<0.5[1)]	<0.5[1)]	0.6	1.1	1.9	2.8	5.0	6.7	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
10			0.5	0.8	1.2	1.7	2.7	3.4	5.5	10.0[2)]	10.0[2)]	10.0[2)]
13					1.1	1.5	2.3	2.9	4.7	10.0[2)]	10.0[2)]	10.0[2)]
16					1.0	1.3	1.8	2.3	3.7	8.7	10.0[2)]	10.0[2)]
20					0.9	1.1	1.7	2.2	3.4	8.0	10.0[2)]	10.0[2)]
25							1.6	2.1	3.2	7.2	10.0[2)]	10.0[2)]
32								1.7	2.6	5.3	9.0	10.0[2)]
40									2.4	4.5	7.5	10.0

[1)] Selectivity limit current I_s under 0.5 kA

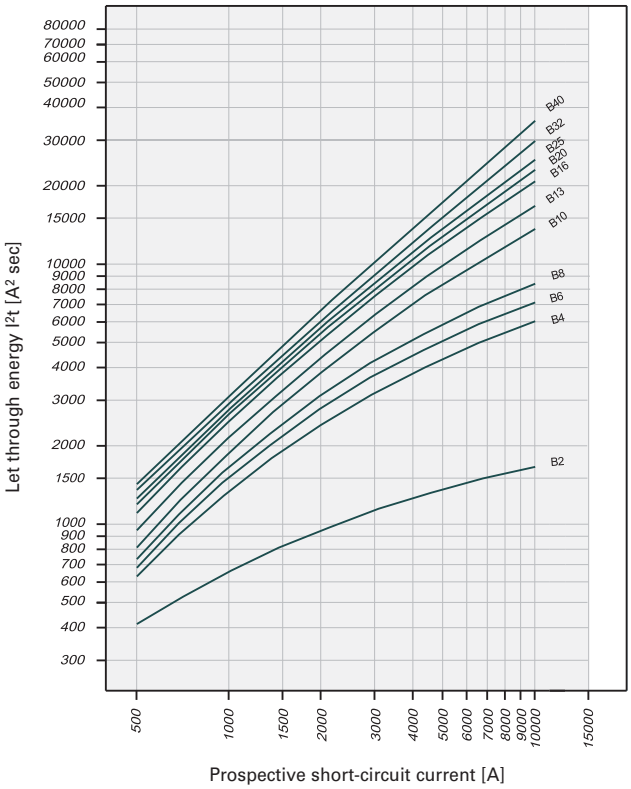
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device

Darker areas: no selectivity

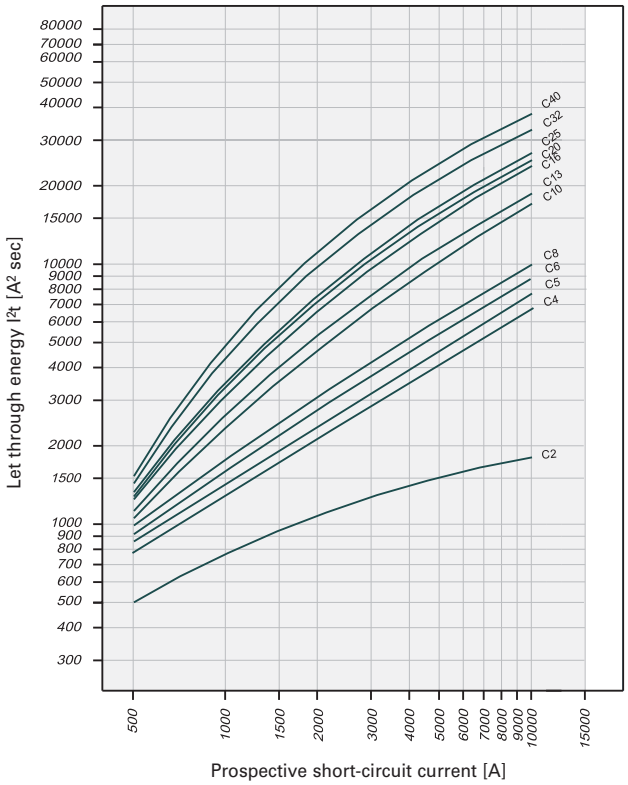


Let-through Energy PKNM-../1N/

Let-through energy PKNM, characteristic B, 1+N-pole



Let-through energy PKNM, characteristic C, 1+N-pole



Combined RCD/MCB Devices PKNM-110VAC, 1+N-pole

SG13711

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents 16, 20 and 32 A
- Tripping Characteristic C
- Rated breaking capacity 10 kA

Combined RCD/MCB Devices PKNM-110VAC
10 kA, 1+N-pole
Conditionally surge current-proof 250 A, type AC

SG13711

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
16/0.03	PKNM-16/1N/C/003-110VAC	286385	1/60
20/0.03	PKNM-20/1N/C/003-110VAC	294128	1/60
32/0.03	PKNM-32/1N/C/003-110VAC	286386	1/60

Specifications | Combined RCD/MCB Devices PKNM-110VAC, 1+N-pole

Description

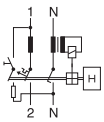
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal switch for subsequent installation	ZP-NHK	248437
Shunt trip release	ZP-ASA/..	248438, 248439
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm²	Z-HA-EK/35	263960

Connection diagram

1+N-pole



Technical Data

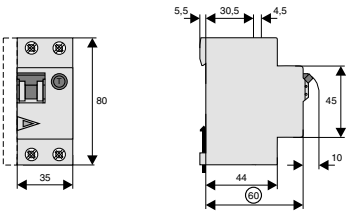
Electrical

Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping line-voltage-independent		instantaneous 250A (8/20µs) surge current proof
Rated voltage U_e		110 V; 50 Hz
Operational voltage range		94-121V
Rated tripping current $I_{\Delta n}$		30 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Rated insulation voltage U_i		440 VAC
Sensitivity		AC
Selectivity class		3
Rated breaking capacity		10 kA
Rated current		16, 20, 32A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		C
Maximum back-up fuse (short circuit)		100 A gL (>10 kA)
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical

Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)



Explanation PKNM:
P = XPole, KN = Combined RCD/MCB Devices, M = 10 kA

Combined RCD/MCB Devices PKN6, 1+N-pole MW

SG14111

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 6 kA

Combined RCD/MCB Devices PKN6

MW

6 kA, 1+N-pole

Conditionally surge current-proof 250 A, type AC

SG14111

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	PKN6-2/1N/B/001	236354	1/60
4/0.01	PKN6-4/1N/B/001	236385	1/60
6/0.01	PKN6-6/1N/B/001	236434	1/60
10/0.01	PKN6-10/1N/B/001	236494	1/60
13/0.01	PKN6-13/1N/B/001	236555	1/60
16/0.01	PKN6-16/1N/B/001	236627	1/60
2/0.03	PKN6-2/1N/B/003	236355	1/60
4/0.03	PKN6-4/1N/B/003	236384	1/60
6/0.03	PKN6-6/1N/B/003	236435	1/60
10/0.03	PKN6-10/1N/B/003	236495	1/60
13/0.03	PKN6-13/1N/B/003	236556	1/60
16/0.03	PKN6-16/1N/B/003	236628	1/60
20/0.03	PKN6-20/1N/B/003	236663	1/60
25/0.03	PKN6-25/1N/B/003	236693	1/60
32/0.03	PKN6-32/1N/B/003	236723	1/60
40/0.03	PKN6-40/1N/B/003	236752	1/60
2/0.1	PKN6-2/1N/B/01	236356	1/60
4/0.1	PKN6-4/1N/B/01	236386	1/60
6/0.1	PKN6-6/1N/B/01	236436	1/60
10/0.1	PKN6-10/1N/B/01	236496	1/60
13/0.1	PKN6-13/1N/B/01	236557	1/60
16/0.1	PKN6-16/1N/B/01	236629	1/60
20/0.1	PKN6-20/1N/B/01	236664	1/60
25/0.1	PKN6-25/1N/B/01	236694	1/60
32/0.1	PKN6-32/1N/B/01	236724	1/60
40/0.1	PKN6-40/1N/B/01	236753	1/60
2/0.3	PKN6-2/1N/B/03	236357	1/60
4/0.3	PKN6-4/1N/B/03	236387	1/60
6/0.3	PKN6-6/1N/B/03	236437	1/60
10/0.3	PKN6-10/1N/B/03	236497	1/60
13/0.3	PKN6-13/1N/B/03	236558	1/60
16/0.3	PKN6-16/1N/B/03	236630	1/60
20/0.3	PKN6-20/1N/B/03	236665	1/60
25/0.3	PKN6-25/1N/B/03	236695	1/60
32/0.3	PKN6-32/1N/B/03	236725	1/60
40/0.3	PKN6-40/1N/B/03	236754	1/60

SG14111

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	PKN6-2/1N/C/001	236364	1/60
4/0.01	PKN6-4/1N/C/001	236394	1/60
6/0.01	PKN6-6/1N/C/001	236444	1/60
10/0.01	PKN6-10/1N/C/001	236504	1/60
13/0.01	PKN6-13/1N/C/001	236567	1/60
16/0.01	PKN6-16/1N/C/001	236639	1/60
2/0.03	PKN6-2/1N/C/003	236365	1/60
4/0.03	PKN6-4/1N/C/003	236395	1/60
6/0.03	PKN6-6/1N/C/003	236445	1/60
10/0.03	PKN6-10/1N/C/003	236505	1/60
13/0.03	PKN6-13/1N/C/003	236568	1/60
16/0.03	PKN6-16/1N/C/003	236640	1/60
20/0.03	PKN6-20/1N/C/003	236673	1/60
25/0.03	PKN6-25/1N/C/003	236703	1/60
32/0.03	PKN6-32/1N/C/003	236733	1/60
40/0.03	PKN6-40/1N/C/003	236762	1/60
2/0.1	PKN6-2/1N/C/01	236366	1/60
4/0.1	PKN6-4/1N/C/01	236396	1/60
6/0.1	PKN6-6/1N/C/01	236446	1/60
10/0.1	PKN6-10/1N/C/01	236506	1/60
13/0.1	PKN6-13/1N/C/01	236569	1/60
16/0.1	PKN6-16/1N/C/01	236641	1/60
20/0.1	PKN6-20/1N/C/01	236674	1/60
25/0.1	PKN6-25/1N/C/01	236704	1/60
32/0.1	PKN6-32/1N/C/01	236734	1/60
40/0.1	PKN6-40/1N/C/01	236763	1/60
2/0.3	PKN6-2/1N/C/03	236367	1/60
4/0.3	PKN6-4/1N/C/03	236397	1/60
6/0.3	PKN6-6/1N/C/03	236447	1/60
10/0.3	PKN6-10/1N/C/03	236507	1/60
13/0.3	PKN6-13/1N/C/03	236570	1/60
16/0.3	PKN6-16/1N/C/03	236642	1/60
20/0.3	PKN6-20/1N/C/03	236675	1/60
25/0.3	PKN6-25/1N/C/03	236705	1/60
32/0.3	PKN6-32/1N/C/03	236735	1/60
40/0.3	PKN6-40/1N/C/03	236764	1/60

Explanation PKN6:
P = XPole, KN = Combined RCD/MCB Devices, 6 = 6 kA

Combined RCD/MCB Devices PKN6

MW

6 kA, 1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG14111

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	PKN6-2/1N/B/001-A	236359	1/60
4/0.01	PKN6-4/1N/B/001-A	236389	1/60
6/0.01	PKN6-6/1N/B/001-A	236439	1/60
10/0.01	PKN6-10/1N/B/001-A	236499	1/60
13/0.01	PKN6-13/1N/B/001-A	236560	1/60
16/0.01	PKN6-16/1N/B/001-A	236632	1/60
2/0.03	PKN6-2/1N/B/003-A	236360	1/60
4/0.03	PKN6-4/1N/B/003-A	236390	1/60
6/0.03	PKN6-6/1N/B/003-A	236440	1/60
10/0.03	PKN6-10/1N/B/003-A	236500	1/60
13/0.03	PKN6-13/1N/B/003-A	236561	1/60
16/0.03	PKN6-16/1N/B/003-A	236633	1/60
20/0.03	PKN6-20/1N/B/003-A	236667	1/60
25/0.03	PKN6-25/1N/B/003-A	236697	1/60
32/0.03	PKN6-32/1N/B/003-A	236727	1/60
40/0.03	PKN6-40/1N/B/003-A	236756	1/60
2/0.1	PKN6-2/1N/B/01-A	236361	1/60
4/0.1	PKN6-4/1N/B/01-A	236391	1/60
6/0.1	PKN6-6/1N/B/01-A	236441	1/60
10/0.1	PKN6-10/1N/B/01-A	236501	1/60
13/0.1	PKN6-13/1N/B/01-A	236562	1/60
16/0.1	PKN6-16/1N/B/01-A	236634	1/60
20/0.1	PKN6-20/1N/B/01-A	236668	1/60
25/0.1	PKN6-25/1N/B/01-A	236698	1/60
32/0.1	PKN6-32/1N/B/01-A	236728	1/60
40/0.1	PKN6-40/1N/B/01-A	236757	1/60
2/0.3	PKN6-2/1N/B/03-A	236362	1/60
4/0.3	PKN6-4/1N/B/03-A	236392	1/60
6/0.3	PKN6-6/1N/B/03-A	236442	1/60
10/0.3	PKN6-10/1N/B/03-A	236502	1/60
13/0.3	PKN6-13/1N/B/03-A	236563	1/60
16/0.3	PKN6-16/1N/B/03-A	236635	1/60
20/0.3	PKN6-20/1N/B/03-A	236669	1/60
25/0.3	PKN6-25/1N/B/03-A	236699	1/60
32/0.3	PKN6-32/1N/B/03-A	236729	1/60
40/0.3	PKN6-40/1N/B/03-A	236758	1/60

Explanation PKN6:
P = XPole, KN = Combined RCD/MCB Devices, 6 = 6 kA

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	PKN6-2/1N/C/001-A	236369	1/60
4/0.01	PKN6-4/1N/C/001-A	236399	1/60
6/0.01	PKN6-6/1N/C/001-A	236449	1/60
10/0.01	PKN6-10/1N/C/001-A	236509	1/60
13/0.01	PKN6-13/1N/C/001-A	236572	1/60
16/0.01	PKN6-16/1N/C/001-A	236644	1/60
2/0.03	PKN6-2/1N/C/003-A	236370	1/60
4/0.03	PKN6-4/1N/C/003-A	236400	1/60
6/0.03	PKN6-6/1N/C/003-A	236450	1/60
10/0.03	PKN6-10/1N/C/003-A	236510	1/60
13/0.03	PKN6-13/1N/C/003-A	236573	1/60
16/0.03	PKN6-16/1N/C/003-A	236645	1/60
20/0.03	PKN6-20/1N/C/003-A	236677	1/60
25/0.03	PKN6-25/1N/C/003-A	236707	1/60
32/0.03	PKN6-32/1N/C/003-A	236737	1/60
40/0.03	PKN6-40/1N/C/003-A	236766	1/60
2/0.1	PKN6-2/1N/C/01-A	236371	1/60
4/0.1	PKN6-4/1N/C/01-A	236401	1/60
6/0.1	PKN6-6/1N/C/01-A	236451	1/60
10/0.1	PKN6-10/1N/C/01-A	236511	1/60
13/0.1	PKN6-13/1N/C/01-A	236574	1/60
16/0.1	PKN6-16/1N/C/01-A	236646	1/60
20/0.1	PKN6-20/1N/C/01-A	236678	1/60
25/0.1	PKN6-25/1N/C/01-A	236708	1/60
32/0.1	PKN6-32/1N/C/01-A	236738	1/60
40/0.1	PKN6-40/1N/C/01-A	236767	1/60
2/0.3	PKN6-2/1N/C/03-A	236372	1/60
4/0.3	PKN6-4/1N/C/03-A	236402	1/60
6/0.3	PKN6-6/1N/C/03-A	236452	1/60
10/0.3	PKN6-10/1N/C/03-A	236512	1/60
13/0.3	PKN6-13/1N/C/03-A	236575	1/60
16/0.3	PKN6-16/1N/C/03-A	236647	1/60
20/0.3	PKN6-20/1N/C/03-A	236679	1/60
25/0.3	PKN6-25/1N/C/03-A	236709	1/60
32/0.3	PKN6-32/1N/C/03-A	236739	1/60
40/0.3	PKN6-40/1N/C/03-A	236768	1/60

Combined RCD/MCB Devices PKN6 — MW

6 kA, 1+N-pole
Surge current-proof 3 kA, type G (ÖVE E 8601)

SG14111

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
13/0.03	PKN6-13/1N/B/003-G	236565	1/60
16/0.03	PKN6-16/1N/B/003-G	236637	1/60
20/0.03	PKN6-20/1N/B/003-G	236671	1/60
25/0.03	PKN6-25/1N/B/003-G	236701	1/60
32/0.03	PKN6-32/1N/B/003-G	236731	1/60
40/0.03	PKN6-40/1N/B/003-G	236760	1/60
13/0.3	PKN6-13/1N/B/03-G	236566	1/60
16/0.3	PKN6-16/1N/B/03-G	236638	1/60
20/0.3	PKN6-20/1N/B/03-G	236672	1/60
25/0.3	PKN6-25/1N/B/03-G	236702	1/60
32/0.3	PKN6-32/1N/B/03-G	236732	1/60
40/0.3	PKN6-40/1N/B/03-G	236761	1/60

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Characteristic C			
13/0.03	PKN6-13/1N/C/003-G	236577	1/60
16/0.03	PKN6-16/1N/C/003-G	236649	1/60
20/0.03	PKN6-20/1N/C/003-G	236681	1/60
25/0.03	PKN6-25/1N/C/003-G	236711	1/60
32/0.03	PKN6-32/1N/C/003-G	236741	1/60
40/0.03	PKN6-40/1N/C/003-G	236770	1/60
13/0.3	PKN6-13/1N/C/03-G	236578	1/60
16/0.3	PKN6-16/1N/C/03-G	236650	1/60
20/0.3	PKN6-20/1N/C/03-G	236682	1/60
25/0.3	PKN6-25/1N/C/03-G	236712	1/60
32/0.3	PKN6-32/1N/C/03-G	236742	1/60
40/0.3	PKN6-40/1N/C/03-G	236771	1/60

Explanation PKN6:
P = XPole, KN = Combined RCD/MCB Devices, 6 = 6 kA

Specifications | Combined RCD/MCB Devices PKN6, 1+N-pole

Description

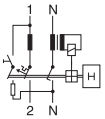
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed
- **Type -G:** 10 ms time delay in order to avoid unwanted tripping (e.g. during thunderstorms) according to ÖVE E 8601.
  Compulsory in Austria for any circuit where personal injury or damage to property may occur in case of unwanted tripping (ÖVE-EN1, Part 1, §12.14).

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal switch for subsequent installation	ZP-NHK	248437
Shunt trip release	ZP-ASA/..	248438, 248439
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm²	Z-HA-EK/35	263960

Connection diagram

1+N-pole

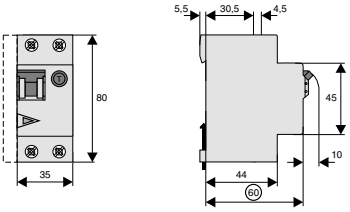


Technical Data

Electrical		
Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping		
line voltage-independent		instantaneous 250A (8/20µs) surge current proof;
Type G		10 ms delay 3kA (8/20µs) surge current proof
Rated voltage U_e		230 V; 50 Hz
Operational voltage range		196-253 V
Rated tripping current $I_{\Delta n}$		10, 30, 100, 300 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Rated insulation voltage U_i		440 VAC
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity		6 kA
Rated current		2 - 40 A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>6 kA)
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)

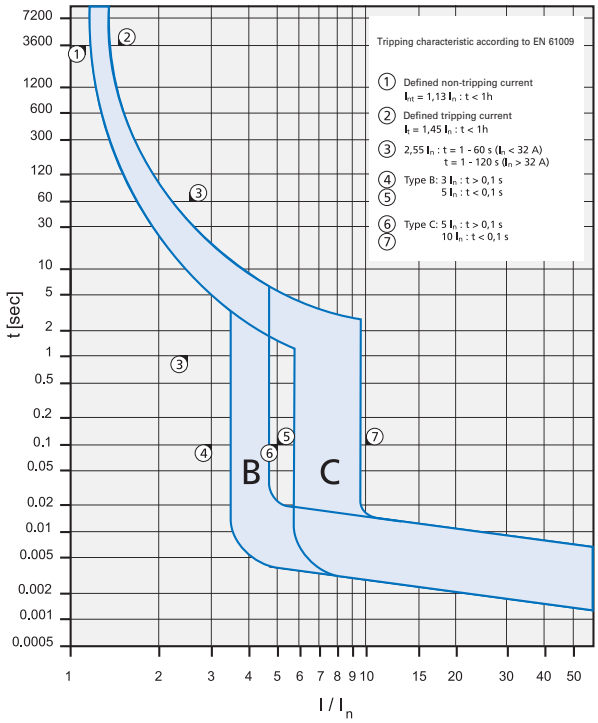


Load Capacity PKN6-../1N/

Effect of ambient temperature (MCB component)

	Ambient temperature **T [°C]**								
I_n [A]	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**35**	**40**
2	2.5	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9
4	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9
5	6.2	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8
6	7.4	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8
8	9.9	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7
10	12	12	12	11	11	10	10	9.9	9.7
12	15	14	14	13	13	13	12	12	12
13	16	16	15	15	14	14	13	13	13
15	19	18	17	17	16	16	15	15	15
16	20	19	19	18	17	17	16	16	15
20	25	24	23	22	22	21	20	20	19
25	31	30	29	28	27	26	25	25	24
32	40	38	37	36	35	33	32	32	31
40	49	48	47	45	43	42	40	39	39

Tripping Characteristic PKN6-../1N/, Characteristics B a. C



Short Circuit Selectivity PKN6-../1N/ towards DII-DIV fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PKN6../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

PKN6	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
2	<0.5[1]	<0.5[1]	2.2	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
4	<0.5[1]	<0.5[1]	0.7	1.2	3.7	6.0[2]	6.0[2]	6.0[2]	6.0[2]
6		<0.5[1]	0.7	1.0	2.9	6.0[2]	6.0[2]	6.0[2]	6.0[2]
8		<0.5[1]	0.6	1.0	2.4	5.1	6.0[2]	6.0[2]	6.0[2]
10			0.6	0.9	1.9	3.3	6.0[2]	6.0[2]	6.0[2]
13			0.5	0.7	1.6	2.8	5.7	6.0[2]	6.0[2]
16				0.7	1.4	2.4	4.4	6.0[2]	6.0[2]
20					1.3	2.2	4.0	6.0[2]	6.0[2]
25					1.3	2.1	3.8	5.8	6.0[2]
32						2.0	3.5	5.2	6.0[2]
40							3.1	4.5	6.0[2]

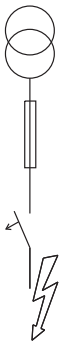
Short circuit selectivity **characteristic C** towards fuse link **DII-DIV***)

PKN6	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
2	<0.5[1]	<0.5[1]	1.7	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
4	<0.5[1]	<0.5[1]	0.7	1.3	4.2	6.0[2]	6.0[2]	6.0[2]	6.0[2]
5	<0.5[1]	<0.5[1]	0.6	1.1	3.6	6.0[2]	6.0[2]	6.0[2]	6.0[2]
6		<0.5[1]	0.6	1.0	2.9	5.8	6.0[2]	6.0[2]	6.0[2]
8		<0.5[1]	<0.5	0.9	2.5	4.8	6.0[2]	6.0[2]	6.0[2]
10			<0.5	0.7	1.5	2.6	5.3	6.0[2]	6.0[2]
13					1.4	2.3	4.6	6.0[2]	6.0[2]
16					1.2	1.8	3.4	5.5	6.0[2]
20					1.2	1.7	3.1	5.0	6.0[2]
25						1.6	2.9	4.6	6.0[2]
32							2.3	3.4	6.0[2]
40								2.9	6.0[2]

[1] Selectivity limit current I_s under 0.5 kA

[2] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device

Darker areas: no selectivity



Short Circuit Selectivity PKN6-../1N/ towards D01-D03 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PKN6../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

PKN6	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	0.7	1.6	3.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.6	0.9	2.9	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6		<0.5[1)]	0.5	0.8	2.4	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
8			0.6	0.8	2.0	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
10			0.5	0.8	1.6	3.7	6.0[2)]	6.0[2)]	6.0[2)]
13			0.6	0.7	1.4	3.0	4.7	6.0[2)]	6.0[2)]
16				0.6	1.2	2.6	3.9	6.0[2)]	6.0[2)]
20					1.2	2.5	3.6	6.0[2)]	6.0[2)]
25					1.2	2.3	3.3	5.7	6.0[2)]
32						2.3	3.1	5.1	6.0[2)]
40							2.8	4.5	6.0[2)]

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

PKN6	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	0.5	0.5	2.4	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	<0.5[1)]	0.9	3.4	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
5	<0.5[1)]	<0.5[1)]	<0.5[1)]	0.9	2.9	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6		<0.5[1)]	<0.5[1)]	0.8	2.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
8			<0.5	0.7	2.1	5.5	6.0[2)]	6.0[2)]	6.0[2)]
10			<0.5	0.6	1.3	2.9	4.5	6.0[2)]	6.0[2)]
13					1.2	2.5	3.9	6.0[2)]	6.0[2)]
16					1.0	2.1	3.0	5.5	6.0[2)]
20					1.0	2.0	2.7	5.0	6.0[2)]
25						1.9	2.6	4.5	6.0[2)]
32							2.1	3.4	6.0[2)]
40								3.0	6.0[2)]

Short Circuit Selectivity PKN6-../1N/ towards NH-00 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PKN6../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

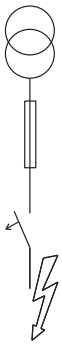
Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

PKN6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5[1)]	1.1	3.6	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	0.5	0.9	1.6	2.8	4.4	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6	<0.5[1)]	0.5	0.8	1.4	2.2	3.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
8	<0.5[1)]	<0.5[1)]	0.7	1.0	1.9	2.8	5.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
10		<0.5[1)]	0.7	0.9	1.5	2.1	3.4	4.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
13		<0.5[1)]	0.6	0.8	1.4	1.8	2.8	3.6	5.7	6.0[2)]	6.0[2)]	6.0[2)]
16			0.6	0.7	1.2	1.5	2.4	3.0	4.5	6.0[2)]	6.0[2)]	6.0[2)]
20				0.7	1.1	1.5	2.2	2.8	4.2	6.0[2)]	6.0[2)]	6.0[2)]
25				0.7	1.1	1.4	2.1	2.6	4.0	6.0[2)]	6.0[2)]	6.0[2)]
32					1.0	1.4	2.0	2.5	3.7	6.0[2)]	6.0[2)]	6.0[2)]
40								2.3	3.4	6.0[2)]	6.0[2)]	6.0[2)]

Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

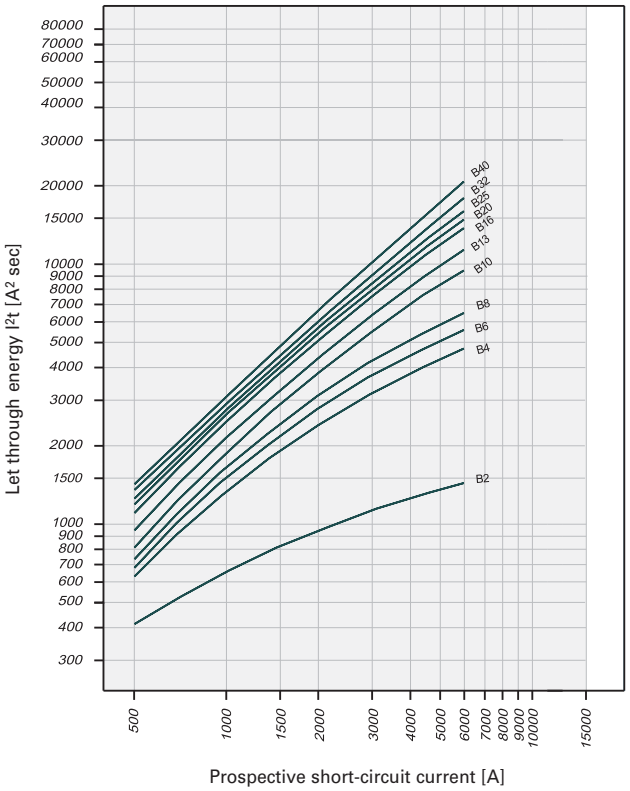
PKN6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5[1)]	0.6	2.6	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.9	1.8	3.2	4.8	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
5	<0.5[1)]	<0.5[1)]	0.8	1.6	2.7	4.1	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6	<0.5[1)]	<0.5[1)]	0.7	1.3	2.2	3.3	5.9	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
8	<0.5[1)]	<0.5[1)]	0.6	1.1	1.9	2.8	5.0	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
10			0.5	0.8	1.2	1.7	2.7	3.4	5.5	6.0[2)]	6.0[2)]	6.0[2)]
13					1.1	1.5	2.3	2.9	4.7	6.0[2)]	6.0[2)]	6.0[2)]
16					1.0	1.3	1.8	2.3	3.7	6.0[2)]	6.0[2)]	6.0[2)]
20					0.9	1.1	1.7	2.2	3.4	6.0[2)]	6.0[2)]	6.0[2)]
25							1.6	2.1	3.2	6.0[2)]	6.0[2)]	6.0[2)]
32								1.7	2.6	5.3	6.0[2)]	6.0[2)]
40									2.4	4.5	6.0[2)]	6.0[2)]

[1)] Selectivity limit current I_s under 0.5 kA
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device
Darker areas: no selectivity

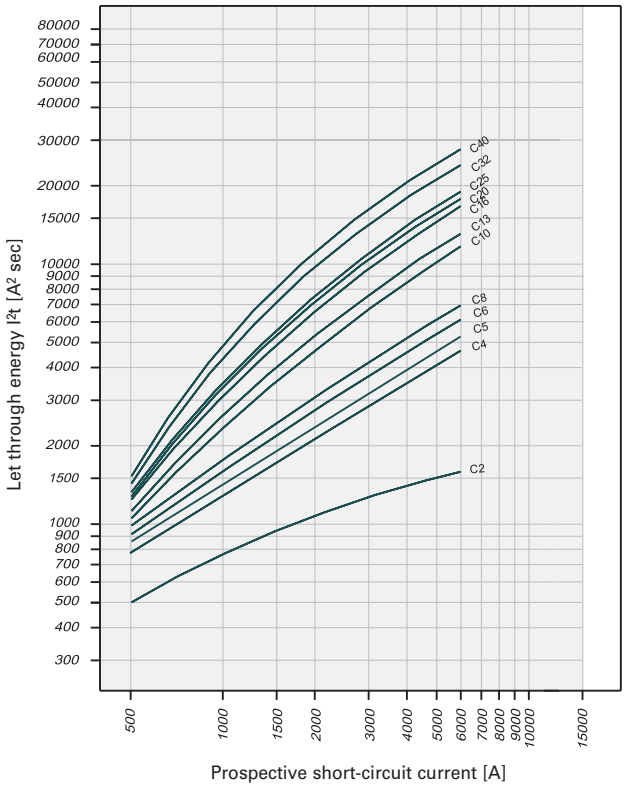


Let-through Energy PKN6-../1N/

Let-through energy PKN6, characteristic B, 1+N-pole



Let-through energy PKN6, characteristic C, 1+N-pole



Combined RCD/MCB Devices PKN4, 1+N-pole MW

SG13911

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 4.5 kA

Combined RCD/MCB Devices PKN4

MW

4.5 kA, 1+N-pole

Conditionally surge current-proof 250 A, type AC

SG13911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	PKN4-2/1N/B/001	236782	1/60
4/0.01	PKN4-4/1N/B/001	236813	1/60
6/0.01	PKN4-6/1N/B/001	236862	1/60
10/0.01	PKN4-10/1N/B/001	236922	1/60
13/0.01	PKN4-13/1N/B/001	236983	1/60
16/0.01	PKN4-16/1N/B/001	237055	1/60
2/0.03	PKN4-2/1N/B/003	236783	1/60
4/0.03	PKN4-4/1N/B/003	236812	1/60
6/0.03	PKN4-6/1N/B/003	236863	1/60
10/0.03	PKN4-10/1N/B/003	236923	1/60
13/0.03	PKN4-13/1N/B/003	236984	1/60
16/0.03	PKN4-16/1N/B/003	237056	1/60
20/0.03	PKN4-20/1N/B/003	237091	1/60
25/0.03	PKN4-25/1N/B/003	237121	1/60
32/0.03	PKN4-32/1N/B/003	237151	1/60
40/0.03	PKN4-40/1N/B/003	237180	1/60
2/0.1	PKN4-2/1N/B/01	236784	1/60
4/0.1	PKN4-4/1N/B/01	236814	1/60
6/0.1	PKN4-6/1N/B/01	236864	1/60
10/0.1	PKN4-10/1N/B/01	236924	1/60
13/0.1	PKN4-13/1N/B/01	236985	1/60
16/0.1	PKN4-16/1N/B/01	237057	1/60
20/0.1	PKN4-20/1N/B/01	237092	1/60
25/0.1	PKN4-25/1N/B/01	237122	1/60
32/0.1	PKN4-32/1N/B/01	237152	1/60
40/0.1	PKN4-40/1N/B/01	237181	1/60
2/0.3	PKN4-2/1N/B/03	236785	1/60
4/0.3	PKN4-4/1N/B/03	236815	1/60
6/0.3	PKN4-6/1N/B/03	236865	1/60
10/0.3	PKN4-10/1N/B/03	236925	1/60
13/0.3	PKN4-13/1N/B/03	236986	1/60
16/0.3	PKN4-16/1N/B/03	237058	1/60
20/0.3	PKN4-20/1N/B/03	237093	1/60
25/0.3	PKN4-25/1N/B/03	237123	1/60
32/0.3	PKN4-32/1N/B/03	237153	1/60
40/0.3	PKN4-40/1N/B/03	237182	1/60

Explanation PKN4:
P = XPole, KN = Combined RCD/MCB Devices, 4 = 4.5 kA

SG13911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	PKN4-2/1N/C/001	236792	1/60
4/0.01	PKN4-4/1N/C/001	236822	1/60
6/0.01	PKN4-6/1N/C/001	236872	1/60
10/0.01	PKN4-10/1N/C/001	236932	1/60
13/0.01	PKN4-13/1N/C/001	236995	1/60
16/0.01	PKN4-16/1N/C/001	237067	1/60
2/0.03	PKN4-2/1N/C/003	236793	1/60
4/0.03	PKN4-4/1N/C/003	236823	1/60
6/0.03	PKN4-6/1N/C/003	236873	1/60
10/0.03	PKN4-10/1N/C/003	236933	1/60
13/0.03	PKN4-13/1N/C/003	236996	1/60
16/0.03	PKN4-16/1N/C/003	237068	1/60
20/0.03	PKN4-20/1N/C/003	237101	1/60
25/0.03	PKN4-25/1N/C/003	237131	1/60
32/0.03	PKN4-32/1N/C/003	237161	1/60
40/0.03	PKN4-40/1N/C/003	237190	1/60
2/0.1	PKN4-2/1N/C/01	236794	1/60
4/0.1	PKN4-4/1N/C/01	236824	1/60
6/0.1	PKN4-6/1N/C/01	236874	1/60
10/0.1	PKN4-10/1N/C/01	236934	1/60
13/0.1	PKN4-13/1N/C/01	236997	1/60
16/0.1	PKN4-16/1N/C/01	237069	1/60
20/0.1	PKN4-20/1N/C/01	237102	1/60
25/0.1	PKN4-25/1N/C/01	237132	1/60
32/0.1	PKN4-32/1N/C/01	237162	1/60
40/0.1	PKN4-40/1N/C/01	237191	1/60
2/0.3	PKN4-2/1N/C/03	236795	1/60
4/0.3	PKN4-4/1N/C/03	236825	1/60
6/0.3	PKN4-6/1N/C/03	236875	1/60
10/0.3	PKN4-10/1N/C/03	236935	1/60
13/0.3	PKN4-13/1N/C/03	236998	1/60
16/0.3	PKN4-16/1N/C/03	237070	1/60
20/0.3	PKN4-20/1N/C/03	237103	1/60
25/0.3	PKN4-25/1N/C/03	237133	1/60
32/0.3	PKN4-32/1N/C/03	237163	1/60
40/0.3	PKN4-40/1N/C/03	237192	1/60

Explanation PKN4:
P = XPole, KN = Combined RCD/MCB Devices, 4 = 4.5 kA

Combined RCD/MCB Devices PKN4

MW

4.5 kA, 1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG13911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	PKN4-2/1N/B/001-A	236787	1/60
4/0.01	PKN4-4/1N/B/001-A	236817	1/60
6/0.01	PKN4-6/1N/B/001-A	236867	1/60
10/0.01	PKN4-10/1N/B/001-A	236927	1/60
13/0.01	PKN4-13/1N/B/001-A	236988	1/60
16/0.01	PKN4-16/1N/B/001-A	237060	1/60
2/0.03	PKN4-2/1N/B/003-A	236788	1/60
4/0.03	PKN4-4/1N/B/003-A	236818	1/60
6/0.03	PKN4-6/1N/B/003-A	236868	1/60
10/0.03	PKN4-10/1N/B/003-A	236928	1/60
13/0.03	PKN4-13/1N/B/003-A	236989	1/60
16/0.03	PKN4-16/1N/B/003-A	237061	1/60
20/0.03	PKN4-20/1N/B/003-A	237095	1/60
25/0.03	PKN4-25/1N/B/003-A	237125	1/60
32/0.03	PKN4-32/1N/B/003-A	237155	1/60
40/0.03	PKN4-40/1N/B/003-A	237184	1/60
2/0.1	PKN4-2/1N/B/01-A	236789	1/60
4/0.1	PKN4-4/1N/B/01-A	236819	1/60
6/0.1	PKN4-6/1N/B/01-A	236869	1/60
10/0.1	PKN4-10/1N/B/01-A	236929	1/60
13/0.1	PKN4-13/1N/B/01-A	236990	1/60
16/0.1	PKN4-16/1N/B/01-A	237062	1/60
20/0.1	PKN4-20/1N/B/01-A	237096	1/60
25/0.1	PKN4-25/1N/B/01-A	237126	1/60
32/0.1	PKN4-32/1N/B/01-A	237156	1/60
40/0.1	PKN4-40/1N/B/01-A	237185	1/60
2/0.3	PKN4-2/1N/B/03-A	236790	1/60
4/0.3	PKN4-4/1N/B/03-A	236820	1/60
6/0.3	PKN4-6/1N/B/03-A	236870	1/60
10/0.3	PKN4-10/1N/B/03-A	236930	1/60
13/0.3	PKN4-13/1N/B/03-A	236991	1/60
16/0.3	PKN4-16/1N/B/03-A	237063	1/60
20/0.3	PKN4-20/1N/B/03-A	237097	1/60
25/0.3	PKN4-25/1N/B/03-A	237127	1/60
32/0.3	PKN4-32/1N/B/03-A	237157	1/60
40/0.3	PKN4-40/1N/B/03-A	237186	1/60

Explanation PKN4:
P = XPole, KN = Combined RCD/MCB Devices, 4 = 4.5 kA

SG13911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	PKN4-2/1N/C/001-A	236797	1/60
4/0.01	PKN4-4/1N/C/001-A	236827	1/60
6/0.01	PKN4-6/1N/C/001-A	236877	1/60
10/0.01	PKN4-10/1N/C/001-A	236937	1/60
13/0.01	PKN4-13/1N/C/001-A	237000	1/60
16/0.01	PKN4-16/1N/C/001-A	237072	1/60
2/0.03	PKN4-2/1N/C/003-A	236798	1/60
4/0.03	PKN4-4/1N/C/003-A	236828	1/60
6/0.03	PKN4-6/1N/C/003-A	236878	1/60
10/0.03	PKN4-10/1N/C/003-A	236938	1/60
13/0.03	PKN4-13/1N/C/003-A	237001	1/60
16/0.03	PKN4-16/1N/C/003-A	237073	1/60
20/0.03	PKN4-20/1N/C/003-A	237105	1/60
25/0.03	PKN4-25/1N/C/003-A	237135	1/60
32/0.03	PKN4-32/1N/C/003-A	237165	1/60
40/0.03	PKN4-40/1N/C/003-A	237194	1/60
2/0.1	PKN4-2/1N/C/01-A	236799	1/60
4/0.1	PKN4-4/1N/C/01-A	236829	1/60
6/0.1	PKN4-6/1N/C/01-A	236879	1/60
10/0.1	PKN4-10/1N/C/01-A	236939	1/60
13/0.1	PKN4-13/1N/C/01-A	237002	1/60
16/0.1	PKN4-16/1N/C/01-A	237074	1/60
20/0.1	PKN4-20/1N/C/01-A	237106	1/60
25/0.1	PKN4-25/1N/C/01-A	237136	1/60
32/0.1	PKN4-32/1N/C/01-A	237166	1/60
40/0.1	PKN4-40/1N/C/01-A	237195	1/60
2/0.3	PKN4-2/1N/C/03-A	236800	1/60
4/0.3	PKN4-4/1N/C/03-A	236830	1/60
6/0.3	PKN4-6/1N/C/03-A	236880	1/60
10/0.3	PKN4-10/1N/C/03-A	236940	1/60
13/0.3	PKN4-13/1N/C/03-A	237003	1/60
16/0.3	PKN4-16/1N/C/03-A	237075	1/60
20/0.3	PKN4-20/1N/C/03-A	237107	1/60
25/0.3	PKN4-25/1N/C/03-A	237137	1/60
32/0.3	PKN4-32/1N/C/03-A	237167	1/60
40/0.3	PKN4-40/1N/C/03-A	237196	1/60

Combined RCD/MCB Devices PKN4 — MW

4.5 kA, 1+N-pole
Surge current-proof 3 kA, type G (ÖVE E 8601)

SG13911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
13/0.03	PKN4-13/1N/B/003-G	236993	1/60
16/0.03	PKN4-16/1N/B/003-G	237065	1/60
20/0.03	PKN4-20/1N/B/003-G	237099	1/60
25/0.03	PKN4-25/1N/B/003-G	237129	1/60
32/0.03	PKN4-32/1N/B/003-G	237159	1/60
40/0.03	PKN4-40/1N/B/003-G	237188	1/60
13/0.3	PKN4-13/1N/B/03-G	236994	1/60
16/0.3	PKN4-16/1N/B/03-G	237066	1/60
20/0.3	PKN4-20/1N/B/03-G	237100	1/60
25/0.3	PKN4-25/1N/B/03-G	237130	1/60
32/0.3	PKN4-32/1N/B/03-G	237160	1/60
40/0.3	PKN4-40/1N/B/03-G	237189	1/60

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Characteristic C			
13/0.03	PKN4-13/1N/C/003-G	237005	1/60
16/0.03	PKN4-16/1N/C/003-G	237077	1/60
20/0.03	PKN4-20/1N/C/003-G	237109	1/60
25/0.03	PKN4-25/1N/C/003-G	237139	1/60
32/0.03	PKN4-32/1N/C/003-G	237169	1/60
40/0.03	PKN4-40/1N/C/003-G	237198	1/60
13/0.3	PKN4-13/1N/C/03-G	237006	1/60
16/0.3	PKN4-16/1N/C/03-G	237078	1/60
20/0.3	PKN4-20/1N/C/03-G	237110	1/60
25/0.3	PKN4-25/1N/C/03-G	237140	1/60
32/0.3	PKN4-32/1N/C/03-G	237170	1/60
40/0.3	PKN4-40/1N/C/03-G	237199	1/60

Explanation PKN4:
P = XPole, KN = Combined RCD/MCB Devices, 4 = 4.5 kA

Specifications | Combined RCD/MCB Devices PKN4, 1+N-pole

Description

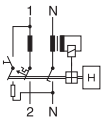
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed
- **Type -G:** 10 ms time delay in order to avoid unwanted tripping (e.g. during thunderstorms) according to ÖVE E 8601.
  Compulsory in Austria for any circuit where personal injury or damage to property may occur in case of unwanted tripping (ÖVE-EN1, Part 1, §12.14).

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal switch for subsequent installation	ZP-NHK	248437
Shunt trip release	ZP-ASA/..	248438, 248439
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm²	Z-HA-EK/35	263960

Connection diagram

1+N-pole

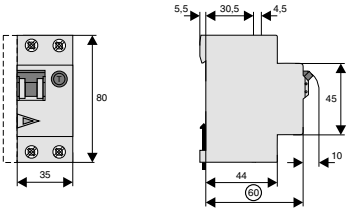


Technical Data

Electrical		
Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping line voltage-independent		instantaneous 250A (8/20µs) surge current proof;
Type G		10 ms delay 3kA (8/20µs) surge current proof
Rated voltage U_e		230 V; 50 Hz
Operational voltage range		196-253 V
Rated tripping current $I_{\Delta n}$		10, 30, 100, 300 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Rated insulation voltage U_i		440 VAC
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity		4.5 kA
Rated current		2 - 40 A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>4.5 kA)
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)

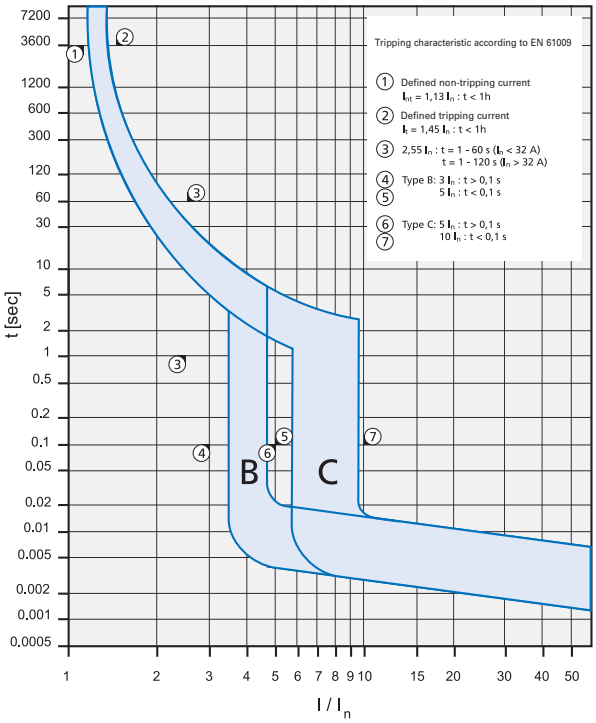


Load Capacity PKN4-../1N/

Effect of ambient temperature (MCB component)

	Ambient temperature **T [°C]**								
I_n [A]	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**35**	**40**
2	2.5	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9
4	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9
5	6.2	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8
6	7.4	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8
8	9.9	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7
10	12	12	12	11	11	10	10	9.9	9.7
12	15	14	14	13	13	13	12	12	12
13	16	16	15	15	14	14	13	13	13
15	19	18	17	17	16	16	15	15	15
16	20	19	19	18	17	17	16	16	15
20	25	24	23	22	22	21	20	20	19
25	31	30	29	28	27	26	25	25	24
32	40	38	37	36	35	33	32	32	31
40	49	48	47	45	43	42	40	39	39

Tripping Characteristic PKN4-../1N/, Characteristics B a. C



Short Circuit Selectivity PKN4-../1N/ towards DII-DIV fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PKN4../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

PKN4	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
2	<0.5[1]	<0.5[1]	2.2	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
4	<0.5[1]	<0.5[1]	0.7	1.2	3.7	4.5[2]	4.5[2]	4.5[2]	4.5[2]
6		<0.5[1]	0.7	1.0	2.9	4.5[2]	4.5[2]	4.5[2]	4.5[2]
8		<0.5[1]	0.6	1.0	2.4	4.5[2]	4.5[2]	4.5[2]	4.5[2]
10			0.6	0.9	1.9	3.3	4.5[2]	4.5[2]	4.5[2]
13			0.5	0.7	1.6	2.8	4.5[2]	4.5[2]	4.5[2]
16				0.7	1.4	2.4	4.4	4.5[2]	4.5[2]
20					1.3	2.2	4.0	4.5[2]	4.5[2]
25					1.3	2.1	3.8	4.5[2]	4.5[2]
32						2.0	3.5	4.5[2]	4.5[2]
40							3.1	4.5[2]	4.5[2]

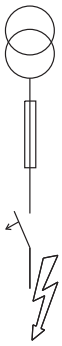
Short circuit selectivity **characteristic C** towards fuse link **DII-DIV***)

PKN4	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
2	<0.5[1]	<0.5[1]	1.7	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
4	<0.5[1]	<0.5[1]	0.7	1.3	4.2	4.5[2]	4.5[2]	4.5[2]	4.5[2]
5	<0.5[1]	<0.5[1]	0.6	1.1	3.6	4.5[2]	4.5[2]	4.5[2]	4.5[2]
6		<0.5[1]	0.6	1.0	2.9	4.5[2]	4.5[2]	4.5[2]	4.5[2]
8		<0.5[1]	<0.5	0.9	2.5	4.5[2]	4.5[2]	4.5[2]	4.5[2]
10			<0.5	0.7	1.5	2.6	4.5[2]	4.5[2]	4.5[2]
13					1.4	2.3	4.5[2]	4.5[2]	4.5[2]
16					1.2	1.8	3.4	4.5[2]	4.5[2]
20					1.2	1.7	3.1	4.5[2]	4.5[2]
25						1.6	2.9	4.5[2]	4.5[2]
32							2.3	3.4	4.5[2]
40								2.9	4.5[2]

[1] Selectivity limit current I_s under 0.5 kA

[2] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device

Darker areas: no selectivity



Short Circuit Selectivity PKN4-../1N/ towards D01-D03 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PKN4../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

PKN4	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	0.7	1.6	3.3	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	<0.5[1)]	<0.5[1)]	0.6	0.9	2.9	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6		<0.5[1)]	0.5	0.8	2.4	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
8			0.6	0.8	2.0	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10			0.5	0.8	1.6	3.7	4.5[2)]	4.5[2)]	4.5[2)]
13			0.6	0.7	1.4	3.0	4.5[2)]	4.5[2)]	4.5[2)]
16				0.6	1.2	2.6	3.9	4.5[2)]	4.5[2)]
20					1.2	2.5	3.6	4.5[2)]	4.5[2)]
25					1.2	2.3	3.3	4.5[2)]	4.5[2)]
32						2.3	3.1	4.5[2)]	4.5[2)]
40							2.8	4.5[2)]	4.5[2)]

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

PKN4	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	0.5	0.5	2.4	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	<0.5[1)]	<0.5[1)]	<0.5[1)]	0.9	3.4	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
5	<0.5[1)]	<0.5[1)]	<0.5[1)]	0.9	2.9	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6		<0.5[1)]	<0.5[1)]	0.8	2.3	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
8			<0.5	0.7	2.1	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10			<0.5	0.6	1.3	2.9	4.5[2)]	4.5[2)]	4.5[2)]
13					1.2	2.5	3.9	4.5[2)]	4.5[2)]
16					1.0	2.1	3.0	4.5[2)]	4.5[2)]
20					1.0	2.0	2.7	4.5[2)]	4.5[2)]
25						1.9	2.6	4.5[2)]	4.5[2)]
32							2.1	3.4	4.5[2)]
40								3.0	4.5[2)]

Short Circuit Selectivity PKN4-../1N/ towards NH-00 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PKN4../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

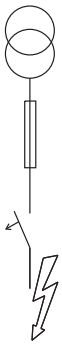
Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

PKN4	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5[1)]	1.1	3.6	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	<0.5[1)]	0.5	0.9	1.6	2.8	4.4	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6	<0.5[1)]	0.5	0.8	1.4	2.2	3.3	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
8	<0.5[1)]	<0.5[1)]	0.7	1.0	1.9	2.8	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10		<0.5[1)]	0.7	0.9	1.5	2.1	3.4	4.3	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
13		<0.5[1)]	0.6	0.8	1.4	1.8	2.8	3.6	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
16			0.6	0.7	1.2	1.5	2.4	3.0	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
20				0.7	1.1	1.5	2.2	2.8	4.2	4.5[2)]	4.5[2)]	4.5[2)]
25				0.7	1.1	1.4	2.1	2.6	4.0	4.5[2)]	4.5[2)]	4.5[2)]
32					1.0	1.4	2.0	2.5	3.7	4.5[2)]	4.5[2)]	4.5[2)]
40								2.3	3.4	4.5[2)]	4.5[2)]	4.5[2)]

Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

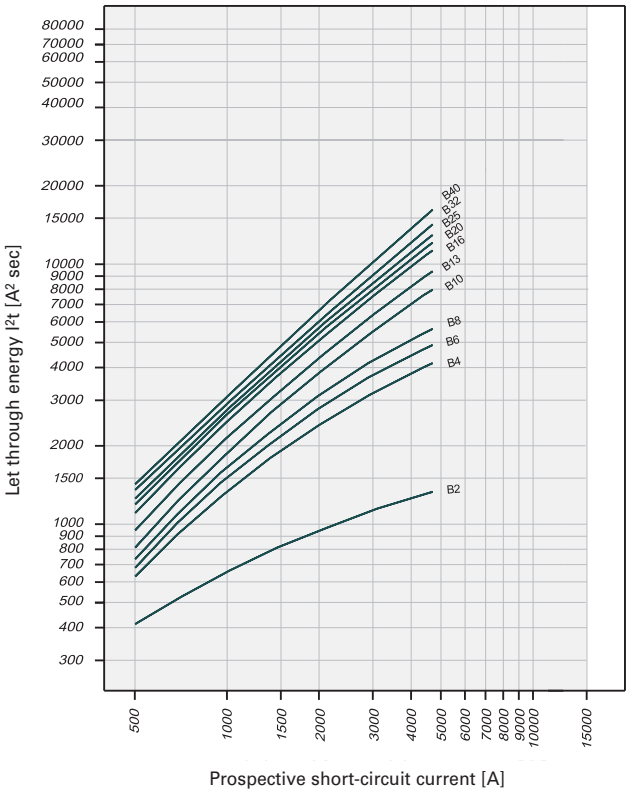
PKN4	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5[1)]	0.6	2.6	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	<0.5[1)]	<0.5[1)]	0.9	1.8	3.2	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
5	<0.5[1)]	<0.5[1)]	0.8	1.6	2.7	4.1	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6	<0.5[1)]	<0.5[1)]	0.7	1.3	2.2	3.3	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
8	<0.5[1)]	<0.5[1)]	0.6	1.1	1.9	2.8	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10			0.5	0.8	1.2	1.7	2.7	3.4	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
13					1.1	1.5	2.3	2.9	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
16					1.0	1.3	1.8	2.3	3.7	4.5[2)]	4.5[2)]	4.5[2)]
20					0.9	1.1	1.7	2.2	3.4	4.5[2)]	4.5[2)]	4.5[2)]
25							1.6	2.1	3.2	4.5[2)]	4.5[2)]	4.5[2)]
32								1.7	2.6	4.5[2)]	4.5[2)]	4.5[2)]
40									2.4	4.5[2)]	4.5[2)]	4.5[2)]

[1)] Selectivity limit current I_s under 0.5 kA
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device
Darker areas: no selectivity

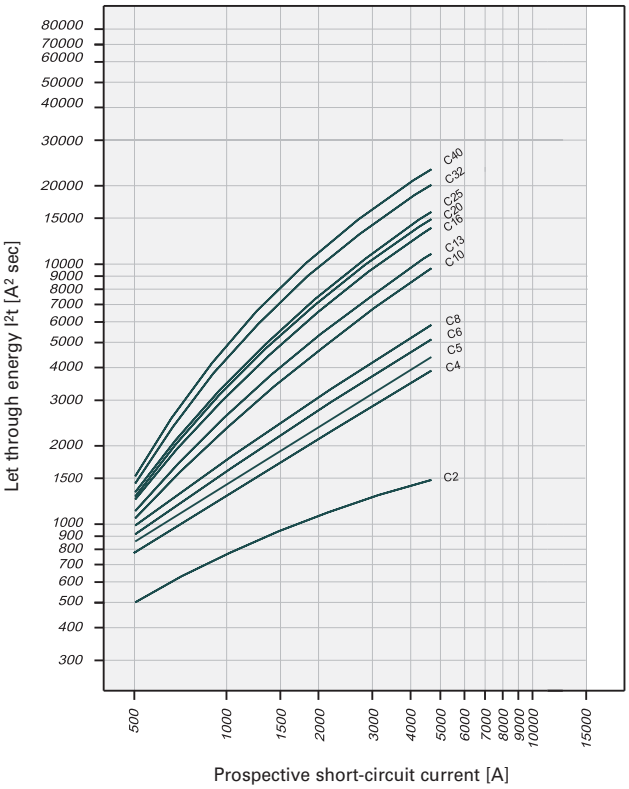


Let-through Energy PKN4-../1N/

Let-through energy PKN4, characteristic B, 1+N-pole



Let-through energy PKN4, characteristic C, 1+N-pole



Combined RCD/MCB Devices PFL7, 1+N-pole

SG61711

- Residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 10 kA
- Frost resistance -25

Combined RCD/MCB Devices PFL7
10 kA, 1+N-pole
Conditionally surge current-proof 250 A, type AC

SG61711

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	PFL7-2/1N/B/001	165634	1/60
4/0.01	PFL7-4/1N/B/001	165675	1/60
6/0.01	PFL7-6/1N/B/001	165701	1/60
10/0.01	PFL7-10/1N/B/001	165588	1/60
13/0.01	PFL7-13/1N/B/001	165600	1/60
16/0.01	PFL7-16/1N/B/001	165614	1/60
2/0.03	PFL7-2/1N/B/003	165636	1/60
4/0.03	PFL7-4/1N/B/003	165677	1/60
6/0.03	PFL7-6/1N/B/003	263430	1/60
10/0.03	PFL7-10/1N/B/003	263434	1/60
13/0.03	PFL7-13/1N/B/003	263518	1/60
16/0.03	PFL7-16/1N/B/003	263534	1/60
20/0.03	PFL7-20/1N/B/003	263540	1/60
25/0.03	PFL7-25/1N/B/003	263546	1/60
32/0.03	PFL7-32/1N/B/003	263552	1/60
40/0.03	PFL7-40/1N/B/003	263558	1/60
2/0.1	PFL7-2/1N/B/01	165638	1/60
4/0.1	PFL7-4/1N/B/01	165679	1/60
6/0.1	PFL7-6/1N/B/01	165703	1/60
10/0.1	PFL7-10/1N/B/01	165590	1/60
13/0.1	PFL7-13/1N/B/01	165602	1/60
16/0.1	PFL7-16/1N/B/01	165616	1/60
20/0.1	PFL7-20/1N/B/01	165644	1/60
25/0.1	PFL7-25/1N/B/01	165654	1/60
32/0.1	PFL7-32/1N/B/01	165665	1/60
40/0.1	PFL7-40/1N/B/01	165690	1/60
2/0.3	PFL7-2/1N/B/03	165640	1/60
4/0.3	PFL7-4/1N/B/03	165681	1/60
6/0.3	PFL7-6/1N/B/03	165705	1/60
10/0.3	PFL7-10/1N/B/03	165592	1/60
13/0.3	PFL7-13/1N/B/03	165605	1/60
16/0.3	PFL7-16/1N/B/03	165619	1/60
20/0.3	PFL7-20/1N/B/03	165647	1/60
25/0.3	PFL7-25/1N/B/03	165657	1/60
32/0.3	PFL7-32/1N/B/03	165668	1/60
40/0.3	PFL7-40/1N/B/03	165693	1/60
2/0.5	PFL7-2/1N/B/05	165641	1/60

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	PFL7-2/1N/C/001	165642	1/60
4/0.01	PFL7-4/1N/C/001	165683	1/60
6/0.01	PFL7-6/1N/C/001	165707	1/60
10/0.01	PFL7-10/1N/C/001	165594	1/60
13/0.01	PFL7-13/1N/C/001	165607	1/60
16/0.01	PFL7-16/1N/C/001	165621	1/60
2/0.03	PFL7-2/1N/C/003	263428	1/60
4/0.03	PFL7-4/1N/C/003	263429	1/60
6/0.03	PFL7-6/1N/C/003	263432	1/60
10/0.03	PFL7-10/1N/C/003	263516	1/60
13/0.03	PFL7-13/1N/C/003	263531	1/60
16/0.03	PFL7-16/1N/C/003	263537	1/60
20/0.03	PFL7-20/1N/C/003	263543	1/60
25/0.03	PFL7-25/1N/C/003	263549	1/60
32/0.03	PFL7-32/1N/C/003	263555	1/60
40/0.03	PFL7-40/1N/C/003	263561	1/60
2/0.1	PFL7-2/1N/C/01	165630	1/60
4/0.1	PFL7-4/1N/C/01	165686	1/60
6/0.1	PFL7-6/1N/C/01	165709	1/60
10/0.1	PFL7-10/1N/C/01	165596	1/60
13/0.1	PFL7-13/1N/C/01	165609	1/60
16/0.1	PFL7-16/1N/C/01	165623	1/60
20/0.1	PFL7-20/1N/C/01	165649	1/60
25/0.1	PFL7-25/1N/C/01	165659	1/60
32/0.1	PFL7-32/1N/C/01	165670	1/60
40/0.1	PFL7-40/1N/C/01	165695	1/60
1/0.3	PFL7-1/1N/C/03	165586	1/60
2/0.3	PFL7-2/1N/C/03	165632	1/60
3/0.3	PFL7-3/1N/C/03	165663	1/60
4/0.3	PFL7-4/1N/C/03	165688	1/60
5/0.3	PFL7-5/1N/C/03	165699	1/60
6/0.3	PFL7-6/1N/C/03	165711	1/60
10/0.3	PFL7-10/1N/C/03	165598	1/60
13/0.3	PFL7-13/1N/C/03	165612	1/60
16/0.3	PFL7-16/1N/C/03	165626	1/60
20/0.3	PFL7-20/1N/C/03	165652	1/60
25/0.3	PFL7-25/1N/C/03	165662	1/60
32/0.3	PFL7-32/1N/C/03	165673	1/60
40/0.3	PFL7-40/1N/C/03	165698	1/60

Combined RCD/MCB Devices PFL7

10 kA, 1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG61711

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	PFL7-2/1N/B/001-A	165633	1/60
4/0.01	PFL7-4/1N/B/001-A	165674	1/60
6/0.01	PFL7-6/1N/B/001-A	165700	1/60
10/0.01	PFL7-10/1N/B/001-A	165587	1/60
13/0.01	PFL7-13/1N/B/001-A	165599	1/60
16/0.01	PFL7-16/1N/B/001-A	165613	1/60
2/0.03	PFL7-2/1N/B/003-A	165635	1/60
4/0.03	PFL7-4/1N/B/003-A	165676	1/60
6/0.03	PFL7-6/1N/B/003-A	263431	1/60
10/0.03	PFL7-10/1N/B/003-A	263435	1/60
13/0.03	PFL7-13/1N/B/003-A	263519	1/60
16/0.03	PFL7-16/1N/B/003-A	263535	1/60
20/0.03	PFL7-20/1N/B/003-A	263541	1/60
25/0.03	PFL7-25/1N/B/003-A	263547	1/60
32/0.03	PFL7-32/1N/B/003-A	263553	1/60
40/0.03	PFL7-40/1N/B/003-A	263559	1/60
2/0.1	PFL7-2/1N/B/01-A	165637	1/60
4/0.1	PFL7-4/1N/B/01-A	165678	1/60
6/0.1	PFL7-6/1N/B/01-A	165702	1/60
10/0.1	PFL7-10/1N/B/01-A	165589	1/60
13/0.1	PFL7-13/1N/B/01-A	165601	1/60
16/0.1	PFL7-16/1N/B/01-A	165615	1/60
20/0.1	PFL7-20/1N/B/01-A	165643	1/60
25/0.1	PFL7-25/1N/B/01-A	165653	1/60
32/0.1	PFL7-32/1N/B/01-A	165664	1/60
40/0.1	PFL7-40/1N/B/01-A	165689	1/60
2/0.3	PFL7-2/1N/B/03-A	165639	1/60
4/0.3	PFL7-4/1N/B/03-A	165680	1/60
6/0.3	PFL7-6/1N/B/03-A	165704	1/60
10/0.3	PFL7-10/1N/B/03-A	165591	1/60
13/0.3	PFL7-13/1N/B/03-A	165603	1/60
16/0.3	PFL7-16/1N/B/03-A	165617	1/60
20/0.3	PFL7-20/1N/B/03-A	165645	1/60
25/0.3	PFL7-25/1N/B/03-A	165655	1/60
32/0.3	PFL7-32/1N/B/03-A	165666	1/60
40/0.3	PFL7-40/1N/B/03-A	165691	1/60

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	PFL7-2/1N/C/001-A	165627	1/60
4/0.01	PFL7-4/1N/C/001-A	165682	1/60
6/0.01	PFL7-6/1N/C/001-A	165706	1/60
10/0.01	PFL7-10/1N/C/001-A	165593	1/60
13/0.01	PFL7-13/1N/C/001-A	165606	1/60
16/0.01	PFL7-16/1N/C/001-A	165620	1/60
2/0.03	PFL7-2/1N/C/003-A	165628	1/60
4/0.03	PFL7-4/1N/C/003-A	165684	1/60
6/0.03	PFL7-6/1N/C/003-A	263515	1/60
10/0.03	PFL7-10/1N/C/003-A	263517	1/60
13/0.03	PFL7-13/1N/C/003-A	263532	1/60
16/0.03	PFL7-16/1N/C/003-A	263538	1/60
20/0.03	PFL7-20/1N/C/003-A	263544	1/60
25/0.03	PFL7-25/1N/C/003-A	263550	1/60
32/0.03	PFL7-32/1N/C/003-A	263556	1/60
40/0.03	PFL7-40/1N/C/003-A	263562	1/60
2/0.1	PFL7-2/1N/C/01-A	165629	1/60
4/0.1	PFL7-4/1N/C/01-A	165685	1/60
6/0.1	PFL7-6/1N/C/01-A	165708	1/60
10/0.1	PFL7-10/1N/C/01-A	165595	1/60
13/0.1	PFL7-13/1N/C/01-A	165608	1/60
16/0.1	PFL7-16/1N/C/01-A	165622	1/60
20/0.1	PFL7-20/1N/C/01-A	165648	1/60
25/0.1	PFL7-25/1N/C/01-A	165658	1/60
32/0.1	PFL7-32/1N/C/01-A	165669	1/60
40/0.1	PFL7-40/1N/C/01-A	165694	1/60
2/0.3	PFL7-2/1N/C/03-A	165631	1/60
4/0.3	PFL7-4/1N/C/03-A	165687	1/60
6/0.3	PFL7-6/1N/C/03-A	165710	1/60
10/0.3	PFL7-10/1N/C/03-A	165597	1/60
13/0.3	PFL7-13/1N/C/03-A	165610	1/60
16/0.3	PFL7-16/1N/C/03-A	165624	1/60
20/0.3	PFL7-20/1N/C/03-A	165650	1/60
25/0.3	PFL7-25/1N/C/03-A	165660	1/60
32/0.3	PFL7-32/1N/C/03-A	165671	1/60
40/0.3	PFL7-40/1N/C/03-A	165696	1/60

Combined RCD/MCB Devices PFL7
10 kA, 1+N-pole
Surge current-proof 3 kA, type G (ÖVE E 8601)

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
13/0.03	PFL7-13/1N/B/003-G	263530	1/60
16/0.03	PFL7-16/1N/B/003-G	263536	1/60
20/0.03	PFL7-20/1N/B/003-G	263542	1/60
25/0.03	PFL7-25/1N/B/003-G	263548	1/60
32/0.03	PFL7-32/1N/B/003-G	263554	1/60
40/0.03	PFL7-40/1N/B/003-G	263560	1/60
13/0.3	PFL7-13/1N/B/03-G	165604	1/60
16/0.3	PFL7-16/1N/B/03-G	165618	1/60
20/0.3	PFL7-20/1N/B/03-G	165646	1/60
25/0.3	PFL7-25/1N/B/03-G	165656	1/60
32/0.3	PFL7-32/1N/B/03-G	165667	1/60
40/0.3	PFL7-40/1N/B/03-G	165692	1/60

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Characteristic C			
13/0.03	PFL7-13/1N/C/003-G	263533	1/60
16/0.03	PFL7-16/1N/C/003-G	263539	1/60
20/0.03	PFL7-20/1N/C/003-G	263545	1/60
25/0.03	PFL7-25/1N/C/003-G	263551	1/60
32/0.03	PFL7-32/1N/C/003-G	263557	1/60
40/0.03	PFL7-40/1N/C/003-G	263563	1/60
13/0.3	PFL7-13/1N/C/03-G	165611	1/60
16/0.3	PFL7-16/1N/C/03-G	165625	1/60
20/0.3	PFL7-20/1N/C/03-G	165651	1/60
25/0.3	PFL7-25/1N/C/03-G	165661	1/60
32/0.3	PFL7-32/1N/C/03-G	165672	1/60
40/0.3	PFL7-40/1N/C/03-G	165697	1/60

Specifications | Combined RCD/MCB Devices PFL7, 1+N-pole

Description

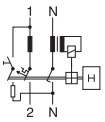
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have not been smoothed
- **Type -G:** 10 ms time delay in order to avoid unwanted tripping (e.g. during thunderstorms).
  Compulsory in Austria for any circuit where personal injury or damage to property may occur in case of unwanted tripping (§12.1.6 ÖVE/ÖNORM E 8001-1).

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal switch for subsequent installation	ZP-NHK	248437
Shunt trip release	ZP-ASA/..	248438, 248439
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm²	Z-HA-EK/35	263960

Connection diagram

1+N-pole

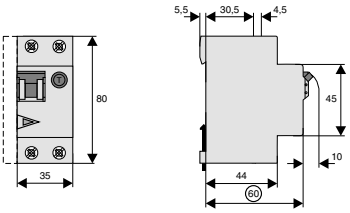


Technical Data

Electrical		
Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping		
line voltage-independent		instantaneous 250A (8/20µs) surge current proof;
Type G		10 ms delay 3kA (8/20µs) surge current proof
Rated voltage U_e		230 V; 50 Hz
Operational voltage range		196-253 V
Rated tripping current $I_{\Delta n}$		10, 30, 100, 300, 500 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Rated insulation voltage U_i		440 VAC
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity		10 kA
Rated current		6 - 40 A
Rated impulse withstand voltage U_{imp}		6 kV (1.2/50µs)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>10 kA)
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)

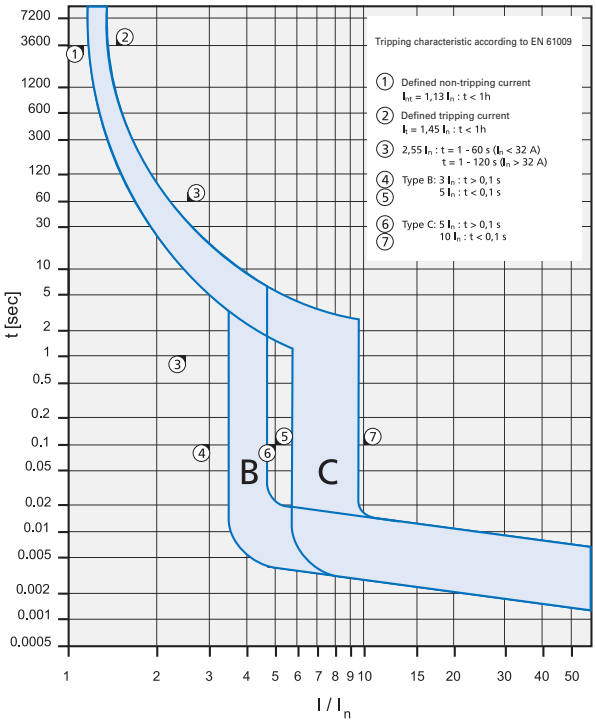


Load Capacity PFL7-../1N/

Effect of ambient temperature (MCB component)

	Ambient temperature T [°C]								
I_n [A]	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**35**	**40**
6	7.4	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8
8	9.9	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7
10	12	12	12	11	11	10	10	9.9	9.7
12	15	14	14	13	13	13	12	12	12
13	16	16	15	15	14	14	13	13	13
15	19	18	17	17	16	16	15	15	15
16	20	19	19	18	17	17	16	16	15
20	25	24	23	22	22	21	20	20	19
25	31	30	29	28	27	26	25	25	24
32	40	38	37	36	35	33	32	32	31
40	49	48	47	45	43	42	40	39	39

Tripping Characteristic PFL7-../1N/, Characteristics B a. C



Short Circuit Selectivity PFL7-../1N/ towards DII-DIV fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PFL7../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

PFL7	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
6		<0.5[1]	0.7	1.0	2.9	6.9	10.0[2]	10.0[2]	10.0[2]
8		<0.5[1]	0.6	1.0	2.4	5.1	10.0[2]	10.0[2]	10.0[2]
10			0.6	0.9	1.9	3.3	7.0	10.0[2]	10.0[2]
13			0.5	0.7	1.6	2.8	5.7	9.0	10.0[2]
16				0.7	1.4	2.4	4.4	7.0	10.0[2]
20					1.3	2.2	4.0	6.3	10.0[2]
25					1.3	2.1	3.8	5.8	10.0[2]
32						2.0	3.5	5.2	9.5
40							3.1	4.5	8.1

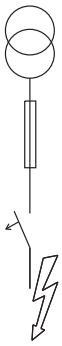
Short circuit selectivity **characteristic C** towards fuse link **DII-DIV***)

PFL7	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
6		<0.5[1]	0.6	1.0	2.9	5.8	10.0[2]	10.0[2]	10.0[2]
8		<0.5[1]	<0.5	0.9	2.5	4.8	10.0[2]	10.0[2]	10.0[2]
10			<0.5	0.7	1.5	2.6	5.3	9.0	10.0[2]
13					1.4	2.3	4.6	7.6	10.0[2]
16					1.2	1.8	3.4	5.5	10.0[2]
20					1.2	1.7	3.1	5.0	10.0[2]
25						1.6	2.9	4.6	10.0[2]
32							2.3	3.4	7.7
40								2.9	6.2

[1] Selectivity limit current I_s under 0.5 kA

[2] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device

Darker areas: no selectivity



Short Circuit Selectivity PFL7-../1N/ towards D01-D03 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PFL7../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

PFL7	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
6		<0.5[1)]	0.5	0.8	2.4	8.2	10.0[2)]	10.0[2)]	10.0[2)]
8			0.6	0.8	2.0	6.0	10.0[2)]	10.0[2)]	10.0[2)]
10			0.5	0.8	1.6	3.7	6.0	10.0[2)]	10.0[2)]
13			0.6	0.7	1.4	3.0	4.7	9.0	10.0[2)]
16				0.6	1.2	2.6	3.9	7.0	10.0[2)]
20					1.2	2.5	3.6	6.2	10.0[2)]
25					1.2	2.3	3.3	5.7	10.0[2)]
32						2.3	3.1	5.1	10.0[2)]
40							2.8	4.5	9.5

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

PFL7	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
6		<0.5[1)]	<0.5[1)]	0.8	2.3	6.5	10.0[2)]	10.0[2)]	10.0[2)]
8			<0.5	0.7	2.1	5.5	9.5	10.0[2)]	10.0[2)]
10			<0.5	0.6	1.3	2.9	4.5	8.9	10.0[2)]
13					1.2	2.5	3.9	7.6	10.0[2)]
16					1.0	2.1	3.0	5.5	10.0[2)]
20					1.0	2.0	2.7	5.0	10.0[2)]
25						1.9	2.6	4.5	10.0[2)]
32							2.1	3.4	10.0[2)]
40								3.0	8.7

Short Circuit Selectivity PFL7-../1N/ towards NH-00 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PFL7../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

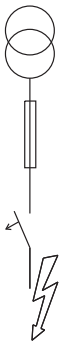
Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

PFL7	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
6	<0.5[1)]	0.5	0.8	1.4	2.2	3.3	7.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
10		<0.5[1)]	0.7	0.9	1.5	2.1	3.4	4.3	7.3	10.0[2)]	10.0[2)]	10.0[2)]
13		<0.5[1)]	0.6	0.8	1.4	1.8	2.8	3.6	5.7	10.0[2)]	10.0[2)]	10.0[2)]
16			0.6	0.7	1.2	1.5	2.4	3.0	4.5	10.0[2)]	10.0[2)]	10.0[2)]
20				0.7	1.1	1.5	2.2	2.8	4.2	9.2	10.0[2)]	10.0[2)]
25				0.7	1.1	1.4	2.1	2.6	4.0	8.2	10.0[2)]	10.0[2)]
32					1.0	1.4	2.0	2.5	3.7	7.1	10.0[2)]	10.0[2)]
40								2.3	3.4	6.2	8.8	10.0[2)]

Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

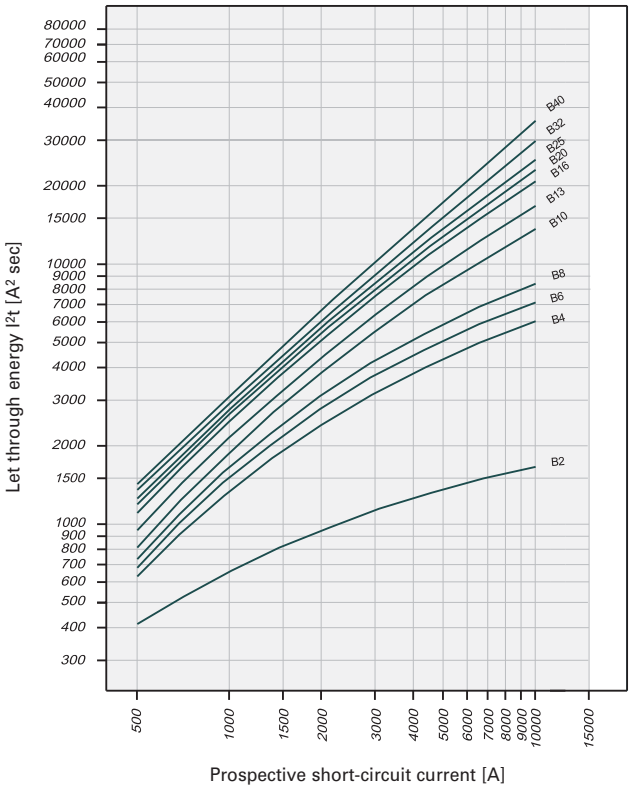
PFL7	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
6	<0.5[1)]	<0.5[1)]	0.7	1.3	2.2	3.3	5.9	8.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
10			0.5	0.8	1.2	1.7	2.7	3.4	5.5	10.0[2)]	10.0[2)]	10.0[2)]
13					1.1	1.5	2.3	2.9	4.7	10.0[2)]	10.0[2)]	10.0[2)]
16					1.0	1.3	1.8	2.3	3.7	8.7	10.0[2)]	10.0[2)]
20					0.9	1.1	1.7	2.2	3.4	8.0	10.0[2)]	10.0[2)]
25							1.6	2.1	3.2	7.2	10.0[2)]	10.0[2)]
32								1.7	2.6	5.3	9.0	10.0[2)]
40									2.4	4.5	7.5	10.0

[1)] Selectivity limit current I_s under 0.5 kA
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device
Darker areas: no selectivity

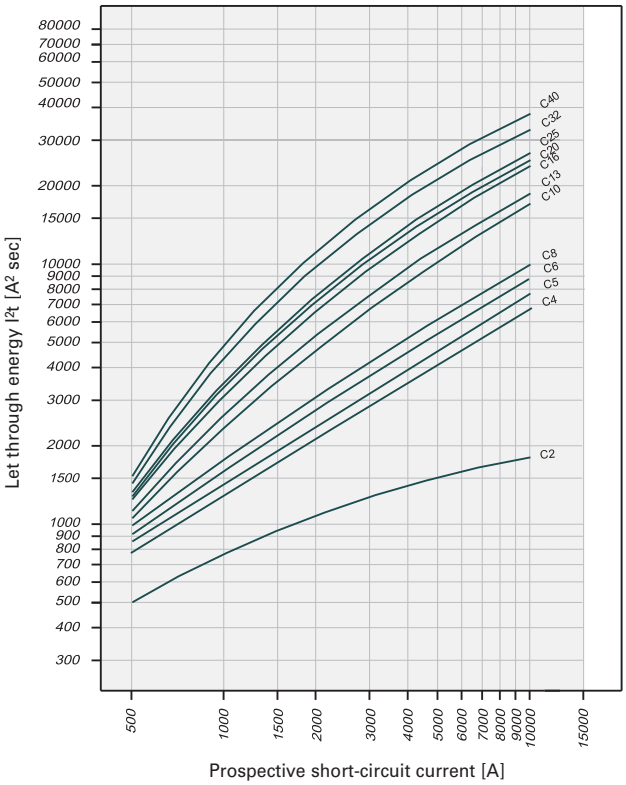


Let-through Energy PFL7-../1N/

Let-through energy PFL7, characteristic B, 1+N-pole



Let-through energy PFL7, characteristic C, 1+N-pole



Combined RCD/MCB Devices PFL6, 1+N-pole

SG04414

- Economy series mainly for house installations
- Residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 25 A
- Tripping characteristics B, C
- Rated breaking capacity 6 kA
- Frost resistance -25

Combined RCD/MCB Devices PFL6
6 kA, 1+N-pole
Conditionally surge current-proof 250 A, type AC

SG04414

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
6/0.03	PFL6-6/1N/B/003	286428	1/60
10/0.03	PFL6-10/1N/B/003	286429	1/60
13/0.03	PFL6-13/1N/B/003	286430	1/60
16/0.03	PFL6-16/1N/B/003	286431	1/60
20/0.03	PFL6-20/1N/B/003	286432	1/60
25/0.03	PFL6-25/1N/B/003	286433	1/60

SG04414

Characteristic C			
6/0.03	PFL6-6/1N/C/003	286464	1/60
10/0.03	PFL6-10/1N/C/003	286465	1/60
13/0.03	PFL6-13/1N/C/003	286466	1/60
16/0.03	PFL6-16/1N/C/003	286467	1/60
20/0.03	PFL6-20/1N/C/003	286468	1/60
25/0.03	PFL6-25/1N/C/003	286469	1/60

Specifications | Combined RCD/MCB Devices PFL6, 1+N-pole

Description

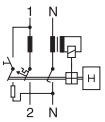
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal switch for subsequent installation	ZP-NHK	248437
Shunt trip release	ZP-ASA/..	248438, 248439
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm²	Z-HA-EK/35	263960

Connection diagram

1+N-pole



Technical Data

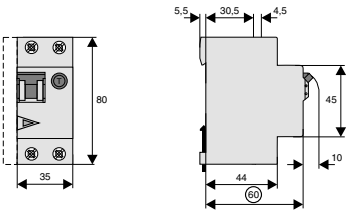
Electrical

Design according to	IEC/EN 61009
Current test marks as printed onto the device	
Tripping line voltage-independent	instantaneous 250A (8/20µs) surge current proof
Rated voltage U_e	230 V; 50 Hz
Operational voltage range	196-253 V
Rated tripping current $I_{\Delta n}$	30 mA
Rated non-tripping current $I_{\Delta no}$	0.5 $I_{\Delta n}$
Rated insulation voltage U_i	440 VAC
Sensitivity	AC
Selectivity class	3
Rated breaking capacity	6 kA
Rated current	6 - 25 A
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50µs)
Characteristic	B, C
Maximum back-up fuse (short circuit)	100 A gL (>6 kA)
Endurance electrical comp.	≥ 4,000 switching op.
Endurance mechanical comp.	≥ 20,000 switching op.

Mechanical

Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)

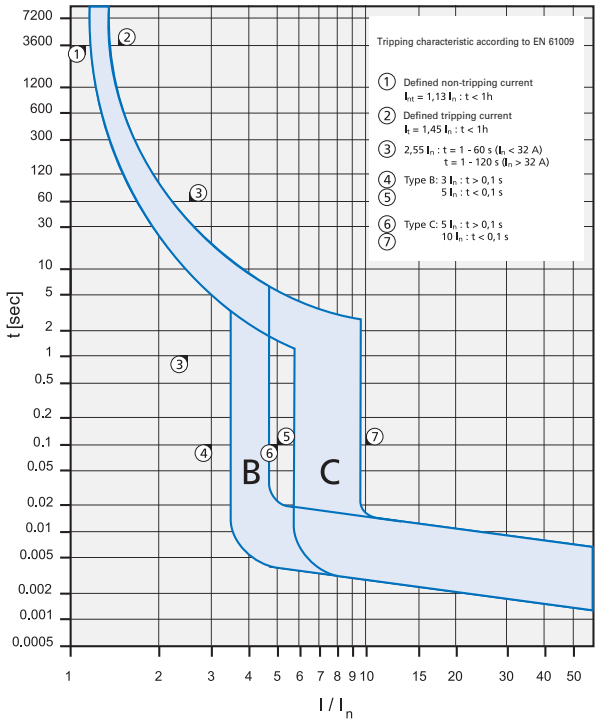


Load Capacity PFL6-../1N/

Effect of ambient temperature (MCB component)

	Ambient temperature T [°C]								
I_n [A]	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**35**	**40**
6	7.4	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8
8	9.9	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7
10	12	12	12	11	11	10	10	9.9	9.7
12	15	14	14	13	13	13	12	12	12
13	16	16	15	15	14	14	13	13	13
15	19	18	17	17	16	16	15	15	15
16	20	19	19	18	17	17	16	16	15
20	25	24	23	22	22	21	20	20	19
25	31	30	29	28	27	26	25	25	24

Tripping Characteristic PFL6-../1N/, Characteristics B a. C



Short Circuit Selectivity PFL6-../1N/ towards DII-DIV fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PFL6../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

PFL6	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
6		<0.5[1]	0.7	1.0	2.9	6.0[2]	6.0[2]	6.0[2]	6.0[2]
8		<0.5[1]	0.6	1.0	2.4	5.1	6.0[2]	6.0[2]	6.0[2]
10			0.6	0.9	1.9	3.3	6.0[2]	6.0[2]	6.0[2]
13			0.5	0.7	1.6	2.8	5.7	6.0[2]	6.0[2]
16				0.7	1.4	2.4	4.4	6.0[2]	6.0[2]
20					1.3	2.2	4.0	6.0[2]	6.0[2]
25					1.3	2.1	3.8	5.8	6.0[2]

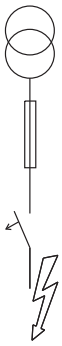
Short circuit selectivity **characteristic C** towards fuse link **DII-DIV***)

PFL6	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
6		<0.5[1]	0.6	1.0	2.9	5.8	6.0[2]	6.0[2]	6.0[2]
8		<0.5[1]	<0.5	0.9	2.5	4.8	6.0[2]	6.0[2]	6.0[2]
10			<0.5	0.7	1.5	2.6	5.3	6.0[2]	6.0[2]
13					1.4	2.3	4.6	6.0[2]	6.0[2]
16					1.2	1.8	3.4	5.5	6.0[2]
20					1.2	1.7	3.1	5.0	6.0[2]
25						1.6	2.9	4.6	6.0[2]

[1] Selectivity limit current I_s under 0.5 kA

[2] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device

Darker areas: no selectivity



Short Circuit Selectivity PFL6-../1N/ towards D01-D03 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PFL6../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

PFL6	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
6		<0.5[1)]	0.5	0.8	2.4	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
8			0.6	0.8	2.0	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
10			0.5	0.8	1.6	3.7	6.0[2)]	6.0[2)]	6.0[2)]
13			0.6	0.7	1.4	3.0	4.7	6.0[2)]	6.0[2)]
16				0.6	1.2	2.6	3.9	6.0[2)]	6.0[2)]
20					1.2	2.5	3.6	6.0[2)]	6.0[2)]
25					1.2	2.3	3.3	5.7	6.0[2)]

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

PFL6	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
6		<0.5[1)]	<0.5[1)]	0.8	2.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
8			<0.5	0.7	2.1	5.5	6.0[2)]	6.0[2)]	6.0[2)]
10			<0.5	0.6	1.3	2.9	4.5	6.0[2)]	6.0[2)]
13					1.2	2.5	3.9	6.0[2)]	6.0[2)]
16					1.0	2.1	3.0	5.5	6.0[2)]
20					1.0	2.0	2.7	5.0	6.0[2)]
25						1.9	2.6	4.5	6.0[2)]

Short Circuit Selectivity PFL6-../1N/ towards NH-00 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices PFL6../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

PFL6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
6	<0.5[1)]	0.5	0.8	1.4	2.2	3.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
10		<0.5[1)]	0.7	0.9	1.5	2.1	3.4	4.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
13		<0.5[1)]	0.6	0.8	1.4	1.8	2.8	3.6	5.7	6.0[2)]	6.0[2)]	6.0[2)]
16			0.6	0.7	1.2	1.5	2.4	3.0	4.5	6.0[2)]	6.0[2)]	6.0[2)]
20				0.7	1.1	1.5	2.2	2.8	4.2	6.0[2)]	6.0[2)]	6.0[2)]
25				0.7	1.1	1.4	2.1	2.6	4.0	6.0[2)]	6.0[2)]	6.0[2)]

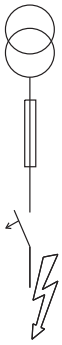
Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

PFL6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
6	<0.5[1)]	<0.5[1)]	0.7	1.3	2.2	3.3	5.9	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
10			0.5	0.8	1.2	1.7	2.7	3.4	5.5	6.0[2)]	6.0[2)]	6.0[2)]
13					1.1	1.5	2.3	2.9	4.7	6.0[2)]	6.0[2)]	6.0[2)]
16					1.0	1.3	1.8	2.3	3.7	6.0[2)]	6.0[2)]	6.0[2)]
20					0.9	1.1	1.7	2.2	3.4	6.0[2)]	6.0[2)]	6.0[2)]
25							1.6	2.1	3.2	6.0[2)]	6.0[2)]	6.0[2)]

[1)] Selectivity limit current I_s under 0.5 kA

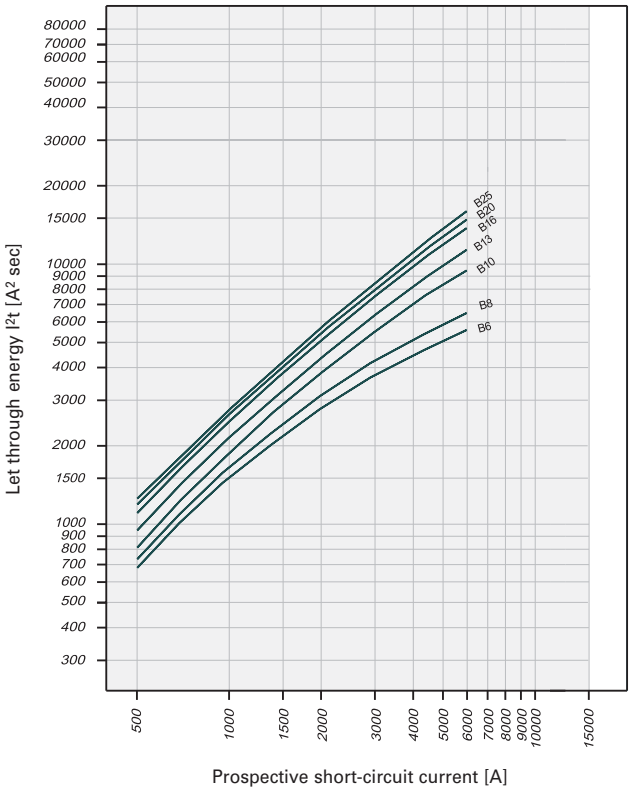
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device

Darker areas: no selectivity

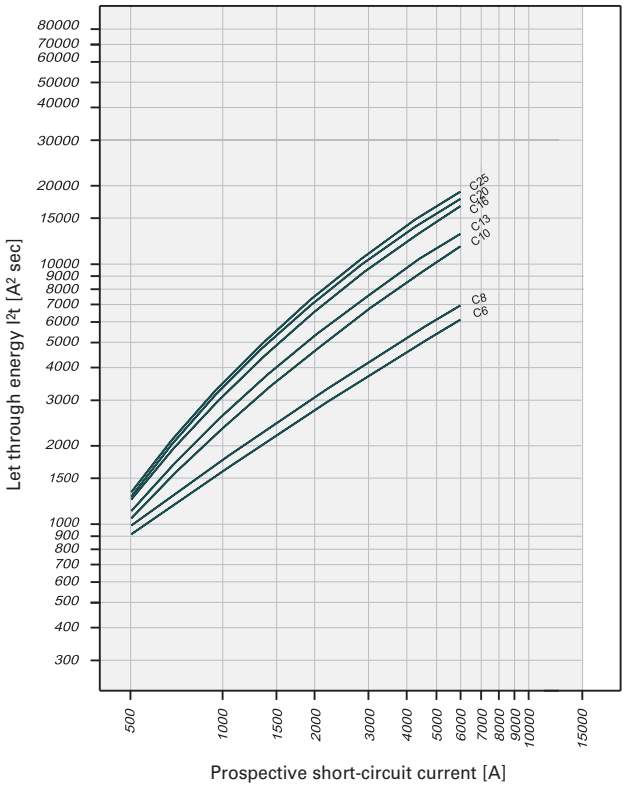


Let-through Energy PFL6-../1N/

Let-through energy PFL6, characteristic B, 1+N-pole



Let-through energy PFL6, characteristic C, 1+N-pole



Combined RCD/MCB Devices PFL4, 1+N-pole

SG67912

- Residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 4.5 kA
- Frost resistance -25

Combined RCD/MCB Devices PFL4
4.5 kA, 1+N-pole
Conditionally surge current-proof 250 A, type AC

SG67912

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	PFL4-2/1N/B/001	165410	1/60
4/0.01	PFL4-4/1N/B/001	165462	1/60
6/0.01	PFL4-6/1N/B/001	165492	1/60
10/0.01	PFL4-10/1N/B/001	165352	1/60
13/0.01	PFL4-13/1N/B/001	165366	1/60
16/0.01	PFL4-16/1N/B/001	165386	1/60
2/0.03	PFL4-2/1N/B/003	165412	1/60
4/0.03	PFL4-4/1N/B/003	165464	1/60
6/0.03	PFL4-6/1N/B/003	293179	1/60
10/0.03	PFL4-10/1N/B/003	293290	1/60
13/0.03	PFL4-13/1N/B/003	165369	1/60
16/0.03	PFL4-16/1N/B/003	293291	1/60
20/0.03	PFL4-20/1N/B/003	293292	1/60
25/0.03	PFL4-25/1N/B/003	293293	1/60
32/0.03	PFL4-32/1N/B/003	293294	1/60
40/0.03	PFL4-40/1N/B/003	293295	1/60
2/0.1	PFL4-2/1N/B/01	165414	1/60
4/0.1	PFL4-4/1N/B/01	165466	1/60
6/0.1	PFL4-6/1N/B/01	165495	1/60
10/0.1	PFL4-10/1N/B/01	165355	1/60
13/0.1	PFL4-13/1N/B/01	165371	1/60
16/0.1	PFL4-16/1N/B/01	165390	1/60
20/0.1	PFL4-20/1N/B/01	165422	1/60
25/0.1	PFL4-25/1N/B/01	165436	1/60
32/0.1	PFL4-32/1N/B/01	165450	1/60
40/0.1	PFL4-40/1N/B/01	165480	1/60
2/0.3	PFL4-2/1N/B/03	165416	1/60
4/0.3	PFL4-4/1N/B/03	165468	1/60
6/0.3	PFL4-6/1N/B/03	165497	1/60
10/0.3	PFL4-10/1N/B/03	165357	1/60
13/0.3	PFL4-13/1N/B/03	165374	1/60
16/0.3	PFL4-16/1N/B/03	165393	1/60
20/0.3	PFL4-20/1N/B/03	165425	1/60
25/0.3	PFL4-25/1N/B/03	165439	1/60
32/0.3	PFL4-32/1N/B/03	165453	1/60
40/0.3	PFL4-40/1N/B/03	165483	1/60

SG67912

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	PFL4-2/1N/C/001	165417	1/60
4/0.01	PFL4-4/1N/C/001	165470	1/60
6/0.01	PFL4-6/1N/C/001	165499	1/60
10/0.01	PFL4-10/1N/C/001	165359	1/60
13/0.01	PFL4-13/1N/C/001	165376	1/60
16/0.01	PFL4-16/1N/C/001	165395	1/60
2/0.03	PFL4-2/1N/C/003	165418	1/60
4/0.03	PFL4-4/1N/C/003	165472	1/60
6/0.03	PFL4-6/1N/C/003	293296	1/60
10/0.03	PFL4-10/1N/C/003	293297	1/60
13/0.03	PFL4-13/1N/C/003	165379	1/60
16/0.03	PFL4-16/1N/C/003	293298	1/60
20/0.03	PFL4-20/1N/C/003	293299	1/60
25/0.03	PFL4-25/1N/C/003	293300	1/60
32/0.03	PFL4-32/1N/C/003	293301	1/60
40/0.03	PFL4-40/1N/C/003	293302	1/60
2/0.1	PFL4-2/1N/C/01	165406	1/60
4/0.1	PFL4-4/1N/C/01	165474	1/60
6/0.1	PFL4-6/1N/C/01	165502	1/60
10/0.1	PFL4-10/1N/C/01	165362	1/60
13/0.1	PFL4-13/1N/C/01	165381	1/60
16/0.1	PFL4-16/1N/C/01	165399	1/60
20/0.1	PFL4-20/1N/C/01	165429	1/60
25/0.1	PFL4-25/1N/C/01	165443	1/60
32/0.1	PFL4-32/1N/C/01	165457	1/60
40/0.1	PFL4-40/1N/C/01	165487	1/60
2/0.3	PFL4-2/1N/C/03	165408	1/60
4/0.3	PFL4-4/1N/C/03	165476	1/60
6/0.3	PFL4-6/1N/C/03	165504	1/60
10/0.3	PFL4-10/1N/C/03	165364	1/60
13/0.3	PFL4-13/1N/C/03	165384	1/60
16/0.3	PFL4-16/1N/C/03	165402	1/60
20/0.3	PFL4-20/1N/C/03	165432	1/60
25/0.3	PFL4-25/1N/C/03	165446	1/60
32/0.3	PFL4-32/1N/C/03	165460	1/60
40/0.3	PFL4-40/1N/C/03	165490	1/60

Combined RCD/MCB Devices PFL4

4.5 kA, 1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG67912

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	PFL4-2/1N/B/001-A	165409	1/60
4/0.01	PFL4-4/1N/B/001-A	165461	1/60
6/0.01	PFL4-6/1N/B/001-A	165491	1/60
10/0.01	PFL4-10/1N/B/001-A	165351	1/60
13/0.01	PFL4-13/1N/B/001-A	165365	1/60
16/0.01	PFL4-16/1N/B/001-A	165385	1/60
2/0.03	PFL4-2/1N/B/003-A	165411	1/60
4/0.03	PFL4-4/1N/B/003-A	165463	1/60
6/0.03	PFL4-6/1N/B/003-A	165493	1/60
10/0.03	PFL4-10/1N/B/003-A	165353	1/60
13/0.03	PFL4-13/1N/B/003-A	165367	1/60
16/0.03	PFL4-16/1N/B/003-A	165387	1/60
20/0.03	PFL4-20/1N/B/003-A	165419	1/60
25/0.03	PFL4-25/1N/B/003-A	165433	1/60
32/0.03	PFL4-32/1N/B/003-A	165447	1/60
40/0.03	PFL4-40/1N/B/003-A	165477	1/60
2/0.1	PFL4-2/1N/B/01-A	165413	1/60
4/0.1	PFL4-4/1N/B/01-A	165465	1/60
6/0.1	PFL4-6/1N/B/01-A	165494	1/60
10/0.1	PFL4-10/1N/B/01-A	165354	1/60
13/0.1	PFL4-13/1N/B/01-A	165370	1/60
16/0.1	PFL4-16/1N/B/01-A	165389	1/60
20/0.1	PFL4-20/1N/B/01-A	165421	1/60
25/0.1	PFL4-25/1N/B/01-A	165435	1/60
32/0.1	PFL4-32/1N/B/01-A	165449	1/60
40/0.1	PFL4-40/1N/B/01-A	165479	1/60
2/0.3	PFL4-2/1N/B/03-A	165415	1/60
4/0.3	PFL4-4/1N/B/03-A	165467	1/60
6/0.3	PFL4-6/1N/B/03-A	165496	1/60
10/0.3	PFL4-10/1N/B/03-A	165356	1/60
13/0.3	PFL4-13/1N/B/03-A	165372	1/60
16/0.3	PFL4-16/1N/B/03-A	165391	1/60
20/0.3	PFL4-20/1N/B/03-A	165423	1/60
25/0.3	PFL4-25/1N/B/03-A	165437	1/60
32/0.3	PFL4-32/1N/B/03-A	165451	1/60
40/0.3	PFL4-40/1N/B/03-A	165481	1/60

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	PFL4-2/1N/C/001-A	165403	1/60
4/0.01	PFL4-4/1N/C/001-A	165469	1/60
6/0.01	PFL4-6/1N/C/001-A	165498	1/60
10/0.01	PFL4-10/1N/C/001-A	165358	1/60
13/0.01	PFL4-13/1N/C/001-A	165375	1/60
16/0.01	PFL4-16/1N/C/001-A	165394	1/60
2/0.03	PFL4-2/1N/C/003-A	165404	1/60
4/0.03	PFL4-4/1N/C/003-A	165471	1/60
6/0.03	PFL4-6/1N/C/003-A	165500	1/60
10/0.03	PFL4-10/1N/C/003-A	165360	1/60
13/0.03	PFL4-13/1N/C/003-A	165377	1/60
16/0.03	PFL4-16/1N/C/003-A	165396	1/60
20/0.03	PFL4-20/1N/C/003-A	165426	1/60
25/0.03	PFL4-25/1N/C/003-A	165440	1/60
32/0.03	PFL4-32/1N/C/003-A	165454	1/60
40/0.03	PFL4-40/1N/C/003-A	165484	1/60
2/0.1	PFL4-2/1N/C/01-A	165405	1/60
4/0.1	PFL4-4/1N/C/01-A	165473	1/60
6/0.1	PFL4-6/1N/C/01-A	165501	1/60
10/0.1	PFL4-10/1N/C/01-A	165361	1/60
13/0.1	PFL4-13/1N/C/01-A	165380	1/60
16/0.1	PFL4-16/1N/C/01-A	165398	1/60
20/0.1	PFL4-20/1N/C/01-A	165428	1/60
25/0.1	PFL4-25/1N/C/01-A	165442	1/60
32/0.1	PFL4-32/1N/C/01-A	165456	1/60
40/0.1	PFL4-40/1N/C/01-A	165486	1/60
2/0.3	PFL4-2/1N/C/03-A	165407	1/60
4/0.3	PFL4-4/1N/C/03-A	165475	1/60
6/0.3	PFL4-6/1N/C/03-A	165503	1/60
10/0.3	PFL4-10/1N/C/03-A	165363	1/60
13/0.3	PFL4-13/1N/C/03-A	165382	1/60
16/0.3	PFL4-16/1N/C/03-A	165400	1/60
20/0.3	PFL4-20/1N/C/03-A	165430	1/60
25/0.3	PFL4-25/1N/C/03-A	165444	1/60
32/0.3	PFL4-32/1N/C/03-A	165458	1/60
40/0.3	PFL4-40/1N/C/03-A	165488	1/60

Combined RCD/MCB Devices PFL4
4.5 kA, 1+N-pole
Surge current-proof 3 kA, type G (ÖVE E 8601)

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
13/0.03	PFL4-13/1N/B/003-G	165368	1/60
16/0.03	PFL4-16/1N/B/003-G	165388	1/60
20/0.03	PFL4-20/1N/B/003-G	165420	1/60
25/0.03	PFL4-25/1N/B/003-G	165434	1/60
32/0.03	PFL4-32/1N/B/003-G	165448	1/60
40/0.03	PFL4-40/1N/B/003-G	165478	1/60
13/0.3	PFL4-13/1N/B/03-G	165373	1/60
16/0.3	PFL4-16/1N/B/03-G	165392	1/60
20/0.3	PFL4-20/1N/B/03-G	165424	1/60
25/0.3	PFL4-25/1N/B/03-G	165438	1/60
32/0.3	PFL4-32/1N/B/03-G	165452	1/60
40/0.3	PFL4-40/1N/B/03-G	165482	1/60

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Characteristic C			
13/0.03	PFL4-13/1N/C/003-G	165378	1/60
16/0.03	PFL4-16/1N/C/003-G	165397	1/60
20/0.03	PFL4-20/1N/C/003-G	165427	1/60
25/0.03	PFL4-25/1N/C/003-G	165441	1/60
32/0.03	PFL4-32/1N/C/003-G	165455	1/60
40/0.03	PFL4-40/1N/C/003-G	165485	1/60
13/0.3	PFL4-13/1N/C/03-G	165383	1/60
16/0.3	PFL4-16/1N/C/03-G	165401	1/60
20/0.3	PFL4-20/1N/C/03-G	165431	1/60
25/0.3	PFL4-25/1N/C/03-G	165445	1/60
32/0.3	PFL4-32/1N/C/03-G	165459	1/60
40/0.3	PFL4-40/1N/C/03-G	165489	1/60

Specifications | Combined RCD/MCB Devices PFL4, 1+N-pole

Description

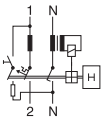
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed
- **Type -G:** 10 ms time delay in order to avoid unwanted tripping (e.g. during thunderstorms).
  Compulsory in Austria for any circuit where personal injury or damage to property may occur in case of unwanted tripping (§12.1.6 ÖVE/ÖNORM E 8001-1).

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal switch for subsequent installation	ZP-NHK	248437
Shunt trip release	ZP-ASA/..	248438, 248439
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm²	Z-HA-EK/35	263960

Connection diagram

1+N-pole

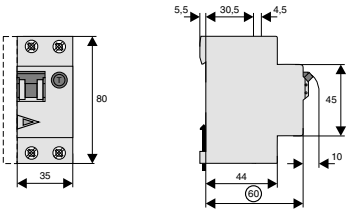


Technical Data

Electrical		
Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping		
line-voltage-independent		instantaneous 250A (8/20µs) surge current proof;
Type G		10 ms delay 3kA (8/20µs) surge current proof
Rated voltage U_e		230 V; 50 Hz
Operational voltage range		196-253 V
Rated tripping current $I_{\Delta n}$		10, 30, 100, 300 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Rated insulation voltage U_i		440 VAC
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity		4.5 kA
Rated current		2 - 40 A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>10 kA)
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)

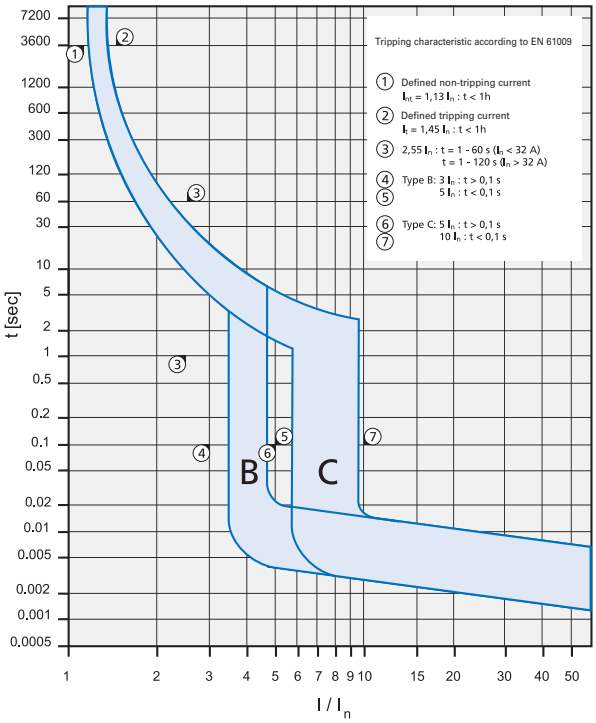


Load Capacity PFL4-../1N/

Effect of ambient temperature (MCB component)

	Ambient temperature **T [°C]**								
I_n [A]	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**35**	**40**
2	2.5	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9
4	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9
5	6.2	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8
6	7.4	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8
8	9.9	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7
10	12	12	12	11	11	10	10	9.9	9.7
12	15	14	14	13	13	13	12	12	12
13	16	16	15	15	14	14	13	13	13
15	19	18	17	17	16	16	15	15	15
16	20	19	19	18	17	17	16	16	15
20	25	24	23	22	22	21	20	20	19
25	31	30	29	28	27	26	25	25	24
32	40	38	37	36	35	33	32	32	31
40	49	48	47	45	43	42	40	39	39

Tripping Characteristic PFL4-../1N/, Characteristics B a. C



Combined RCD/MCB Devices CKN6, 1+N-pole DE

SG30511

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 6 kA

Combined RCD/MCB Devices CKN6

DE

6 kA, 1+N-pole
Conditionally surge current-proof 250 A, type AC

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	CKN6-2/1N/B/001	241063	1/60
4/0.01	CKN6-4/1N/B/001	241073	1/60
6/0.01	CKN6-6/1N/B/001	241083	1/60
10/0.01	CKN6-10/1N/B/001	241093	1/60
13/0.01	CKN6-13/1N/B/001	241103	1/60
16/0.01	CKN6-16/1N/B/001	241113	1/60
2/0.03	CKN6-2/1N/B/003	241064	1/60
4/0.03	CKN6-4/1N/B/003	241074	1/60
6/0.03	CKN6-6/1N/B/003	241084	1/60
10/0.03	CKN6-10/1N/B/003	241094	1/60
13/0.03	CKN6-13/1N/B/003	241104	1/60
16/0.03	CKN6-16/1N/B/003	241114	1/60
20/0.03	CKN6-20/1N/B/003	241429	1/60
25/0.03	CKN6-25/1N/B/003	241453	1/60
32/0.03	CKN6-32/1N/B/003	241477	1/60
40/0.03	CKN6-40/1N/B/003	241501	1/60
2/0.1	CKN6-2/1N/B/01	241061	1/60
4/0.1	CKN6-4/1N/B/01	241071	1/60
6/0.1	CKN6-6/1N/B/01	241081	1/60
10/0.1	CKN6-10/1N/B/01	241091	1/60
13/0.1	CKN6-13/1N/B/01	241101	1/60
16/0.1	CKN6-16/1N/B/01	241111	1/60
20/0.1	CKN6-20/1N/B/01	241430	1/60
25/0.1	CKN6-25/1N/B/01	241454	1/60
32/0.1	CKN6-32/1N/B/01	241478	1/60
40/0.1	CKN6-40/1N/B/01	241502	1/60
2/0.3	CKN6-2/1N/B/03	241062	1/60
4/0.3	CKN6-4/1N/B/03	241072	1/60
6/0.3	CKN6-6/1N/B/03	241082	1/60
10/0.3	CKN6-10/1N/B/03	241092	1/60
13/0.3	CKN6-13/1N/B/03	241102	1/60
16/0.3	CKN6-16/1N/B/03	241112	1/60
20/0.3	CKN6-20/1N/B/03	241431	1/60
25/0.3	CKN6-25/1N/B/03	241455	1/60
32/0.3	CKN6-32/1N/B/03	241479	1/60
40/0.3	CKN6-40/1N/B/03	241503	1/60

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	CKN6-2/1N/C/001	241123	1/60
4/0.01	CKN6-4/1N/C/001	241133	1/60
6/0.01	CKN6-6/1N/C/001	241143	1/60
10/0.01	CKN6-10/1N/C/001	241153	1/60
13/0.01	CKN6-13/1N/C/001	241163	1/60
16/0.01	CKN6-16/1N/C/001	241173	1/60
2/0.03	CKN6-2/1N/C/003	241124	1/60
4/0.03	CKN6-4/1N/C/003	241134	1/60
6/0.03	CKN6-6/1N/C/003	241144	1/60
10/0.03	CKN6-10/1N/C/003	241154	1/60
13/0.03	CKN6-13/1N/C/003	241164	1/60
16/0.03	CKN6-16/1N/C/003	241174	1/60
20/0.03	CKN6-20/1N/C/003	241425	1/60
25/0.03	CKN6-25/1N/C/003	241449	1/60
32/0.03	CKN6-32/1N/C/003	241473	1/60
40/0.03	CKN6-40/1N/C/003	241497	1/60
2/0.1	CKN6-2/1N/C/01	241121	1/60
4/0.1	CKN6-4/1N/C/01	241131	1/60
6/0.1	CKN6-6/1N/C/01	241141	1/60
10/0.1	CKN6-10/1N/C/01	241151	1/60
13/0.1	CKN6-13/1N/C/01	241161	1/60
16/0.1	CKN6-16/1N/C/01	241171	1/60
20/0.1	CKN6-20/1N/C/01	241426	1/60
25/0.1	CKN6-25/1N/C/01	241450	1/60
32/0.1	CKN6-32/1N/C/01	241474	1/60
40/0.1	CKN6-40/1N/C/01	241498	1/60
2/0.3	CKN6-2/1N/C/03	241122	1/60
4/0.3	CKN6-4/1N/C/03	241132	1/60
6/0.3	CKN6-6/1N/C/03	241142	1/60
10/0.3	CKN6-10/1N/C/03	241152	1/60
13/0.3	CKN6-13/1N/C/03	241162	1/60
16/0.3	CKN6-16/1N/C/03	241172	1/60
20/0.3	CKN6-20/1N/C/03	241427	1/60
25/0.3	CKN6-25/1N/C/03	241451	1/60
32/0.3	CKN6-32/1N/C/03	241475	1/60
40/0.3	CKN6-40/1N/C/03	241499	1/60

Explanation CKN6:
C = XClear, KN = Combined RCD/MCB Devices, 6 = 6 kA

Combined RCD/MCB Devices CKN6

DE

6 kA, 1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	CKN6-2/1N/B/001-A	241243	1/60
4/0.01	CKN6-4/1N/B/001-A	241253	1/60
6/0.01	CKN6-6/1N/B/001-A	241263	1/60
10/0.01	CKN6-10/1N/B/001-A	241273	1/60
13/0.01	CKN6-13/1N/B/001-A	241283	1/60
16/0.01	CKN6-16/1N/B/001-A	241293	1/60
2/0.03	CKN6-2/1N/B/003-A	241244	1/60
4/0.03	CKN6-4/1N/B/003-A	241254	1/60
6/0.03	CKN6-6/1N/B/003-A	241264	1/60
10/0.03	CKN6-10/1N/B/003-A	241274	1/60
13/0.03	CKN6-13/1N/B/003-A	241284	1/60
16/0.03	CKN6-16/1N/B/003-A	241294	1/60
20/0.03	CKN6-20/1N/B/003-A	241525	1/60
25/0.03	CKN6-25/1N/B/003-A	241549	1/60
32/0.03	CKN6-32/1N/B/003-A	241573	1/60
40/0.03	CKN6-40/1N/B/003-A	241597	1/60
2/0.1	CKN6-2/1N/B/01-A	241241	1/60
4/0.1	CKN6-4/1N/B/01-A	241251	1/60
6/0.1	CKN6-6/1N/B/01-A	241261	1/60
10/0.1	CKN6-10/1N/B/01-A	241271	1/60
13/0.1	CKN6-13/1N/B/01-A	241281	1/60
16/0.1	CKN6-16/1N/B/01-A	241291	1/60
20/0.1	CKN6-20/1N/B/01-A	241526	1/60
25/0.1	CKN6-25/1N/B/01-A	241550	1/60
32/0.1	CKN6-32/1N/B/01-A	241574	1/60
40/0.1	CKN6-40/1N/B/01-A	241598	1/60
2/0.3	CKN6-2/1N/B/03-A	241242	1/60
4/0.3	CKN6-4/1N/B/03-A	241252	1/60
6/0.3	CKN6-6/1N/B/03-A	241262	1/60
10/0.3	CKN6-10/1N/B/03-A	241272	1/60
13/0.3	CKN6-13/1N/B/03-A	241282	1/60
16/0.3	CKN6-16/1N/B/03-A	241292	1/60
20/0.3	CKN6-20/1N/B/03-A	241527	1/60
25/0.3	CKN6-25/1N/B/03-A	241551	1/60
32/0.3	CKN6-32/1N/B/03-A	241575	1/60
40/0.3	CKN6-40/1N/B/03-A	241599	1/60

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	CKN6-2/1N/C/001-A	241303	1/60
4/0.01	CKN6-4/1N/C/001-A	241313	1/60
6/0.01	CKN6-6/1N/C/001-A	241323	1/60
10/0.01	CKN6-10/1N/C/001-A	241333	1/60
13/0.01	CKN6-13/1N/C/001-A	241343	1/60
16/0.01	CKN6-16/1N/C/001-A	241353	1/60
2/0.03	CKN6-2/1N/C/003-A	241304	1/60
4/0.03	CKN6-4/1N/C/003-A	241314	1/60
6/0.03	CKN6-6/1N/C/003-A	241324	1/60
10/0.03	CKN6-10/1N/C/003-A	241334	1/60
13/0.03	CKN6-13/1N/C/003-A	241344	1/60
16/0.03	CKN6-16/1N/C/003-A	241354	1/60
20/0.03	CKN6-20/1N/C/003-A	241521	1/60
25/0.03	CKN6-25/1N/C/003-A	241545	1/60
32/0.03	CKN6-32/1N/C/003-A	241569	1/60
40/0.03	CKN6-40/1N/C/003-A	241593	1/60
2/0.1	CKN6-2/1N/C/01-A	241301	1/60
4/0.1	CKN6-4/1N/C/01-A	241311	1/60
6/0.1	CKN6-6/1N/C/01-A	241321	1/60
10/0.1	CKN6-10/1N/C/01-A	241331	1/60
13/0.1	CKN6-13/1N/C/01-A	241341	1/60
16/0.1	CKN6-16/1N/C/01-A	241351	1/60
20/0.1	CKN6-20/1N/C/01-A	241522	1/60
25/0.1	CKN6-25/1N/C/01-A	241546	1/60
32/0.1	CKN6-32/1N/C/01-A	241570	1/60
40/0.1	CKN6-40/1N/C/01-A	241594	1/60
2/0.3	CKN6-2/1N/C/03-A	241302	1/60
4/0.3	CKN6-4/1N/C/03-A	241312	1/60
6/0.3	CKN6-6/1N/C/03-A	241322	1/60
10/0.3	CKN6-10/1N/C/03-A	241332	1/60
13/0.3	CKN6-13/1N/C/03-A	241342	1/60
16/0.3	CKN6-16/1N/C/03-A	241352	1/60
20/0.3	CKN6-20/1N/C/03-A	241523	1/60
25/0.3	CKN6-25/1N/C/03-A	241547	1/60
32/0.3	CKN6-32/1N/C/03-A	241571	1/60
40/0.3	CKN6-40/1N/C/03-A	241595	1/60

Explanation CKN6:
C = XClear, KN = Combined RCD/MCB Devices, 6 = 6 kA

Specifications | Combined RCD/MCB Devices CKN6, 1+N-pole

Description

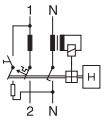
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed

Accessories:

Auxiliary switch for subsequent installation	Z-AHK	248433
Tripping signal switch for subsequent installation	Z-NHK	248434
Shunt trip release	Z-ASA/..	248286, 248287
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm²	Z-HA-EK/35	263960

Connection diagram

1+N-pole

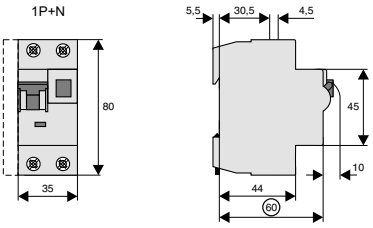


Technical Data

Electrical		
Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping line voltage-independent		instantaneous 250A (8/20µs) surge current proof
Rated voltage		230 V; 50 Hz
Operational voltage range		196-253 V
Rated tripping current		10, 30, 100, 300 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity		6 kA
Rated current		2 - 40 A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>6 kA)
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

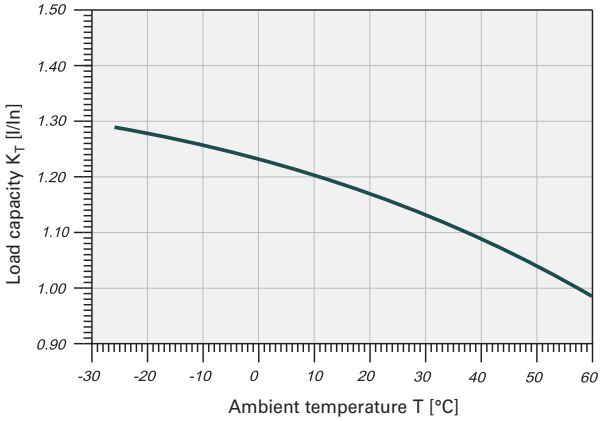
Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)



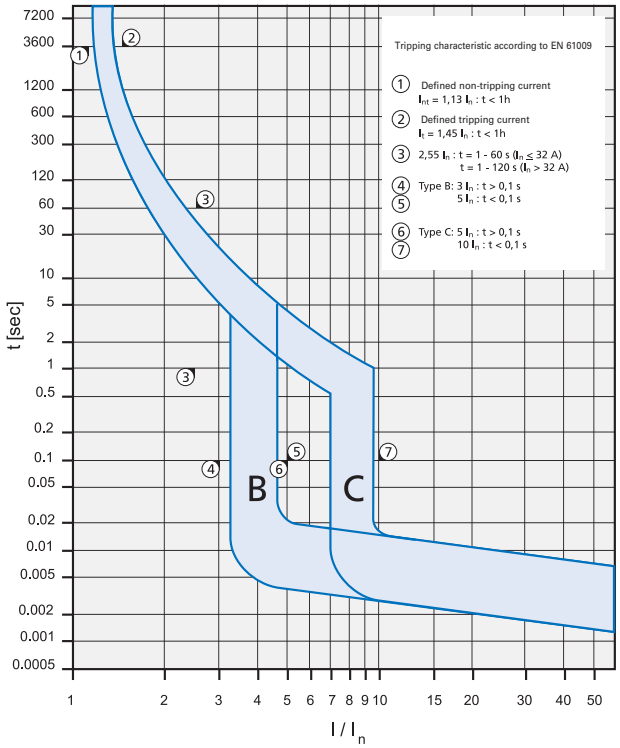
Load Capacity

Effect of ambient temperature (MCB component)



Valid for combined RCD/MCB devices 1+N-pole

Tripping Characteristic CKN6-../1N/, Characteristics B and C



Short Circuit Selectivity CKN6-../1N/ towards DII-DIV fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices CKN6../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

CKN6	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
2	0.5	0.6	1.2	2.5	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.5	0.7	1.7	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6		<0.5[1)]	0.5	0.7	1.4	3.3	6.0[2)]	6.0[2)]	6.0[2)]
10			0.5	0.7	1.3	2.5	5.7	6.0[2)]	6.0[2)]
13			0.5	0.7	1.3	2.5	5.0	6.0[2)]	6.0[2)]
16				0.6	1.3	2.4	4.7	6.0[2)]	6.0[2)]
20					1.2	2.2	3.0	6.0[2)]	6.0[2)]
25					1.1	2.0	3.8	5.8	6.0[2)]
32						1.8	3.4	4.8	6.0[2)]
40							2.8	4.2	6.0[2)]

[1)] Selectivity limit current I_s under 0.5 kA

[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device

Darker areas: no selectivity

Short Circuit Selectivity CKN6-../1N/ towards D01-D03 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices CKN6../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

CKN6	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	0.6	1.1	1.9	4.5	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.5	0.6	1.2	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6		<0.5[1)]	<0.5[1)]	0.6	1.2	3.2	6.0[2)]	6.0[2)]	6.0[2)]
10			<0.5[1)]	0.6	1.2	2.7	4.3	6.0[2)]	6.0[2)]
13			<0.5[1)]	0.6	1.1	2.5	4.0	5.5	6.0[2)]
16				0.6	1.1	2.4	3.6	5.0	6.0[2)]
20					1.0	2.2	3.3	4.7	6.0[2)]
25					1.0	2.0	3.0	4.2	6.0[2)]
32						1.9	2.7	3.7	6.0[2)]
40							2.5	3.3	6.0[2)]

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

CKN6	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	0.5	0.8	1.4	3.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.5	0.7	1.4	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6		<0.5[1)]	<0.5[1)]	0.6	1.2	3.0	6.0[2)]	6.0[2)]	6.0[2)]
10				0.5	1.0	2.0	3.3	5.5	6.0[2)]
13					1.0	1.9	3.0	4.5	6.0[2)]
16					0.9	1.7	2.6	3.8	6.0[2)]
20					0.9	1.7	2.5	3.7	6.0[2)]
25						1.6	2.3	3.1	6.0[2)]
32							2.1	2.8	6.0[2)]
40								2.6	5.5

Short Circuit Selectivity CKN6-../1N/ towards NH-00

In case of short circuit, there is selectivity between the combined RCD/MCB devices CKN6../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

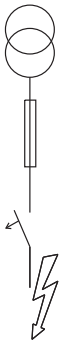
Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

CKN6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	0.5	0.8	1.5	3.1	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.5	0.9	1.7	2.6	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6	<0.5[1)]	<0.5[1)]	0.5	0.8	1.3	1.8	3.1	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
10		<0.5[1)]	0.5	0.8	1.2	1.8	2.5	3.9	5.6	6.0[2)]	6.0[2)]	6.0[2)]
13		<0.5[1)]	0.5	0.8	1.2	1.6	2.4	3.6	5.0	6.0[2)]	6.0[2)]	6.0[2)]
16			0.5	0.8	1.2	1.6	2.4	3.3	4.5	6.0[2)]	6.0[2)]	6.0[2)]
20				0.8	1.1	1.4	2.1	3.1	4.2	6.0[2)]	6.0[2)]	6.0[2)]
25				0.7	1.0	1.4	1.9	2.7	3.8	6.0[2)]	6.0[2)]	6.0[2)]
32							1.8	2.5	3.4	6.0[2)]	6.0[2)]	6.0[2)]
40								2.3	3.2	5.5	6.0[2)]	6.0[2)]

Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

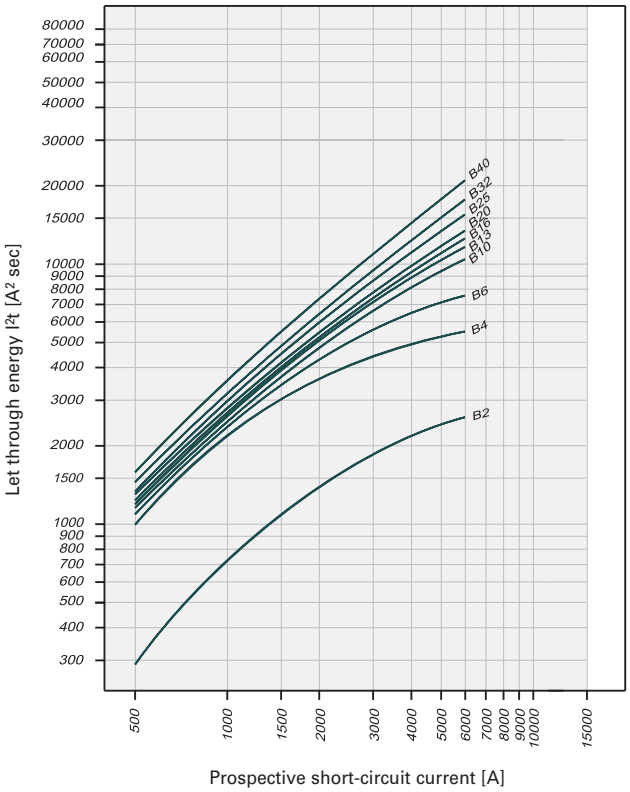
CKN6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	0.5	0.6	0.8	2.2	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.5	1.0	1.6	2.8	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6	<0.5[1)]	<0.5[1)]	0.5	0.8	1.2	1.7	3.0	5.2	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
10			<0.5[1)]	0.7	1.0	1.3	2.0	3.0	4.6	6.0[2)]	6.0[2)]	6.0[2)]
13					0.9	1.2	1.8	2.6	4.0	6.0[2)]	6.0[2)]	6.0[2)]
16					0.8	1.1	1.6	2.4	3.5	6.0[2)]	6.0[2)]	6.0[2)]
20					0.8	1.1	1.5	2.3	3.3	6.0[2)]	6.0[2)]	6.0[2)]
25							1.4	2.1	3.0	5.8	6.0[2)]	6.0[2)]
32								1.9	2.7	4.8	6.0[2)]	6.0[2)]
40									2.6	4.5	6.0[2)]	6.0[2)]

[1)] Selectivity limit current I_s under 0.5 kA
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device
Darker areas: no selectivity

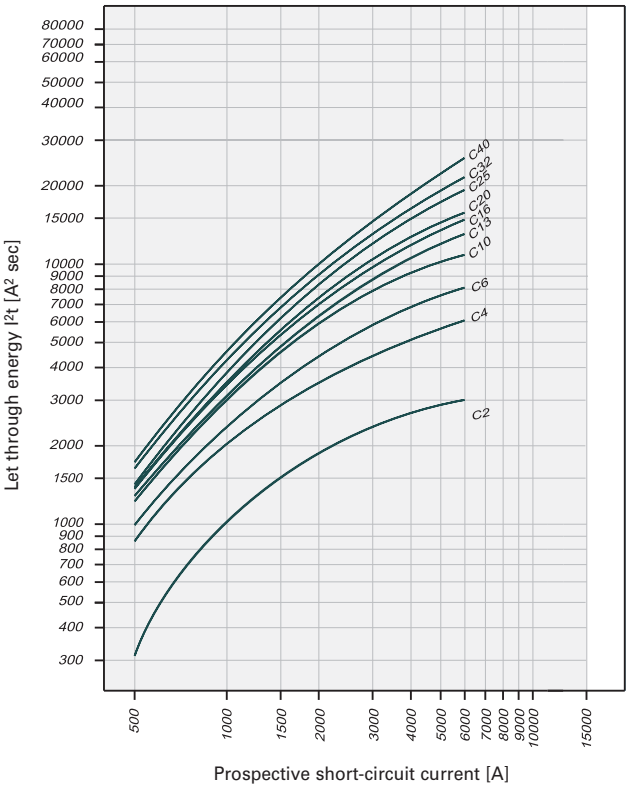


Let-through Energy CKN6-../1N/

Let-through energy CKN6, characteristic B, 1+N-pole



Let-through energy CKN6, characteristic C, 1+N-pole



Combined RCD/MCB Devices CKN4, 1+N-pole DE

SG30411

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 4.5 kA

Combined RCD/MCB Devices CKN4

DE

4.5 kA, 1+N-pole

Conditionally surge current-proof 250 A, type AC

SG30411

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	CKN4-2/1N/B/001	241615	1/60
4/0.01	CKN4-4/1N/B/001	241625	1/60
6/0.01	CKN4-6/1N/B/001	241635	1/60
10/0.01	CKN4-10/1N/B/001	241645	1/60
13/0.01	CKN4-13/1N/B/001	241655	1/60
16/0.01	CKN4-16/1N/B/001	241665	1/60
2/0.03	CKN4-2/1N/B/003	241616	1/60
4/0.03	CKN4-4/1N/B/003	241626	1/60
6/0.03	CKN4-6/1N/B/003	241636	1/60
10/0.03	CKN4-10/1N/B/003	241646	1/60
13/0.03	CKN4-13/1N/B/003	241656	1/60
16/0.03	CKN4-16/1N/B/003	241666	1/60
20/0.03	CKN4-20/1N/B/003	241981	1/60
25/0.03	CKN4-25/1N/B/003	242005	1/60
32/0.03	CKN4-32/1N/B/003	242029	1/60
40/0.03	CKN4-40/1N/B/003	242053	1/60
2/0.1	CKN4-2/1N/B/01	241613	1/60
4/0.1	CKN4-4/1N/B/01	241623	1/60
6/0.1	CKN4-6/1N/B/01	241633	1/60
10/0.1	CKN4-10/1N/B/01	241643	1/60
13/0.1	CKN4-13/1N/B/01	241653	1/60
16/0.1	CKN4-16/1N/B/01	241663	1/60
20/0.1	CKN4-20/1N/B/01	241982	1/60
25/0.1	CKN4-25/1N/B/01	242006	1/60
32/0.1	CKN4-32/1N/B/01	242030	1/60
40/0.1	CKN4-40/1N/B/01	242054	1/60
2/0.3	CKN4-2/1N/B/03	241614	1/60
4/0.3	CKN4-4/1N/B/03	241624	1/60
6/0.3	CKN4-6/1N/B/03	241634	1/60
10/0.3	CKN4-10/1N/B/03	241644	1/60
13/0.3	CKN4-13/1N/B/03	241654	1/60
16/0.3	CKN4-16/1N/B/03	241664	1/60
20/0.3	CKN4-20/1N/B/03	241983	1/60
25/0.3	CKN4-25/1N/B/03	242007	1/60
32/0.3	CKN4-32/1N/B/03	242031	1/60
40/0.3	CKN4-40/1N/B/03	242055	1/60

SG30411

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	CKN4-2/1N/C/001	241675	1/60
4/0.01	CKN4-4/1N/C/001	241685	1/60
6/0.01	CKN4-6/1N/C/001	241695	1/60
10/0.01	CKN4-10/1N/C/001	241705	1/60
13/0.01	CKN4-13/1N/C/001	241715	1/60
16/0.01	CKN4-16/1N/C/001	241725	1/60
2/0.03	CKN4-2/1N/C/003	241676	1/60
4/0.03	CKN4-4/1N/C/003	241686	1/60
6/0.03	CKN4-6/1N/C/003	241696	1/60
10/0.03	CKN4-10/1N/C/003	241706	1/60
13/0.03	CKN4-13/1N/C/003	241716	1/60
16/0.03	CKN4-16/1N/C/003	241726	1/60
20/0.03	CKN4-20/1N/C/003	241977	1/60
25/0.03	CKN4-25/1N/C/003	242001	1/60
32/0.03	CKN4-32/1N/C/003	242025	1/60
40/0.03	CKN4-40/1N/C/003	242049	1/60
2/0.1	CKN4-2/1N/C/01	241673	1/60
4/0.1	CKN4-4/1N/C/01	241683	1/60
6/0.1	CKN4-6/1N/C/01	241693	1/60
10/0.1	CKN4-10/1N/C/01	241703	1/60
13/0.1	CKN4-13/1N/C/01	241713	1/60
16/0.1	CKN4-16/1N/C/01	241723	1/60
20/0.1	CKN4-20/1N/C/01	241978	1/60
25/0.1	CKN4-25/1N/C/01	242002	1/60
32/0.1	CKN4-32/1N/C/01	242026	1/60
40/0.1	CKN4-40/1N/C/01	242050	1/60
2/0.3	CKN4-2/1N/C/03	241674	1/60
4/0.3	CKN4-4/1N/C/03	241684	1/60
6/0.3	CKN4-6/1N/C/03	241694	1/60
10/0.3	CKN4-10/1N/C/03	241704	1/60
13/0.3	CKN4-13/1N/C/03	241714	1/60
16/0.3	CKN4-16/1N/C/03	241724	1/60
20/0.3	CKN4-20/1N/C/03	241979	1/60
25/0.3	CKN4-25/1N/C/03	242003	1/60
32/0.3	CKN4-32/1N/C/03	242027	1/60
40/0.3	CKN4-40/1N/C/03	242051	1/60

Explanation CKN4:
C = XClear, KN = Combined RCD/MCB Devices, 4 = 4.5 kA

Combined RCD/MCB Devices CKN4

DE

4.5 kA, 1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG30411

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	CKN4-2/1N/B/001-A	241795	1/60
4/0.01	CKN4-4/1N/B/001-A	241805	1/60
6/0.01	CKN4-6/1N/B/001-A	241815	1/60
10/0.01	CKN4-10/1N/B/001-A	241825	1/60
13/0.01	CKN4-13/1N/B/001-A	241835	1/60
16/0.01	CKN4-16/1N/B/001-A	241845	1/60
2/0.03	CKN4-2/1N/B/003-A	241796	1/60
4/0.03	CKN4-4/1N/B/003-A	241806	1/60
6/0.03	CKN4-6/1N/B/003-A	241816	1/60
10/0.03	CKN4-10/1N/B/003-A	241826	1/60
13/0.03	CKN4-13/1N/B/003-A	241836	1/60
16/0.03	CKN4-16/1N/B/003-A	241846	1/60
20/0.03	CKN4-20/1N/B/003-A	242077	1/60
25/0.03	CKN4-25/1N/B/003-A	242101	1/60
32/0.03	CKN4-32/1N/B/003-A	242125	1/60
40/0.03	CKN4-40/1N/B/003-A	242149	1/60
2/0.1	CKN4-2/1N/B/01-A	241793	1/60
4/0.1	CKN4-4/1N/B/01-A	241803	1/60
6/0.1	CKN4-6/1N/B/01-A	241813	1/60
10/0.1	CKN4-10/1N/B/01-A	241823	1/60
13/0.1	CKN4-13/1N/B/01-A	241833	1/60
16/0.1	CKN4-16/1N/B/01-A	241843	1/60
20/0.1	CKN4-20/1N/B/01-A	242078	1/60
25/0.1	CKN4-25/1N/B/01-A	242102	1/60
32/0.1	CKN4-32/1N/B/01-A	242126	1/60
40/0.1	CKN4-40/1N/B/01-A	242150	1/60
2/0.3	CKN4-2/1N/B/03-A	241794	1/60
4/0.3	CKN4-4/1N/B/03-A	241804	1/60
6/0.3	CKN4-6/1N/B/03-A	241814	1/60
10/0.3	CKN4-10/1N/B/03-A	241824	1/60
13/0.3	CKN4-13/1N/B/03-A	241834	1/60
16/0.3	CKN4-16/1N/B/03-A	241844	1/60
20/0.3	CKN4-20/1N/B/03-A	242079	1/60
25/0.3	CKN4-25/1N/B/03-A	242103	1/60
32/0.3	CKN4-32/1N/B/03-A	242127	1/60
40/0.3	CKN4-40/1N/B/03-A	242151	1/60

Explanation CKN4:
C = XClear, KN = Combined RCD/MCB Devices, 4 = 4.5 kA

SG30411

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
2/0.01	CKN4-2/1N/C/001-A	241855	1/60
4/0.01	CKN4-4/1N/C/001-A	241865	1/60
6/0.01	CKN4-6/1N/C/001-A	241875	1/60
10/0.01	CKN4-10/1N/C/001-A	241885	1/60
13/0.01	CKN4-13/1N/C/001-A	241895	1/60
16/0.01	CKN4-16/1N/C/001-A	241905	1/60
2/0.03	CKN4-2/1N/C/003-A	241856	1/60
4/0.03	CKN4-4/1N/C/003-A	241866	1/60
6/0.03	CKN4-6/1N/C/003-A	241876	1/60
10/0.03	CKN4-10/1N/C/003-A	241886	1/60
13/0.03	CKN4-13/1N/C/003-A	241896	1/60
16/0.03	CKN4-16/1N/C/003-A	241906	1/60
20/0.03	CKN4-20/1N/C/003-A	242073	1/60
25/0.03	CKN4-25/1N/C/003-A	242097	1/60
32/0.03	CKN4-32/1N/C/003-A	242121	1/60
40/0.03	CKN4-40/1N/C/003-A	242145	1/60
2/0.1	CKN4-2/1N/C/01-A	241853	1/60
4/0.1	CKN4-4/1N/C/01-A	241863	1/60
6/0.1	CKN4-6/1N/C/01-A	241873	1/60
10/0.1	CKN4-10/1N/C/01-A	241883	1/60
13/0.1	CKN4-13/1N/C/01-A	241893	1/60
16/0.1	CKN4-16/1N/C/01-A	241903	1/60
20/0.1	CKN4-20/1N/C/01-A	242074	1/60
25/0.1	CKN4-25/1N/C/01-A	242098	1/60
32/0.1	CKN4-32/1N/C/01-A	242122	1/60
40/0.1	CKN4-40/1N/C/01-A	242146	1/60
2/0.3	CKN4-2/1N/C/03-A	241854	1/60
4/0.3	CKN4-4/1N/C/03-A	241864	1/60
6/0.3	CKN4-6/1N/C/03-A	241874	1/60
10/0.3	CKN4-10/1N/C/03-A	241884	1/60
13/0.3	CKN4-13/1N/C/03-A	241894	1/60
16/0.3	CKN4-16/1N/C/03-A	241904	1/60
20/0.3	CKN4-20/1N/C/03-A	242075	1/60
25/0.3	CKN4-25/1N/C/03-A	242099	1/60
32/0.3	CKN4-32/1N/C/03-A	242123	1/60
40/0.3	CKN4-40/1N/C/03-A	242147	1/60

Explanation CKN4:
C = XClear, KN = Combined RCD/MCB Devices, 4 = 4.5 kA

Specifications | Combined RCD/MCB Devices CKN4, 1+N-pole

Description

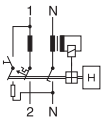
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed

Accessories:

Auxiliary switch for subsequent installation	Z-AHK	248433
Tripping signal switch for subsequent installation	Z-NHK	248434
Shunt trip release	Z-ASA/..	248286, 248287
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm²	Z-HA-EK/35	263960

Connection diagram

1+N-pole

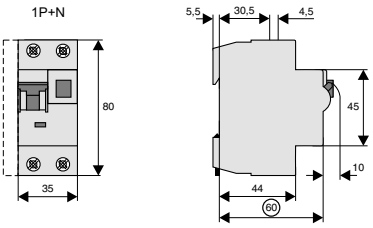


Technical Data

Electrical		
Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping line voltage-independent		instantaneous 250A (8/20µs) surge current proof
Rated voltage		230 V; 50 Hz
Operational voltage range		196-253 V
Rated tripping current		10, 30, 100, 300 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity		4.5 kA
Rated current		2 - 40 A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>4.5 kA)
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

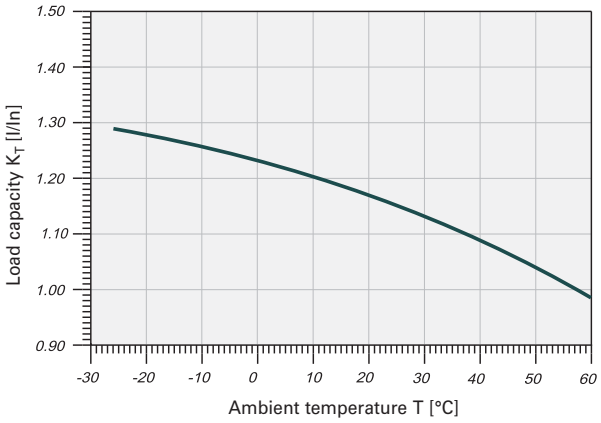
Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)



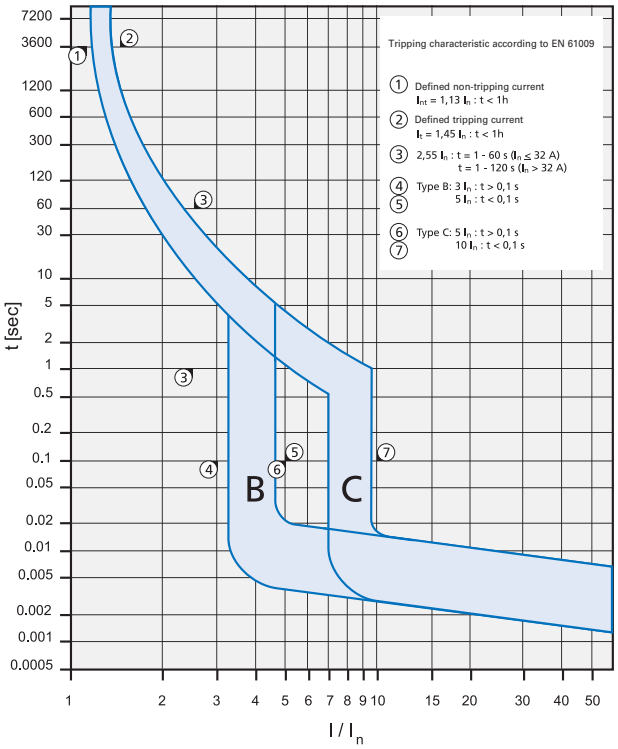
Load Capacity

Effect of ambient temperature (MCB component)



Valid for combined RCD/MCB devices 1+N-pole

Tripping Characteristic CKN4-../1N/, Characteristics B and C



Short Circuit Selectivity CKN4-../1N/ towards DII-DIV fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices CKN4../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

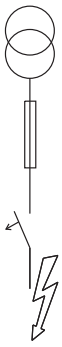
Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

CKN4	**DII-DIV gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
2	0.5	0.6	1.2	2.5	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	<0.5[1)]	<0.5[1)]	0.5	0.7	1.7	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6		<0.5[1)]	0.5	0.7	1.4	3.3	4.5[2)]	4.5[2)]	4.5[2)]
10			0.5	0.7	1.3	2.5	4.5[2)]	4.5[2)]	4.5[2)]
13			0.5	0.7	1.3	2.5	4.5[2)]	4.5[2)]	4.5[2)]
16				0.6	1.3	2.4	4.5[2)]	4.5[2)]	4.5[2)]
20					1.2	2.2	3.0	4.5[2)]	4.5[2)]
25					1.1	2.0	3.8	4.5[2)]	4.5[2)]
32						1.8	3.4	4.5[2)]	4.5[2)]
40							2.8	4.2	4.5[2)]

[1)] Selectivity limit current I_s under 0.5 kA

[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device

Darker areas: no selectivity



Short Circuit Selectivity CKN4-../1N/ towards D01-D03 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices CKN4../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

CKN4	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	0.6	1.1	1.9	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	<0.5[1)]	<0.5[1)]	0.5	0.6	1.2	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6		<0.5[1)]	<0.5[1)]	0.6	1.2	3.2	4.5[2)]	4.5[2)]	4.5[2)]
10			<0.5[1)]	0.6	1.2	2.7	4.3	4.5[2)]	4.5[2)]
13			<0.5[1)]	0.6	1.1	2.5	4.0	4.5[2)]	4.5[2)]
16				0.6	1.1	2.4	3.6	4.5[2)]	4.5[2)]
20					1.0	2.2	3.3	4.5[2)]	4.5[2)]
25					1.0	2.0	3.0	4.2	4.5[2)]
32						1.9	2.7	3.7	4.5[2)]
40							2.5	3.3	4.5[2)]

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

CKN4	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	0.5	0.8	1.4	3.3	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	<0.5[1)]	<0.5[1)]	0.5	0.7	1.4	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6		<0.5[1)]	<0.5[1)]	0.6	1.2	3.0	4.5[2)]	4.5[2)]	4.5[2)]
10				0.5	1.0	2.0	3.3	4.5[2)]	4.5[2)]
13					1.0	1.9	3.0	4.5[2)]	4.5[2)]
16					0.9	1.7	2.6	3.8	4.5[2)]
20					0.9	1.7	2.5	3.7	4.5[2)]
25						1.6	2.3	3.1	4.5[2)]
32							2.1	2.8	4.5[2)]
40								2.6	4.5[2)]

Short Circuit Selectivity CKN4-../1N/ towards NH-00

In case of short circuit, there is selectivity between the combined RCD/MCB devices CKN4../1N/ and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

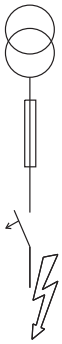
Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

CKN4	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	0.5	0.8	1.5	3.1	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	<0.5[1)]	<0.5[1)]	0.5	0.9	1.7	2.6	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6	<0.5[1)]	<0.5[1)]	0.5	0.8	1.3	1.8	3.1	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10		<0.5[1)]	0.5	0.8	1.2	1.8	2.5	3.9	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
13		<0.5[1)]	0.5	0.8	1.2	1.6	2.4	3.6	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
16			0.5	0.8	1.2	1.6	2.4	3.3	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
20				0.8	1.1	1.4	2.1	3.1	4.2	4.5[2)]	4.5[2)]	4.5[2)]
25				0.7	1.0	1.4	1.9	2.7	3.8	4.5[2)]	4.5[2)]	4.5[2)]
32							1.8	2.5	3.4	4.5[2)]	4.5[2)]	4.5[2)]
40								2.3	3.2	4.5[2)]	4.5[2)]	4.5[2)]

Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

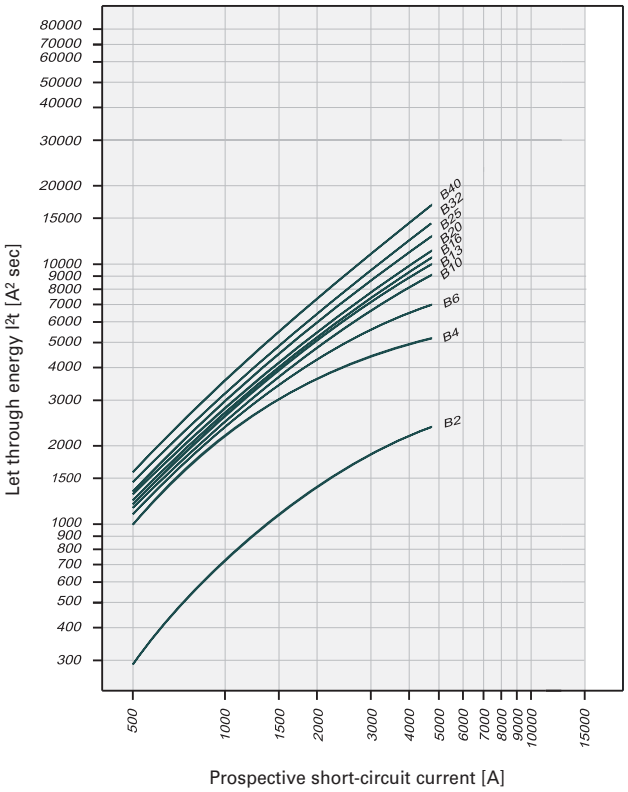
CKN4	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	0.5	0.6	0.8	2.2	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	<0.5[1)]	<0.5[1)]	0.5	1.0	1.6	2.8	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6	<0.5[1)]	<0.5[1)]	0.5	0.8	1.2	1.7	3.0	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10			<0.5[1)]	0.7	1.0	1.3	2.0	3.0	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
13					0.9	1.2	1.8	2.6	4.0	4.5[2)]	4.5[2)]	4.5[2)]
16					0.8	1.1	1.6	2.4	3.5	4.5[2)]	4.5[2)]	4.5[2)]
20					0.8	1.1	1.5	2.3	3.3	4.5[2)]	4.5[2)]	4.5[2)]
25							1.4	2.1	3.0	4.5[2)]	4.5[2)]	4.5[2)]
32								1.9	2.7	4.5[2)]	4.5[2)]	4.5[2)]
40									2.6	4.5[2)]	4.5[2)]	4.5[2)]

[1)] Selectivity limit current I_s under 0.5 kA
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device
Darker areas: no selectivity

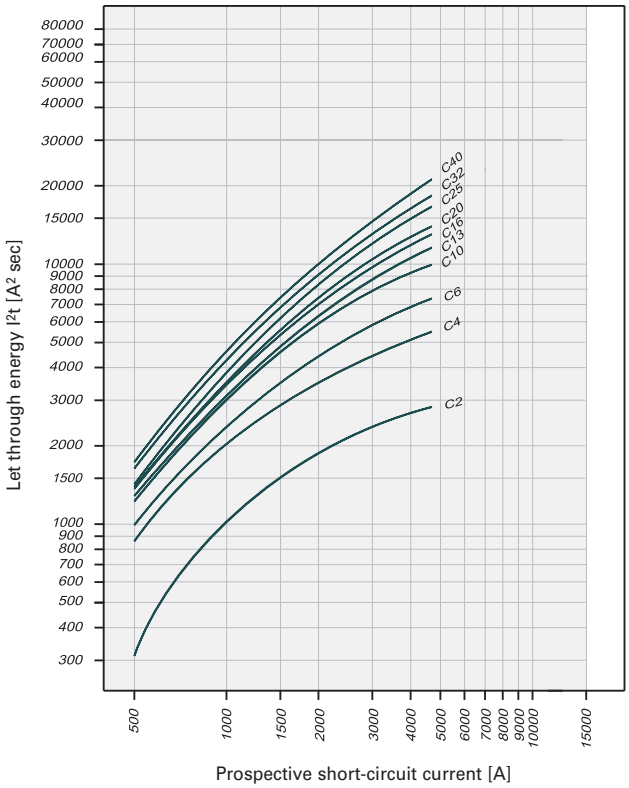


Let-through Energy CKN4-../1N/

Let-through energy CKN4, characteristic B, 1+N-pole



Let-through energy CKN4, characteristic C, 1+N-pole



Electronic Combined RCD/MCB Devices eRBM, 1+N-pole, 1MU

SG07911

- Innovative, high-quality residual current device / miniature circuit breaker combination, line voltage-dependent
- Design width of one module unit only
- Specific for applications in the BS-distribution systems, permanently connected neutral conductors
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Guide for secure terminal connection
- Wide variety of rated tripping currents
- Rated currents up to 45 A
- Tripping characteristics B, C
- Rated breaking capacity 10 kA

Electronic Combined RCD/MCB Devices eRBM, 1MU

1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG07911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
6/0.01	eRBM-6/1/B/001-A	152065	1/30
8/0.01	eRBM-8/1/B/001-A	152066	1/30
10/0.01	eRBM-10/1/B/001-A	152067	1/30
13/0.01	eRBM-13/1/B/001-A	152068	1/30
16/0.01	eRBM-16/1/B/001-A	152069	1/30
20/0.01	eRBM-20/1/B/001-A	152070	1/30
25/0.01	eRBM-25/1/B/001-A	152071	1/30
32/0.01	eRBM-32/1/B/001-A	152072	1/30
40/0.01	eRBM-40/1/B/001-A	152073	1/30
45/0.01	eRBM-45/1/B/001-A	152074	1/30
6/0.03	eRBM-6/1/B/003-A	152075	1/30
8/0.03	eRBM-8/1/B/003-A	152076	1/30
10/0.03	eRBM-10/1/B/003-A	152077	1/30
13/0.03	eRBM-13/1/B/003-A	152078	1/30
16/0.03	eRBM-16/1/B/003-A	152079	1/30
20/0.03	eRBM-20/1/B/003-A	152080	1/30
25/0.03	eRBM-25/1/B/003-A	152081	1/30
32/0.03	eRBM-32/1/B/003-A	152082	1/30
40/0.03	eRBM-40/1/B/003-A	152083	1/30
45/0.03	eRBM-45/1/B/003-A	152084	1/30
6/0.1	eRBM-6/1/B/01-A	153066	1/30
8/0.1	eRBM-8/1/B/01-A	153067	1/30
10/0.1	eRBM-10/1/B/01-A	153068	1/30
13/0.1	eRBM-13/1/B/01-A	153069	1/30
16/0.1	eRBM-16/1/B/01-A	153070	1/30
20/0.1	eRBM-20/1/B/01-A	153071	1/30
25/0.1	eRBM-25/1/B/01-A	153072	1/30
32/0.1	eRBM-32/1/B/01-A	153073	1/30
40/0.1	eRBM-40/1/B/01-A	153074	1/30
45/0.1	eRBM-45/1/B/01-A	153075	1/30
6/0.3	eRBM-6/1/B/03-A	152085	1/30
8/0.3	eRBM-8/1/B/03-A	152086	1/30
10/0.3	eRBM-10/1/B/03-A	152087	1/30
13/0.3	eRBM-13/1/B/03-A	152088	1/30
16/0.3	eRBM-16/1/B/03-A	152089	1/30
20/0.3	eRBM-20/1/B/03-A	152090	1/30
25/0.3	eRBM-25/1/B/03-A	152091	1/30
32/0.3	eRBM-32/1/B/03-A	152092	1/30
40/0.3	eRBM-40/1/B/03-A	152093	1/30
45/0.3	eRBM-45/1/B/03-A	152094	1/30

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
6/0.01	eRBM-6/1/C/001-A	152175	1/30
8/0.01	eRBM-8/1/C/001-A	152176	1/30
10/0.01	eRBM-10/1/C/001-A	152177	1/30
13/0.01	eRBM-13/1/C/001-A	152178	1/30
16/0.01	eRBM-16/1/C/001-A	152179	1/30
20/0.01	eRBM-20/1/C/001-A	152180	1/30
25/0.01	eRBM-25/1/C/001-A	152181	1/30
32/0.01	eRBM-32/1/C/001-A	152182	1/30
40/0.01	eRBM-40/1/C/001-A	152183	1/30
45/0.01	eRBM-45/1/C/001-A	152184	1/30
6/0.03	eRBM-6/1/C/003-A	152185	1/30
8/0.03	eRBM-8/1/C/003-A	152186	1/30
10/0.03	eRBM-10/1/C/003-A	152187	1/30
13/0.03	eRBM-13/1/C/003-A	152188	1/30
16/0.03	eRBM-16/1/C/003-A	152189	1/30
20/0.03	eRBM-20/1/C/003-A	152190	1/30
25/0.03	eRBM-25/1/C/003-A	152191	1/30
32/0.03	eRBM-32/1/C/003-A	152192	1/30
40/0.03	eRBM-40/1/C/003-A	152193	1/30
45/0.03	eRBM-45/1/C/003-A	152194	1/30
6/0.1	eRBM-6/1/C/01-A	153106	1/30
8/0.1	eRBM-8/1/C/01-A	153107	1/30
10/0.1	eRBM-10/1/C/01-A	153108	1/30
13/0.1	eRBM-13/1/C/01-A	153109	1/30
16/0.1	eRBM-16/1/C/01-A	153110	1/30
20/0.1	eRBM-20/1/C/01-A	153111	1/30
25/0.1	eRBM-25/1/C/01-A	153112	1/30
32/0.1	eRBM-32/1/C/01-A	153113	1/30
40/0.1	eRBM-40/1/C/01-A	153114	1/30
45/0.1	eRBM-45/1/C/01-A	153115	1/30
6/0.3	eRBM-6/1/C/03-A	152195	1/30
8/0.3	eRBM-8/1/C/03-A	152196	1/30
10/0.3	eRBM-10/1/C/03-A	152197	1/30
13/0.3	eRBM-13/1/C/03-A	152198	1/30
16/0.3	eRBM-16/1/C/03-A	152199	1/30
20/0.3	eRBM-20/1/C/03-A	152200	1/30
25/0.3	eRBM-25/1/C/03-A	152201	1/30
32/0.3	eRBM-32/1/C/03-A	152202	1/30
40/0.3	eRBM-40/1/C/03-A	152203	1/30
45/0.3	eRBM-45/1/C/03-A	152204	1/30

Specifications | Electronic Combined RCD/MCB Devices eRBM, 1+N-pole, 1MU

Description

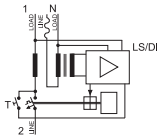
- Electronic residual current device / miniature circuit breaker combination in only 1MU
- Tripping line voltage dependent
- Contact position indicator red - green
- Can be sealed with leads in the ON and OFF position
- Colour coded switching toggle (designating the rated current)
- Permanently connected neutral conductor (950 mm long, blue)
- Special application in British-Standard-Distibution Boxes
- Can be connected to standard busbar (at the lower side)
- Comprehensive range of accessories can be mounted subsequently

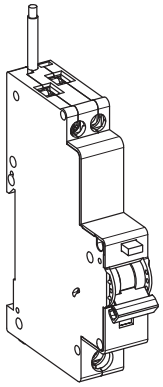
Accessories:

Auxiliary switch for subsequent installation	Z-AHK	248433
Tripping signal switch for subsequent installation	Z-NHK	248434
Shunt trip release	Z-ASA/..	248286, 248287
Tripping module	Z-KAM	248294

Connection diagram

1+N-pole



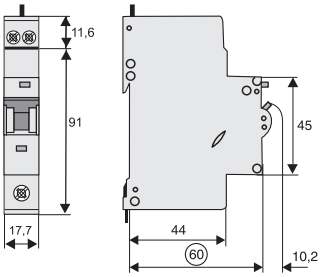


Technical Data

Electrical		
Design according to		BS/EN 61009
Current test marks as printed onto the device		
Number of poles		1+N-pole Pole switched, N led through (solid neutral)
Rated voltage U_n		240 VAC
Rated frequency		50 Hz
Rated current I_n		6 - 45 A
Rated tripping current $I_{\Delta n}$		10, 30, 100, 300 mA
Sensitivity		pulsating DC
Tripping Characteristic RCD component		
Tripping line voltage-dependent		instantaneous
Peak withstand current		250A (8/20µs)
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Voltage range for protective function		184 - 264 V~
Tripping Characteristic MCB component		
Conventional non-tripping current		1.13 I_n
Conventional tripping current		1.45 I_n
Reference temperature		30°C
Characteristic		B, C
Rated breaking capacity		10 kA
Selectivity class		3
Maximum back-up fuse > 6 kA		100 A gL
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	102.6 mm
Device width	17.7 mm (1MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Upper terminals	lift terminals
Lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm^2
Busbar thickness unten	0.8-2 mm
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

Dimensions (mm)



Electronic Combined RCD/MCB Devices eRB6, 1+N-pole, 1MU

SG07911

- Innovative, high-quality residual current device / miniature circuit breaker combination, line voltage-dependent
- Design width of one module unit only
- Specific for applications in the BS-distribution systems, permanently connected neutral conductors
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Guide for secure terminal connection
- Wide variety of rated tripping currents
- Rated currents up to 45 A
- Tripping characteristics B, C
- Rated breaking capacity 6 kA

Electronic Combined RCD/MCB Devices eRB6, 1MU
1+N-pole
Conditionally surge current-proof 250 A, type AC

SG07911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
6/0.01	eRB6-6/1/B/001	151975	1/30
8/0.01	eRB6-8/1/B/001	151976	1/30
10/0.01	eRB6-10/1/B/001	151977	1/30
13/0.01	eRB6-13/1/B/001	151978	1/30
16/0.01	eRB6-16/1/B/001	151979	1/30
20/0.01	eRB6-20/1/B/001	151990	1/30
25/0.01	eRB6-25/1/B/001	151991	1/30
32/0.01	eRB6-32/1/B/001	151992	1/30
40/0.01	eRB6-40/1/B/001	151993	1/30
45/0.01	eRB6-45/1/B/001	151994	1/30
6/0.03	eRB6-6/1/B/003	151995	1/30
6/0.03	eRB6-6/1/B/003-PT3	152277	1/30
8/0.03	eRB6-8/1/B/003	151996	1/30
10/0.03	eRB6-10/1/B/003	151997	1/30
13/0.03	eRB6-13/1/B/003	151998	1/30
16/0.03	eRB6-16/1/B/003	151999	1/30
20/0.03	eRB6-20/1/B/003	152000	1/30
25/0.03	eRB6-25/1/B/003	152001	1/30
32/0.03	eRB6-32/1/B/003	152002	1/30
32/0.03	eRB6-32/1/B/003-PT3	152278	1/30
40/0.03	eRB6-40/1/B/003	152003	1/30
45/0.03	eRB6-45/1/B/003	152004	1/30
6/0.1	eRB6-6/1/B/01	153036	1/30
8/0.1	eRB6-8/1/B/01	153037	1/30
10/0.1	eRB6-10/1/B/01	153038	1/30
13/0.1	eRB6-13/1/B/01	153039	1/30
16/0.1	eRB6-16/1/B/01	153040	1/30
20/0.1	eRB6-20/1/B/01	153041	1/30
25/0.1	eRB6-25/1/B/01	153042	1/30
32/0.1	eRB6-32/1/B/01	153043	1/30
40/0.1	eRB6-40/1/B/01	153044	1/30
45/0.1	eRB6-45/1/B/01	153045	1/30
6/0.3	eRB6-6/1/B/03	152005	1/30
8/0.3	eRB6-8/1/B/03	152006	1/30
10/0.3	eRB6-10/1/B/03	152007	1/30
13/0.3	eRB6-13/1/B/03	152008	1/30
16/0.3	eRB6-16/1/B/03	152009	1/30
20/0.3	eRB6-20/1/B/03	152010	1/30
25/0.3	eRB6-25/1/B/03	152011	1/30
32/0.3	eRB6-32/1/B/03	152012	1/30
40/0.3	eRB6-40/1/B/03	152013	1/30
45/0.3	eRB6-45/1/B/03	152014	1/30

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
6/0.01	eRB6-6/1/C/001	152095	1/30
8/0.01	eRB6-8/1/C/001	152096	1/30
10/0.01	eRB6-10/1/C/001	152097	1/30
13/0.01	eRB6-13/1/C/001	152098	1/30
16/0.01	eRB6-16/1/C/001	152099	1/30
20/0.01	eRB6-20/1/C/001	152100	1/30
25/0.01	eRB6-25/1/C/001	152101	1/30
32/0.01	eRB6-32/1/C/001	152102	1/30
40/0.01	eRB6-40/1/C/001	152103	1/30
45/0.01	eRB6-45/1/C/001	152104	1/30
6/0.03	eRB6-6/1/C/003	152105	1/30
8/0.03	eRB6-8/1/C/003	152106	1/30
10/0.03	eRB6-10/1/C/003	152107	1/30
13/0.03	eRB6-13/1/C/003	152108	1/30
16/0.03	eRB6-16/1/C/003	152109	1/30
20/0.03	eRB6-20/1/C/003	152110	1/30
25/0.03	eRB6-25/1/C/003	152111	1/30
32/0.03	eRB6-32/1/C/003	152112	1/30
40/0.03	eRB6-40/1/C/003	152113	1/30
45/0.03	eRB6-45/1/C/003	152114	1/30
6/0.1	eRB6-6/1/C/01	153076	1/30
8/0.1	eRB6-8/1/C/01	153077	1/30
10/0.1	eRB6-10/1/C/01	153078	1/30
13/0.1	eRB6-13/1/C/01	153079	1/30
16/0.1	eRB6-16/1/C/01	153080	1/30
20/0.1	eRB6-20/1/C/01	153081	1/30
25/0.1	eRB6-25/1/C/01	153082	1/30
32/0.1	eRB6-32/1/C/01	153083	1/30
40/0.1	eRB6-40/1/C/01	153084	1/30
45/0.1	eRB6-45/1/C/01	153085	1/30
6/0.3	eRB6-6/1/C/03	152115	1/30
8/0.3	eRB6-8/1/C/03	152116	1/30
10/0.3	eRB6-10/1/C/03	152117	1/30
13/0.3	eRB6-13/1/C/03	152118	1/30
16/0.3	eRB6-16/1/C/03	152119	1/30
20/0.3	eRB6-20/1/C/03	152120	1/30
25/0.3	eRB6-25/1/C/03	152121	1/30
32/0.3	eRB6-32/1/C/03	152122	1/30
40/0.3	eRB6-40/1/C/03	152123	1/30
45/0.3	eRB6-45/1/C/03	152124	1/30

Specifications | Electronic Combined RCD/MCB Devices eRB6, 1+N-pole, 1MU

Description

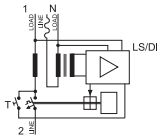
- Electronic residual current device / miniature circuit breaker combination in only 1MU
- Tripping line voltage dependent
- Contact position indicator red - green
- Can be sealed with leads in the ON and OFF position
- Colour coded switching toggle (designating the rated current)
- Permanently connected neutral conductor
  Standard version: 600 mm long, blue
  PT3 version: 300 mm long, blue
- Special application in British-Standard-Distibution Boxes
- Can be connected to standard busbar (at the lower side)
- Comprehensive range of accessories can be mounted subsequently

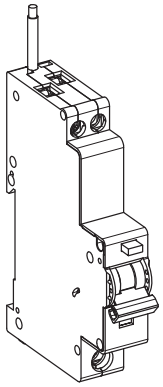
Accessories:

Auxiliary switch for subsequent installation	Z-AHK	248433
Tripping signal switch for subsequent installation	Z-NHK	248434
Shunt trip release	Z-ASA/..	248286, 248287
Tripping module	Z-KAM	248294

Connection diagram

1+N-pole



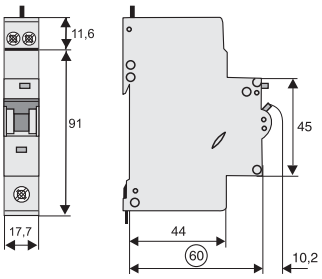


Technical Data

Electrical		
Design according to		BS/EN 61009
Current test marks as printed onto the device		
Number of poles		1+N-pole Pole switched, N led through (solid neutral)
Rated voltage U_n		240 VAC
Rated frequency		50 Hz
Rated current I_n		6 - 45 A
Rated tripping current $I_{\Delta n}$		10, 30, 100, 300 mA
Sensitivity		AC
Tripping Characteristic RCD component		
Tripping line voltage-dependent		instantaneous
Peak withstand current		250A (8/20µs)
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Voltage range for protective function		184 - 264 V~
Tripping Characteristic MCB component		
Conventional non-tripping current		1.13 I_n
Conventional tripping current		1.45 I_n
Reference temperature		30°C
Characteristic		B, C
Rated breaking capacity		6 kA
Selectivity class		3
Maximum back-up fuse > 6 kA		100 A gL
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	102.6 mm
Device width	17.7 mm (1MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Upper terminals	lift terminals
Lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm^2
Busbar thickness unten	0.8-2 mm
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

Dimensions (mm)



Electronic Combined RCD/MCB Devices eRBM-ME, 1+N-pole, 1MU

SG07911

- Innovative, high-quality residual current device / miniature circuit breaker combination, line voltage-dependent
- Design width of one module unit only
- Specific for applications in the BS-distribution systems, permanently connected neutral conductors
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Guide for secure terminal connection
- Wide variety of rated tripping currents
- Rated currents up to 45 A
- Tripping characteristics C
- Rated breaking capacity 10 kA

Electronic Combined RCD/MCB Devices eRBM-ME, 1MU
1+N-pole
Conditionally surge current-proof 250 A, type AC

SG07911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic C			
6/0.01	eRBM-6/1/C/001-ME	153230	1/30
8/0.01	eRBM-8/1/C/001-ME	153231	1/30
10/0.01	eRBM-10/1/C/001-ME	153232	1/30
13/0.01	eRBM-13/1/C/001-ME	153233	1/30
16/0.01	eRBM-16/1/C/001-ME	153234	1/30
20/0.01	eRBM-20/1/C/001-ME	153235	1/30
25/0.01	eRBM-25/1/C/001-ME	153236	1/30
32/0.01	eRBM-32/1/C/001-ME	153237	1/30
40/0.01	eRBM-40/1/C/001-ME	153238	1/30
45/0.01	eRBM-45/1/C/001-ME	153239	1/30
6/0.03	eRBM-6/1/C/003-ME	153240	1/30
8/0.03	eRBM-8/1/C/003-ME	153241	1/30
10/0.03	eRBM-10/1/C/003-ME	153242	1/30
13/0.03	eRBM-13/1/C/003-ME	153243	1/30
16/0.03	eRBM-16/1/C/003-ME	153244	1/30
20/0.03	eRBM-20/1/C/003-ME	153245	1/30
25/0.03	eRBM-25/1/C/003-ME	153246	1/30
32/0.03	eRBM-32/1/C/003-ME	153247	1/30
40/0.03	eRBM-40/1/C/003-ME	153248	1/30
45/0.03	eRBM-45/1/C/003-ME	153249	1/30
6/0.1	eRBM-6/1/C/01-ME	153250	1/30
8/0.1	eRBM-8/1/C/01-ME	153251	1/30
10/0.1	eRBM-10/1/C/01-ME	153252	1/30
13/0.1	eRBM-13/1/C/01-ME	153253	1/30
16/0.1	eRBM-16/1/C/01-ME	153254	1/30
20/0.1	eRBM-20/1/C/01-ME	153255	1/30
25/0.1	eRBM-25/1/C/01-ME	153256	1/30
32/0.1	eRBM-32/1/C/01-ME	153257	1/30
40/0.1	eRBM-40/1/C/01-ME	153258	1/30
45/0.1	eRBM-45/1/C/01-ME	153259	1/30
6/0.3	eRBM-6/1/C/03-ME	153260	1/30
8/0.3	eRBM-8/1/C/03-ME	153261	1/30
10/0.3	eRBM-10/1/C/03-ME	153262	1/30
13/0.3	eRBM-13/1/C/03-ME	153263	1/30
16/0.3	eRBM-16/1/C/03-ME	153264	1/30
20/0.3	eRBM-20/1/C/03-ME	153265	1/30
25/0.3	eRBM-25/1/C/03-ME	153266	1/30
32/0.3	eRBM-32/1/C/03-ME	153267	1/30
40/0.3	eRBM-40/1/C/03-ME	153268	1/30
45/0.3	eRBM-45/1/C/03-ME	153269	1/30

Specifications | Electronic Combined RCD/MCB Devices eRBM-ME, 1+N-pole, 1MU

Description

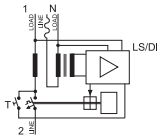
- Electronic residual current device / miniature circuit breaker combination in only 1MU
- Tripping line voltage dependent
- Contact position indicator red - green
- Can be sealed with leads in the ON and OFF position
- Colour coded switching toggle (designating the rated current)
- Permanently connected neutral conductor (950 mm long, black)
- Special application in British-Standard-Distibution Boxes
- Can be connected to standard busbar (at the lower side)
- Comprehensive range of accessories can be mounted subsequently

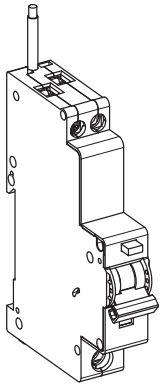
Accessories:

Auxiliary switch for subsequent installation	Z-AHK	248433
Tripping signal switch for subsequent installation	Z-NHK	248434
Shunt trip release	Z-ASA/..	248286, 248287
Tripping module	Z-KAM	248294

Connection diagram

1+N-pole



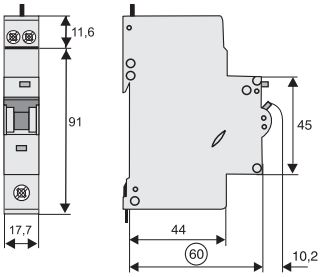


Technical Data

Electrical		
Design according to		IEC 61009
Current test marks as printed onto the device		
Number of poles		1+N-pole Pole switched, N led through (solid neutral)
Rated voltage U_n		240 VAC
Rated frequency		50 Hz
Rated current I_n		6 - 45 A
Rated tripping current $I_{\Delta n}$		10, 30, 100, 300 mA
Sensitivity		AC
Tripping Characteristic RCD component		
Tripping line voltage-dependent		instantaneous
Peak withstand current		250A (8/20µs)
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Voltage range for protective function		184 - 264 V~
Tripping Characteristic MCB component		
Conventional non-tripping current		1.13 I_n
Conventional tripping current		1.45 I_n
Reference temperature		30°C
Characteristic		C
Rated breaking capacity		10 kA
Selectivity class		3
Maximum back-up fuse > 6 kA		100 A gL
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	102.6 mm
Device width	17.7 mm (1MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Upper terminals	lift terminals
Lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm^2
Busbar thickness unten	0.8-2 mm
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

Dimensions (mm)



Electronic Combined RCD/MCB Devices eRBM-AU, 1+N-pole, 1MU

SG07911

- Innovative, high-quality residual current device / miniature circuit breaker combination, line voltage-dependent
- Design width of one module unit only
- Specific for applications in the BS-distribution systems, permanently connected neutral conductors
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Guide for secure terminal connection
- Wide variety of rated tripping currents
- Rated currents up to 45 A
- Tripping characteristics B, C, D
- Rated breaking capacity 10 kA

Electronic Combined RCD/MCB Devices eRBM-AU, 1MU
1+N-pole
Conditionally surge current-proof 250 A, type AC

SG07911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
6/0.01	eRBM-6/1/B/001-AU	151415	1/30
8/0.01	eRBM-8/1/B/001-AU	151416	1/30
10/0.01	eRBM-10/1/B/001-AU	151417	1/30
13/0.01	eRBM-13/1/B/001-AU	151418	1/30
16/0.01	eRBM-16/1/B/001-AU	151419	1/30
20/0.01	eRBM-20/1/B/001-AU	151420	1/30
25/0.01	eRBM-25/1/B/001-AU	151421	1/30
32/0.01	eRBM-32/1/B/001-AU	151422	1/30
40/0.01	eRBM-40/1/B/001-AU	151423	1/30
45/0.01	eRBM-45/1/B/001-AU	151424	1/30
6/0.03	eRBM-6/1/B/003-AU	151425	1/30
8/0.03	eRBM-8/1/B/003-AU	151426	1/30
10/0.03	eRBM-10/1/B/003-AU	151427	1/30
13/0.03	eRBM-13/1/B/003-AU	151428	1/30
16/0.03	eRBM-16/1/B/003-AU	151429	1/30
20/0.03	eRBM-20/1/B/003-AU	151430	1/30
25/0.03	eRBM-25/1/B/003-AU	151431	1/30
32/0.03	eRBM-32/1/B/003-AU	151432	1/30
40/0.03	eRBM-40/1/B/003-AU	151433	1/30
45/0.03	eRBM-45/1/B/003-AU	151434	1/30
6/0.1	eRBM-6/1/B/01-AU	153290	1/30
8/0.1	eRBM-8/1/B/01-AU	153291	1/30
10/0.1	eRBM-10/1/B/01-AU	153292	1/30
13/0.1	eRBM-13/1/B/01-AU	153293	1/30
16/0.1	eRBM-16/1/B/01-AU	153294	1/30
20/0.1	eRBM-20/1/B/01-AU	153295	1/30
25/0.1	eRBM-25/1/B/01-AU	153296	1/30
32/0.1	eRBM-32/1/B/01-AU	153297	1/30
40/0.1	eRBM-40/1/B/01-AU	153298	1/30
45/0.1	eRBM-45/1/B/01-AU	153299	1/30
6/0.3	eRBM-6/1/B/03-AU	151435	1/30
8/0.3	eRBM-8/1/B/03-AU	151436	1/30
10/0.3	eRBM-10/1/B/03-AU	151437	1/30
13/0.3	eRBM-13/1/B/03-AU	151438	1/30
16/0.3	eRBM-16/1/B/03-AU	151439	1/30
20/0.3	eRBM-20/1/B/03-AU	151440	1/30
25/0.3	eRBM-25/1/B/03-AU	151441	1/30
32/0.3	eRBM-32/1/B/03-AU	151442	1/30
40/0.3	eRBM-40/1/B/03-AU	151443	1/30
45/0.3	eRBM-45/1/B/03-AU	151444	1/30

Electronic Combined RCD/MCB Devices eRBM-AU, 1MU
1+N-pole
Conditionally surge current-proof 250 A, type AC

SG07911

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
6/0.01	eRBM-6/1/C/001-AU	151535	1/30
8/0.01	eRBM-8/1/C/001-AU	151536	1/30
10/0.01	eRBM-10/1/C/001-AU	151537	1/30
13/0.01	eRBM-13/1/C/001-AU	151538	1/30
16/0.01	eRBM-16/1/C/001-AU	151539	1/30
20/0.01	eRBM-20/1/C/001-AU	151540	1/30
25/0.01	eRBM-25/1/C/001-AU	151541	1/30
32/0.01	eRBM-32/1/C/001-AU	151542	1/30
40/0.01	eRBM-40/1/C/001-AU	151543	1/30
45/0.01	eRBM-45/1/C/001-AU	151544	1/30
6/0.03	eRBM-6/1/C/003-AU	151545	1/30
8/0.03	eRBM-8/1/C/003-AU	151546	1/30
10/0.03	eRBM-10/1/C/003-AU	151547	1/30
13/0.03	eRBM-13/1/C/003-AU	151548	1/30
16/0.03	eRBM-16/1/C/003-AU	151549	1/30
20/0.03	eRBM-20/1/C/003-AU	151550	1/30
25/0.03	eRBM-25/1/C/003-AU	151551	1/30
32/0.03	eRBM-32/1/C/003-AU	151552	1/30
40/0.03	eRBM-40/1/C/003-AU	151553	1/30
45/0.03	eRBM-45/1/C/003-AU	151554	1/30
6/0.1	eRBM-6/1/C/01-AU	153330	1/30
8/0.1	eRBM-8/1/C/01-AU	153331	1/30
10/0.1	eRBM-10/1/C/01-AU	153332	1/30
13/0.1	eRBM-13/1/C/01-AU	153333	1/30
16/0.1	eRBM-16/1/C/01-AU	153334	1/30
20/0.1	eRBM-20/1/C/01-AU	153335	1/30
25/0.1	eRBM-25/1/C/01-AU	153336	1/30
32/0.1	eRBM-32/1/C/01-AU	153337	1/30
40/0.1	eRBM-40/1/C/01-AU	153338	1/30
45/0.1	eRBM-45/1/C/01-AU	153339	1/30
6/0.3	eRBM-6/1/C/03-AU	151555	1/30
8/0.3	eRBM-8/1/C/03-AU	151556	1/30
10/0.3	eRBM-10/1/C/03-AU	151557	1/30
13/0.3	eRBM-13/1/C/03-AU	151558	1/30
16/0.3	eRBM-16/1/C/03-AU	151559	1/30
20/0.3	eRBM-20/1/C/03-AU	151560	1/30
25/0.3	eRBM-25/1/C/03-AU	151561	1/30
32/0.3	eRBM-32/1/C/03-AU	151562	1/30
40/0.3	eRBM-40/1/C/03-AU	151563	1/30
45/0.3	eRBM-45/1/C/03-AU	151564	1/30

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Characteristic D

6/0.01	eRBM-6/1/D/001-AU	151613	1/30
8/0.01	eRBM-8/1/D/001-AU	151614	1/30
10/0.01	eRBM-10/1/D/001-AU	151615	1/30
13/0.01	eRBM-13/1/D/001-AU	151616	1/30
16/0.01	eRBM-16/1/D/001-AU	151617	1/30
20/0.01	eRBM-20/1/D/001-AU	151618	1/30
6/0.03	eRBM-6/1/D/003-AU	151619	1/30
8/0.03	eRBM-8/1/D/003-AU	151620	1/30
10/0.03	eRBM-10/1/D/003-AU	151621	1/30
13/0.03	eRBM-13/1/D/003-AU	151622	1/30
16/0.03	eRBM-16/1/D/003-AU	151623	1/30
20/0.03	eRBM-20/1/D/003-AU	151624	1/30
6/0.1	eRBM-6/1/D/01-AU	151625	1/30
8/0.1	eRBM-8/1/D/01-AU	151626	1/30
10/0.1	eRBM-10/1/D/01-AU	151627	1/30
13/0.1	eRBM-13/1/D/01-AU	151628	1/30
16/0.1	eRBM-16/1/D/01-AU	151629	1/30
20/0.1	eRBM-20/1/D/01-AU	151630	1/30
6/0.3	eRBM-6/1/D/03-AU	153362	1/30
8/0.3	eRBM-8/1/D/03-AU	153363	1/30
10/0.3	eRBM-10/1/D/03-AU	153364	1/30
13/0.3	eRBM-13/1/D/03-AU	153365	1/30
16/0.3	eRBM-16/1/D/03-AU	153366	1/30
20/0.3	eRBM-20/1/D/03-AU	153367	1/30

Electronic Combined RCD/MCB Devices eRBM-AU, 1MU

1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG07911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
6/0.01	eRBM-6/1/B/001-A-AU	151445	1/30
8/0.01	eRBM-8/1/B/001-A-AU	151446	1/30
10/0.01	eRBM-10/1/B/001-A-AU	151447	1/30
13/0.01	eRBM-13/1/B/001-A-AU	151448	1/30
16/0.01	eRBM-16/1/B/001-A-AU	151449	1/30
20/0.01	eRBM-20/1/B/001-A-AU	151450	1/30
25/0.01	eRBM-25/1/B/001-A-AU	151451	1/30
32/0.01	eRBM-32/1/B/001-A-AU	151452	1/30
40/0.01	eRBM-40/1/B/001-A-AU	151453	1/30
45/0.01	eRBM-45/1/B/001-A-AU	151454	1/30
6/0.03	eRBM-6/1/B/003-A-AU	151455	1/30
8/0.03	eRBM-8/1/B/003-A-AU	151456	1/30
10/0.03	eRBM-10/1/B/003-A-AU	151457	1/30
13/0.03	eRBM-13/1/B/003-A-AU	151458	1/30
16/0.03	eRBM-16/1/B/003-A-AU	151459	1/30
20/0.03	eRBM-20/1/B/003-A-AU	151460	1/30
25/0.03	eRBM-25/1/B/003-A-AU	151461	1/30
32/0.03	eRBM-32/1/B/003-A-AU	151462	1/30
40/0.03	eRBM-40/1/B/003-A-AU	151463	1/30
45/0.03	eRBM-45/1/B/003-A-AU	151464	1/30
6/0.1	eRBM-6/1/B/01-A-AU	153300	1/30
8/0.1	eRBM-8/1/B/01-A-AU	153301	1/30
10/0.1	eRBM-10/1/B/01-A-AU	153302	1/30
13/0.1	eRBM-13/1/B/01-A-AU	153303	1/30
16/0.1	eRBM-16/1/B/01-A-AU	153304	1/30
20/0.1	eRBM-20/1/B/01-A-AU	153305	1/30
25/0.1	eRBM-25/1/B/01-A-AU	153306	1/30
32/0.1	eRBM-32/1/B/01-A-AU	153307	1/30
40/0.1	eRBM-40/1/B/01-A-AU	153308	1/30
45/0.1	eRBM-45/1/B/01-A-AU	153309	1/30
6/0.3	eRBM-6/1/B/03-A-AU	151465	1/30
8/0.3	eRBM-8/1/B/03-A-AU	151466	1/30
10/0.3	eRBM-10/1/B/03-A-AU	151467	1/30
13/0.3	eRBM-13/1/B/03-A-AU	151468	1/30
16/0.3	eRBM-16/1/B/03-A-AU	151469	1/30
20/0.3	eRBM-20/1/B/03-A-AU	151470	1/30
25/0.3	eRBM-25/1/B/03-A-AU	151471	1/30
32/0.3	eRBM-32/1/B/03-A-AU	151472	1/30
40/0.3	eRBM-40/1/B/03-A-AU	151473	1/30
45/0.3	eRBM-45/1/B/03-A-AU	151474	1/30

Electronic Combined RCD/MCB Devices eRBM-AU, 1MU

1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG07911

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
6/0.01	eRBM-6/1/C/001-A-AU	151565	1/30
8/0.01	eRBM-8/1/C/001-A-AU	151566	1/30
10/0.01	eRBM-10/1/C/001-A-AU	151567	1/30
13/0.01	eRBM-13/1/C/001-A-AU	151568	1/30
16/0.01	eRBM-16/1/C/001-A-AU	151569	1/30
20/0.01	eRBM-20/1/C/001-A-AU	151570	1/30
25/0.01	eRBM-25/1/C/001-A-AU	151571	1/30
32/0.01	eRBM-32/1/C/001-A-AU	151572	1/30
40/0.01	eRBM-40/1/C/001-A-AU	151573	1/30
45/0.01	eRBM-45/1/C/001-A-AU	151574	1/30
6/0.03	eRBM-6/1/C/003-A-AU	151575	1/30
8/0.03	eRBM-8/1/C/003-A-AU	151576	1/30
10/0.03	eRBM-10/1/C/003-A-AU	151577	1/30
13/0.03	eRBM-13/1/C/003-A-AU	151578	1/30
16/0.03	eRBM-16/1/C/003-A-AU	151579	1/30
20/0.03	eRBM-20/1/C/003-A-AU	151580	1/30
25/0.03	eRBM-25/1/C/003-A-AU	151581	1/30
32/0.03	eRBM-32/1/C/003-A-AU	151582	1/30
40/0.03	eRBM-40/1/C/003-A-AU	151583	1/30
45/0.03	eRBM-45/1/C/003-A-AU	151584	1/30
6/0.1	eRBM-6/1/C/01-A-AU	153340	1/30
8/0.1	eRBM-8/1/C/01-A-AU	153341	1/30
10/0.1	eRBM-10/1/C/01-A-AU	153342	1/30
13/0.1	eRBM-13/1/C/01-A-AU	153343	1/30
16/0.1	eRBM-16/1/C/01-A-AU	153344	1/30
20/0.1	eRBM-20/1/C/01-A-AU	153345	1/30
25/0.1	eRBM-25/1/C/01-A-AU	153346	1/30
32/0.1	eRBM-32/1/C/01-A-AU	153347	1/30
40/0.1	eRBM-40/1/C/01-A-AU	153348	1/30
45/0.1	eRBM-45/1/C/01-A-AU	153349	1/30
6/0.3	eRBM-6/1/C/03-A-AU	151585	1/30
8/0.3	eRBM-8/1/C/03-A-AU	151586	1/30
10/0.3	eRBM-10/1/C/03-A-AU	151587	1/30
13/0.3	eRBM-13/1/C/03-A-AU	151588	1/30
16/0.3	eRBM-16/1/C/03-A-AU	151589	1/30
20/0.3	eRBM-20/1/C/03-A-AU	151590	1/30
25/0.3	eRBM-25/1/C/03-A-AU	151591	1/30
32/0.3	eRBM-32/1/C/03-A-AU	151592	1/30
40/0.3	eRBM-40/1/C/03-A-AU	151593	1/30
45/0.3	eRBM-45/1/C/03-A-AU	151594	1/30

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Characteristic D

6/0.01	eRBM-6/1/D/001-A-AU	151649	1/30
8/0.01	eRBM-8/1/D/001-A-AU	151650	1/30
10/0.01	eRBM-10/1/D/001-A-AU	151651	1/30
13/0.01	eRBM-13/1/D/001-A-AU	151652	1/30
16/0.01	eRBM-16/1/D/001-A-AU	151653	1/30
20/0.01	eRBM-20/1/D/001-A-AU	151654	1/30
6/0.03	eRBM-6/1/D/003-A-AU	151655	1/30
8/0.03	eRBM-8/1/D/003-A-AU	151656	1/30
10/0.03	eRBM-10/1/D/003-A-AU	151657	1/30
13/0.03	eRBM-13/1/D/003-A-AU	151658	1/30
16/0.03	eRBM-16/1/D/003-A-AU	151659	1/30
20/0.03	eRBM-20/1/D/003-A-AU	151660	1/30
6/0.1	eRBM-6/1/D/01-A-AU	153368	1/30
8/0.1	eRBM-8/1/D/01-A-AU	153369	1/30
10/0.1	eRBM-10/1/D/01-A-AU	153370	1/30
13/0.1	eRBM-13/1/D/01-A-AU	153371	1/30
16/0.1	eRBM-16/1/D/01-A-AU	153372	1/30
20/0.1	eRBM-20/1/D/01-A-AU	153373	1/30
6/0.3	eRBM-6/1/D/03-A-AU	151661	1/30
8/0.3	eRBM-8/1/D/03-A-AU	151662	1/30
10/0.3	eRBM-10/1/D/03-A-AU	151663	1/30
13/0.3	eRBM-13/1/D/03-A-AU	151664	1/30
16/0.3	eRBM-16/1/D/03-A-AU	151665	1/30
20/0.3	eRBM-20/1/D/03-A-AU	151666	1/30

Specifications | Electronic Combined RCD/MCB Devices eRBM-AU, 1+N-pole, 1MU

Description

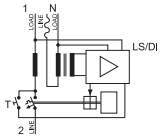
- Electronic residual current device / miniature circuit breaker combination in only 1MU
- Tripping line voltage dependent
- Contact position indicator red - green
- Can be sealed with leads in the ON and OFF position
- Colour coded switching toggle (designating the rated current)
- Permanently connected neutral conductor (950 mm long, black)
- Special application in British-Standard-Distibution Boxes
- Can be connected to standard busbar (at the lower side)
- Comprehensive range of accessories can be mounted subsequently

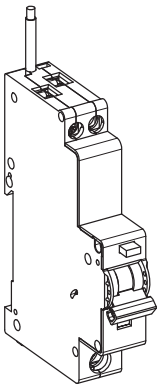
Accessories:

Tripping signal switch for subsequent installation	Z-NHK	248434
Shunt trip release	Z-ASA/..	248286, 248287
Tripping module	Z-KAM	248294

Connection diagram

1+N-pole



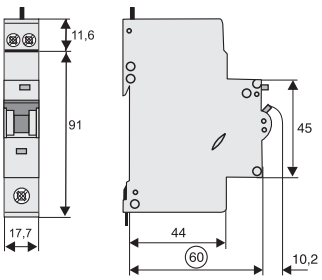


Technical Data

Electrical		
Design according to		IEC 61009
Current test marks as printed onto the device		
Number of poles		1+N-pole Pole switched, N led through (solid neutral)
Rated voltage U_n		240 VAC
Rated frequency		50 Hz
Rated current I_n		6 - 45 A
Rated tripping current $I_{\Delta n}$		10, 30, 100, 300 mA
Sensitivity		AC and pulsating DC
Tripping Characteristic RCD component		
Tripping line voltage-dependent		instantaneous
Peak withstand current		250A (8/20µs)
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Voltage range for protective function		184 - 264 V~
Tripping Characteristic MCB component		
Conventional non-tripping current		1.13 I_n
Conventional tripping current		1.45 I_n
Reference temperature		30°C
Characteristic		B, C, D
Rated breaking capacity		10 kA
Selectivity class		3
Maximum back-up fuse > 6 kA		100 A gL
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	102.6 mm
Device width	17.7 mm (1MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Upper terminals	lift terminals
Lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm^2
Busbar thickness unten	0.8-2 mm
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

Dimensions (mm)



Electronic Combined RCD/MCB Devices eRB6-AU, 1+N-pole, 1MU

SG07911

- Innovative, high-quality residual current device / miniature circuit breaker combination, line voltage-dependent
- Design width of one module unit only
- Specific for applications in the BS-distribution systems, permanently connected neutral conductors
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Guide for secure terminal connection
- Wide variety of rated tripping currents
- Rated currents up to 45 A
- Tripping characteristics B, C, D
- Rated breaking capacity 6 kA

Electronic Combined RCD/MCB Devices eRB6-AU, 1MU
1+N-pole
Conditionally surge current-proof 250 A, type AC

SG07911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
6/0.01	eRB6-6/1/B/001-AU	151245	1/30
8/0.01	eRB6-8/1/B/001-AU	151246	1/30
10/0.01	eRB6-10/1/B/001-AU	151247	1/30
13/0.01	eRB6-13/1/B/001-AU	151248	1/30
16/0.01	eRB6-16/1/B/001-AU	151249	1/30
20/0.01	eRB6-20/1/B/001-AU	151360	1/30
25/0.01	eRB6-25/1/B/001-AU	151361	1/30
32/0.01	eRB6-32/1/B/001-AU	151362	1/30
40/0.01	eRB6-40/1/B/001-AU	151363	1/30
45/0.01	eRB6-45/1/B/001-AU	151364	1/30
6/0.03	eRB6-6/1/B/003-AU	151365	1/30
8/0.03	eRB6-8/1/B/003-AU	151366	1/30
10/0.03	eRB6-10/1/B/003-AU	151367	1/30
13/0.03	eRB6-13/1/B/003-AU	151368	1/30
16/0.03	eRB6-16/1/B/003-AU	151369	1/30
20/0.03	eRB6-20/1/B/003-AU	151370	1/30
25/0.03	eRB6-25/1/B/003-AU	151371	1/30
32/0.03	eRB6-32/1/B/003-AU	151372	1/30
40/0.03	eRB6-40/1/B/003-AU	151373	1/30
45/0.03	eRB6-45/1/B/003-AU	151374	1/30
6/0.1	eRB6-6/1/B/01-AU	153270	1/30
8/0.1	eRB6-8/1/B/01-AU	153271	1/30
10/0.1	eRB6-10/1/B/01-AU	153272	1/30
13/0.1	eRB6-13/1/B/01-AU	153273	1/30
16/0.1	eRB6-16/1/B/01-AU	153274	1/30
20/0.1	eRB6-20/1/B/01-AU	153275	1/30
25/0.1	eRB6-25/1/B/01-AU	153276	1/30
32/0.1	eRB6-32/1/B/01-AU	153277	1/30
40/0.1	eRB6-40/1/B/01-AU	153278	1/30
45/0.1	eRB6-45/1/B/01-AU	153279	1/30
6/0.3	eRB6-6/1/B/03-AU	151375	1/30
8/0.3	eRB6-8/1/B/03-AU	151376	1/30
10/0.3	eRB6-10/1/B/03-AU	151377	1/30
13/0.3	eRB6-13/1/B/03-AU	151378	1/30
16/0.3	eRB6-16/1/B/03-AU	151379	1/30
20/0.3	eRB6-20/1/B/03-AU	151380	1/30
25/0.3	eRB6-25/1/B/03-AU	151381	1/30
32/0.3	eRB6-32/1/B/03-AU	151382	1/30
40/0.3	eRB6-40/1/B/03-AU	151383	1/30
45/0.3	eRB6-45/1/B/03-AU	151384	1/30

Electronic Combined RCD/MCB Devices eRB6-AU, 1MU
1+N-pole
Conditionally surge current-proof 250 A, type AC

SG07911

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
6/0.01	eRB6-6/1/C/001-AU	151475	1/30
8/0.01	eRB6-8/1/C/001-AU	151476	1/30
10/0.01	eRB6-10/1/C/001-AU	151477	1/30
13/0.01	eRB6-13/1/C/001-AU	151478	1/30
16/0.01	eRB6-16/1/C/001-AU	151479	1/30
20/0.01	eRB6-20/1/C/001-AU	151480	1/30
25/0.01	eRB6-25/1/C/001-AU	151481	1/30
32/0.01	eRB6-32/1/C/001-AU	151482	1/30
40/0.01	eRB6-40/1/C/001-AU	151483	1/30
45/0.01	eRB6-45/1/C/001-AU	151484	1/30
6/0.03	eRB6-6/1/C/003-AU	151485	1/30
8/0.03	eRB6-8/1/C/003-AU	151486	1/30
10/0.03	eRB6-10/1/C/003-AU	151487	1/30
13/0.03	eRB6-13/1/C/003-AU	151488	1/30
16/0.03	eRB6-16/1/C/003-AU	151489	1/30
20/0.03	eRB6-20/1/C/003-AU	151490	1/30
25/0.03	eRB6-25/1/C/003-AU	151491	1/30
32/0.03	eRB6-32/1/C/003-AU	151492	1/30
40/0.03	eRB6-40/1/C/003-AU	151493	1/30
45/0.03	eRB6-45/1/C/003-AU	151494	1/30
6/0.1	eRB6-6/1/C/01-AU	153310	1/30
8/0.1	eRB6-8/1/C/01-AU	153311	1/30
10/0.1	eRB6-10/1/C/01-AU	153312	1/30
13/0.1	eRB6-13/1/C/01-AU	153313	1/30
16/0.1	eRB6-16/1/C/01-AU	153314	1/30
20/0.1	eRB6-20/1/C/01-AU	153315	1/30
25/0.1	eRB6-25/1/C/01-AU	153316	1/30
32/0.1	eRB6-32/1/C/01-AU	153317	1/30
40/0.1	eRB6-40/1/C/01-AU	153318	1/30
45/0.1	eRB6-45/1/C/01-AU	153319	1/30
6/0.3	eRB6-6/1/C/03-AU	151495	1/30
8/0.3	eRB6-8/1/C/03-AU	151496	1/30
10/0.3	eRB6-10/1/C/03-AU	151497	1/30
13/0.3	eRB6-13/1/C/03-AU	151498	1/30
16/0.3	eRB6-16/1/C/03-AU	151499	1/30
20/0.3	eRB6-20/1/C/03-AU	151500	1/30
25/0.3	eRB6-25/1/C/03-AU	151501	1/30
32/0.3	eRB6-32/1/C/03-AU	151502	1/30
40/0.3	eRB6-40/1/C/03-AU	151503	1/30
45/0.3	eRB6-45/1/C/03-AU	151504	1/30

SG07911

Characteristic D

6/0.01	eRB6-6/1/D/001-AU	151595	1/30
8/0.01	eRB6-8/1/D/001-AU	151596	1/30
10/0.01	eRB6-10/1/D/001-AU	151597	1/30
13/0.01	eRB6-13/1/D/001-AU	151598	1/30
16/0.01	eRB6-16/1/D/001-AU	151599	1/30
20/0.01	eRB6-20/1/D/001-AU	151600	1/30
6/0.03	eRB6-6/1/D/003-AU	151601	1/30
8/0.03	eRB6-8/1/D/003-AU	151602	1/30
10/0.03	eRB6-10/1/D/003-AU	151603	1/30
13/0.03	eRB6-13/1/D/003-AU	151604	1/30
16/0.03	eRB6-16/1/D/003-AU	151605	1/30
20/0.03	eRB6-20/1/D/003-AU	151606	1/30
6/0.1	eRB6-6/1/D/01-AU	153350	1/30
8/0.1	eRB6-8/1/D/01-AU	153351	1/30
10/0.1	eRB6-10/1/D/01-AU	153352	1/30
13/0.1	eRB6-13/1/D/01-AU	153353	1/30
16/0.1	eRB6-16/1/D/01-AU	153354	1/30
20/0.1	eRB6-20/1/D/01-AU	153355	1/30
6/0.3	eRB6-6/1/D/03-AU	151607	1/30
8/0.3	eRB6-8/1/D/03-AU	151608	1/30
10/0.3	eRB6-10/1/D/03-AU	151609	1/30
13/0.3	eRB6-13/1/D/03-AU	151610	1/30
16/0.3	eRB6-16/1/D/03-AU	151611	1/30
20/0.3	eRB6-20/1/D/03-AU	151612	1/30

Electronic Combined RCD/MCB Devices eRB6-AU, 1MU

1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG07911

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
6/0.01	eRB6-6/1/B/001-A-AU	151385	1/30
8/0.01	eRB6-8/1/B/001-A-AU	151386	1/30
10/0.01	eRB6-10/1/B/001-A-AU	151387	1/30
13/0.01	eRB6-13/1/B/001-A-AU	151388	1/30
16/0.01	eRB6-16/1/B/001-A-AU	151389	1/30
20/0.01	eRB6-20/1/B/001-A-AU	151390	1/30
25/0.01	eRB6-25/1/B/001-A-AU	151391	1/30
32/0.01	eRB6-32/1/B/001-A-AU	151392	1/30
40/0.01	eRB6-40/1/B/001-A-AU	151393	1/30
45/0.01	eRB6-45/1/B/001-A-AU	151394	1/30
6/0.03	eRB6-6/1/B/003-A-AU	151395	1/30
8/0.03	eRB6-8/1/B/003-A-AU	151396	1/30
10/0.03	eRB6-10/1/B/003-A-AU	151397	1/30
13/0.03	eRB6-13/1/B/003-A-AU	151398	1/30
16/0.03	eRB6-16/1/B/003-A-AU	151399	1/30
20/0.03	eRB6-20/1/B/003-A-AU	151400	1/30
25/0.03	eRB6-25/1/B/003-A-AU	151401	1/30
32/0.03	eRB6-32/1/B/003-A-AU	151402	1/30
40/0.03	eRB6-40/1/B/003-A-AU	151403	1/30
45/0.03	eRB6-45/1/B/003-A-AU	151404	1/30
6/0.1	eRB6-6/1/B/01-A-AU	153280	1/30
8/0.1	eRB6-8/1/B/01-A-AU	153281	1/30
10/0.1	eRB6-10/1/B/01-A-AU	153282	1/30
13/0.1	eRB6-13/1/B/01-A-AU	153283	1/30
16/0.1	eRB6-16/1/B/01-A-AU	153284	1/30
20/0.1	eRB6-20/1/B/01-A-AU	153285	1/30
25/0.1	eRB6-25/1/B/01-A-AU	153286	1/30
32/0.1	eRB6-32/1/B/01-A-AU	153287	1/30
40/0.1	eRB6-40/1/B/01-A-AU	153288	1/30
45/0.1	eRB6-45/1/B/01-A-AU	153289	1/30
6/0.3	eRB6-6/1/B/03-A-AU	151405	1/30
8/0.3	eRB6-8/1/B/03-A-AU	151406	1/30
10/0.3	eRB6-10/1/B/03-A-AU	151407	1/30
13/0.3	eRB6-13/1/B/03-A-AU	151408	1/30
16/0.3	eRB6-16/1/B/03-A-AU	151409	1/30
20/0.3	eRB6-20/1/B/03-A-AU	151410	1/30
25/0.3	eRB6-25/1/B/03-A-AU	151411	1/30
32/0.3	eRB6-32/1/B/03-A-AU	151412	1/30
40/0.3	eRB6-40/1/B/03-A-AU	151413	1/30
45/0.3	eRB6-45/1/B/03-A-AU	151414	1/30

Electronic Combined RCD/MCB Devices eRB6-AU, 1MU

1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG07911

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
6/0.01	eRB6-6/1/C/001-A-AU	151505	1/30
8/0.01	eRB6-8/1/C/001-A-AU	151506	1/30
10/0.01	eRB6-10/1/C/001-A-AU	151507	1/30
13/0.01	eRB6-13/1/C/001-A-AU	151508	1/30
16/0.01	eRB6-16/1/C/001-A-AU	151509	1/30
20/0.01	eRB6-20/1/C/001-A-AU	151510	1/30
25/0.01	eRB6-25/1/C/001-A-AU	151511	1/30
32/0.01	eRB6-32/1/C/001-A-AU	151512	1/30
40/0.01	eRB6-40/1/C/001-A-AU	151513	1/30
45/0.01	eRB6-45/1/C/001-A-AU	151514	1/30
6/0.03	eRB6-6/1/C/003-A-AU	151515	1/30
8/0.03	eRB6-8/1/C/003-A-AU	151516	1/30
10/0.03	eRB6-10/1/C/003-A-AU	151517	1/30
13/0.03	eRB6-13/1/C/003-A-AU	151518	1/30
16/0.03	eRB6-16/1/C/003-A-AU	151519	1/30
20/0.03	eRB6-20/1/C/003-A-AU	151520	1/30
25/0.03	eRB6-25/1/C/003-A-AU	151521	1/30
32/0.03	eRB6-32/1/C/003-A-AU	151522	1/30
40/0.03	eRB6-40/1/C/003-A-AU	151523	1/30
45/0.03	eRB6-45/1/C/003-A-AU	151524	1/30
6/0.1	eRB6-6/1/C/01-A-AU	153320	1/30
8/0.1	eRB6-8/1/C/01-A-AU	153321	1/30
10/0.1	eRB6-10/1/C/01-A-AU	153322	1/30
13/0.1	eRB6-13/1/C/01-A-AU	153323	1/30
16/0.1	eRB6-16/1/C/01-A-AU	153324	1/30
20/0.1	eRB6-20/1/C/01-A-AU	153325	1/30
25/0.1	eRB6-25/1/C/01-A-AU	153326	1/30
32/0.1	eRB6-32/1/C/01-A-AU	153327	1/30
40/0.1	eRB6-40/1/C/01-A-AU	153328	1/30
45/0.1	eRB6-45/1/C/01-A-AU	153329	1/30
6/0.3	eRB6-6/1/C/03-A-AU	151525	1/30
8/0.3	eRB6-8/1/C/03-A-AU	151526	1/30
10/0.3	eRB6-10/1/C/03-A-AU	151527	1/30
13/0.3	eRB6-13/1/C/03-A-AU	151528	1/30
16/0.3	eRB6-16/1/C/03-A-AU	151529	1/30
20/0.3	eRB6-20/1/C/03-A-AU	151530	1/30
25/0.3	eRB6-25/1/C/03-A-AU	151531	1/30
32/0.3	eRB6-32/1/C/03-A-AU	151532	1/30
40/0.3	eRB6-40/1/C/03-A-AU	151533	1/30
45/0.3	eRB6-45/1/C/03-A-AU	151534	1/30

SG07911

Characteristic D

6/0.01	eRB6-6/1/D/001-A-AU	151631	1/30
8/0.01	eRB6-8/1/D/001-A-AU	151632	1/30
10/0.01	eRB6-10/1/D/001-A-AU	151633	1/30
13/0.01	eRB6-13/1/D/001-A-AU	151634	1/30
16/0.01	eRB6-16/1/D/001-A-AU	151635	1/30
20/0.01	eRB6-20/1/D/001-A-AU	151636	1/30
6/0.03	eRB6-6/1/D/003-A-AU	151637	1/30
8/0.03	eRB6-8/1/D/003-A-AU	151638	1/30
10/0.03	eRB6-10/1/D/003-A-AU	151639	1/30
13/0.03	eRB6-13/1/D/003-A-AU	151640	1/30
16/0.03	eRB6-16/1/D/003-A-AU	151641	1/30
20/0.03	eRB6-20/1/D/003-A-AU	151642	1/30
6/0.1	eRB6-6/1/D/01-A-AU	153356	1/30
8/0.1	eRB6-8/1/D/01-A-AU	153357	1/30
10/0.1	eRB6-10/1/D/01-A-AU	153358	1/30
13/0.1	eRB6-13/1/D/01-A-AU	153359	1/30
16/0.1	eRB6-16/1/D/01-A-AU	153360	1/30
20/0.1	eRB6-20/1/D/01-A-AU	153361	1/30
6/0.3	eRB6-6/1/D/03-A-AU	151643	1/30
8/0.3	eRB6-8/1/D/03-A-AU	151644	1/30
10/0.3	eRB6-10/1/D/03-A-AU	151645	1/30
13/0.3	eRB6-13/1/D/03-A-AU	151646	1/30
16/0.3	eRB6-16/1/D/03-A-AU	151647	1/30
20/0.3	eRB6-20/1/D/03-A-AU	151648	1/30

Specifications | Electronic Combined RCD/MCB Devices eRB6-AU, 1+N-pole, 1MU

Description

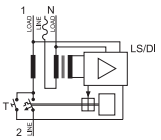
- Electronic residual current device / miniature circuit breaker combination in only 1MU
- Tripping line voltage dependent
- Contact position indicator red - green
- Can be sealed with leads in the ON and OFF position
- Colour coded switching toggle (designating the rated current)
- Permanently connected neutral conductor (950 mm long, black)
- Special application in British-Standard-Distibution Boxes
- Can be connected to standard busbar (at the lower side)
- Comprehensive range of accessories can be mounted subsequently

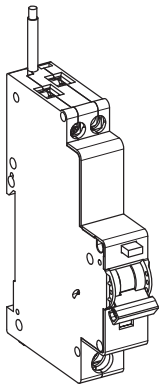
Accessories:

Tripping signal switch for subsequent installation	Z-NHK	248434
Shunt trip release	Z-ASA/..	248286, 248287
Tripping module	Z-KAM	248294

Connection diagram

1+N-pole



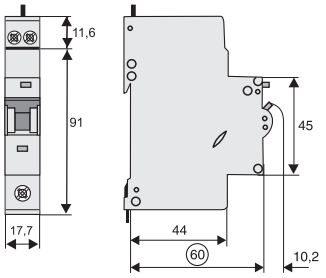


Technical Data

Electrical		
Design according to		IEC 61009
Current test marks as printed onto the device		
Number of poles		1+N-pole Pole switched, N led through (solid neutral)
Rated voltage U_n		240 VAC
Rated frequency		50 Hz
Rated current I_n		6 - 45 A
Rated tripping current $I_{\Delta n}$		10, 30, 100, 300 mA
Sensitivity		AC and pulsating DC
Tripping Characteristic RCD component		
Tripping line voltage-dependent		instantaneous
Peak withstand current		250A (8/20µs)
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Voltage range for protective function		184 - 264 V~
Tripping Characteristic MCB component		
Conventional non-tripping current		1.13 I_n
Conventional tripping current		1.45 I_n
Reference temperature		30°C
Characteristic		B, C, D
Rated breaking capacity		6 kA
Selectivity class		3
Maximum back-up fuse > 6 kA		100 A gL
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	102.6 mm
Device width	17.7 mm (1MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Upper terminals	lift terminals
Lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm^2
Busbar thickness unten	0.8-2 mm
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	25-55°C/90-95% relative humidity acc. to IEC 60068-2

Dimensions (mm)



Combined RCD/MCB Devices PKPM2, 2-pole

SG14011

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 20 A
- Tripping characteristics B, C
- Rated breaking capacity 10 kA

Combined RCD/MCB Devices PKPM2
10 kA, 2-pole
Conditionally surge current-proof 250 A, type AC

SG14011

SG14011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
10/0.03	PKPM2-10/2/B/003	111597	1/60
13/0.03	PKPM2-13/2/B/003	111598	1/60
16/0.03	PKPM2-16/2/B/003	111599	1/60
20/0.03	PKPM2-20/2/B/003	111600	1/60
10/0.3	PKPM2-10/2/B/03	111602	1/60
13/0.3	PKPM2-13/2/B/03	111603	1/60
16/0.3	PKPM2-16/2/B/03	111604	1/60
20/0.3	PKPM2-20/2/B/03	111605	1/60
Characteristic C			
6/0.03	PKPM2-6/2/C/003	111622	1/60
10/0.03	PKPM2-10/2/C/003	111623	1/60
13/0.03	PKPM2-13/2/C/003	111624	1/60
16/0.03	PKPM2-16/2/C/003	111625	1/60
20/0.03	PKPM2-20/2/C/003	111626	1/60
6/0.3	PKPM2-6/2/C/03	111627	1/60
10/0.3	PKPM2-10/2/C/03	111628	1/60
13/0.3	PKPM2-13/2/C/03	111629	1/60
16/0.3	PKPM2-16/2/C/03	111630	1/60
20/0.3	PKPM2-20/2/C/03	111631	1/60

Combined RCD/MCB Devices PKPM2
10 kA, 2-pole
Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG14011

SG14011

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
10/0.03	PKPM2-10/2/B/003-A	108105	1/60
13/0.03	PKPM2-13/2/B/003-A	108106	1/60
16/0.03	PKPM2-16/2/B/003-A	108107	1/60
20/0.03	PKPM2-20/2/B/003-A	108108	1/60
10/0.1	PKPM2-10/2/B/01-A	108113	1/60
13/0.1	PKPM2-13/2/B/01-A	108114	1/60
16/0.1	PKPM2-16/2/B/01-A	108115	1/60
20/0.1	PKPM2-20/2/B/01-A	108116	1/60
10/0.3	PKPM2-10/2/B/03-A	111634	1/60
13/0.3	PKPM2-13/2/B/03-A	111635	1/60
16/0.3	PKPM2-16/2/B/03-A	111636	1/60
20/0.3	PKPM2-20/2/B/03-A	111637	1/60
Characteristic C			
6/0.03	PKPM2-6/2/C/003-A	111638	1/60
10/0.03	PKPM2-10/2/C/003-A	108109	1/60
13/0.03	PKPM2-13/2/C/003-A	108110	1/60
16/0.03	PKPM2-16/2/C/003-A	108111	1/60
20/0.03	PKPM2-20/2/C/003-A	108112	1/60
10/0.1	PKPM2-10/2/C/01-A	108117	1/60
13/0.1	PKPM2-13/2/C/01-A	108118	1/60
16/0.1	PKPM2-16/2/C/01-A	108119	1/60
20/0.1	PKPM2-20/2/C/01-A	108120	1/60
6/0.3	PKPM2-6/2/C/03-A	111639	1/60
10/0.3	PKPM2-10/2/C/03-A	111640	1/60
13/0.3	PKPM2-13/2/C/03-A	111641	1/60
16/0.3	PKPM2-16/2/C/03-A	111642	1/60
20/0.3	PKPM2-20/2/C/03-A	111643	1/60

Combined RCD/MCB Devices PKP62, 2-pole

SG13811

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 6 kA

Combined RCD/MCB Devices PKP62
6 kA, 2-pole
Conditionally surge current-proof 250 A, type AC

SG13811

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.03	PKP62-10/2/B/003	111589	1/60
13/0.03	PKP62-13/2/B/003	111590	1/60
16/0.03	PKP62-16/2/B/003	111591	1/60
20/0.03	PKP62-20/2/B/003	111592	1/60
25/0.03	PKP62-25/2/B/003	111593	1/60
32/0.03	PKP62-32/2/B/003	111594	1/60
40/0.03	PKP62-40/2/B/003	111595	1/60

SG13811

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
6/0.03	PKP62-6/2/C/003	111614	1/60
10/0.03	PKP62-10/2/C/003	111615	1/60
13/0.03	PKP62-13/2/C/003	111616	1/60
16/0.03	PKP62-16/2/C/003	111617	1/60
20/0.03	PKP62-20/2/C/003	111618	1/60
25/0.03	PKP62-25/2/C/003	111619	1/60
32/0.03	PKP62-32/2/C/003	111620	1/60
40/0.03	PKP62-40/2/C/003	111621	1/60

Combined RCD/MCB Devices PKP62
6 kA, 2-pole
Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG13811

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
25/0.03	PKP62-25/2/B/003-A	113889	1/60
32/0.03	PKP62-32/2/B/003-A	113940	1/60
40/0.03	PKP62-40/2/B/003-A	113941	1/60
25/0.01	PKP62-25/2/B/01-A	113945	1/60
32/0.01	PKP62-32/2/B/01-A	113946	1/60
40/0.01	PKP62-40/2/B/01-A	113947	1/60

SG13811

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
25/0.03	PKP62-25/2/C/003-A	113942	1/60
32/0.03	PKP62-32/2/C/003-A	113943	1/60
40/0.03	PKP62-40/2/C/003-A	113944	1/60
25/0.01	PKP62-25/2/C/01-A	113948	1/60
32/0.01	PKP62-32/2/C/01-A	113949	1/60
40/0.01	PKP62-40/2/C/01-A	113950	1/60

Combined RCD/MCB Devices PKP42, 2-pole

SG69511

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 4.5 kA

Combined RCD/MCB Devices PKP42
4.5 kA, 2-pole
Conditionally surge current-proof 250 A, type AC

SG69511

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.03	PKP42-10/2/B/003	111581	1/60
13/0.03	PKP42-13/2/B/003	111582	1/60
16/0.03	PKP42-16/2/B/003	111583	1/60
20/0.03	PKP42-20/2/B/003	111584	1/60
25/0.03	PKP42-25/2/B/003	111585	1/60
32/0.03	PKP42-32/2/B/003	111586	1/60
40/0.03	PKP42-40/2/B/003	111587	1/60

SG69511

Characteristic C

6/0.03	PKP42-6/2/C/003	111606	1/60
10/0.03	PKP42-10/2/C/003	111607	1/60
13/0.03	PKP42-13/2/C/003	111608	1/60
16/0.03	PKP42-16/2/C/003	111609	1/60
20/0.03	PKP42-20/2/C/003	111610	1/60
25/0.03	PKP42-25/2/C/003	111611	1/60
32/0.03	PKP42-32/2/C/003	111612	1/60
40/0.03	PKP42-40/2/C/003	111613	1/60

Explanation PKP42:
P = XPole, KP.2 = Combined RCD/MCB Devices, 4 = 4.5 kA

Specifications | Combined RCD/MCB Devices PKP.2, 2-pole

Description

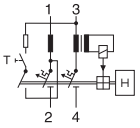
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
Shunt trip release	ZP-ASA/..	248438, 248439

Connection diagram

2-pole

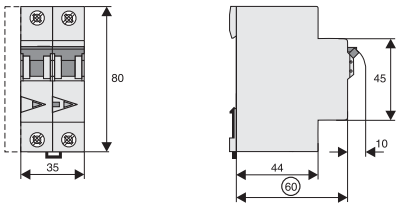


Technical Data

Electrical		
Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping		
line-voltage-independent		instantaneous 250A (8/20µs) surge current proof
Rated voltage U_e		230 V; 50 Hz
Operational voltage range		196-253 V
Rated tripping current $I_{\Delta n}$		30, 100, 300 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity		
PKP42		4.5 kA
PKP62		6 kA
PKPM2		10 kA
Rated current		6 - 40 A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>10 kA)
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)



PKPM2: Influence of ambient temperature on load carrying capacity

- Values = max. allowed current in Ampere at the specific temperature
- Temperature factor (%/K) = 0,5

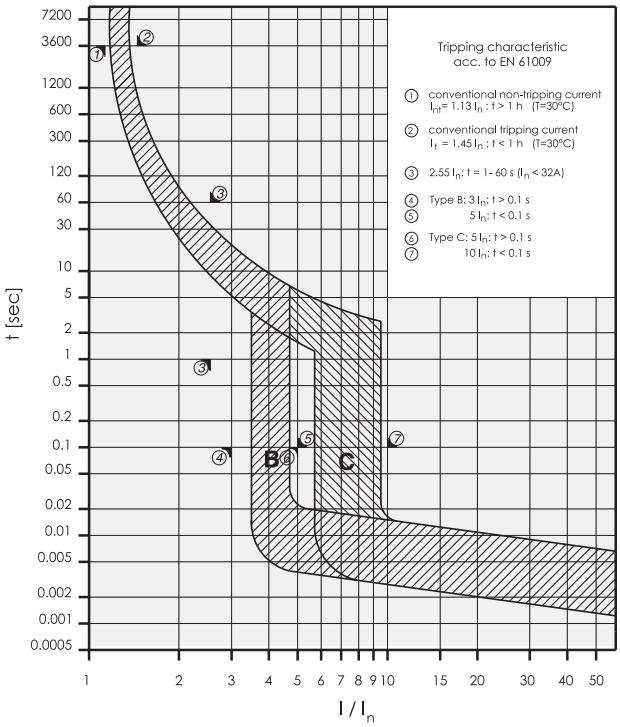
	Ambient temperature / °C									
	-40	-30	-25	-20	-10	0	10	20	30	40
6	8.1	7.8	7.7	7.5	7.2	6.9	6.6	6.3	6.0	5.7
10	13.5	13.0	12.8	12.5	12.0	11.5	11.0	10.5	10.0	9.5
13	17.6	16.9	16.6	16.3	15.6	15.0	14.3	13.7	13.0	12.4
16	21.6	20.8	20.4	20.0	19.2	18.4	17.6	16.8	16.0	15.2
20	27.0	26.0	25.5	25.0	24.0	23.0	22.0	21.0	20.0	19.0

PKP62, PKP42: Influence of ambient temperature on load carrying capacity

- Values = max. allowed current in Ampere at the specific temperature
- Temperature factor (%/K) = 0,5

	Ambient temperature / °C									
	-40	-30	-25	-20	-10	0	10	20	30	40
6	8.1	7.8	7.7	7.5	7.2	6.9	6.6	6.3	6.0	5.7
10	13.5	13.0	12.8	12.5	12.0	11.5	11.0	10.5	10.0	9.5
13	17.6	16.9	16.6	16.3	15.6	15.0	14.3	13.7	13.0	12.4
16	21.6	20.8	20.4	20.0	19.2	18.4	17.6	16.8	16.0	15.2
20	27.0	26.0	25.5	25.0	24.0	23.0	22.0	21.0	20.0	19.0
25	33.8	32.5	31.9	31.3	30.0	28.8	27.5	26.3	25.0	23.8
32	43.2	41.6	40.8	40.0	38.4	36.8	35.2	33.6	32.0	30.4
40	54.0	52.0	51.0	50.0	48.0	46.0	44.0	42.0	40.0	38.0

Tripping Characteristic PKP.2, Characteristics B and C



Short Circuit Selectivity PKPM2 towards Neozed[1] / Diazed[2] / NH00[3]

Short circuit currents in kA, Rated currents of fuses in A

Short circuit selectivity **PKPM2** towards fuse link **Neozed** [1]

PKPM2	Neozed [1]									
	16	**20**	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**
B10	<0.5	0.5	0.9	2	2.3	3.7	8	10	10	10
B13	<0.5	0.5	0.8	1.7	1.9	3	6	10	10	10
B16		0.5	0.7	1.5	1.7	2.4	4.4	6.8	10	10
B20			0.7	1.4	1.5	2.2	3.9	6	9.2	10
C10	<0.5	0.5	0.8	1.7	1.9	3	6.1	10	10	10
C13	<0.5	0.5	0.7	1.6	1.8	2.8	5.5	9.5	10	10
C16		<0.5	0.7	1.3	1.5	2.2	4	6.2	10	10
C20			0.6	1.3	1.4	2.1	3.7	5.6	8.5	10

Short circuit selectivity **PKPM2** towards fuse link **Diazed** [2]

PKPM2	Diazed [2]								
	16	**20**	**25**	**32**	**35**	**50**	**63**	**80**	**100**
B10	<0.5	0.5	0.9	1.8	2.9	5.6	10	10	10
B13	<0.5	0.5	0.8	1.5	2.4	4.5	10	10	10
B16		0.5	0.8	1.3	2	3.4	8	10	10
B20			0.7	1.3	1.9	3.1	7.1	10	10
C10	<0.5	0.5	0.8	1.5	2.4	4.4	10	10	10
C13	<0.5	0.5	0.8	1.4	2.3	4.2	10	10	10
C16		<0.5	0.7	1.2	1.9	3.2	7.6	10	10
C20			0.7	1.2	1.8	2.9	6.5	9.7	10

Short circuit selectivity **PKPM2** towards fuse link **NH00** [3]

PKPM2	NH00 [3]											
	16	**20**	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**	**125**	**160**
B10	<0.5	<0.5	0.8	1.5	2.3	3.2	5.7	9.1	10	10	10	10
B13	<0.5	<0.5	0.8	1.3	1.9	2.7	4.4	6.5	10	10	10	10
B16		<0.5	0.7	1.1	1.6	2.2	3.4	4.8	8	10	10	10
B20			0.6	1	1.4	2	3.1	4.3	7	10	10	10
C10	<0.5	<0.5	0.7	1.3	1.9	2.7	4.5	6.9	10	10	10	10
C13	<0.5	<0.5	0.7	1.2	1.8	2.5	4.1	6.1	10	10	10	10
C16		<0.5	0.6	1	1.5	2	3.1	4.4	7.5	10	10	10
C20			0.6	0.9	1.4	1.9	2.9	4.1	6.5	10	10	10

no selectivity

[1] SIEMENS Type 5SE2; Size: D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V

[2] SIEMENS Type 5SB2, 5SB4, 5SC2; Size: DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V

[3] SIEMENS Type 3NA3 8, 3NA6 8, 3NA7 8; Size: 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V

Short Circuit Selectivity PKP62 towards Neozed[1] / Diazed[2] / NH00[3]

Short circuit currents in kA, Rated currents of fuses in A

Short circuit selectivity **PKP62** towards fuse link **Neozed** [1]

PKP62	Neozed [1]									
	16	**20**	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**
B10	<0.5	0.5	0.9	2	2.3	3.7	6	6	6	6
B13	<0.5	0.5	0.8	1.7	1.9	3	6	6	6	6
B16		0.5	0.7	1.5	1.7	2.4	4.4	6	6	6
B20			0.7	1.4	1.5	2.2	4	6	6	6
B25				1.2	1.3	1.8	3.1	4.7	6	6
B32					1.2	1.7	2.7	3.8	5.5	6
B40						1.3	1.7	2.2	2.7	4.2
C10	<0.5	0.5	0.8	1.7	1.9	3	6	6	6	6
C13	<0.5	0.5	0.7	1.6	1.8	2.8	5.5	6	6	6
C16		<0.5	0.7	1.3	1.5	2.2	4	6	6	6
C20			0.6	1.3	1.4	2.1	3.7	5.6	6	6
C25				1.1	1.3	1.8	2.8	3.9	5.6	6
C32					1.2	1.7	2.6	3.6	5.1	6
C40						1.3	1.9	3.3	3.2	5.8

Short circuit selectivity **PKP62** towards fuse link **Diazed** [1]

PKP62	Diazed [2]								
	16	**20**	**25**	**32**	**35**	**50**	**63**	**80**	**100**
B10	<0.5	0.5	0.9	1.8	2.9	5.6	6	6	6
B13	<0.5	0.5	0.8	1.5	2.4	4.5	6	6	6
B16		0.5	0.8	1.3	2	3.4	6	6	6
B20			0.7	1.3	1.9	3.1	6	6	6
B25				1.1	1.5	2.4	5.5	6	6
B32					1.4	2.1	4.3	6	6
B40						1.4	2.4	2.9	5.1
C10	<0.5	0.5	0.8	1.5	2.4	4.4	6	6	6
C13	<0.5	0.5	0.8	1.4	2.3	4.2	6	6	6
C16		<0.5	0.7	1.2	1.9	3.2	6	6	6
C20			0.7	1.2	1.8	2.9	6	6	6
C25				1.1	1.5	2.3	4.4	6	6
C32					1.4	2.2	4.1	5.6	6
C40						1.6	2.8	3.6	6

Short circuit selectivity **PKP62** towards fuse link **NH00** [3]

PKP62	NH00 [3]											
	16	**20**	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**	**125**	**160**
B10	<0.5	<0.5	0.8	1.5	2.3	3.2	5.7	6	6	6	6	6
B13	<0.5	<0.5	0.8	1.3	1.9	2.7	4.4	6	6	6	6	6
B16		<0.5	0.7	1.1	1.6	2.2	3.4	4.8	6	6	6	6
B20			0.6	1	1.4	2	3.1	4.3	6	6	6	6
B25				0.9	1.2	1.6	2.4	3.4	5.5	6	6	6
B32					1.1	1.4	2.1	2.9	4.3	6	6	6
B40							1.4	1.9	2.8	4.1	6	6
C10	<0.5	<0.5	0.7	1.3	1.9	2.7	4.5	6	6	6	6	6
C13	<0.5	<0.5	0.7	1.2	1.8	2.5	4.1	6	6	6	6	6
C16		<0.5	0.6	1	1.5	2	3.1	4.4	6	6	6	6
C20			0.6	0.9	1.4	1.9	2.9	4.1	6	6	6	6
C25				0.9	1.2	1.6	2.3	3	4.6	6	6	6
C32					1.1	1.5	2.1	2.8	4.3	6	6	6
C40							1.5	2.1	3.1	5.4	6	6

no selectivity

[1] SIEMENS Type 5SE2; Size: D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V

[2] SIEMENS Type 5SB2, 5SB4, 5SC2; Size: DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V

[3] SIEMENS Type 3NA3 8, 3NA6 8, 3NA7 8; Size: 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V

Short Circuit Selectivity PKP42 towards Neozed[1] / Diazed[2] / NH00[3]

Short circuit currents in kA, Rated currents of fuses in A

Short circuit selectivity **PKP42** towards fuse link **Neozed** [1]

PKP42	Neozed [1]									
	16	**20**	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**
B10	<0.5	0.5	0.9	2	2.3	3.7	4.5	4.5	4.5	4.5
B13	<0.5	0.5	0.8	1.7	1.9	3	4.5	4.5	4.5	4.5
B16		0.5	0.7	1.5	1.7	2.4	4.4	4.5	4.5	4.5
B20			0.7	1.4	1.5	2.2	4	4.5	4.5	4.5
B25				1.2	1.3	1.8	3.1	4.7	4.5	4.5
B32					1.2	1.7	2.7	3.8	4.5	4.5
B40						1.3	1.7	2.2	2.7	4.2
C10	<0.5	0.5	0.8	1.7	1.9	3	4.5	4.5	4.5	4.5
C13	<0.5	0.5	0.7	1.6	1.8	2.8	4.5	4.5	4.5	4.5
C16		<0.5	0.7	1.3	1.5	2.2	4	4.5	4.5	4.5
C20			0.6	1.3	1.4	2.1	3.7	4.5	4.5	4.5
C25				1.1	1.3	1.8	2.8	3.9	4.5	4.5
C32					1.2	1.7	2.6	3.6	4.5	4.5
C40						1.3	1.9	3.3	3.2	4.5

Short circuit selectivity **PKP42** towards fuse link **Diazed** [1]

PKP42	Diazed [2]								
	16	**20**	**25**	**32**	**35**	**50**	**63**	**80**	**100**
B10	<0.5	0.5	0.9	1.8	2.9	4.5	4.5	4.5	4.5
B13	<0.5	0.5	0.8	1.5	2.4	4.5	4.5	4.5	4.5
B16		0.5	0.8	1.3	2	3.4	4.5	4.5	4.5
B20			0.7	1.3	1.9	3.1	4.5	4.5	4.5
B25				1.1	1.5	2.4	4.5	4.5	4.5
B32					1.4	2.1	4.3	4.5	4.5
B40						1.4	2.4	2.9	4.5
C10	<0.5	0.5	0.8	1.5	2.4	4.4	4.5	4.5	4.5
C13	<0.5	0.5	0.8	1.4	2.3	4.2	4.5	4.5	4.5
C16		<0.5	0.7	1.2	1.9	3.2	4.5	4.5	4.5
C20			0.7	1.2	1.8	2.9	4.5	4.5	4.5
C25				1.1	1.5	2.3	4.4	4.5	4.5
C32					1.4	2.2	4.1	4.5	4.5
C40						1.6	2.8	3.6	4.5

Short circuit selectivity **PKP42** towards fuse link **NH00** [3]

PKP42	NH00 [3]											
	16	**20**	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**	**125**	**160**
B10	<0.5	<0.5	0.8	1.5	2.3	3.2	4.5	4.5	4.5	4.5	4.5	4.5
B13	<0.5	<0.5	0.8	1.3	1.9	2.7	4.4	4.5	4.5	4.5	4.5	4.5
B16		<0.5	0.7	1.1	1.6	2.2	3.4	4.5	4.5	4.5	4.5	4.5
B20			0.6	1	1.4	2	3.1	4.3	4.5	4.5	4.5	4.5
B25				0.9	1.2	1.6	2.4	3.4	4.5	4.5	4.5	4.5
B32					1.1	1.4	2.1	2.9	4.3	4.5	4.5	4.5
B40							1.4	1.9	2.8	4.1	4.5	4.5
C10	<0.5	<0.5	0.7	1.3	1.9	2.7	4.5	4.5	4.5	4.5	4.5	4.5
C13	<0.5	<0.5	0.7	1.2	1.8	2.5	4.1	4.5	4.5	4.5	4.5	4.5
C16		<0.5	0.6	1	1.5	2	3.1	4.4	4.5	4.5	4.5	4.5
C20			0.6	0.9	1.4	1.9	2.9	4.1	4.5	4.5	4.5	4.5
C25				0.9	1.2	1.6	2.3	3	4.5	4.5	4.5	4.5
C32					1.1	1.5	2.1	2.8	4.3	4.5	4.5	4.5
C40							1.5	2.1	3.1	4.5	4.5	4.5

no selectivity

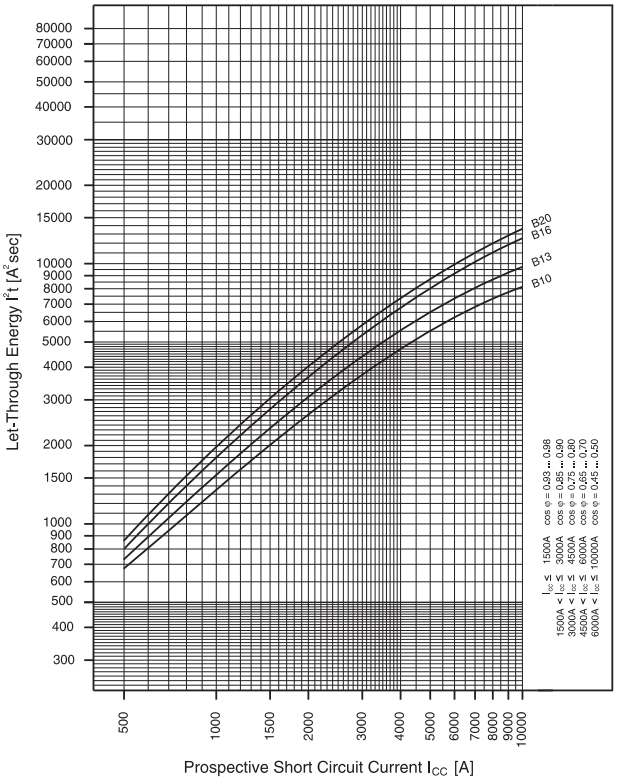
[1] SIEMENS Type 5SE2; Size: D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V

[2] SIEMENS Type 5SB2, 5SB4, 5SC2; Size: DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V

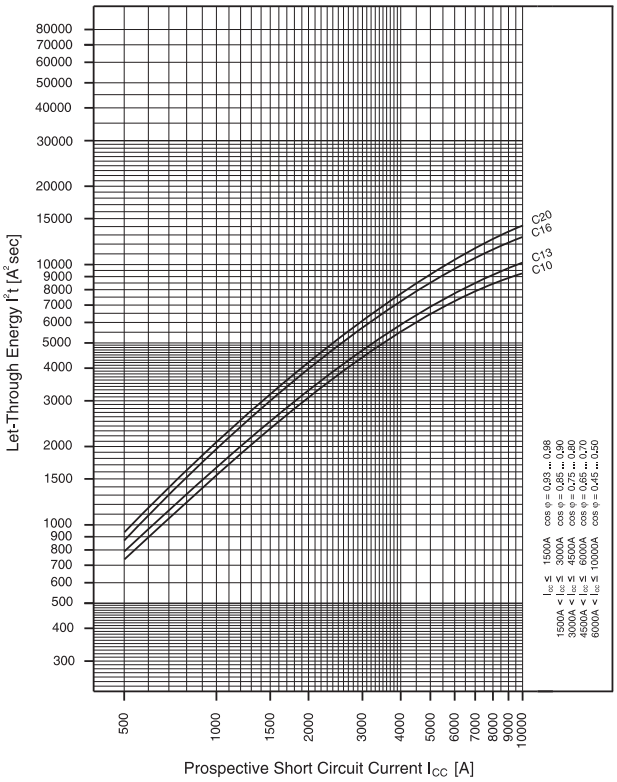
[3] SIEMENS Type 3NA3 8, 3NA6 8, 3NA7 8; Size: 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V

Let-through Energy PKP.2-../2/

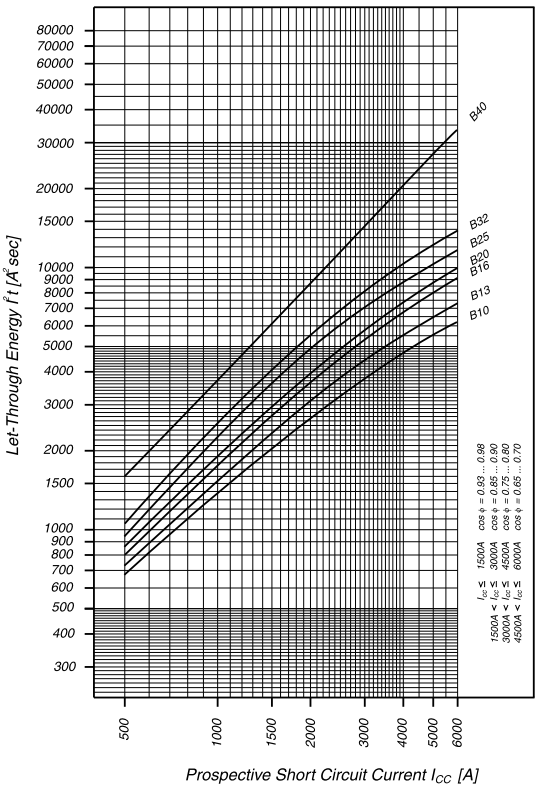
Let-through energy PKPM2, characteristic B, 2-pole



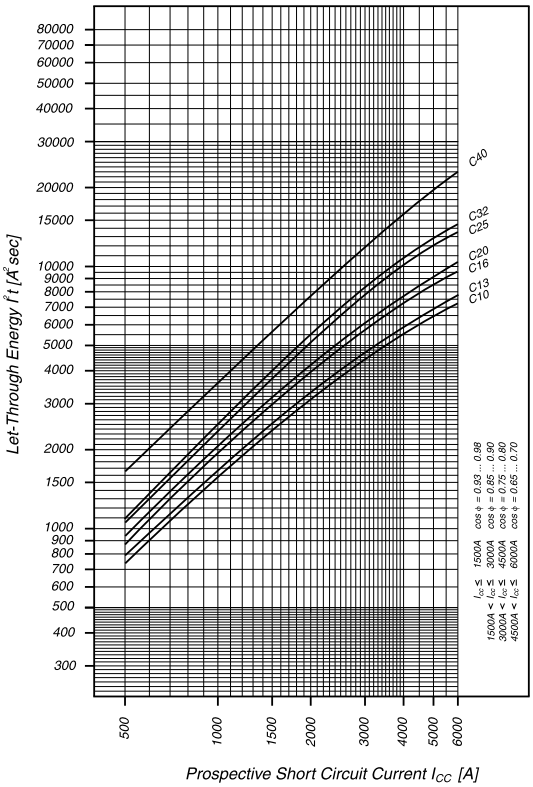
Let-through energy PKPM2, characteristic C, 2-pole



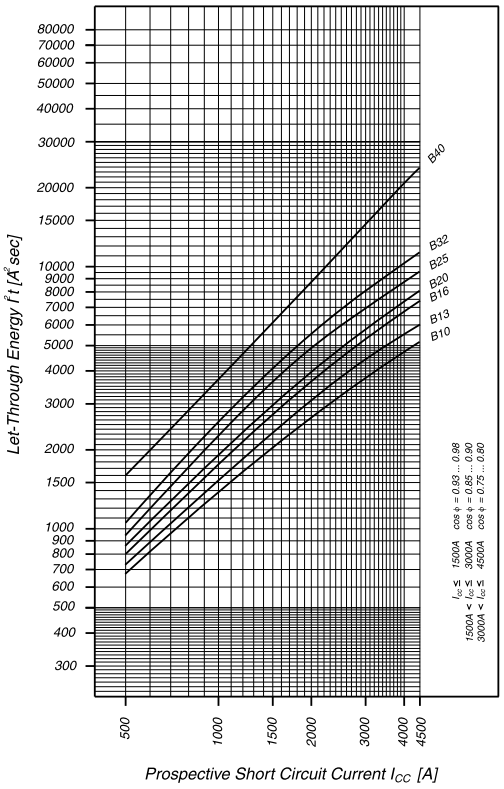
Let-through energy PKP62, characteristic B, 2-pole



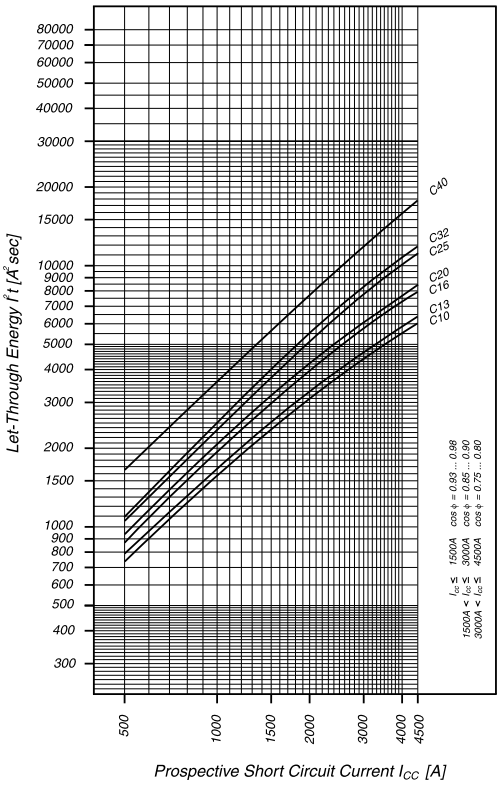
Let-through energy PKP62, characteristic C, 2-pole



Let-through energy PKP42, characteristic B, 2-pole



Let-through energy PKP42, characteristic C, 2-pole



Combined RCD/MCB Devices PKPM3, 3-pole

SG49512

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to zu 20 A
- Tripping characteristics B, C
- Rated breaking capacity 10 kA

Combined RCD/MCB Devices Devices PKPM3
10 kA, 3-pole
Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG49512

SG49512

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
10/0.03	PKPM3-10/3/B/003-A	108322	1/30
13/0.03	PKPM3-13/3/B/003-A	108323	1/30
16/0.03	PKPM3-16/3/B/003-A	108324	1/30
20/0.03	PKPM3-20/3/B/003-A	108325	1/30
10/0.1	PKPM3-10/3/B/01-A	108129	1/30
13/0.1	PKPM3-13/3/B/01-A	108130	1/30
16/0.1	PKPM3-16/3/B/01-A	108131	1/30
20/0.1	PKPM3-20/3/B/01-A	108132	1/30
Characteristic C			
10/0.03	PKPM3-10/3/C/003-A	108326	1/30
13/0.03	PKPM3-13/3/C/003-A	108327	1/30
16/0.03	PKPM3-16/3/C/003-A	108328	1/30
20/0.03	PKPM3-20/3/C/003-A	108329	1/30
32/0.03	PKPM3-32/3/C/003-A	136564	1/30
10/0.1	PKPM3-10/3/C/01-A	108133	1/30
13/0.1	PKPM3-13/3/C/01-A	108134	1/30
16/0.1	PKPM3-16/3/C/01-A	108135	1/30
20/0.1	PKPM3-20/3/C/01-A	108136	1/30
32/0.1	PKPM3-32/3/C/01-A	136567	1/30

Combined RCD/MCB Devices Devices PKPM3
10 kA, 3-pole
Surge current-proof 3 kA, sensitive to residual pulsating DC, type G/A (ÖVE E 8601)

SG49512

SG49512

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
10/0.03	PKPM3-10/3/B/003-G/A	108121	1/30
13/0.03	PKPM3-13/3/B/003-G/A	108122	1/30
16/0.03	PKPM3-16/3/B/003-G/A	108123	1/30
20/0.03	PKPM3-20/3/B/003-G/A	108124	1/30
10/0.1	PKPM3-10/3/B/01-G/A	108137	1/30
13/0.1	PKPM3-13/3/B/01-G/A	108138	1/30
16/0.1	PKPM3-16/3/B/01-G/A	108139	1/30
20/0.1	PKPM3-20/3/B/01-G/A	108140	1/30
Characteristic C			
10/0.03	PKPM3-10/3/C/003-G/A	108125	1/30
13/0.03	PKPM3-13/3/C/003-G/A	108126	1/30
16/0.03	PKPM3-16/3/C/003-G/A	108127	1/30
20/0.03	PKPM3-20/3/C/003-G/A	108128	1/30
32/0.03	PKPM3-32/3/C/003-G/A	136574	1/30
10/0.1	PKPM3-10/3/C/01-G/A	108141	1/30
13/0.1	PKPM3-13/3/C/01-G/A	108142	1/30
16/0.1	PKPM3-16/3/C/01-G/A	108143	1/30
20/0.1	PKPM3-20/3/C/01-G/A	108144	1/30
32/0.1	PKPM3-32/3/C/01-G/A	136577	1/30

Specifications | Combined RCD/MCB Devices PKPM3, 3-pole

Description

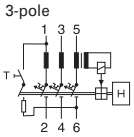
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed
- **Type -G:** 10 ms time delay in order to avoid unwanted tripping (e.g. during thunderstorms).
  Compulsory in Austria for any circuit where personal injury or damage to property may occur in case of unwanted tripping (§12.1.6 ÖVE/ÖNORM E 8001-1).

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-NHK	248437
	ZP-WHK	286053
Shunt trip release	ZP-ASA/..	248438, 248439

Connection diagram

3-pole



Technical Data

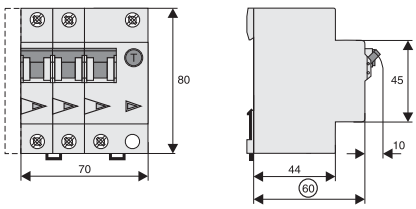
Electrical

Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping line-voltage-independent		instantaneous 250A (8/20µs) surge current proof
Rated voltage U_e		230/400V; 50Hz
Rated tripping current $I_{\Delta n}$		30, 100 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity		10 kA
Rated current		10 - 20 A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>10 kA)
Endurance	electrical comp.	≥ 2,000 switching op.
	mechanical comp.	≥ 10,000 switching op.

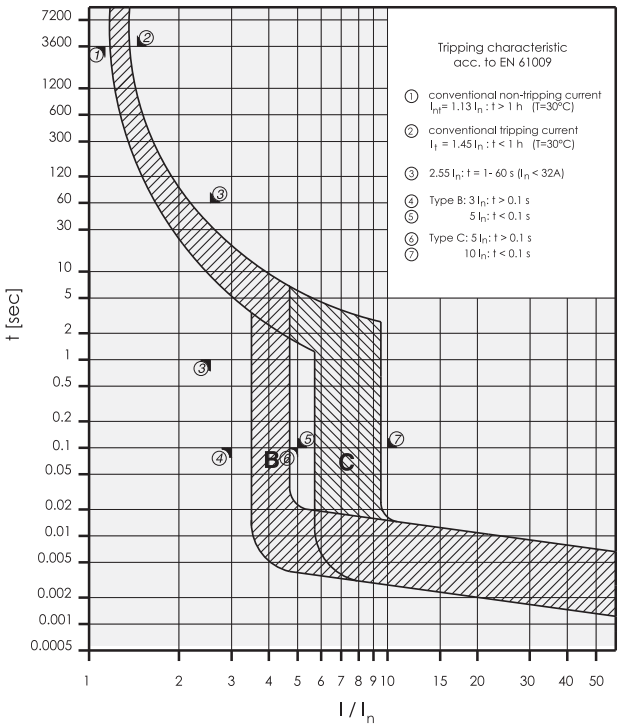
Mechanical

Frame size	45 mm
Device height	80 mm
Device width	70 mm (4MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm^2
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)



Tripping Characteristic PKPM3, Characteristics B and C



Combined RCD/MCB Devices mRB6, mRB4, 3+N-pole

SG14211

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 25 A
- Tripping characteristics B, C, D
- Rated breaking capacity 6 kA or 4.5 kA

Combined RCD/MCB Devices mRB6
6 kA, 3+N-pole
Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG14211

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
13/0.03	mRB6-13/3N/B/003-A	120651	1/30
16/0.03	mRB6-16/3N/B/003-A	120652	1/30
13/0.1	mRB6-13/3N/B/01-A	120653	1/30
16/0.1	mRB6-16/3N/B/01-A	120654	1/30
13/0.3	mRB6-13/3N/B/03-A	120655	1/30
16/0.3	mRB6-16/3N/B/03-A	120656	1/30

SG14211

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
6/0.03	mRB6-6/3N/C/003-A	120657	1/30
10/0.03	mRB6-10/3N/C/003-A	120658	1/30
13/0.03	mRB6-13/3N/C/003-A	120659	1/30
16/0.03	mRB6-16/3N/C/003-A	120660	1/30
6/0.1	mRB6-6/3N/C/01-A	120661	1/30
10/0.1	mRB6-10/3N/C/01-A	120662	1/30
13/0.1	mRB6-13/3N/C/01-A	120663	1/30
16/0.1	mRB6-16/3N/C/01-A	120664	1/30
6/0.3	mRB6-6/3N/C/03-A	120665	1/30
10/0.3	mRB6-10/3N/C/03-A	120666	1/30
13/0.3	mRB6-13/3N/C/03-A	120667	1/30
16/0.3	mRB6-16/3N/C/03-A	120668	1/30

SG14211

Characteristic D

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
6/0.03	mRB6-6/3N/D/003-A	120669	1/30
10/0.03	mRB6-10/3N/D/003-A	120670	1/30
13/0.03	mRB6-13/3N/D/003-A	120671	1/30
16/0.03	mRB6-16/3N/D/003-A	120672	1/30
6/0.1	mRB6-6/3N/D/01-A	120673	1/30
10/0.1	mRB6-10/3N/D/01-A	120674	1/30
13/0.1	mRB6-13/3N/D/01-A	120675	1/30
16/0.1	mRB6-16/3N/D/01-A	120676	1/30

Combined RCD/MCB Devices mRB4
4.5 kA, 3+N-pole
Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG14211

Characteristic C

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
20/0.03	mRB4-20/3N/C/003-A	120677	1/30
25/0.03	mRB4-25/3N/C/003-A	120678	1/30
32/0.03	mRB4-32/3N/C/003-A	167508	1/30
20/0.1	mRB4-20/3N/C/01-A	120679	1/30
25/0.1	mRB4-25/3N/C/01-A	120680	1/30
32/0.1	mRB4-32/3N/C/01-A	167509	1/30
20/0.3	mRB4-20/3N/C/03-A	120681	1/30
25/0.3	mRB4-25/3N/C/03-A	120682	1/30
32/0.3	mRB4-32/3N/C/03-A	167510	1/30

SG14211

Characteristic D

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
20/0.03	mRB4-20/3N/D/003-A	120683	1/30
20/0.1	mRB4-20/3N/D/01-A	120684	1/30

Specifications | Combined RCD/MCB Devices mRB., 3+N-pole

Description

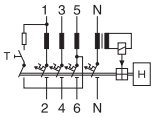
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Comprehensive range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A**: Protects against special forms of residual pulsating DC which have have not been smoothed

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-NHK	248437
	ZP-WHK	286053
Shunt trip release	ZP-ASA/..	248438, 248439

Connection diagram

3+N-pole



Technical Data

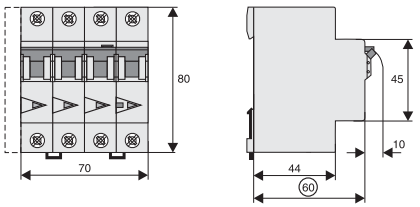
Electrical

Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping line-voltage-independent		instantaneous 250A (8/20µs) surge current proof
Rated voltage U_e		230/400V; 50Hz
Rated tripping current $I_{\Delta n}$		30, 100, 300 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity		
mRB6		6 kA
mRB4		4.5 kA
Rated current		6 - 32 A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		B, C, D
Maximum back-up fuse (short circuit)		100 A gL/gG
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

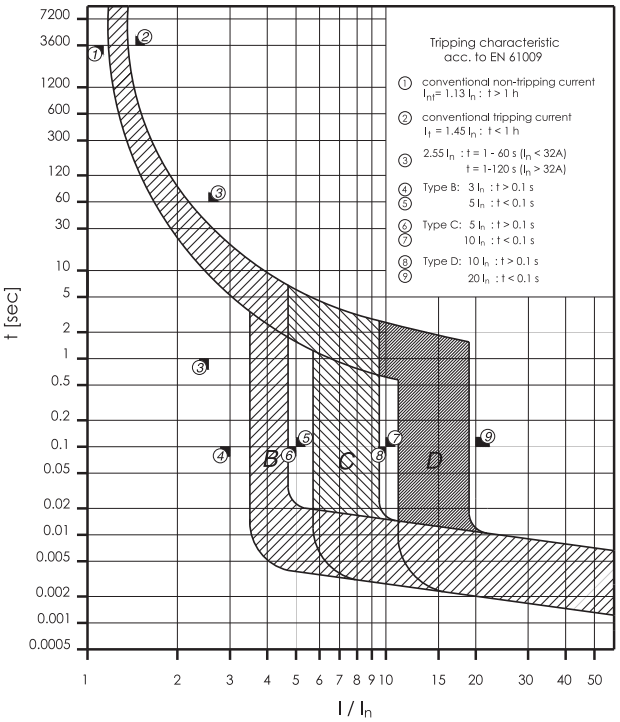
Mechanical

Frame size	45 mm
Device height	80 mm
Device width	70 mm (4MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC 68-2 (25...55°C / 90...95% RH)

Dimensions (mm)



Tripping Characteristic mRB, Characteristics B, C and D



Back-up Protection between mRB. and NZM1

Short circuit currents in kA.

mRB4/mRB6	NZMB1(C1)(N1)(H1)-A... U_e = 415 V		
	B	**C**	**D**
6	-	20	20
10	-	20	20
13	20	20	20
16	20	20	20
20	-	20	20
25	-	20	-

U_e = 415V: I_{cn} (mRB4) = 4.5 kA (acc. to IEC/EN 61009)
U_e = 415V: I_{cn} (mRB6) = 6 kA (acc. to IEC/EN 61009)
U_e = 400/415V: I_{cu} (NZMB1) = 25 kA (acc. to IEC/EN 60947-2)
U_e = 400/415V: I_{cu} (NZMC1) = 36 kA (acc. to IEC/EN 60947-2)
U_e = 400/415V: I_{cu} (NZMN1) = 50 kA (acc. to IEC/EN 60947-2)
U_e = 400/415V: I_{cu} (NZMH1) = 100 kA (acc. to IEC/EN 60947-2)

Back-up Protection between mRB. and NZM2

Short circuit currents in kA.

mRB4/mRB6	NZMB2(C2)(N2)(H2)-A... U_e = 415 V		
	B	**C**	**D**
6	-	20	20
10	-	20	20
13	20	20	20
16	20	20	20
20	-	20	20
25	-	20	-

U_e = 415V: I_{cn} (mRB4) = 4.5 kA (acc. to IEC/EN 61009)
U_e = 415V: I_{cn} (mRB6) = 6 kA (acc. to IEC/EN 61009)
U_e = 400/415V: I_{cu} (NZMB2) = 25 kA (acc. to IEC/EN 60947-2)
U_e = 400/415V: I_{cu} (NZMC2) = 36 kA (acc. to IEC/EN 60947-2)
U_e = 400/415V: I_{cu} (NZMN2) = 50 kA (acc. to IEC/EN 60947-2)
U_e = 400/415V: I_{cu} (NZMH2) = 150 kA (acc. to IEC/EN 60947-2)

Back-up Protection between mRB. and PLSM-OV63

Short circuit currents in kA.

mRB4/mRB6	PLSM-OV63 U_e = 400 V		
	B	**C**	**D**
6	-	10	10
10	-	10	10
13	10	10	10
16	10	10	10
20	-	10	10
25	-	10	-

U_e = 415V: I_{cn} (mRB4) = 4.5 kA (acc. to IEC/EN 61009)
U_e = 415V: I_{cn} (mRB6) = 6 kA (acc. to IEC/EN 61009)
U_e = 400V: I_{cu} (PLSM-OV) = 10 kA (acc. to IEC/EN 60947-2)

Back-up Protection between mRB. and PLHT-OV80

Short circuit currents in kA.

mRB4/mRB6	PLHT-OV80 U_e = 400 V		
	B	**C**	**D**
6	-	20	20
10	-	20	20
13	20	20	20
16	20	20	20
20	-	20	20
25	-	20	-

U_e = 415V: I_{cn} (mRB4) = 4.5 kA (acc. to IEC/EN 61009)
U_e = 415V: I_{cn} (mRB6) = 6 kA (acc. to IEC/EN 61009)
U_e = 400V: I_{cu} (PLHT-80) = 20 kA (acc. to IEC/EN 60947-2)

Combined RCD/MCB Devices mRBM4-PT, 3+N-pole

SG08210

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Version -PT specific for applications in the BS-distribution systems, permanently connected neutral conductors
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 32 A
- Tripping characteristics B, C, D
- Rated breaking capacity 10 kA

Combined RCD/MCB Devices mRBM4-PT
10 kA, 3+N-pole
Conditionally surge current-proof 250 A, type AC

SG08210

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.03	mRBM4-10/3/B/003-PT	149482	1/24
13/0.03	mRBM4-13/3/B/003-PT	149483	1/24
16/0.03	mRBM4-16/3/B/003-PT	149484	1/24
20/0.03	mRBM4-20/3/B/003-PT	149485	1/24
10/0.1	mRBM4-10/3/B/01-PT	149516	1/24
13/0.1	mRBM4-13/3/B/01-PT	149517	1/24
16/0.1	mRBM4-16/3/B/01-PT	149518	1/24
20/0.1	mRBM4-20/3/B/01-PT	149519	1/24
10/0.3	mRBM4-10/3/B/03-PT	149550	1/24
13/0.3	mRBM4-13/3/B/03-PT	149551	1/24
16/0.3	mRBM4-16/3/B/03-PT	149552	1/24
20/0.3	mRBM4-20/3/B/03-PT	149553	1/24

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Characteristic C

6/0.03	mRBM4-6/3/C/003-PT	149486	1/24
10/0.03	mRBM4-10/3/C/003-PT	149487	1/24
13/0.03	mRBM4-13/3/C/003-PT	149488	1/24
16/0.03	mRBM4-16/3/C/003-PT	149489	1/24
20/0.03	mRBM4-20/3/C/003-PT	149490	1/24
25/0.03	mRBM4-25/3/C/003-PT	149491	1/24
32/0.03	mRBM4-32/3/C/003-PT	149492	1/24
6/0.1	mRBM4-6/3/C/01-PT	149520	1/24
10/0.1	mRBM4-10/3/C/01-PT	149521	1/24
13/0.1	mRBM4-13/3/C/01-PT	149522	1/24
16/0.1	mRBM4-16/3/C/01-PT	149523	1/24
20/0.1	mRBM4-20/3/C/01-PT	149524	1/24
25/0.1	mRBM4-25/3/C/01-PT	149525	1/24
32/0.1	mRBM4-32/3/C/01-PT	149526	1/24
6/0.3	mRBM4-6/3/C/03-PT	149554	1/24
10/0.3	mRBM4-10/3/C/03-PT	149555	1/24
13/0.3	mRBM4-13/3/C/03-PT	149556	1/24
16/0.3	mRBM4-16/3/C/03-PT	149557	1/24
20/0.3	mRBM4-20/3/C/03-PT	149558	1/24
25/0.3	mRBM4-25/3/C/03-PT	149559	1/24
32/0.3	mRBM4-32/3/C/03-PT	149560	1/24

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Characteristic D

6/0.03	mRBM4-6/3/D/003-PT	149493	1/24
10/0.03	mRBM4-10/3/D/003-PT	149494	1/24
13/0.03	mRBM4-13/3/D/003-PT	149495	1/24
16/0.03	mRBM4-16/3/D/003-PT	149496	1/24
20/0.03	mRBM4-20/3/D/003-PT	149497	1/24
25/0.03	mRBM4-25/3/D/003-PT	149498	1/24
6/0.1	mRBM4-6/3/D/01-PT	149527	1/24
10/0.1	mRBM4-10/3/D/01-PT	149528	1/24
13/0.1	mRBM4-13/3/D/01-PT	149529	1/24
16/0.1	mRBM4-16/3/D/01-PT	149530	1/24
20/0.1	mRBM4-20/3/D/01-PT	149531	1/24
25/0.1	mRBM4-25/3/D/01-PT	149532	1/24
6/0.3	mRBM4-6/3/D/03-PT	149561	1/24
10/0.3	mRBM4-10/3/D/03-PT	149562	1/24
13/0.3	mRBM4-13/3/D/03-PT	149563	1/24
16/0.3	mRBM4-16/3/D/03-PT	149564	1/24
20/0.3	mRBM4-20/3/D/03-PT	149565	1/24
25/0.3	mRBM4-25/3/D/03-PT	149566	1/24

Combined RCD/MCB Devices mRBM4-PT

10 kA, 3+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG08210

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.03	mRBM4-10/3/B/003-A-PT	149465	1/24
13/0.03	mRBM4-13/3/B/003-A-PT	149466	1/24
16/0.03	mRBM4-16/3/B/003-A-PT	149467	1/24
20/0.03	mRBM4-20/3/B/003-A-PT	149468	1/24
10/0.1	mRBM4-10/3/B/01-A-PT	149499	1/24
13/0.1	mRBM4-13/3/B/01-A-PT	149500	1/24
16/0.1	mRBM4-16/3/B/01-A-PT	149501	1/24
20/0.1	mRBM4-20/3/B/01-A-PT	149502	1/24
10/0.3	mRBM4-10/3/B/03-A-PT	149533	1/24
13/0.3	mRBM4-13/3/B/03-A-PT	149534	1/24
16/0.3	mRBM4-16/3/B/03-A-PT	149535	1/24
20/0.3	mRBM4-20/3/B/03-A-PT	149536	1/24

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Characteristic C

6/0.03	mRBM4-6/3/C/003-A-PT	149469	1/24
10/0.03	mRBM4-10/3/C/003-A-PT	149470	1/24
13/0.03	mRBM4-13/3/C/003-A-PT	149471	1/24
16/0.03	mRBM4-16/3/C/003-A-PT	149472	1/24
20/0.03	mRBM4-20/3/C/003-A-PT	149473	1/24
25/0.03	mRBM4-25/3/C/003-A-PT	149474	1/24
32/0.03	mRBM4-32/3/C/003-A-PT	149475	1/24
6/0.1	mRBM4-6/3/C/01-A-PT	149503	1/24
10/0.1	mRBM4-10/3/C/01-A-PT	149504	1/24
13/0.1	mRBM4-13/3/C/01-A-PT	149505	1/24
16/0.1	mRBM4-16/3/C/01-A-PT	149506	1/24
20/0.1	mRBM4-20/3/C/01-A-PT	149507	1/24
25/0.1	mRBM4-25/3/C/01-A-PT	149508	1/24
32/0.1	mRBM4-32/3/C/01-A-PT	149509	1/24
6/0.3	mRBM4-6/3/C/03-A-PT	149537	1/24
10/0.3	mRBM4-10/3/C/03-A-PT	149538	1/24
13/0.3	mRBM4-13/3/C/03-A-PT	149539	1/24
16/0.3	mRBM4-16/3/C/03-A-PT	149540	1/24
20/0.3	mRBM4-20/3/C/03-A-PT	149541	1/24
25/0.3	mRBM4-25/3/C/03-A-PT	149542	1/24
32/0.3	mRBM4-32/3/C/03-A-PT	149543	1/24

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Characteristic D

6/0.03	mRBM4-6/3/D/003-A-PT	149476	1/24
10/0.03	mRBM4-10/3/D/003-A-PT	149477	1/24
13/0.03	mRBM4-13/3/D/003-A-PT	149478	1/24
16/0.03	mRBM4-16/3/D/003-A-PT	149479	1/24
20/0.03	mRBM4-20/3/D/003-A-PT	149480	1/24
25/0.03	mRBM4-25/3/D/003-A-PT	149481	1/24
6/0.1	mRBM4-6/3/D/01-A-PT	149510	1/24
10/0.1	mRBM4-10/3/D/01-A-PT	149511	1/24
13/0.1	mRBM4-13/3/D/01-A-PT	149512	1/24
16/0.1	mRBM4-16/3/D/01-A-PT	149513	1/24
20/0.1	mRBM4-20/3/D/01-A-PT	149514	1/24
25/0.1	mRBM4-25/3/D/01-A-PT	149515	1/24
6/0.3	mRBM4-6/3/D/03-A-PT	149544	1/24
10/0.3	mRBM4-10/3/D/03-A-PT	149545	1/24
13/0.3	mRBM4-13/3/D/03-A-PT	149546	1/24
16/0.3	mRBM4-16/3/D/03-A-PT	149547	1/24
20/0.3	mRBM4-20/3/D/03-A-PT	149548	1/24
25/0.3	mRBM4-25/3/D/03-A-PT	149549	1/24

Combined RCD/MCB Devices mRBM4-UK-PT, 3+N-pole

SG08210

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Version -PT specific for applications in the BS-distribution systems, permanently connected neutral conductors
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 32 A
- Tripping characteristics B, C, D
- Rated breaking capacity 10 kA

Combined RCD/MCB Devices mRBM4-UK-PT
10 kA, 3+N-pole
Conditionally surge current-proof 250 A, type AC

SG08210

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.03	mRBM4-10/3/B/003-UK-PT	169653	1/24
13/0.03	mRBM4-13/3/B/003-UK-PT	169654	1/24
16/0.03	mRBM4-16/3/B/003-UK-PT	169655	1/24
20/0.03	mRBM4-20/3/B/003-UK-PT	169656	1/24
10/0.1	mRBM4-10/3/B/01-UK-PT	169622	1/24
13/0.1	mRBM4-13/3/B/01-UK-PT	169623	1/24
16/0.1	mRBM4-16/3/B/01-UK-PT	169624	1/24
20/0.1	mRBM4-20/3/B/01-UK-PT	169625	1/24
10/0.3	mRBM4-10/3/B/03-UK-PT	169615	1/24
13/0.3	mRBM4-13/3/B/03-UK-PT	169616	1/24
16/0.3	mRBM4-16/3/B/03-UK-PT	169617	1/24
20/0.3	mRBM4-20/3/B/03-UK-PT	169672	1/24

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Characteristic C

6/0.03	mRBM4-6/3/C/003-UK-PT	169657	1/24
10/0.03	mRBM4-10/3/C/003-UK-PT	169658	1/24
13/0.03	mRBM4-13/3/C/003-UK-PT	169659	1/24
16/0.03	mRBM4-16/3/C/003-UK-PT	169660	1/24
20/0.03	mRBM4-20/3/C/003-UK-PT	169661	1/24
25/0.03	mRBM4-25/3/C/003-UK-PT	169662	1/24
32/0.03	mRBM4-32/3/C/003-UK-PT	169663	1/24
6/0.1	mRBM4-6/3/C/01-UK-PT	169626	1/24
10/0.1	mRBM4-10/3/C/01-UK-PT	169627	1/24
13/0.1	mRBM4-13/3/C/01-UK-PT	169628	1/24
16/0.1	mRBM4-16/3/C/01-UK-PT	169629	1/24
20/0.1	mRBM4-20/3/C/01-UK-PT	169630	1/24
25/0.1	mRBM4-25/3/C/01-UK-PT	169631	1/24
32/0.1	mRBM4-32/3/C/01-UK-PT	169632	1/24
6/0.3	mRBM4-6/3/C/03-UK-PT	169673	1/24
10/0.3	mRBM4-10/3/C/03-UK-PT	169674	1/24
13/0.3	mRBM4-13/3/C/03-UK-PT	169675	1/24
16/0.3	mRBM4-16/3/C/03-UK-PT	169676	1/24
20/0.3	mRBM4-20/3/C/03-UK-PT	169677	1/24
25/0.3	mRBM4-25/3/C/03-UK-PT	169678	1/24
32/0.3	mRBM4-32/3/C/03-UK-PT	169679	1/24

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Characteristic D

6/0.03	mRBM4-6/3/D/003-UK-PT	169664	1/24
10/0.03	mRBM4-10/3/D/003-UK-PT	169665	1/24
13/0.03	mRBM4-13/3/D/003-UK-PT	169666	1/24
16/0.03	mRBM4-16/3/D/003-UK-PT	169667	1/24
20/0.03	mRBM4-20/3/D/003-UK-PT	169668	1/24
25/0.03	mRBM4-25/3/D/003-UK-PT	169669	1/24
6/0.1	mRBM4-6/3/D/01-UK-PT	169633	1/24
10/0.1	mRBM4-10/3/D/01-UK-PT	169634	1/24
13/0.1	mRBM4-13/3/D/01-UK-PT	169635	1/24
16/0.1	mRBM4-16/3/D/01-UK-PT	169595	1/24
20/0.1	mRBM4-20/3/D/01-UK-PT	169596	1/24
25/0.1	mRBM4-25/3/D/01-UK-PT	169597	1/24
6/0.3	mRBM4-6/3/D/03-UK-PT	169680	1/24
10/0.3	mRBM4-10/3/D/03-UK-PT	169681	1/24
13/0.3	mRBM4-13/3/D/03-UK-PT	169682	1/24
16/0.3	mRBM4-16/3/D/03-UK-PT	169683	1/24
20/0.3	mRBM4-20/3/D/03-UK-PT	169684	1/24
25/0.3	mRBM4-25/3/D/03-UK-PT	169685	1/24

Combined RCD/MCB Devices mRBM4-UK-PT

10 kA, 3+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG08210

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.03	mRBM4-10/3/B/003-A-UK-PT	169636	1/24
13/0.03	mRBM4-13/3/B/003-A-UK-PT	169637	1/24
16/0.03	mRBM4-16/3/B/003-A-UK-PT	169638	1/24
20/0.03	mRBM4-20/3/B/003-A-UK-PT	169639	1/24
10/0.1	mRBM4-10/3/B/01-A-UK-PT	169670	1/24
13/0.1	mRBM4-13/3/B/01-A-UK-PT	169671	1/24
16/0.1	mRBM4-16/3/B/01-A-UK-PT	169584	1/24
20/0.1	mRBM4-20/3/B/01-A-UK-PT	169585	1/24
10/0.3	mRBM4-10/3/B/03-A-UK-PT	169598	1/24
13/0.3	mRBM4-13/3/B/03-A-UK-PT	169599	1/24
16/0.3	mRBM4-16/3/B/03-A-UK-PT	169600	1/24
20/0.3	mRBM4-20/3/B/03-A-UK-PT	169601	1/24

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Characteristic C

6/0.03	mRBM4-6/3/C/003-A-UK-PT	169640	1/24
10/0.03	mRBM4-10/3/C/003-A-UK-PT	169641	1/24
13/0.03	mRBM4-13/3/C/003-A-UK-PT	169642	1/24
16/0.03	mRBM4-16/3/C/003-A-UK-PT	169643	1/24
20/0.03	mRBM4-20/3/C/003-A-UK-PT	169644	1/24
25/0.03	mRBM4-25/3/C/003-A-UK-PT	169645	1/24
32/0.03	mRBM4-32/3/C/003-A-UK-PT	169646	1/24
6/0.1	mRBM4-6/3/C/01-A-UK-PT	169586	1/24
10/0.1	mRBM4-10/3/C/01-A-UK-PT	169587	1/24
13/0.1	mRBM4-13/3/C/01-A-UK-PT	169588	1/24
16/0.1	mRBM4-16/3/C/01-A-UK-PT	169589	1/24
20/0.1	mRBM4-20/3/C/01-A-UK-PT	169590	1/24
25/0.1	mRBM4-25/3/C/01-A-UK-PT	169591	1/24
32/0.1	mRBM4-32/3/C/01-A-UK-PT	169592	1/24
6/0.3	mRBM4-6/3/C/03-A-UK-PT	169602	1/24
10/0.3	mRBM4-10/3/C/03-A-UK-PT	169603	1/24
13/0.3	mRBM4-13/3/C/03-A-UK-PT	169604	1/24
16/0.3	mRBM4-16/3/C/03-A-UK-PT	169605	1/24
20/0.3	mRBM4-20/3/C/03-A-UK-PT	169606	1/24
25/0.3	mRBM4-25/3/C/03-A-UK-PT	169607	1/24
32/0.3	mRBM4-32/3/C/03-A-UK-PT	169608	1/24

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Characteristic D

6/0.03	mRBM4-6/3/D/003-A-UK-PT	169647	1/24
10/0.03	mRBM4-10/3/D/003-A-UK-PT	169648	1/24
13/0.03	mRBM4-13/3/D/003-A-UK-PT	169649	1/24
16/0.03	mRBM4-16/3/D/003-A-UK-PT	169650	1/24
20/0.03	mRBM4-20/3/D/003-A-UK-PT	169651	1/24
25/0.03	mRBM4-25/3/D/003-A-UK-PT	169652	1/24
6/0.1	mRBM4-6/3/D/01-A-UK-PT	169593	1/24
10/0.1	mRBM4-10/3/D/01-A-UK-PT	169594	1/24
13/0.1	mRBM4-13/3/D/01-A-UK-PT	169618	1/24
16/0.1	mRBM4-16/3/D/01-A-UK-PT	169619	1/24
20/0.1	mRBM4-20/3/D/01-A-UK-PT	169620	1/24
25/0.1	mRBM4-25/3/D/01-A-UK-PT	169621	1/24
6/0.3	mRBM4-6/3/D/03-A-UK-PT	169609	1/24
10/0.3	mRBM4-10/3/D/03-A-UK-PT	169610	1/24
13/0.3	mRBM4-13/3/D/03-A-UK-PT	169611	1/24
16/0.3	mRBM4-16/3/D/03-A-UK-PT	169612	1/24
20/0.3	mRBM4-20/3/D/03-A-UK-PT	169613	1/24
25/0.3	mRBM4-25/3/D/03-A-UK-PT	169614	1/24

Combined RCD/MCB Devices mRB64-PT, 3+N-pole

SG08210

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Version -PT specific for applications in the BS-distribution systems, permanently connected neutral conductors
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 32 A
- Tripping characteristics B, C, D
- Rated breaking capacity 6 kA

Combined RCD/MCB Devices mRB64-PT
10 kA, 3+N-pole
Conditionally surge current-proof 250 A, type AC

SG08210

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.03	mRB64-10/3/B/003-PT	149584	1/24
13/0.03	mRB64-13/3/B/003-PT	149585	1/24
16/0.03	mRB64-16/3/B/003-PT	149586	1/24
20/0.03	mRB64-20/3/B/003-PT	149587	1/24
10/0.1	mRB64-10/3/B/01-PT	149618	1/24
13/0.1	mRB64-13/3/B/01-PT	149619	1/24
16/0.1	mRB64-16/3/B/01-PT	149620	1/24
20/0.1	mRB64-20/3/B/01-PT	149621	1/24
10/0.3	mRB64-10/3/B/03-PT	149652	1/24
13/0.3	mRB64-13/3/B/03-PT	149653	1/24
16/0.3	mRB64-16/3/B/03-PT	149654	1/24
20/0.3	mRB64-20/3/B/03-PT	149655	1/24

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Characteristic C

6/0.03	mRB64-6/3/C/003-PT	149588	1/24
10/0.03	mRB64-10/3/C/003-PT	149589	1/24
13/0.03	mRB64-13/3/C/003-PT	149590	1/24
16/0.03	mRB64-16/3/C/003-PT	149591	1/24
20/0.03	mRB64-20/3/C/003-PT	149592	1/24
25/0.03	mRB64-25/3/C/003-PT	149593	1/24
32/0.03	mRB64-32/3/C/003-PT	149594	1/24
6/0.1	mRB64-6/3/C/01-PT	149622	1/24
10/0.1	mRB64-10/3/C/01-PT	149623	1/24
13/0.1	mRB64-13/3/C/01-PT	149624	1/24
16/0.1	mRB64-16/3/C/01-PT	149625	1/24
20/0.1	mRB64-20/3/C/01-PT	149626	1/24
25/0.1	mRB64-25/3/C/01-PT	149627	1/24
32/0.1	mRB64-32/3/C/01-PT	149628	1/24
6/0.3	mRB64-6/3/C/03-PT	149656	1/24
10/0.3	mRB64-10/3/C/03-PT	149657	1/24
13/0.3	mRB64-13/3/C/03-PT	149658	1/24
16/0.3	mRB64-16/3/C/03-PT	149659	1/24
20/0.3	mRB64-20/3/C/03-PT	149660	1/24
25/0.3	mRB64-25/3/C/03-PT	149661	1/24
32/0.3	mRB64-32/3/C/03-PT	149662	1/24

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Characteristic D

6/0.03	mRB64-6/3/D/003-PT	149595	1/24
10/0.03	mRB64-10/3/D/003-PT	149596	1/24
13/0.03	mRB64-13/3/D/003-PT	149597	1/24
16/0.03	mRB64-16/3/D/003-PT	149598	1/24
20/0.03	mRB64-20/3/D/003-PT	149599	1/24
25/0.03	mRB64-25/3/D/003-PT	149600	1/24
6/0.1	mRB64-6/3/D/01-PT	149629	1/24
10/0.1	mRB64-10/3/D/01-PT	149630	1/24
13/0.1	mRB64-13/3/D/01-PT	149631	1/24
16/0.1	mRB64-16/3/D/01-PT	149632	1/24
20/0.1	mRB64-20/3/D/01-PT	149633	1/24
25/0.1	mRB64-25/3/D/01-PT	149634	1/24
6/0.3	mRB64-6/3/D/03-PT	149663	1/24
10/0.3	mRB64-10/3/D/03-PT	149664	1/24
13/0.3	mRB64-13/3/D/03-PT	149665	1/24
16/0.3	mRB64-16/3/D/03-PT	149666	1/24
20/0.3	mRB64-20/3/D/03-PT	149667	1/24
25/0.3	mRB64-25/3/D/03-PT	149668	1/24

Combined RCD/MCB Devices mRB64-PT
10 kA, 3+N-pole
Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG08210

Characteristic B

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
10/0.03	mRB64-10/3/B/003-A-PT	149567	1/24
13/0.03	mRB64-13/3/B/003-A-PT	149568	1/24
16/0.03	mRB64-16/3/B/003-A-PT	149569	1/24
20/0.03	mRB64-20/3/B/003-A-PT	149570	1/24
10/0.1	mRB64-10/3/B/01-A-PT	149601	1/24
13/0.1	mRB64-13/3/B/01-A-PT	149602	1/24
16/0.1	mRB64-16/3/B/01-A-PT	149603	1/24
20/0.1	mRB64-20/3/B/01-A-PT	149604	1/24
10/0.3	mRB64-10/3/B/03-A-PT	149635	1/24
13/0.3	mRB64-13/3/B/03-A-PT	149636	1/24
16/0.3	mRB64-16/3/B/03-A-PT	149637	1/24
20/0.3	mRB64-20/3/B/03-A-PT	149638	1/24

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Characteristic C

6/0.03	mRB64-6/3/C/003-A-PT	149571	1/24
10/0.03	mRB64-10/3/C/003-A-PT	149572	1/24
13/0.03	mRB64-13/3/C/003-A-PT	149573	1/24
16/0.03	mRB64-16/3/C/003-A-PT	149574	1/24
20/0.03	mRB64-20/3/C/003-A-PT	149575	1/24
25/0.03	mRB64-25/3/C/003-A-PT	149576	1/24
32/0.03	mRB64-32/3/C/003-A-PT	149577	1/24
6/0.1	mRB64-6/3/C/01-A-PT	149605	1/24
10/0.1	mRB64-10/3/C/01-A-PT	149606	1/24
13/0.1	mRB64-13/3/C/01-A-PT	149607	1/24
16/0.1	mRB64-16/3/C/01-A-PT	149608	1/24
20/0.1	mRB64-20/3/C/01-A-PT	149609	1/24
25/0.1	mRB64-25/3/C/01-A-PT	149610	1/24
32/0.1	mRB64-32/3/C/01-A-PT	149611	1/24
6/0.3	mRB64-6/3/C/03-A-PT	149639	1/24
10/0.3	mRB64-10/3/C/03-A-PT	149640	1/24
13/0.3	mRB64-13/3/C/03-A-PT	149641	1/24
16/0.3	mRB64-16/3/C/03-A-PT	149642	1/24
20/0.3	mRB64-20/3/C/03-A-PT	149643	1/24
25/0.3	mRB64-25/3/C/03-A-PT	149644	1/24
32/0.3	mRB64-32/3/C/03-A-PT	149645	1/24

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Characteristic D

6/0.03	mRB64-6/3/D/003-A-PT	149578	1/24
10/0.03	mRB64-10/3/D/003-A-PT	149579	1/24
13/0.03	mRB64-13/3/D/003-A-PT	149580	1/24
16/0.03	mRB64-16/3/D/003-A-PT	149581	1/24
20/0.03	mRB64-20/3/D/003-A-PT	149582	1/24
25/0.03	mRB64-25/3/D/003-A-PT	149583	1/24
6/0.1	mRB64-6/3/D/01-A-PT	149612	1/24
10/0.1	mRB64-10/3/D/01-A-PT	149613	1/24
13/0.1	mRB64-13/3/D/01-A-PT	149614	1/24
16/0.1	mRB64-16/3/D/01-A-PT	149615	1/24
20/0.1	mRB64-20/3/D/01-A-PT	149616	1/24
25/0.1	mRB64-25/3/D/01-A-PT	149617	1/24
6/0.3	mRB64-6/3/D/03-A-PT	149646	1/24
10/0.3	mRB64-10/3/D/03-A-PT	149647	1/24
13/0.3	mRB64-13/3/D/03-A-PT	149648	1/24
16/0.3	mRB64-16/3/D/03-A-PT	149649	1/24
20/0.3	mRB64-20/3/D/03-A-PT	149650	1/24
25/0.3	mRB64-25/3/D/03-A-PT	149651	1/24

Specifications | Combined RCD/MCB Devices mRBM4-PT, mRBM4-UK-PT, mRB64-PT, 3+N-pole

Description

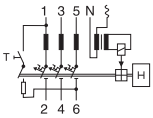
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Comprehensive range of accessories can be mounted subsequently
- This compact protective device is specific for applications in the BS-distribution produced. Permanently connected neutral conductors (l = 950 mm, Ø = 6 mm²)
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-NHK	248437
	ZP-WHK	286053
Shunt trip release	ZP-ASA/..	248438, 248439

Connection diagram

3+N-pole

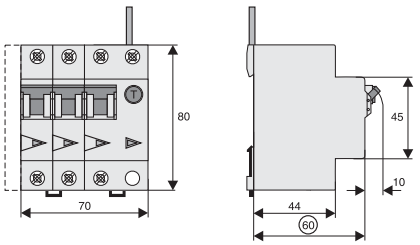


Technical Data

Electrical		
Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping		
line-voltage-independent		instantaneous 250A (8/20µs) surge current proof
Rated voltage U_e		230/400V; 50Hz
Rated tripping current $I_{\Delta n}$		30, 100, 300 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity		
mRBM4-PT		10 kA
mRBM4-UK-PT		10 kA
mRB64-PT		6 kA
Rated current		6 - 32 A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		B, C, D
Maximum back-up fuse (short circuit)		100 A gL/gG
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	70 mm (4MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)



Electronic Combined RCD/MCB Devices PKDM,, 1+N-pole, 2MU

SG16411

- Innovative, high-quality residual current device / miniature circuit breaker combination, line voltage-dependent
- Contact position indicator red - green
- Colour code for rated tripping currents
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 40 A
- Tripping characteristics B, C, D
- Rated breaking capacity 10 kA

Electronic Combined RCD/MCB Devices PKDM,, 2MU
1+N-pole
Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

SG16411

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
2/0.01	PKDM-2/1N/B/001-A	248718	1/60
4/0.01	PKDM-4/1N/B/001-A	248719	1/60
6/0.01	PKDM-6/1N/B/001-A	248720	1/60
10/0.01	PKDM-10/1N/B/001-A	248721	1/60
13/0.01	PKDM-13/1N/B/001-A	248722	1/60
16/0.01	PKDM-16/1N/B/001-A	248723	1/60
20/0.01	PKDM-20/1N/B/001-A	248724	1/60
25/0.01	PKDM-25/1N/B/001-A	248725	1/60
32/0.01	PKDM-32/1N/B/001-A	248726	1/60
40/0.01	PKDM-40/1N/B/001-A	248727	1/60
2/0.03	PKDM-2/1N/B/003-A	248745	1/60
4/0.03	PKDM-4/1N/B/003-A	248746	1/60
6/0.03	PKDM-6/1N/B/003-A	248747	1/60
10/0.03	PKDM-10/1N/B/003-A	248748	1/60
13/0.03	PKDM-13/1N/B/003-A	248749	1/60
16/0.03	PKDM-16/1N/B/003-A	248750	1/60
20/0.03	PKDM-20/1N/B/003-A	248751	1/60
25/0.03	PKDM-25/1N/B/003-A	248752	1/60
32/0.03	PKDM-32/1N/B/003-A	248753	1/60
40/0.03	PKDM-40/1N/B/003-A	248754	1/60
2/0.3	PKDM-2/1N/B/03-A	248772	1/60
4/0.3	PKDM-4/1N/B/03-A	248773	1/60
6/0.3	PKDM-6/1N/B/03-A	248774	1/60
10/0.3	PKDM-10/1N/B/03-A	248775	1/60
13/0.3	PKDM-13/1N/B/03-A	248776	1/60
16/0.3	PKDM-16/1N/B/03-A	248777	1/60
20/0.3	PKDM-20/1N/B/03-A	248778	1/60
25/0.3	PKDM-25/1N/B/03-A	248779	1/60
32/0.3	PKDM-32/1N/B/03-A	248780	1/60
40/0.3	PKDM-40/1N/B/03-A	248781	1/60

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Characteristic C			
2/0.01	PKDM-2/1N/C/001-A	248735	1/60
4/0.01	PKDM-4/1N/C/001-A	248736	1/60
6/0.01	PKDM-6/1N/C/001-A	248737	1/60
10/0.01	PKDM-10/1N/C/001-A	248738	1/60
13/0.01	PKDM-13/1N/C/001-A	248739	1/60
16/0.01	PKDM-16/1N/C/001-A	248740	1/60
20/0.01	PKDM-20/1N/C/001-A	248741	1/60
25/0.01	PKDM-25/1N/C/001-A	248742	1/60
32/0.01	PKDM-32/1N/C/001-A	248743	1/60
40/0.01	PKDM-40/1N/C/001-A	248744	1/60
2/0.03	PKDM-2/1N/C/003-A	248762	1/60
4/0.03	PKDM-4/1N/C/003-A	248763	1/60
6/0.03	PKDM-6/1N/C/003-A	248764	1/60
10/0.03	PKDM-10/1N/C/003-A	248765	1/60
13/0.03	PKDM-13/1N/C/003-A	248766	1/60
16/0.03	PKDM-16/1N/C/003-A	248767	1/60
20/0.03	PKDM-20/1N/C/003-A	248768	1/60
25/0.03	PKDM-25/1N/C/003-A	248769	1/60
32/0.03	PKDM-32/1N/C/003-A	248770	1/60
40/0.03	PKDM-40/1N/C/003-A	248771	1/60
2/0.3	PKDM-2/1N/C/03-A	248789	1/60
4/0.3	PKDM-4/1N/C/03-A	248790	1/60
6/0.3	PKDM-6/1N/C/03-A	248791	1/60
10/0.3	PKDM-10/1N/C/03-A	248792	1/60
13/0.3	PKDM-13/1N/C/03-A	248793	1/60
16/0.3	PKDM-16/1N/C/03-A	248794	1/60
20/0.3	PKDM-20/1N/C/03-A	248795	1/60
25/0.3	PKDM-25/1N/C/03-A	248796	1/60
32/0.3	PKDM-32/1N/C/03-A	248797	1/60
40/0.3	PKDM-40/1N/C/03-A	248798	1/60

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$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic D			
2/0.01	PKDM-2/1N/D/001-A	248728	1/60
4/0.01	PKDM-4/1N/D/001-A	248729	1/60
6/0.01	PKDM-6/1N/D/001-A	248730	1/60
10/0.01	PKDM-10/1N/D/001-A	248731	1/60
13/0.01	PKDM-13/1N/D/001-A	248732	1/60
16/0.01	PKDM-16/1N/D/001-A	248733	1/60
20/0.01	PKDM-20/1N/D/001-A	248734	1/60
2/0.03	PKDM-2/1N/D/003-A	248755	1/60
4/0.03	PKDM-4/1N/D/003-A	248756	1/60
6/0.03	PKDM-6/1N/D/003-A	248757	1/60
10/0.03	PKDM-10/1N/D/003-A	248758	1/60
13/0.03	PKDM-13/1N/D/003-A	248759	1/60
16/0.03	PKDM-16/1N/D/003-A	248760	1/60
20/0.03	PKDM-20/1N/D/003-A	248761	1/60
2/0.3	PKDM-2/1N/D/03-A	248782	1/60
4/0.3	PKDM-4/1N/D/03-A	248783	1/60
6/0.3	PKDM-6/1N/D/03-A	248784	1/60
10/0.3	PKDM-10/1N/D/03-A	248785	1/60
13/0.3	PKDM-13/1N/D/03-A	248786	1/60
16/0.3	PKDM-16/1N/D/03-A	248787	1/60
20/0.3	PKDM-20/1N/D/03-A	248788	1/60

Specifications | Electronic Combined RCD/MCB Devices PKDM, 1+N-pole, 2MU

Description

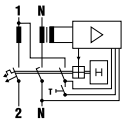
- Electronic residual current device / miniature circuit breaker combination
- Tripping line voltage dependent
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Contact position indicator red - green
- Protects against special forms of residual pulsating DC which have have not been smoothed
- Comprehensive range of accessories can be mounted subsequently

Accessories:

Auxiliary switch for subsequent installation	Z-AHK	248433
Tripping signal switch for subsequent installation	Z-NHK	248434
Shunt trip release	Z-ASA/..	248286, 248287
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm²	Z-HA-EK/35	263960

Connection diagram

1+N-pole



Technical Data

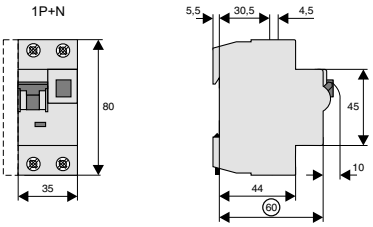
Electrical

Design according to	IEC/EN 61009
Current test marks as printed onto the device	
Tripping line voltage-dependent	instantaneous 250A (8/20µs) surge current proof
Rated voltage	230 V; 50 Hz
Voltage range for for protective function	60 - 250 V~
Rated tripping current	30, 300 mA
Rated non-tripping current $I_{\Delta no}$	0.5 $I_{\Delta n}$
Sensitivity	pulsating DC
Selectivity class	3
Rated breaking capacity	10 kA
Rated current	2 - 40 A
Characteristic	B, C, D
Maximum back-up fuse (short circuit)	100 A gL (>10 kA)
Ultimate short circuit breaking capacity I_{cn}	10 kA
Rated short circuit breaking capacity I_{cg}	7.5 kA
Rated fault breaking capacity $I_{\Delta m}$	10 kA
Endurance electrical comp.	≥ 4,000 switching op.
mechanical comp.	≥ 20,000 switching op.

Mechanical

Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness	0.8-2 mm
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)



Combined RCD/MCB Devices PKNM-PT, 1+N-pole

SG13711

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Version -PT specific for applications in the BS-distribution systems, permanently connected neutral conductors
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Wide variety of rated tripping currents
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 10 kA

Combined RCD/MCB Devices PKNM-PT

10 kA, 1+N-pole (permanently connected neutral conductor, 550 mm long)

Conditionally surge current-proof 250 A, type AC

SG13711

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
Characteristic B			
6/0.03	PKNM-6/1N/B/003-PT	235980	1/40
10/0.03	PKNM-10/1N/B/003-PT	235981	1/40
13/0.03	PKNM-13/1N/B/003-PT	235982	1/40
16/0.03	PKNM-16/1N/B/003-PT	235983	1/40
20/0.03	PKNM-20/1N/B/003-PT	235984	1/40
25/0.03	PKNM-25/1N/B/003-PT	235985	1/40
32/0.03	PKNM-32/1N/B/003-PT	235986	1/40
40/0.03	PKNM-40/1N/B/003-PT	235987	1/40

SG13711

Characteristic C			
6/0.03	PKNM-6/1N/C/003-PT	235960	1/40
10/0.03	PKNM-10/1N/C/003-PT	235965	1/40
13/0.03	PKNM-13/1N/C/003-PT	235970	1/40
16/0.03	PKNM-16/1N/C/003-PT	235975	1/40
20/0.03	PKNM-20/1N/C/003-PT	235976	1/40
25/0.03	PKNM-25/1N/C/003-PT	235977	1/40
32/0.03	PKNM-32/1N/C/003-PT	235978	1/40
40/0.03	PKNM-40/1N/C/003-PT	235979	1/40

Specifications | Combined RCD/MCB Devices PKNM-PT, 1+N-pole

Description

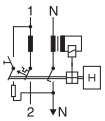
- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above
- Free terminal space despite installed busbar
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- This compact protective device is specific for applications in the BS-distributor produced. Permanently connected neutral conductors (l = 550 mm, Ø = 6 mm²).
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.

Accessories:

Auxiliary switch for subsequent installation	Z-AHK	248433
Tripping signal switch for subsequent installation	Z-NHK	248434
Shunt trip release	ZP-ASA	248438, 248439
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm²	Z-HA-EK/35	263960

Connection diagram

1+N-pole

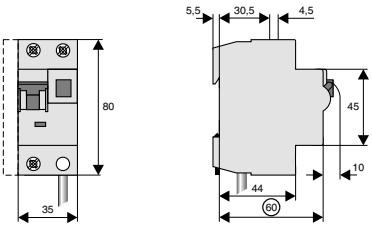


Technical Data

Electrical		
Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping		
line-voltage-independent		instantaneous 250A (8/20µs) surge current proof
Rated voltage		230 V; 50 Hz
Operational voltage range		196-253 V
Rated tripping current		30 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Sensitivity		AC
Selectivity class		3
Rated breaking capacity		10 kA
Rated current		6 - 40 A
Rated impulse withstand voltage U_{imp}		4 kV (1.2/50µs)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>6 kA)
Endurance	electrical comp.	≥ 4,000 switching op.
	mechanical comp.	≥ 20,000 switching op.

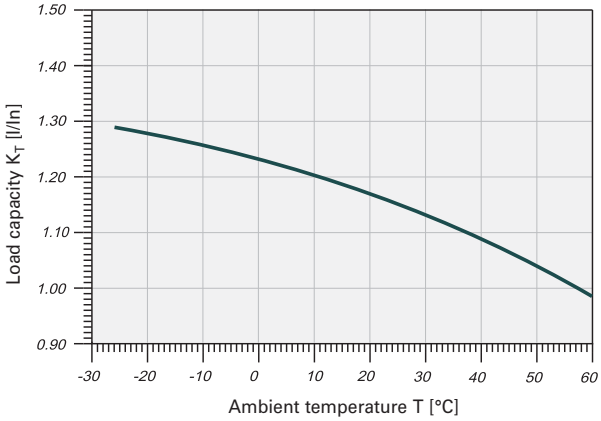
Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	35 mm (2MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Upper terminals	2 x open mouthed/lift terminals
Lower terminals	1 x open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	1 - 25 mm²
Busbar thickness oben	0.8-2 mm
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

Dimensions (mm)



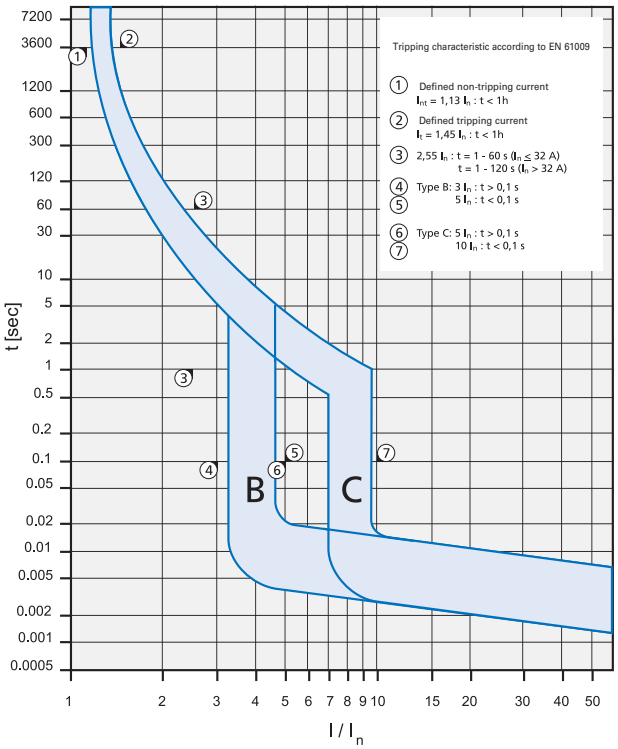
Load Capacity

Effect of ambient temperature (MCB component)



Valid for combined RCD/MCB devices 1+N-pole

Tripping Characteristic PKNM-../1N/..-PT, Characteristics B and C



Miniature Circuit Breakers PLSM, PLZM MW

SG67811

- High-quality miniature circuit breakers for commercial and residential applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 63 A
- Tripping characteristics B, C, D
- Rated breaking capacity 10 kA acc. to IEC/EN 60898-1

Miniature Circuit Breakers PLSM, PLZM
10 kA, Characteristic B

MW

SG48411

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
1	PLSM-B1	242165	12/120
1.5	PLSM-B1,5	242166	12/120
1.6	PLSM-B1,6	242167	12/120
2	PLSM-B2	242168	12/120
2.5	PLSM-B2,5	242169	12/120
3	PLSM-B3	242170	12/120
3.5	PLSM-B3,5	242171	12/120
4	PLSM-B4	242172	12/120
5	PLSM-B5	242173	12/120
6	PLSM-B6	242174	12/120
8	PLSM-B8	242175	12/120
10	PLSM-B10	242176	12/120
12	PLSM-B12	242177	12/120
13	PLSM-B13	242178	12/120
15	PLSM-B15	242179	12/120
16	PLSM-B16	242180	12/120
20	PLSM-B20	242181	12/120
25	PLSM-B25	242182	12/120
32	PLSM-B32	242183	12/120
40	PLSM-B40	242184	12/120
50	PLSM-B50	242185	12/120
63	PLSM-B63	242186	12/120

SG49211

1+N-pole 1,5MU

1	PLSM-B1/1N	242234	8/80
1.5	PLSM-B1,5/1N	242235	8/80
1.6	PLSM-B1,6/1N	242236	8/80
2	PLSM-B2/1N	242237	8/80
2.5	PLSM-B2,5/1N	242238	8/80
3	PLSM-B3/1N	242239	8/80
3.5	PLSM-B3,5/1N	242240	8/80
4	PLSM-B4/1N	242241	8/80
5	PLSM-B5/1N	242242	8/80
6	PLSM-B6/1N	242243	8/80
8	PLSM-B8/1N	242244	8/80
10	PLSM-B10/1N	242245	8/80
12	PLSM-B12/1N	242246	8/80
13	PLSM-B13/1N	242247	8/80
15	PLSM-B15/1N	242248	8/80
16	PLSM-B16/1N	242249	8/80
20	PLSM-B20/1N	242250	8/80
25	PLSM-B25/1N	242251	8/80
32	PLSM-B32/1N	242252	8/80

SG52711

1+N-pole 2MU

1	PLZM-B1/1N	242295	1/60
1.5	PLZM-B1,5/1N	242296	1/60
1.6	PLZM-B1,6/1N	242297	1/60
2	PLZM-B2/1N	242298	1/60
2.5	PLZM-B2,5/1N	242299	1/60
3	PLZM-B3/1N	242300	1/60
3.5	PLZM-B3,5/1N	242301	1/60
4	PLZM-B4/1N	242302	1/60
5	PLZM-B5/1N	242303	1/60
6	PLZM-B6/1N	242304	1/60
8	PLZM-B8/1N	242305	1/60
10	PLZM-B10/1N	242306	1/60
12	PLZM-B12/1N	242307	1/60
13	PLZM-B13/1N	242308	1/60
15	PLZM-B15/1N	242309	1/60
16	PLZM-B16/1N	242310	1/60
20	PLZM-B20/1N	242311	1/60
25	PLZM-B25/1N	242312	1/60
32	PLZM-B32/1N	242313	1/60
40	PLZM-B40/1N	242314	1/60
50	PLZM-B50/1N	242315	1/60
63	PLZM-B63/1N	242316	1/60

Explanation PLSM:
P = XPole, LS = Miniature Circuit Breaker, M = 10 kA

SG54811

Rated current I_n (A)	Type Designation	Article No.	Units per package
2-pole			
1	PLSM-B1/2	242364	1/60
1.5	PLSM-B1,5/2	242365	1/60
1.6	PLSM-B1,6/2	242366	1/60
2	PLSM-B2/2	242367	1/60
2.5	PLSM-B2,5/2	242368	1/60
3	PLSM-B3/2	242369	1/60
3.5	PLSM-B3,5/2	242370	1/60
4	PLSM-B4/2	242371	1/60
5	PLSM-B5/2	242372	1/60
6	PLSM-B6/2	242373	1/60
8	PLSM-B8/2	242374	1/60
10	PLSM-B10/2	242375	1/60
12	PLSM-B12/2	242376	1/60
13	PLSM-B13/2	242377	1/60
15	PLSM-B15/2	242378	1/60
16	PLSM-B16/2	242379	1/60
20	PLSM-B20/2	242380	1/60
25	PLSM-B25/2	242381	1/60
32	PLSM-B32/2	242382	1/60
40	PLSM-B40/2	242383	1/60
50	PLSM-B50/2	242384	1/60
63	PLSM-B63/2	242385	1/60

SG63111

3-pole			
1	PLSM-B1/3	242433	1/40
1.5	PLSM-B1,5/3	242434	1/40
1.6	PLSM-B1,6/3	242435	1/40
2	PLSM-B2/3	242436	1/40
2.5	PLSM-B2,5/3	242437	1/40
3	PLSM-B3/3	242438	1/40
3.5	PLSM-B3,5/3	242439	1/40
4	PLSM-B4/3	242440	1/40
5	PLSM-B5/3	242441	1/40
6	PLSM-B6/3	242442	1/40
8	PLSM-B8/3	242443	1/40
10	PLSM-B10/3	242444	1/40
12	PLSM-B12/3	242445	1/40
13	PLSM-B13/3	242446	1/40
15	PLSM-B15/3	242447	1/40
16	PLSM-B16/3	242448	1/40
20	PLSM-B20/3	242449	1/40
25	PLSM-B25/3	242450	1/40
32	PLSM-B32/3	242451	1/40
40	PLSM-B40/3	242452	1/40
50	PLSM-B50/3	242453	1/40
63	PLSM-B63/3	242454	1/40

SG65611

3+N-pole			
1	PLSM-B1/3N	242502	1/30
1.5	PLSM-B1,5/3N	242503	1/30
1.6	PLSM-B1,6/3N	242504	1/30
2	PLSM-B2/3N	242505	1/30
2.5	PLSM-B2,5/3N	242506	1/30
3	PLSM-B3/3N	242507	1/30
3.5	PLSM-B3,5/3N	242508	1/30
4	PLSM-B4/3N	242509	1/30
5	PLSM-B5/3N	242510	1/30
6	PLSM-B6/3N	242511	1/30
8	PLSM-B8/3N	242512	1/30
10	PLSM-B10/3N	242513	1/30
12	PLSM-B12/3N	242514	1/30
13	PLSM-B13/3N	242515	1/30
15	PLSM-B15/3N	242516	1/30
16	PLSM-B16/3N	242517	1/30
20	PLSM-B20/3N	242518	1/30
25	PLSM-B25/3N	242519	1/30
32	PLSM-B32/3N	242520	1/30
40	PLSM-B40/3N	242521	1/30
50	PLSM-B50/3N	242522	1/30
63	PLSM-B63/3N	242523	1/30

Explanation PLSM:
P = XPole, LS = Miniature Circuit Breaker, M = 10 kA

SG67811

Rated current I_n (A)	Type Designation	Article No.	Units per package
4-pole			
1	PLSM-B1/4	242571	1/30
1.5	PLSM-B1,5/4	242572	1/30
1.6	PLSM-B1,6/4	242573	1/30
2	PLSM-B2/4	242574	1/30
2.5	PLSM-B2,5/4	242575	1/30
3	PLSM-B3/4	242576	1/30
3.5	PLSM-B3,5/4	242577	1/30
4	PLSM-B4/4	242578	1/30
5	PLSM-B5/4	242579	1/30
6	PLSM-B6/4	242580	1/30
8	PLSM-B8/4	242581	1/30
10	PLSM-B10/4	242582	1/30
12	PLSM-B12/4	242583	1/30
13	PLSM-B13/4	242584	1/30
15	PLSM-B15/4	242585	1/30
16	PLSM-B16/4	242586	1/30
20	PLSM-B20/4	242587	1/30
25	PLSM-B25/4	242588	1/30
32	PLSM-B32/4	242589	1/30
40	PLSM-B40/4	242590	1/30
50	PLSM-B50/4	242591	1/30
63	PLSM-B63/4	242592	1/30

Miniature Circuit Breakers PLSM, PLZM

MW

10 kA, Characteristic C

SG48411

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
0.16	PLSM-C0,16	242187	12/120
0.25	PLSM-C0,25	242188	12/120
0.5	PLSM-C0,5	242190	12/120
0.75	PLSM-C0,75	242189	12/120
1	PLSM-C1	242191	12/120
1.5	PLSM-C1,5	242192	12/120
1.6	PLSM-C1,6	242193	12/120
2	PLSM-C2	242194	12/120
2.5	PLSM-C2,5	242195	12/120
3	PLSM-C3	242196	12/120
3.5	PLSM-C3,5	242197	12/120
4	PLSM-C4	242198	12/120
5	PLSM-C5	242199	12/120
6	PLSM-C6	242200	12/120
8	PLSM-C8	242201	12/120
10	PLSM-C10	242202	12/120
12	PLSM-C12	242203	12/120
13	PLSM-C13	242204	12/120
15	PLSM-C15	242205	12/120
16	PLSM-C16	242206	12/120
20	PLSM-C20	242207	12/120
25	PLSM-C25	242208	12/120
32	PLSM-C32	242209	12/120
40	PLSM-C40	242210	12/120
50	PLSM-C50	242211	12/120
63	PLSM-C63	242212	12/120

Explanation PLSM:
P = XPole, LS = Miniature Circuit Breaker, M = 10 kA

SG49211

1+N-pole, 1.5MU

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PLSM-C0,16/1N	242253	8/80
0.25	PLSM-C0,25/1N	242254	8/80
0.5	PLSM-C0,5/1N	242256	8/80
0.75	PLSM-C0,75/1N	242255	8/80
1	PLSM-C1/1N	242257	8/80
1.5	PLSM-C1,5/1N	242258	8/80
1.6	PLSM-C1,6/1N	242259	8/80
2	PLSM-C2/1N	242260	8/80
2.5	PLSM-C2,5/1N	242261	8/80
3	PLSM-C3/1N	242262	8/80
3.5	PLSM-C3,5/1N	242263	8/80
4	PLSM-C4/1N	242264	8/80
5	PLSM-C5/1N	242265	8/80
6	PLSM-C6/1N	242266	8/80
8	PLSM-C8/1N	242267	8/80
10	PLSM-C10/1N	242268	8/80
12	PLSM-C12/1N	242269	8/80
13	PLSM-C13/1N	242270	8/80
15	PLSM-C15/1N	242271	8/80
16	PLSM-C16/1N	242272	8/80
20	PLSM-C20/1N	242273	8/80
25	PLSM-C25/1N	242274	8/80
32	PLSM-C32/1N	242275	8/80

SG52711

1+N-pole, 2MU

0.16	PLZM-C0,16/1N	242317	1/60
0.25	PLZM-C0,25/1N	242318	1/60
0.5	PLZM-C0,5/1N	242320	1/60
0.75	PLZM-C0,75/1N	242319	1/60
1	PLZM-C1/1N	242321	1/60
1.5	PLZM-C1,5/1N	242322	1/60
1.6	PLZM-C1,6/1N	242323	1/60
2	PLZM-C2/1N	242324	1/60
2.5	PLZM-C2,5/1N	242325	1/60
3	PLZM-C3/1N	242326	1/60
3.5	PLZM-C3,5/1N	242327	1/60
4	PLZM-C4/1N	242328	1/60
5	PLZM-C5/1N	242329	1/60
6	PLZM-C6/1N	242330	1/60
8	PLZM-C8/1N	242331	1/60
10	PLZM-C10/1N	242332	1/60
12	PLZM-C12/1N	242333	1/60
13	PLZM-C13/1N	242334	1/60
15	PLZM-C15/1N	242335	1/60
16	PLZM-C16/1N	242336	1/60
20	PLZM-C20/1N	242337	1/60
25	PLZM-C25/1N	242338	1/60
32	PLZM-C32/1N	242339	1/60
40	PLZM-C40/1N	242340	1/60
50	PLZM-C50/1N	242341	1/60
63	PLZM-C63/1N	242342	1/60

Explanation PLSM:
P = XPole, LS = Miniature Circuit Breaker, M = 10 kA

SG54811

2-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PLSM-C0,16/2	242386	1/60
0.25	PLSM-C0,25/2	242387	1/60
0.5	PLSM-C0,5/2	242389	1/60
0.75	PLSM-C0,75/2	242388	1/60
1	PLSM-C1/2	242390	1/60
1.5	PLSM-C1,5/2	242391	1/60
1.6	PLSM-C1,6/2	242392	1/60
2	PLSM-C2/2	242393	1/60
2.5	PLSM-C2,5/2	242394	1/60
3	PLSM-C3/2	242395	1/60
3.5	PLSM-C3,5/2	242396	1/60
4	PLSM-C4/2	242397	1/60
5	PLSM-C5/2	242398	1/60
6	PLSM-C6/2	242399	1/60
8	PLSM-C8/2	242400	1/60
10	PLSM-C10/2	242401	1/60
12	PLSM-C12/2	242402	1/60
13	PLSM-C13/2	242403	1/60
15	PLSM-C15/2	242404	1/60
16	PLSM-C16/2	242405	1/60
20	PLSM-C20/2	242406	1/60
25	PLSM-C25/2	242407	1/60
32	PLSM-C32/2	242408	1/60
40	PLSM-C40/2	242409	1/60
50	PLSM-C50/2	242410	1/60
63	PLSM-C63/2	242411	1/60

SG63111

3-pole

0.16	PLSM-C0,16/3	242455	1/40
0.25	PLSM-C0,25/3	242456	1/40
0.5	PLSM-C0,5/3	242458	1/40
0.75	PLSM-C0,75/3	242457	1/40
1	PLSM-C1/3	242459	1/40
1.5	PLSM-C1,5/3	242460	1/40
1.6	PLSM-C1,6/3	242461	1/40
2	PLSM-C2/3	242462	1/40
2.5	PLSM-C2,5/3	242463	1/40
3	PLSM-C3/3	242464	1/40
3.5	PLSM-C3,5/3	242465	1/40
4	PLSM-C4/3	242466	1/40
5	PLSM-C5/3	242467	1/40
6	PLSM-C6/3	242468	1/40
8	PLSM-C8/3	242469	1/40
10	PLSM-C10/3	242470	1/40
12	PLSM-C12/3	242471	1/40
13	PLSM-C13/3	242472	1/40
15	PLSM-C15/3	242473	1/40
16	PLSM-C16/3	242474	1/40
20	PLSM-C20/3	242475	1/40
25	PLSM-C25/3	242476	1/40
32	PLSM-C32/3	242477	1/40
40	PLSM-C40/3	242478	1/40
50	PLSM-C50/3	242479	1/40
63	PLSM-C63/3	242480	1/40

Explanation PLSM:
P = XPole, LS = Miniature Circuit Breaker, M = 10 kA

SG65611

Rated current I_n (A)	Type Designation	Article No.	Units per package
3+N-pole			
0.16	PLSM-C0,16/3N	242524	1/30
0.25	PLSM-C0,25/3N	242525	1/30
0.5	PLSM-C0,5/3N	242527	1/30
0.75	PLSM-C0,75/3N	242526	1/30
1	PLSM-C1/3N	242528	1/30
1.5	PLSM-C1,5/3N	242529	1/30
1.6	PLSM-C1,6/3N	242530	1/30
2	PLSM-C2/3N	242531	1/30
2.5	PLSM-C2,5/3N	242532	1/30
3	PLSM-C3/3N	242533	1/30
3.5	PLSM-C3,5/3N	242534	1/30
4	PLSM-C4/3N	242535	1/30
5	PLSM-C5/3N	242536	1/30
6	PLSM-C6/3N	242537	1/30
8	PLSM-C8/3N	242538	1/30
10	PLSM-C10/3N	242539	1/30
12	PLSM-C12/3N	242540	1/30
13	PLSM-C13/3N	242541	1/30
15	PLSM-C15/3N	242542	1/30
16	PLSM-C16/3N	242543	1/30
20	PLSM-C20/3N	242544	1/30
25	PLSM-C25/3N	242545	1/30
32	PLSM-C32/3N	242546	1/30
40	PLSM-C40/3N	242547	1/30
50	PLSM-C50/3N	242548	1/30
63	PLSM-C63/3N	242549	1/30

SG67811

4-pole			
0.16	PLSM-C0,16/4	242593	1/30
0.25	PLSM-C0,25/4	242594	1/30
0.5	PLSM-C0,5/4	242596	1/30
0.75	PLSM-C0,75/4	242595	1/30
1	PLSM-C1/4	242597	1/30
1.5	PLSM-C1,5/4	242598	1/30
1.6	PLSM-C1,6/4	242599	1/30
2	PLSM-C2/4	242600	1/30
2.5	PLSM-C2,5/4	242601	1/30
3	PLSM-C3/4	242602	1/30
3.5	PLSM-C3,5/4	242603	1/30
4	PLSM-C4/4	242604	1/30
5	PLSM-C5/4	242605	1/30
6	PLSM-C6/4	242606	1/30
8	PLSM-C8/4	242607	1/30
10	PLSM-C10/4	242608	1/30
12	PLSM-C12/4	242609	1/30
13	PLSM-C13/4	242610	1/30
15	PLSM-C15/4	242611	1/30
16	PLSM-C16/4	242612	1/30
20	PLSM-C20/4	242613	1/30
25	PLSM-C25/4	242614	1/30
32	PLSM-C32/4	242615	1/30
40	PLSM-C40/4	242616	1/30
50	PLSM-C50/4	242617	1/30
63	PLSM-C63/4	242618	1/30

Explanation PLSM:
P = XPole, LS = Miniature Circuit Breaker, M = 10 kA

Miniature Circuit Breakers PLSM, PLZM
10 kA, Characteristic D

MW

SG48411

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.5	PLSM-D0,5	242213	12/120
1	PLSM-D1	242214	12/120
1.5	PLSM-D1,5	242215	12/120
1.6	PLSM-D1,6	242216	12/120
2	PLSM-D2	242217	12/120
2.5	PLSM-D2,5	242218	12/120
3	PLSM-D3	242219	12/120
3.5	PLSM-D3,5	242220	12/120
4	PLSM-D4	242221	12/120
5	PLSM-D5	242222	12/120
6	PLSM-D6	242223	12/120
8	PLSM-D8	242224	12/120
10	PLSM-D10	242225	12/120
12	PLSM-D12	242226	12/120
13	PLSM-D13	242227	12/120
15	PLSM-D15	242228	12/120
16	PLSM-D16	242229	12/120
20	PLSM-D20	242230	12/120
25	PLSM-D25	242231	12/120
32	PLSM-D32	242232	12/120
40	PLSM-D40	242233	12/120

SG49211

1+N-pole 1,5MU

0.5	PLSM-D0,5/1N	242276	8/80
1	PLSM-D1/1N	242277	8/80
1.5	PLSM-D1,5/1N	242278	8/80
1.6	PLSM-D1,6/1N	242279	8/80
2	PLSM-D2/1N	242280	8/80
2.5	PLSM-D2,5/1N	242281	8/80
3	PLSM-D3/1N	242282	8/80
3.5	PLSM-D3,5/1N	242283	8/80
4	PLSM-D4/1N	242284	8/80
5	PLSM-D5/1N	242285	8/80
6	PLSM-D6/1N	242286	8/80
8	PLSM-D8/1N	242287	8/80
10	PLSM-D10/1N	242288	8/80
12	PLSM-D12/1N	242289	8/80
13	PLSM-D13/1N	242290	8/80
15	PLSM-D15/1N	242291	8/80
16	PLSM-D16/1N	242292	8/80
20	PLSM-D20/1N	242293	8/80
25	PLSM-D25/1N	242294	8/80

SG52711

1+N-pole 2MU

0.5	PLZM-D0,5/1N	242343	1/60
1	PLZM-D1/1N	242344	1/60
1.5	PLZM-D1,5/1N	242345	1/60
1.6	PLZM-D1,6/1N	242346	1/60
2	PLZM-D2/1N	242347	1/60
2.5	PLZM-D2,5/1N	242348	1/60
3	PLZM-D3/1N	242349	1/60
3.5	PLZM-D3,5/1N	242350	1/60
4	PLZM-D4/1N	242351	1/60
5	PLZM-D5/1N	242352	1/60
6	PLZM-D6/1N	242353	1/60
8	PLZM-D8/1N	242354	1/60
10	PLZM-D10/1N	242355	1/60
12	PLZM-D12/1N	242356	1/60
13	PLZM-D13/1N	242357	1/60
15	PLZM-D15/1N	242358	1/60
16	PLZM-D16/1N	242359	1/60
20	PLZM-D20/1N	242360	1/60
25	PLZM-D25/1N	242361	1/60
32	PLZM-D32/1N	242362	1/60
40	PLZM-D40/1N	242363	1/60

Explanation PLSM:
P = XPole, LS = Miniature Circuit Breaker, M = 10 kA

SG54811

2-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.5	PLSM-D0,5/2	242412	1/60
1	PLSM-D1/2	242413	1/60
1.5	PLSM-D1,5/2	242414	1/60
1.6	PLSM-D1,6/2	242415	1/60
2	PLSM-D2/2	242416	1/60
2.5	PLSM-D2,5/2	242417	1/60
3	PLSM-D3/2	242418	1/60
3.5	PLSM-D3,5/2	242419	1/60
4	PLSM-D4/2	242420	1/60
5	PLSM-D5/2	242421	1/60
6	PLSM-D6/2	242422	1/60
8	PLSM-D8/2	242423	1/60
10	PLSM-D10/2	242424	1/60
12	PLSM-D12/2	242425	1/60
13	PLSM-D13/2	242426	1/60
15	PLSM-D15/2	242427	1/60
16	PLSM-D16/2	242428	1/60
20	PLSM-D20/2	242429	1/60
25	PLSM-D25/2	242430	1/60
32	PLSM-D32/2	242431	1/60
40	PLSM-D40/2	242432	1/60

SG63111

3-pole

0.5	PLSM-D0,5/3	242481	1/40
1	PLSM-D1/3	242482	1/40
1.5	PLSM-D1,5/3	242483	1/40
1.6	PLSM-D1,6/3	242484	1/40
2	PLSM-D2/3	242485	1/40
2.5	PLSM-D2,5/3	242486	1/40
3	PLSM-D3/3	242487	1/40
3.5	PLSM-D3,5/3	242488	1/40
4	PLSM-D4/3	242489	1/40
5	PLSM-D5/3	242490	1/40
6	PLSM-D6/3	242491	1/40
8	PLSM-D8/3	242492	1/40
10	PLSM-D10/3	242493	1/40
12	PLSM-D12/3	242494	1/40
13	PLSM-D13/3	242495	1/40
15	PLSM-D15/3	242496	1/40
16	PLSM-D16/3	242497	1/40
20	PLSM-D20/3	242498	1/40
25	PLSM-D25/3	242499	1/40
32	PLSM-D32/3	242500	1/40
40	PLSM-D40/3	242501	1/40

SG65611

3+N-pole

0.5	PLSM-D0,5/3N	242550	1/30
1	PLSM-D1/3N	242551	1/30
1.5	PLSM-D1,5/3N	242552	1/30
1.6	PLSM-D1,6/3N	242553	1/30
2	PLSM-D2/3N	242554	1/30
2.5	PLSM-D2,5/3N	242555	1/30
3	PLSM-D3/3N	242556	1/30
3.5	PLSM-D3,5/3N	242557	1/30
4	PLSM-D4/3N	242558	1/30
5	PLSM-D5/3N	242559	1/30
6	PLSM-D6/3N	242560	1/30
8	PLSM-D8/3N	242561	1/30
10	PLSM-D10/3N	242562	1/30
12	PLSM-D12/3N	242563	1/30
13	PLSM-D13/3N	242564	1/30
15	PLSM-D15/3N	242565	1/30
16	PLSM-D16/3N	242566	1/30
20	PLSM-D20/3N	242567	1/30
25	PLSM-D25/3N	242568	1/30
32	PLSM-D32/3N	242569	1/30
40	PLSM-D40/3N	242570	1/30

Explanation PLSM:
P = XPole, LS = Miniature Circuit Breaker, M = 10 kA

SG67811

Rated current I_n (A)	Type Designation	Article No.	Units per package
4-pole			
0.5	PLSM-D0,5/4	242619	1/30
1	PLSM-D1/4	242620	1/30
1.5	PLSM-D1,5/4	242621	1/30
1.6	PLSM-D1,6/4	242622	1/30
2	PLSM-D2/4	242623	1/30
2.5	PLSM-D2,5/4	242624	1/30
3	PLSM-D3/4	242625	1/30
3.5	PLSM-D3,5/4	242626	1/30
4	PLSM-D4/4	242627	1/30
5	PLSM-D5/4	242628	1/30
6	PLSM-D6/4	242629	1/30
8	PLSM-D8/4	242630	1/30
10	PLSM-D10/4	242631	1/30
12	PLSM-D12/4	242632	1/30
13	PLSM-D13/4	242633	1/30
15	PLSM-D15/4	242634	1/30
16	PLSM-D16/4	242635	1/30
20	PLSM-D20/4	242636	1/30
25	PLSM-D25/4	242637	1/30
32	PLSM-D32/4	242638	1/30
40	PLSM-D40/4	242639	1/30

Explanation PLSM:
P = XPole, LS = Miniature Circuit Breaker, M = 10 kA

Miniature Circuit Breakers PLS6, PLZ6 MW

SG72911

- High-quality miniature circuit breakers for commercial and residential applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 63 A
- Tripping characteristics B, C, D
- Rated breaking capacity 6 kA acc. to IEC/EN 60898-1

Miniature Circuit Breakers PLS6, PLZ6

MW

6 kA, Characteristic B

SG26911

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
1	PLS6-B1	242640	12/120
1.5	PLS6-B1,5	242641	12/120
1.6	PLS6-B1,6	242642	12/120
2	PLS6-B2	242643	12/120
2.5	PLS6-B2,5	242644	12/120
3	PLS6-B3	242645	12/120
3.5	PLS6-B3,5	242646	12/120
4	PLS6-B4	242647	12/120
5	PLS6-B5	242648	12/120
6	PLS6-B6	242649	12/120
8	PLS6-B8	242650	12/120
10	PLS6-B10	242651	12/120
12	PLS6-B12	242652	12/120
13	PLS6-B13	242653	12/120
15	PLS6-B15	242654	12/120
16	PLS6-B16	242655	12/120
20	PLS6-B20	242656	12/120
25	PLS6-B25	242657	12/120
32	PLS6-B32	242658	12/120
40	PLS6-B40	242659	12/120
50	PLS6-B50	242660	12/120
63	PLS6-B63	242661	12/120

SG40111

1+N-pole 1,5MU			
1	PLS6-B1/1N	242709	8/80
1.5	PLS6-B1,5/1N	242710	8/80
1.6	PLS6-B1,6/1N	242711	8/80
2	PLS6-B2/1N	242712	8/80
2.5	PLS6-B2,5/1N	242713	8/80
3	PLS6-B3/1N	242714	8/80
3.5	PLS6-B3,5/1N	242715	8/80
4	PLS6-B4/1N	242716	8/80
5	PLS6-B5/1N	242717	8/80
6	PLS6-B6/1N	242718	8/80
8	PLS6-B8/1N	242719	8/80
10	PLS6-B10/1N	242720	8/80
12	PLS6-B12/1N	242721	8/80
13	PLS6-B13/1N	242722	8/80
15	PLS6-B15/1N	242723	8/80
16	PLS6-B16/1N	242724	8/80
20	PLS6-B20/1N	242725	8/80
25	PLS6-B25/1N	242726	8/80
32	PLS6-B32/1N	242727	8/80

SG58211

1+N-pole 2MU			
1	PLZ6-B1/1N	242770	1/60
1.5	PLZ6-B1,5/1N	242771	1/60
1.6	PLZ6-B1,6/1N	242772	1/60
2	PLZ6-B2/1N	242773	1/60
2.5	PLZ6-B2,5/1N	242774	1/60
3	PLZ6-B3/1N	242775	1/60
3.5	PLZ6-B3,5/1N	242776	1/60
4	PLZ6-B4/1N	242777	1/60
5	PLZ6-B5/1N	242778	1/60
6	PLZ6-B6/1N	242779	1/60
8	PLZ6-B8/1N	242780	1/60
10	PLZ6-B10/1N	242781	1/60
12	PLZ6-B12/1N	242782	1/60
13	PLZ6-B13/1N	242783	1/60
15	PLZ6-B15/1N	242784	1/60
16	PLZ6-B16/1N	242785	1/60
20	PLZ6-B20/1N	242786	1/60
25	PLZ6-B25/1N	242787	1/60
32	PLZ6-B32/1N	242788	1/60
40	PLZ6-B40/1N	242789	1/60
50	PLZ6-B50/1N	242790	1/60
63	PLZ6-B63/1N	242791	1/60

Explanation PLS6:
P = XPole, LS = Miniature Circuit Breaker, 6 = 6 kA

SG77911

Rated current I_n (A)	Type Designation	Article No.	Units per package
2-pole			
1	PLS6-B1/2	242839	1/60
1.5	PLS6-B1,5/2	242840	1/60
1.6	PLS6-B1,6/2	242841	1/60
2	PLS6-B2/2	242842	1/60
2.5	PLS6-B2,5/2	242843	1/60
3	PLS6-B3/2	242844	1/60
3.5	PLS6-B3,5/2	242845	1/60
4	PLS6-B4/2	242846	1/60
5	PLS6-B5/2	242847	1/60
6	PLS6-B6/2	242848	1/60
8	PLS6-B8/2	242849	1/60
10	PLS6-B10/2	242850	1/60
12	PLS6-B12/2	242851	1/60
13	PLS6-B13/2	242852	1/60
15	PLS6-B15/2	242853	1/60
16	PLS6-B16/2	242854	1/60
20	PLS6-B20/2	242855	1/60
25	PLS6-B25/2	242856	1/60
32	PLS6-B32/2	242857	1/60
40	PLS6-B40/2	242858	1/60
50	PLS6-B50/2	242859	1/60
63	PLS6-B63/2	242860	1/60

SG74311

3-pole			
1	PLS6-B1/3	242908	1/40
1.5	PLS6-B1,5/3	242909	1/40
1.6	PLS6-B1,6/3	242910	1/40
2	PLS6-B2/3	242911	1/40
2.5	PLS6-B2,5/3	242912	1/40
3	PLS6-B3/3	242913	1/40
3.5	PLS6-B3,5/3	242914	1/40
4	PLS6-B4/3	242915	1/40
5	PLS6-B5/3	242916	1/40
6	PLS6-B6/3	242917	1/40
8	PLS6-B8/3	242918	1/40
10	PLS6-B10/3	242919	1/40
12	PLS6-B12/3	242920	1/40
13	PLS6-B13/3	242921	1/40
15	PLS6-B15/3	242922	1/40
16	PLS6-B16/3	242923	1/40
20	PLS6-B20/3	242924	1/40
25	PLS6-B25/3	242925	1/40
32	PLS6-B32/3	242926	1/40
40	PLS6-B40/3	242927	1/40
50	PLS6-B50/3	242928	1/40
63	PLS6-B63/3	242929	1/40

SG73911

3+N-pole			
1	PLS6-B1/3N	242977	1/30
1.5	PLS6-B1,5/3N	242978	1/30
1.6	PLS6-B1,6/3N	242979	1/30
2	PLS6-B2/3N	242980	1/30
2.5	PLS6-B2,5/3N	242981	1/30
3	PLS6-B3/3N	242982	1/30
3.5	PLS6-B3,5/3N	242983	1/30
4	PLS6-B4/3N	242984	1/30
5	PLS6-B5/3N	242985	1/30
6	PLS6-B6/3N	242986	1/30
8	PLS6-B8/3N	242987	1/30
10	PLS6-B10/3N	242988	1/30
12	PLS6-B12/3N	242989	1/30
13	PLS6-B13/3N	242990	1/30
15	PLS6-B15/3N	242991	1/30
16	PLS6-B16/3N	242992	1/30
20	PLS6-B20/3N	242993	1/30
25	PLS6-B25/3N	242994	1/30
32	PLS6-B32/3N	242995	1/30
40	PLS6-B40/3N	242996	1/30
52	PLS6-B50/3N	242997	1/30
63	PLS6-B63/3N	242998	1/30

Explanation PLS6:
P = XPole, LS = Miniature Circuit Breaker, 6 = 6 kA

SG70011

Rated current I_n (A)	Type Designation	Article No.	Units per package
4-pole			
1	PLS6-B1/4	243046	1/30
1.5	PLS6-B1,5/4	243047	1/30
1.6	PLS6-B1,6/4	243048	1/30
2	PLS6-B2/4	243049	1/30
2.5	PLS6-B2,5/4	243050	1/30
3	PLS6-B3/4	243051	1/30
3.5	PLS6-B3,5/4	243052	1/30
4	PLS6-B4/4	243053	1/30
5	PLS6-B5/4	243054	1/30
6	PLS6-B6/4	243055	1/30
8	PLS6-B8/4	243056	1/30
10	PLS6-B10/4	243057	1/30
12	PLS6-B12/4	243058	1/30
13	PLS6-B13/4	243059	1/30
15	PLS6-B15/4	243060	1/30
16	PLS6-B16/4	243061	1/30
20	PLS6-B20/4	243062	1/30
25	PLS6-B25/4	243063	1/30
32	PLS6-B32/4	243064	1/30
40	PLS6-B40/4	243065	1/30
50	PLS6-B50/4	243066	1/30
63	PLS6-B63/4	243067	1/30

Miniature Circuit Breakers PLS6, PLZ6 — MW

6 kA, Characteristic C

SG26911

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
0.16	PLS6-C0,16	242662	12/120
0.25	PLS6-C0,25	242663	12/120
0.5	PLS6-C0,5	242665	12/120
0.75	PLS6-C0,75	242664	12/120
1	PLS6-C1	242666	12/120
1.5	PLS6-C1,5	242667	12/120
1.6	PLS6-C1,6	242668	12/120
2	PLS6-C2	242669	12/120
2.5	PLS6-C2,5	242670	12/120
3	PLS6-C3	242671	12/120
3.5	PLS6-C3,5	242672	12/120
4	PLS6-C4	242673	12/120
5	PLS6-C5	242674	12/120
6	PLS6-C6	242675	12/120
8	PLS6-C8	242676	12/120
10	PLS6-C10	242677	12/120
12	PLS6-C12	242678	12/120
13	PLS6-C13	242679	12/120
15	PLS6-C15	242680	12/120
16	PLS6-C16	242681	12/120
20	PLS6-C20	242682	12/120
25	PLS6-C25	242683	12/120
32	PLS6-C32	242684	12/120
40	PLS6-C40	242685	12/120
50	PLS6-C50	242686	12/120
63	PLS6-C63	242687	12/120

Explanation PLS6:
P = XPole, LS = Miniature Circuit Breaker, 6 = 6 kA

SG40111

1+N-pole, 1.5MU

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PLS6-C0,16/1N	242728	8/80
0.25	PLS6-C0,25/1N	242729	8/80
0.5	PLS6-C0,5/1N	242731	8/80
0.75	PLS6-C0,75/1N	242730	8/80
1	PLS6-C1/1N	242732	8/80
1.5	PLS6-C1,5/1N	242733	8/80
1.6	PLS6-C1,6/1N	242734	8/80
2	PLS6-C2/1N	242735	8/80
2.5	PLS6-C2,5/1N	242736	8/80
3	PLS6-C3/1N	242737	8/80
3.5	PLS6-C3,5/1N	242738	8/80
4	PLS6-C4/1N	242739	8/80
5	PLS6-C5/1N	242740	8/80
6	PLS6-C6/1N	242741	8/80
8	PLS6-C8/1N	242742	8/80
10	PLS6-C10/1N	242743	8/80
12	PLS6-C12/1N	242744	8/80
13	PLS6-C13/1N	242745	8/80
15	PLS6-C15/1N	242746	8/80
16	PLS6-C16/1N	242747	8/80
20	PLS6-C20/1N	242748	8/80
25	PLS6-C25/1N	242749	8/80
32	PLS6-C32/1N	242750	8/80

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1+N-pole, 2MU

0.16	PLZ6-C0,16/1N	242792	1/60
0.25	PLZ6-C0,25/1N	242793	1/60
0.5	PLZ6-C0,5/1N	242795	1/60
0.75	PLZ6-C0,75/1N	242794	1/60
1	PLZ6-C1/1N	242796	1/60
1.5	PLZ6-C1,5/1N	242797	1/60
1.6	PLZ6-C1,6/1N	242798	1/60
2	PLZ6-C2/1N	242799	1/60
2.5	PLZ6-C2,5/1N	242800	1/60
3	PLZ6-C3/1N	242801	1/60
3.5	PLZ6-C3,5/1N	242802	1/60
4	PLZ6-C4/1N	242803	1/60
5	PLZ6-C5/1N	242804	1/60
6	PLZ6-C6/1N	242805	1/60
8	PLZ6-C8/1N	242806	1/60
10	PLZ6-C10/1N	242807	1/60
12	PLZ6-C12/1N	242808	1/60
13	PLZ6-C13/1N	242809	1/60
15	PLZ6-C15/1N	242810	1/60
16	PLZ6-C16/1N	242811	1/60
20	PLZ6-C20/1N	242812	1/60
25	PLZ6-C25/1N	242813	1/60
32	PLZ6-C32/1N	242814	1/60
40	PLZ6-C40/1N	242815	1/60
50	PLZ6-C50/1N	242816	1/60
63	PLZ6-C63/1N	242817	1/60

Explanation PLS6:
P = XPole, LS = Miniature Circuit Breaker, 6 = 6 kA

SG77911

2-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PLS6-C0,16/2	242861	1/60
0.25	PLS6-C0,25/2	242862	1/60
0.5	PLS6-C0,5/2	242864	1/60
0.75	PLS6-C0,75/2	242863	1/60
1	PLS6-C1/2	242865	1/60
1.5	PLS6-C1,5/2	242866	1/60
1.6	PLS6-C1,6/2	242867	1/60
2	PLS6-C2/2	242868	1/60
2.5	PLS6-C2,5/2	242869	1/60
3	PLS6-C3/2	242870	1/60
3.5	PLS6-C3,5/2	242871	1/60
4	PLS6-C4/2	242872	1/60
5	PLS6-C5/2	242873	1/60
6	PLS6-C6/2	242874	1/60
8	PLS6-C8/2	242875	1/60
10	PLS6-C10/2	242876	1/60
12	PLS6-C12/2	242877	1/60
13	PLS6-C13/2	242878	1/60
15	PLS6-C15/2	242879	1/60
16	PLS6-C16/2	242880	1/60
20	PLS6-C20/2	242881	1/60
25	PLS6-C25/2	242882	1/60
32	PLS6-C32/2	242883	1/60
40	PLS6-C40/2	242884	1/60
50	PLS6-C50/2	242885	1/60
63	PLS6-C63/2	242886	1/60

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3-pole

0.16	PLS6-C0,16/3	242930	1/40
0.25	PLS6-C0,25/3	242931	1/40
0.5	PLS6-C0,5/3	242933	1/40
0.75	PLS6-C0,75/3	242932	1/40
1	PLS6-C1/3	242934	1/40
1.5	PLS6-C1,5/3	242935	1/40
1.6	PLS6-C1,6/3	242936	1/40
2	PLS6-C2/3	242937	1/40
2.5	PLS6-C2,5/3	242938	1/40
3	PLS6-C3/3	242939	1/40
3.5	PLS6-C3,5/3	242940	1/40
4	PLS6-C4/3	242941	1/40
5	PLS6-C5/3	242942	1/40
6	PLS6-C6/3	242943	1/40
8	PLS6-C8/3	242944	1/40
10	PLS6-C10/3	242945	1/40
12	PLS6-C12/3	242946	1/40
13	PLS6-C13/3	242947	1/40
15	PLS6-C15/3	242948	1/40
16	PLS6-C16/3	242949	1/40
20	PLS6-C20/3	242950	1/40
25	PLS6-C25/3	242951	1/40
32	PLS6-C32/3	242952	1/40
40	PLS6-C40/3	242953	1/40
50	PLS6-C50/3	242954	1/40
63	PLS6-C63/3	242955	1/40

Explanation PLS6:
P = XPole, LS = Miniature Circuit Breaker, 6 = 6 kA

SG73911

3+N-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PLS6-C0,16/3N	242999	1/30
0.25	PLS6-C0,25/3N	243000	1/30
0.5	PLS6-C0,5/3N	243002	1/30
0.75	PLS6-C0,75/3N	243001	1/30
1	PLS6-C1/3N	243003	1/30
1.5	PLS6-C1,5/3N	243004	1/30
1.6	PLS6-C1,6/3N	243005	1/30
2	PLS6-C2/3N	243006	1/30
2.5	PLS6-C2,5/3N	243007	1/30
3	PLS6-C3/3N	243008	1/30
3.5	PLS6-C3,5/3N	243009	1/30
4	PLS6-C4/3N	243010	1/30
5	PLS6-C5/3N	243011	1/30
6	PLS6-C6/3N	243012	1/30
8	PLS6-C8/3N	243013	1/30
10	PLS6-C10/3N	243014	1/30
12	PLS6-C12/3N	243015	1/30
13	PLS6-C13/3N	243016	1/30
15	PLS6-C15/3N	243017	1/30
16	PLS6-C16/3N	243018	1/30
20	PLS6-C20/3N	243019	1/30
25	PLS6-C25/3N	243020	1/30
32	PLS6-C32/3N	243021	1/30
40	PLS6-C40/3N	243022	1/30
50	PLS6-C50/3N	243023	1/30
63	PLS6-C63/3N	243024	1/30

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4-pole

0.16	PLS6-C0,16/4	243068	1/30
0.25	PLS6-C0,25/4	243069	1/30
0.5	PLS6-C0,5/4	243071	1/30
0.75	PLS6-C0,75/4	243070	1/30
1	PLS6-C1/4	243072	1/30
1.5	PLS6-C1,5/4	243073	1/30
1.6	PLS6-C1,6/4	243074	1/30
2	PLS6-C2/4	243075	1/30
2.5	PLS6-C2,5/4	243076	1/30
3	PLS6-C3/4	243077	1/30
3.5	PLS6-C3,5/4	243078	1/30
4	PLS6-C4/4	243079	1/30
5	PLS6-C5/4	243080	1/30
6	PLS6-C6/4	243081	1/30
8	PLS6-C8/4	243082	1/30
10	PLS6-C10/4	243083	1/30
12	PLS6-C12/4	243084	1/30
13	PLS6-C13/4	243085	1/30
15	PLS6-C15/4	243086	1/30
16	PLS6-C16/4	243087	1/30
20	PLS6-C20/4	243088	1/30
25	PLS6-C25/4	243089	1/30
32	PLS6-C32/4	243090	1/30
40	PLS6-C40/4	243091	1/30
50	PLS6-C50/4	243092	1/30
63	PLS6-C63/4	243093	1/30

Explanation PLS6:
P = XPole, LS = Miniature Circuit Breaker, 6 = 6 kA

Miniature Circuit Breakers PLS6, PLZ6

MW

6 kA, Characteristic D

SG26911

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
1	PLS6-D1	242689	12/120
1.5	PLS6-D1,5	242690	12/120
1.6	PLS6-D1,6	242691	12/120
2	PLS6-D2	242692	12/120
2.5	PLS6-D2,5	242693	12/120
3	PLS6-D3	242694	12/120
3.5	PLS6-D3,5	242695	12/120
4	PLS6-D4	242696	12/120
5	PLS6-D5	242697	12/120
6	PLS6-D6	242698	12/120
8	PLS6-D8	242699	12/120
10	PLS6-D10	242700	12/120
12	PLS6-D12	242701	12/120
13	PLS6-D13	242702	12/120
15	PLS6-D15	242703	12/120
16	PLS6-D16	242704	12/120
20	PLS6-D20	242705	12/120
25	PLS6-D25	242706	12/120
32	PLS6-D32	242707	12/120
40	PLS6-D40	242708	12/120

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1+N-pole 1,5MU			
0.5	PLS6-D0,5/1N	242751	8/80
1	PLS6-D1/1N	242752	8/80
1.5	PLS6-D1,5/1N	242753	8/80
1.6	PLS6-D1,6/1N	242754	8/80
2	PLS6-D2/1N	242755	8/80
2.5	PLS6-D2,5/1N	242756	8/80
3	PLS6-D3/1N	242757	8/80
3.5	PLS6-D3,5/1N	242758	8/80
4	PLS6-D4/1N	242759	8/80
5	PLS6-D5/1N	242760	8/80
6	PLS6-D6/1N	242761	8/80
8	PLS6-D8/1N	242762	8/80
10	PLS6-D10/1N	242763	8/80
12	PLS6-D12/1N	242764	8/80
13	PLS6-D13/1N	242765	8/80
15	PLS6-D15/1N	242766	8/80
16	PLS6-D16/1N	242767	8/80
20	PLS6-D20/1N	242768	8/80
25	PLS6-D25/1N	242769	8/80

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1+N-pole 2MU			
0.5	PLZ6-D0,5/1N	242818	1/60
1	PLZ6-D1/1N	242819	1/60
1.5	PLZ6-D1,5/1N	242820	1/60
1.6	PLZ6-D1,6/1N	242821	1/60
2	PLZ6-D2/1N	242822	1/60
2.5	PLZ6-D2,5/1N	242823	1/60
3	PLZ6-D3/1N	242824	1/60
3.5	PLZ6-D3,5/1N	242825	1/60
4	PLZ6-D4/1N	242826	1/60
5	PLZ6-D5/1N	242827	1/60
6	PLZ6-D6/1N	242828	1/60
8	PLZ6-D8/1N	242829	1/60
10	PLZ6-D10/1N	242830	1/60
12	PLZ6-D12/1N	242831	1/60
13	PLZ6-D13/1N	242832	1/60
15	PLZ6-D15/1N	242833	1/60
16	PLZ6-D16/1N	242834	1/60
20	PLZ6-D20/1N	242835	1/60
25	PLZ6-D25/1N	242836	1/60
32	PLZ6-D32/1N	242837	1/60
40	PLZ6-D40/1N	242838	1/60

Explanation PLS6:
P = XPole, LS = Miniature Circuit Breaker, 6 = 6 kA

SG77911

2-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.5	PLS6-D0,5/2	242887	1/60
1	PLS6-D1/2	242888	1/60
1.5	PLS6-D1,5/2	242889	1/60
1.6	PLS6-D1,6/2	242890	1/60
2	PLS6-D2/2	242891	1/60
2.5	PLS6-D2,5/2	242892	1/60
3	PLS6-D3/2	242893	1/60
3.5	PLS6-D3,5/2	242894	1/60
4	PLS6-D4/2	242895	1/60
5	PLS6-D5/2	242896	1/60
6	PLS6-D6/2	242897	1/60
8	PLS6-D8/2	242898	1/60
10	PLS6-D10/2	242899	1/60
12	PLS6-D12/2	242900	1/60
13	PLS6-D13/2	242901	1/60
15	PLS6-D15/2	242902	1/60
16	PLS6-D16/2	242903	1/60
20	PLS6-D20/2	242904	1/60
25	PLS6-D25/2	242905	1/60
32	PLS6-D32/2	242906	1/60
40	PLS6-D40/2	242907	1/60

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3-pole

0.5	PLS6-D0,5/3	242956	1/40
1	PLS6-D1/3	242957	1/40
1.5	PLS6-D1,5/3	242958	1/40
1.6	PLS6-D1,6/3	242959	1/40
2	PLS6-D2/3	242960	1/40
2.5	PLS6-D2,5/3	242961	1/40
3	PLS6-D3/3	242962	1/40
3.5	PLS6-D3,5/3	242963	1/40
4	PLS6-D4/3	242964	1/40
5	PLS6-D5/3	242965	1/40
6	PLS6-D6/3	242966	1/40
8	PLS6-D8/3	242967	1/40
10	PLS6-D10/3	242968	1/40
12	PLS6-D12/3	242969	1/40
13	PLS6-D13/3	242970	1/40
15	PLS6-D15/3	242971	1/40
16	PLS6-D16/3	242972	1/40
20	PLS6-D20/3	242973	1/40
25	PLS6-D25/3	242974	1/40
32	PLS6-D32/3	242975	1/40
40	PLS6-D40/3	242976	1/40

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3+N-pole

0.5	PLS6-D0,5/3N	243025	1/30
1	PLS6-D1/3N	243026	1/30
1.5	PLS6-D1,5/3N	243027	1/30
1.6	PLS6-D1,6/3N	243028	1/30
2	PLS6-D2/3N	243029	1/30
2.5	PLS6-D2,5/3N	243030	1/30
3	PLS6-D3/3N	243031	1/30
3.5	PLS6-D3,5/3N	243032	1/30
4	PLS6-D4/3N	243033	1/30
5	PLS6-D5/3N	243034	1/30
6	PLS6-D6/3N	243035	1/30
8	PLS6-D8/3N	243036	1/30
10	PLS6-D10/3N	243037	1/30
12	PLS6-D12/3N	243038	1/30
13	PLS6-D13/3N	243039	1/30
15	PLS6-D15/3N	243040	1/30
16	PLS6-D16/3N	243041	1/30
20	PLS6-D20/3N	243042	1/30
25	PLS6-D25/3N	243043	1/30
32	PLS6-D32/3N	243044	1/30
40	PLS6-D40/3N	243045	1/30

Explanation PLS6:
P = XPole, LS = Miniature Circuit Breaker, 6 = 6 kA

SG70011

Rated current I_n (A)	Type Designation	Article No.	Units per package
4-pole			
0.5	PLS6-D0,5/4	243094	1/30
1	PLS6-D1/4	243095	1/30
1.5	PLS6-D1,5/4	243096	1/30
1.6	PLS6-D1,6/4	243097	1/30
2	PLS6-D2/4	243098	1/30
2.5	PLS6-D2,5/4	243099	1/30
3	PLS6-D3/4	243100	1/30
3.5	PLS6-D3,5/4	243101	1/30
4	PLS6-D4/4	243102	1/30
5	PLS6-D5/4	243103	1/30
6	PLS6-D6/4	243104	1/30
8	PLS6-D8/4	243105	1/30
10	PLS6-D10/4	243106	1/30
12	PLS6-D12/4	243107	1/30
13	PLS6-D13/4	243108	1/30
15	PLS6-D15/4	243109	1/30
16	PLS6-D16/4	243110	1/30
20	PLS6-D20/4	243111	1/30
25	PLS6-D25/4	243112	1/30
32	PLS6-D32/4	243113	1/30
40	PLS6-D40/4	243114	1/30

Explanation PLS6:
P = XPole, LS = Miniature Circuit Breaker, 6 = 6 kA

Miniature Circuit Breakers PLS4, PLZ4 MW

SG36011

- High-quality miniature circuit breakers for residential applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 63 A
- Tripping characteristics B, C
- Rated breaking capacity 4.5 kA acc. to IEC/EN 60898-1

Miniature Circuit Breakers PLS4, PLZ4

MW

4.5 kA, Characteristic B

SG28411

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
1	PLS4-B1	243141	12/120
1.5	PLS4-B1,5	243142	12/120
1.6	PLS4-B1,6	243143	12/120
2	PLS4-B2	243144	12/120
2.5	PLS4-B2,5	243145	12/120
3	PLS4-B3	243146	12/120
3.5	PLS4-B3,5	243147	12/120
4	PLS4-B4	243148	12/120
5	PLS4-B5	243149	12/120
6	PLS4-B6	243150	12/120
8	PLS4-B8	243151	12/120
10	PLS4-B10	243152	12/120
12	PLS4-B12	243153	12/120
13	PLS4-B13	243154	12/120
15	PLS4-B15	243155	12/120
16	PLS4-B16	243156	12/120
20	PLS4-B20	243157	12/120
25	PLS4-B25	243158	12/120
32	PLS4-B32	243159	12/120
40	PLS4-B40	243160	12/120
50	PLS4-B50	243161	12/120
63	PLS4-B63	243162	12/120

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1+N-pole 2MU			
1	PLZ4-B1/1N	243189	1/60
1.5	PLZ4-B1,5/1N	243190	1/60
1.6	PLZ4-B1,6/1N	243191	1/60
2	PLZ4-B2/1N	243192	1/60
2.5	PLZ4-B2,5/1N	243193	1/60
3	PLZ4-B3/1N	243194	1/60
3.5	PLZ4-B3,5/1N	243195	1/60
4	PLZ4-B4/1N	243196	1/60
5	PLZ4-B5/1N	243197	1/60
6	PLZ4-B6/1N	243198	1/60
8	PLZ4-B8/1N	243199	1/60
10	PLZ4-B10/1N	243200	1/60
12	PLZ4-B12/1N	243201	1/60
13	PLZ4-B13/1N	243202	1/60
15	PLZ4-B15/1N	243203	1/60
16	PLZ4-B16/1N	243204	1/60
20	PLZ4-B20/1N	243205	1/60
25	PLZ4-B25/1N	243206	1/60
32	PLZ4-B32/1N	243207	1/60
40	PLZ4-B40/1N	243208	1/60
50	PLZ4-B50/1N	243209	1/60
63	PLZ4-B63/1N	243210	1/60

Explanation PLS4:
P = XPole, LS = Miniature Circuit Breaker, 4 = 4.5 kA

SG22911

Rated current I_n (A)	Type Designation	Article No.	Units per package
2-pole			
1	PLS4-B1/2	243237	1/60
1.5	PLS4-B1,5/2	243238	1/60
1.6	PLS4-B1,6/2	243239	1/60
2	PLS4-B2/2	243240	1/60
2.5	PLS4-B2,5/2	243241	1/60
3	PLS4-B3/2	243242	1/60
3.5	PLS4-B3,5/2	243243	1/60
4	PLS4-B4/2	243244	1/60
5	PLS4-B5/2	243245	1/60
6	PLS4-B6/2	243246	1/60
8	PLS4-B8/2	243247	1/60
10	PLS4-B10/2	243248	1/60
12	PLS4-B12/2	243249	1/60
13	PLS4-B13/2	243250	1/60
15	PLS4-B15/2	243251	1/60
16	PLS4-B16/2	243252	1/60
20	PLS4-B20/2	243253	1/60
25	PLS4-B25/2	243254	1/60
32	PLS4-B32/2	243255	1/60
40	PLS4-B40/2	243256	1/60
50	PLS4-B50/2	243257	1/60
63	PLS4-B63/2	243258	1/60

SG31411

3-pole			
1	PLS4-B1/3	243285	1/40
1.5	PLS4-B1,5/3	243286	1/40
1.6	PLS4-B1,6/3	243287	1/40
2	PLS4-B2/3	243288	1/40
2.5	PLS4-B2,5/3	243289	1/40
3	PLS4-B3/3	243290	1/40
3.5	PLS4-B3,5/3	243291	1/40
4	PLS4-B4/3	243292	1/40
5	PLS4-B5/3	243293	1/40
6	PLS4-B6/3	243294	1/40
8	PLS4-B8/3	243295	1/40
10	PLS4-B10/3	243296	1/40
12	PLS4-B12/3	243297	1/40
13	PLS4-B13/3	243298	1/40
15	PLS4-B15/3	243299	1/40
16	PLS4-B16/3	243300	1/40
20	PLS4-B20/3	243301	1/40
25	PLS4-B25/3	243302	1/40
32	PLS4-B32/3	243303	1/40
40	PLS4-B40/3	243304	1/40
50	PLS4-B50/3	243305	1/40
63	PLS4-B63/3	243306	1/40

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3+N-pole			
1	PLS4-B1/3N	243333	1/30
1.5	PLS4-B1,5/3N	243334	1/30
1.6	PLS4-B1,6/3N	243335	1/30
2	PLS4-B2/3N	243336	1/30
2.5	PLS4-B2,5/3N	243337	1/30
3	PLS4-B3/3N	243338	1/30
3.5	PLS4-B3,5/3N	243339	1/30
4	PLS4-B4/3N	243340	1/30
5	PLS4-B5/3N	243341	1/30
6	PLS4-B6/3N	243342	1/30
8	PLS4-B8/3N	243343	1/30
10	PLS4-B10/3N	243344	1/30
12	PLS4-B12/3N	243345	1/30
13	PLS4-B13/3N	243346	1/30
15	PLS4-B15/3N	243347	1/30
16	PLS4-B16/3N	243348	1/30
20	PLS4-B20/3N	243349	1/30
25	PLS4-B25/3N	243350	1/30
32	PLS4-B32/3N	243351	1/30
40	PLS4-B40/3N	243352	1/30
50	PLS4-B50/3N	243353	1/30
63	PLS4-B63/3N	243354	1/30

Explanation PLS4:
P = XPole, LS = Miniature Circuit Breaker, 4 = 4.5 kA

SG37111

Rated current I_n (A)	Type Designation	Article No.	Units per package
4-pole			
1	PLS4-B1/4	243381	1/30
1.5	PLS4-B1,5/4	243382	1/30
1.6	PLS4-B1,6/4	243383	1/30
2	PLS4-B2/4	243384	1/30
2.5	PLS4-B2,5/4	243385	1/30
3	PLS4-B3/4	243386	1/30
3.5	PLS4-B3,5/4	243387	1/30
4	PLS4-B4/4	243388	1/30
5	PLS4-B5/4	243389	1/30
6	PLS4-B6/4	243390	1/30
8	PLS4-B8/4	243391	1/30
10	PLS4-B10/4	243392	1/30
12	PLS4-B12/4	243393	1/30
13	PLS4-B13/4	243394	1/30
15	PLS4-B15/4	243395	1/30
16	PLS4-B16/4	243396	1/30
20	PLS4-B20/4	243397	1/30
25	PLS4-B25/4	243398	1/30
32	PLS4-B32/4	243399	1/30
40	PLS4-B40/4	243400	1/30
50	PLS4-B50/4	243401	1/30
63	PLS4-B63/4	243402	1/30

Miniature Circuit Breakers PLS4, PLZ4 — MW

4.5 kA, Characteristic C

SG28411

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
0.16	PLS4-C0,16	243163	12/120
0.25	PLS4-C0,25	243164	12/120
0.5	PLS4-C0,5	243166	12/120
0.75	PLS4-C0,75	243165	12/120
1	PLS4-C1	243167	12/120
1.5	PLS4-C1,5	243168	12/120
1.6	PLS4-C1,6	243169	12/120
2	PLS4-C2	243170	12/120
2.5	PLS4-C2,5	243171	12/120
3	PLS4-C3	243172	12/120
3.5	PLS4-C3,5	243173	12/120
4	PLS4-C4	243174	12/120
5	PLS4-C5	243175	12/120
6	PLS4-C6	243176	12/120
8	PLS4-C8	243177	12/120
10	PLS4-C10	243178	12/120
12	PLS4-C12	243179	12/120
13	PLS4-C13	243180	12/120
15	PLS4-C15	243181	12/120
16	PLS4-C16	243182	12/120
20	PLS4-C20	243183	12/120
25	PLS4-C25	243184	12/120
32	PLS4-C32	243185	12/120
40	PLS4-C40	243186	12/120
50	PLS4-C50	243187	12/120
63	PLS4-C63	243188	12/120

Explanation PLS4:
P = XPole, LS = Miniature Circuit Breaker, 4 = 4.5 kA

SG20711

1+N-pole, 2MU

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PLZ4-C0,16/1N	243211	1/60
0.25	PLZ4-C0,25/1N	243212	1/60
0.5	PLZ4-C0,5/1N	243214	1/60
0.75	PLZ4-C0,75/1N	243213	1/60
1	PLZ4-C1/1N	243215	1/60
1.5	PLZ4-C1,5/1N	243216	1/60
1.6	PLZ4-C1,6/1N	243217	1/60
2	PLZ4-C2/1N	243218	1/60
2.5	PLZ4-C2,5/1N	243219	1/60
3	PLZ4-C3/1N	243220	1/60
3.5	PLZ4-C3,5/1N	243221	1/60
4	PLZ4-C4/1N	243222	1/60
5	PLZ4-C5/1N	243223	1/60
6	PLZ4-C6/1N	243224	1/60
8	PLZ4-C8/1N	243225	1/60
10	PLZ4-C10/1N	243226	1/60
12	PLZ4-C12/1N	243227	1/60
13	PLZ4-C13/1N	243228	1/60
15	PLZ4-C15/1N	243229	1/60
16	PLZ4-C16/1N	243230	1/60
20	PLZ4-C20/1N	243231	1/60
25	PLZ4-C25/1N	243232	1/60
32	PLZ4-C32/1N	243233	1/60
40	PLZ4-C40/1N	243234	1/60
50	PLZ4-C50/1N	243235	1/60
63	PLZ4-C63/1N	243236	1/60

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2-pole

0.16	PLS4-C0,16/2	243259	1/60
0.25	PLS4-C0,25/2	243260	1/60
0.5	PLS4-C0,5/2	243262	1/60
0.75	PLS4-C0,75/2	243261	1/60
1	PLS4-C1/2	243263	1/60
1.5	PLS4-C1,5/2	243264	1/60
1.6	PLS4-C1,6/2	243265	1/60
2	PLS4-C2/2	243266	1/60
2.5	PLS4-C2,5/2	243267	1/60
3	PLS4-C3/2	243268	1/60
3.5	PLS4-C3,5/2	243269	1/60
4	PLS4-C4/2	243270	1/60
5	PLS4-C5/2	243271	1/60
6	PLS4-C6/2	243272	1/60
8	PLS4-C8/2	243273	1/60
10	PLS4-C10/2	243274	1/60
12	PLS4-C12/2	243275	1/60
13	PLS4-C13/2	243276	1/60
15	PLS4-C15/2	243277	1/60
16	PLS4-C16/2	243278	1/60
20	PLS4-C20/2	243279	1/60
25	PLS4-C25/2	243280	1/60
32	PLS4-C32/2	243281	1/60
40	PLS4-C40/2	243282	1/60
50	PLS4-C50/2	243283	1/60
63	PLS4-C63/2	243284	1/60

Explanation PLS4:
P = XPole, LS = Miniature Circuit Breaker, 4 = 4.5 kA

SG31411

Rated current I_n (A)	Type Designation	Article No.	Units per package
3-pole			
0.16	PLS4-C0,16/3	243307	1/40
0.25	PLS4-C0,25/3	243308	1/40
0.5	PLS4-C0,5/3	243310	1/40
0.75	PLS4-C0,75/3	243309	1/40
1	PLS4-C1/3	243311	1/40
1.5	PLS4-C1,5/3	243312	1/40
1.6	PLS4-C1,6/3	243313	1/40
2	PLS4-C2/3	243314	1/40
2.5	PLS4-C2,5/3	243315	1/40
3	PLS4-C3/3	243316	1/40
3.5	PLS4-C3,5/3	243317	1/40
4	PLS4-C4/3	243318	1/40
5	PLS4-C5/3	243319	1/40
6	PLS4-C6/3	243320	1/40
8	PLS4-C8/3	243321	1/40
10	PLS4-C10/3	243322	1/40
12	PLS4-C12/3	243323	1/40
13	PLS4-C13/3	243324	1/40
15	PLS4-C15/3	243325	1/40
16	PLS4-C16/3	243326	1/40
20	PLS4-C20/3	243327	1/40
25	PLS4-C25/3	243328	1/40
32	PLS4-C32/3	243329	1/40
40	PLS4-C40/3	243330	1/40
50	PLS4-C50/3	243331	1/40
63	PLS4-C63/3	243332	1/40

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3+N-pole			
0.16	PLS4-C0,16/3N	243355	1/30
0.25	PLS4-C0,25/3N	243356	1/30
0.5	PLS4-C0,5/3N	243358	1/30
0.75	PLS4-C0,75/3N	243357	1/30
1	PLS4-C1/3N	243359	1/30
1.5	PLS4-C1,5/3N	243360	1/30
1.6	PLS4-C1,6/3N	243361	1/30
2	PLS4-C2/3N	243362	1/30
2.5	PLS4-C2,5/3N	243363	1/30
3	PLS4-C3/3N	243364	1/30
3.5	PLS4-C3,5/3N	243365	1/30
4	PLS4-C4/3N	243366	1/30
5	PLS4-C5/3N	243367	1/30
6	PLS4-C6/3N	243368	1/30
8	PLS4-C8/3N	243369	1/30
10	PLS4-C10/3N	243370	1/30
12	PLS4-C12/3N	243371	1/30
13	PLS4-C13/3N	243372	1/30
15	PLS4-C15/3N	243373	1/30
16	PLS4-C16/3N	243374	1/30
20	PLS4-C20/3N	243375	1/30
25	PLS4-C25/3N	243376	1/30
32	PLS4-C32/3N	243377	1/30
40	PLS4-C40/3N	243378	1/30
50	PLS4-C50/3N	243379	1/30
63	PLS4-C63/3N	243380	1/30

Explanation PLS4:
P = XPole, LS = Miniature Circuit Breaker, 4 = 4.5 kA

SG37111

Rated current I_n (A)	Type Designation	Article No.	Units per package
4-pole			
0.16	PLS4-C0,16/4	243403	1/30
0.25	PLS4-C0,25/4	243404	1/30
0.5	PLS4-C0,5/4	243406	1/30
0.75	PLS4-C0,75/4	243405	1/30
1	PLS4-C1/4	243407	1/30
1.5	PLS4-C1,5/4	243408	1/30
1.6	PLS4-C1,6/4	243409	1/30
2	PLS4-C2/4	243410	1/30
2.5	PLS4-C2,5/4	243411	1/30
3	PLS4-C3/4	243412	1/30
3.5	PLS4-C3,5/4	243413	1/30
4	PLS4-C4/4	243414	1/30
5	PLS4-C5/4	243415	1/30
6	PLS4-C6/4	243416	1/30
8	PLS4-C8/4	243417	1/30
10	PLS4-C10/4	243418	1/30
12	PLS4-C12/4	243419	1/30
13	PLS4-C13/4	243420	1/30
15	PLS4-C15/4	243421	1/30
16	PLS4-C16/4	243422	1/30
20	PLS4-C20/4	243423	1/30
25	PLS4-C25/4	243424	1/30
32	PLS4-C32/4	243425	1/30
40	PLS4-C40/4	243426	1/30
50	PLS4-C50/4	243427	1/30
63	PLS4-C63/4	243428	1/30

Explanation PLS4:
P = XPole, LS = Miniature Circuit Breaker, 4 = 4.5 kA

Specifications | Miniature Circuit Breakers PLS..., PLZ...

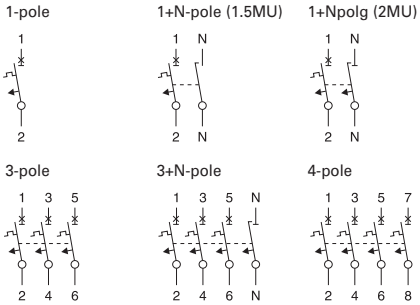
Description

- High selectivity between MCB and back-up fuse due to low let-through energy
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Suitable for applications up to 48 V DC (use PLS6-DC for higher DC voltages)

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal contact for subsequent installation	ZP-NHK	248437
Remote control and automatic switching device	Z-FW/LP	248296
Shunt trip release	ZP-ASA/..	248438, 248439
Undervoltage release	Z-USA/..	248288-248291
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Additional terminal 35 mm²	Z-HA-EK/35	263960
Switching interlock	Z-IS/SPE-1TE	274418

Connection diagrams



Technical Data

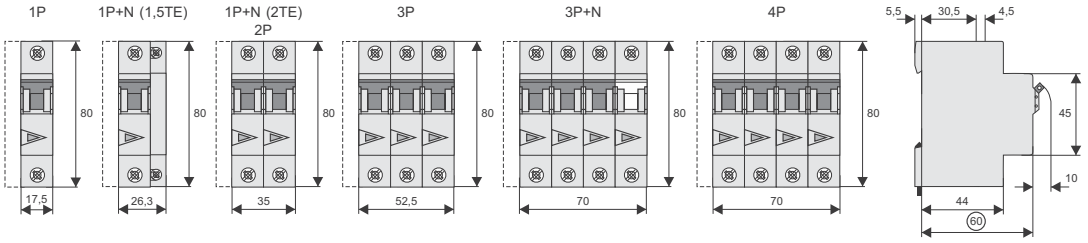
Electrical

Design according to	IEC/EN 60898-1
Current test marks as printed onto the device	
Rated voltage	AC: 230/400V DC: 48V (per pole, max. 2 poles)
Rated frequency	50/60 Hz
Rated breaking capacity acc. to IEC/EN 60898-1	
PLSM, PLZM	10 kA
PLS6, PLZ6	6 kA
PLS4, PLZ4	4.5 kA
Characteristic	B, C, D
Back-up fuse	
PLSM	max. 125 A gL
PLS6	max. 100 A gL
PLS4	max. 80 A gL
Selectivity class	3
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50µs)
Endurance electrical comp.	≥ 10,000 switching op.
mechanical comp.	≥ 20,000 switching op.
Line voltage connection	optional (above/below)

Mechanical

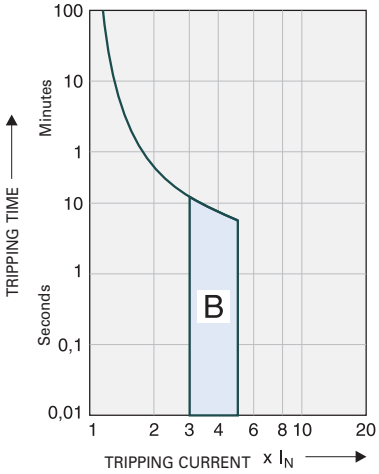
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm per pole (1MU) 26.3 mm: device 1P+N (1.5MU)
Mounting	quick fastening with 3 lock-in positions on DIN rail IEC/EN 60715
Degree of protection	IP20
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity (1p+N, 1.5MU)	1-25 mm² 1-25 mm² / 1-16 mm² (N)
Terminal fastening torque (1p+N, 1.5MU)	2-2.4 Nm 2-2.4 Nm / 1.2-1.5 Nm (N)
Busbar thickness	0.8-2 mm (except N 0.5 MU)
Mounting	independent of position

Dimensions (mm)

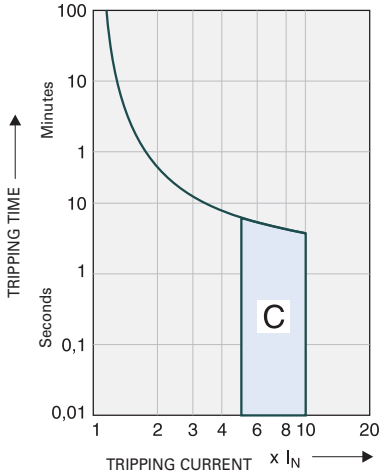


Tripping Characteristics (IEC/EN 60898-1)

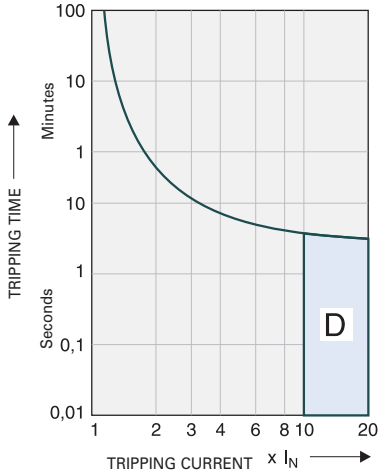
Tripping characteristic B



Tripping characteristic C



Tripping characteristic D



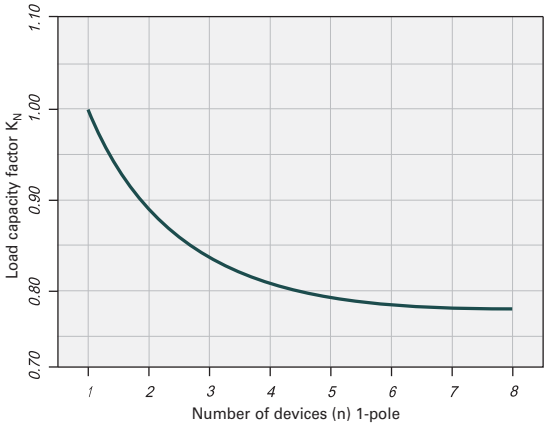
Quick-acting (B), slow (C), very slow (D)

Effect of the Ambient Temperature on Thermal Tripping Behaviour

Adjusted rated current values according to the ambient temperature

	Ambient temperature T [°C]															
I_n [A]	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**	**75**
0.16	0.20	0.19	0.19	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.13
0.25	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.25	0.24	0.24	0.23	0.23	0.22	0.22	0.21	0.21
0.5	0.61	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.48	0.47	0.46	0.45	0.44	0.43	0.42	0.41
0.75	0.92	0.90	0.87	0.84	0.81	0.78	0.75	0.74	0.73	0.71	0.69	0.68	0.66	0.65	0.64	0.62
1	1.2	1.2	1.2	1.1	1.1	1.0	1.0	0.99	0.97	0.95	0.93	0.90	0.89	0.87	0.85	0.83
1.5	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.3	1.3	1.2
1.6	2.0	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.3
2	2.4	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7
2.5	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2	2.2	2.1	2.1
3	3.7	3.6	3.5	3.4	3.3	3.1	3.0	3.0	2.9	2.8	2.8	2.7	2.7	2.6	2.5	2.5
3.5	4.3	4.2	4.1	3.9	3.8	3.7	3.5	3.4	3.4	3.3	3.2	3.2	3.1	3.0	3.0	2,9
4	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9	3.8	3.7	3.6	3.5	3.5	3.4	3.3
5	6.1	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1
6	7.3	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8	5.7	5.6	5.4	5.3	5.2	5.1	5.0
8	9.8	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7	7.6	7.4	7.2	7.1	6,9	6,8	6,6
10	12	12	12	11	11	10	10	9.9	9.7	9.5	9.3	9.0	8.9	8.7	8.5	8.3
12	15	14	14	13	13	13	12	12	12	11	11	11	11	10	10	10
13	16	16	15	15	14	14	13	13	13	12	12	12	12	11	11	11
15	18	18	17	17	16	16	15	15	15	14	14	14	13	13	13	12
16	20	19	19	18	17	17	16	16	15	15	15	14	14	14	14	13
20	24	24	23	22	22	21	20	20	19	19	19	18	18	17	17	17
25	31	30	29	28	27	26	25	25	24	24	23	23	22	22	21	21
32	39	38	37	36	35	33	32	32	31	30	30	29	28	28	27	26
40	49	48	47	45	43	42	40	39	39	38	37	36	35	35	34	33
50	61	60	58	56	54	52	50	49	48	47	46	45	44	43	42	41
63	77	76	73	71	68	66	63	62	61	60	58	57	56	55	53	52

Load Capacity of Series Connected Miniature Circuit Breakers



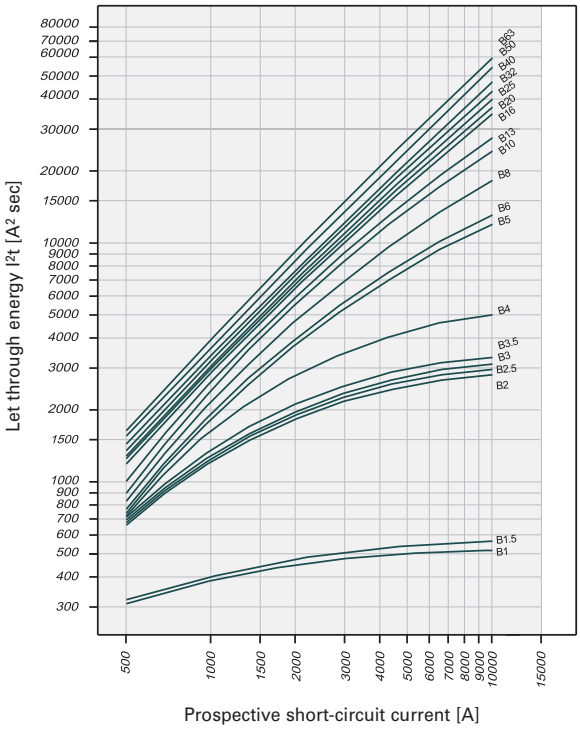
Effect of Power Frequency

Effect of power frequency on the tripping behaviour I_{MA} of the quick release

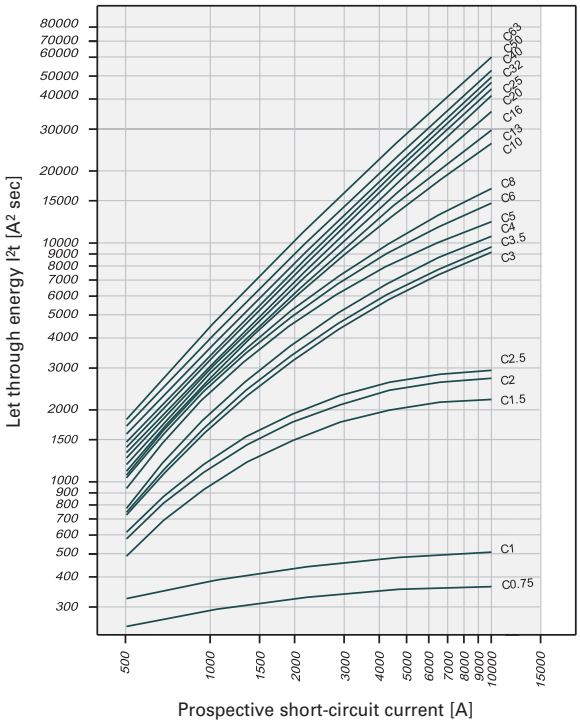
	Power frequency f [Hz]						
	$16^2/_3$	50	60	100	200	300	400
$I_{MA}(f)/I_{MA}(50Hz)$ [%]	91	100	101	106	115	134	141

Let-through Energy PLSM

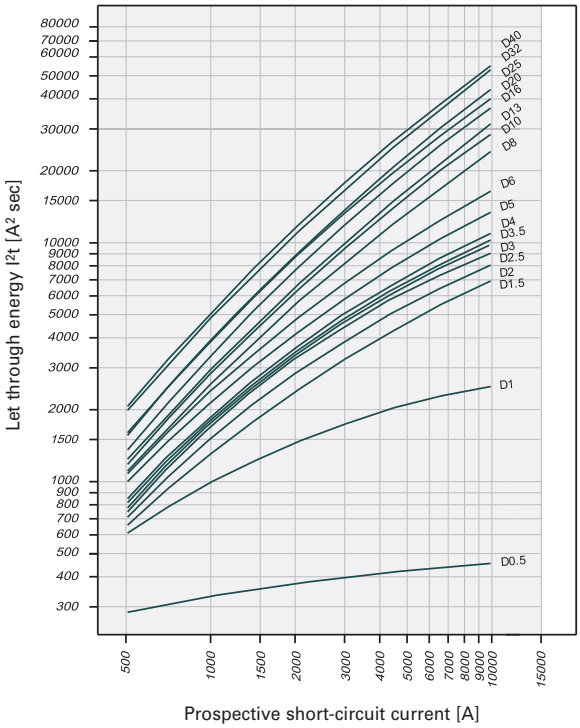
Let-through energy PLSM, characteristic B, 1-pole



Let-through energy PLSM, characteristic C, 1-pole



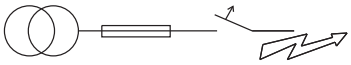
Let-through energy PLSM, characteristic D, 1-pole



Short Circuit Selectivity PLSM towards DII-DIV fuse link

In case of short circuit, there is selectivity between the miniature circuit breakers PLSM and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

PLSM	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
1.0	<0.5[1)]	1.2	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.5	<0.5[1)]	1.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
2.0	<0.5[1)]	<0.5[1)]	0.8	1.6	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
2.5	<0.5[1)]	<0.5[1)]	0.8	1.5	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
3.0	<0.5[1)]	<0.5[1)]	0.8	1.4	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
3.5	<0.5[1)]	<0.5[1)]	0.7	1.3	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
4	<0.5[1)]	<0.5[1)]	0.6	1.0	3.6	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
5	<0.5[1)]	<0.5[1)]	0.6	0.9	2.0	3.5	8.5	10.0[2)]	10.0[2)]
6		<0.5[1)]	0.6	0.9	1.8	3.2	7.4	10.0[2)]	10.0[2)]
8		<0.5[1)]	0.5	0.8	1.6	2.6	5.2	8.3	10.0[2)]
10			0.5	0.8	1.4	2.2	3.9	6.0	10.0[2)]
13			0.5	0.7	1.3	2.0	3.6	5.4	10.0[2)]
16				0.6	1.2	1.9	3.2	4.6	8.4
20					1.2	1.8	3.1	4.4	7.8
25					1.2	1.8	3.0	4.2	7.3
32						1.7	2.8	3.9	6.8
40							2.7	3.8	6.5
50							2.5	3.5	5.7
63									5.3

Short circuit selectivity **characteristic C** towards fuse link **DII-DIV***)

PLSM	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.75	1.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.0	<0.5[1)]	1.2	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.5	<0.5[1)]	<0.5[1)]	1.0	2.2	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
2.0	<0.5[1)]	<0.5[1)]	0.8	1.6	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
2.5	<0.5[1)]	<0.5[1)]	0.8	1.4	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
3.0	<0.5[1)]	<0.5[1)]	0.8	0.9	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
3.5	<0.5[1)]	<0.5[1)]	0.6	0.9	2.2	4.5	10.0[2)]	10.0[2)]	10.0[2)]
4	<0.5[1)]	<0.5[1)]	0.6	0.8	1.8	3.6	9.7	10.0[2)]	10.0[2)]
5	<0.5[1)]	<0.5[1)]	0.6	0.7	1.5	2.7	7.3	10.0[2)]	10.0[2)]
6		<0.5[1)]	0.5	0.6	1.4	2.4	5.5	10.0[2)]	10.0[2)]
8		<0.5[1)]	<0.5[1)]	0.6	1.3	2.2	4.7	8.7	10.0[2)]
10			<0.5[1)]	0.6	1.3	2.0	3.6	5.4	10.0[2)]
13					1.3	1.9	3.3	5.0	9.4
16					1.2	1.8	3.2	4.4	8.0
20					1.2	1.8	3.1	4.1	7.0
25						1.7	2.8	3.8	6.5
32							2.7	3.7	6.2
40								3.5	5.9
50									5.5
63									

Short circuit selectivity **characteristic D** towards fuse link **DII-DIV***)

PLSM	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.5	0.5	3.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.0	<0.5[1)]	<0.5[1)]	1.0	2.4	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.5	<0.5[1)]	<0.5[1)]	0.7	1.2	3.5	7.7	10.0[2)]	10.0[2)]	10.0[2)]
2.0	<0.5[1)]	<0.5[1)]	0.6	1.0	2.8	5.8	10.0[2)]	10.0[2)]	10.0[2)]
2.5	<0.5[1)]	<0.5[1)]	0.6	1.4	2.3	4.6	10.0[2)]	10.0[2)]	10.0[2)]
3.0	<0.5[1)]	<0.5[1)]	0.6	0.9	2.3	4.3	10.0[2)]	10.0[2)]	10.0[2)]
3.5	<0.5[1)]	<0.5[1)]	0.6	0.9	2.1	4.0	10.0[2)]	10.0[2)]	10.0[2)]
4		<0.5[1)]	0.6	0.9	2.0	3.8	9.5	10.0[2)]	10.0[2)]
5		<0.5[1)]	0.5	0.7	1.7	3.1	7.0	10.0[2)]	10.0[2)]
6			0.5	0.7	1.5	2.6	5.3	9.1	10.0[2)]
8			<0.5[1)]	0.7	1.4	2.2	3.9	6.0	10.0[2)]
10				0.7	1.2	1.9	3.4	5.0	9.5
13					1.2	1.8	3.2	4.6	8.6
16						1.6	2.7	4.0	7.4
20						1.5	2.5	3.5	6.7
25							2.4	3.4	6.2
32								2.8	5.0
40									4.8

[1)] Selectivity limit current I_s under 0.5 kA

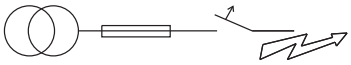
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short Circuit Selectivity PLSM towards D01-D03 fuse link

In case of short circuit, there is selectivity between the miniature circuit breakers PLSM and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

PLSM	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
1.0	<0.5[1)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.5	<0.5[1)]	4.1	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
2.0	<0.5[1)]	<0.5[1)]	0.6	1.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
2.5	<0.5[1)]	<0.5[1)]	0.6	1.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
3.0	<0.5[1)]	<0.5[1)]	0.5	1.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
3.5	<0.5[1)]	<0.5[1)]	0.5	0.9	7.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
4	<0.5[1)]	<0.5[1)]	0.5	0.9	2.5	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
5		<0.5[1)]	0.5	0.8	1.7	4.0	7.0	10.0[2)]	10.0[2)]
6		<0.5[1)]	0.5	0.8	1.6	3.6	6.0	10.0[2)]	10.0[2)]
8			0.5	0.8	1.4	2.8	4.3	8.2	10.0[2)]
10			0.5	0.7	1.3	2.4	3.4	6.0	10.0[2)]
13			<0.5[1)]	0.7	1.2	2.3	3.2	5.3	10.0[2)]
16				0.6	1.1	2.2	2.9	4.6	10.0
20					1.1	2.1	2.8	4.4	9.3
25					1.1	2.0	2.7	4.2	8.7
32						2.0	2.6	4.0	8.0
40							2.5	3.8	7.5
50							2.3	3.4	6.7
63									6.2

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

PLSM	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.75	<0.5[1)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.0	<0.5[1)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.5	<0.5[1)]	0.5	0.6	0.9	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
2.0	<0.5[1)]	<0.5[1)]	0.5	0.7	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
2.5	<0.5[1)]	<0.5[1)]	0.5	0.7	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
3.0	<0.5[1)]	<0.5[1)]	<0.5[1)]	0.6	1.9	5.2	10.0[2)]	10.0[2)]	10.0[2)]
3.5	<0.5[1)]	<0.5[1)]	<0.5[1)]	0.6	1.8	4.7	9.5	10.0[2)]	10.0[2)]
4	<0.5[1)]	<0.5[1)]	<0.5[1)]	0.6	1.6	4.0	7.6	10.0[2)]	10.0[2)]
5		<0.5[1)]	<0.5[1)]	0.5	1.3	3.1	5.7	10.0[2)]	10.0[2)]
6		<0.5[1)]	<0.5[1)]	<0.5[1)]	1.2	2.7	4.5	10.0[2)]	10.0[2)]
8		<0.5[1)]	<0.5[1)]	<0.5[1)]	1.2	2.5	4.0	8.6	10.0[2)]
10			<0.5[1)]	<0.5[1)]	1.2	2.3	3.1	5.4	10.0[2)]
13					1.1	2.2	3.0	4.9	10.0[2)]
16					1.1	2.1	2.8	4.4	9.5
20					1.0	2.0	2.6	4.0	8.3
25						1.9	2.5	3.8	7.8
32							2.5	3.7	7.3
40								3.5	7.0
50									6.5
63									

Short circuit selectivity **characteristic D** towards fuse link **D01-D03***)

PLSM	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.5	<0.5[1)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.0	<0.5[1)]	<0.5[1)]	0.7	1.3	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.5	<0.5[1)]	<0.5[1)]	0.6	0.9	2.8	9.0	10.0[2)]	10.0[2)]	10.0[2)]
2.0	<0.5[1)]	<0.5[1)]	0.6	0.8	2.2	6.7	10.0[2)]	10.0[2)]	10.0[2)]
2.5	<0.5[1)]	<0.5[1)]	0.5	0.7	1.9	5.4	10.0[2)]	10.0[2)]	10.0[2)]
3.0	<0.5[1)]	<0.5[1)]	0.5	0.7	1.8	4.8	9.3	10.0[2)]	10.0[2)]
3.5	<0.5[1)]	<0.5[1)]	0.5	0.7	1.7	4.7	8.6	10.0[2)]	10.0[2)]
4		<0.5[1)]	0.5	0.7	1.7	4.6	7.7	10.0[2)]	10.0[2)]
5		<0.5[1)]	<0.5[1)]	0.6	1.5	3.5	5.8	10.0[2)]	10.0[2)]
6			<0.5[1)]	0.5	1.3	2.9	4.5	9.0	10.0[2)]
8			<0.5[1)]	0.5	1.2	2.4	3.5	6.0	10.0[2)]
10				0.5	1.1	2.2	3.0	5.0	10.0[2)]
13					1.1	2.1	2.9	4.6	10.0[2)]
16						1.9	2.6	3.9	9.0
20						1.7	2.3	3.5	8.0
25							2.2	3.4	7.5
32								2.9	6.0
40									5.7

[1)] Selectivity limit current I_s under 0.5 kA

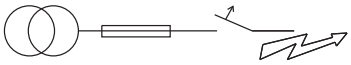
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short Circuit Selectivity PLSM towards NH-00 Fuses

In case of short circuit, there is selectivity between the miniature circuit breakers PLSM and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

PLSM	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
1.0	0.9	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
1.5	0.8	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
2.0	<0.5[1]	0.5	1.0	2.5	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
2.5	<0.5[1]	0.5	1.0	2.3	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
3.0	<0.5[1]	0.5	0.9	2.1	8.0	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
3.5	<0.5[1]	0.5	0.9	1.8	5.5	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
4	<0.5[1]	<0.5[1]	0.8	1.3	2.3	4.3	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
5	<0.5[1]	<0.5[1]	0.7	1.1	1.6	2.2	3.6	4.8	8.9	10.0[2]	10.0[2]	10.0[2]
6	<0.5[1]	<0.5[1]	0.7	1.1	1.5	2.0	3.3	4.3	7.6	10.0[2]	10.0[2]	10.0[2]
8	<0.5[1]	<0.5[1]	0.6	1.0	1.3	1.7	2.6	3.3	5.2	10.0[2]	10.0[2]	10.0[2]
10		<0.5[1]	0.6	0.9	1.2	1.5	2.2	2.7	4.0	9.0	10.0[2]	10.0[2]
13		<0.5[1]	0.6	0.8	1.1	1.4	2.1	2.6	3.8	7.9	10.0[2]	10.0[2]
16			0.5	0.7	1.0	1.3	1.9	2.4	3.4	6.4	9.3	10.0[2]
20				0.7	1.0	1.3	1.9	2.4	3.3	6.0	8.7	10.0[2]
25				0.7	1.0	1.3	1.8	2.3	3.2	5.7	8.0	10.0[2]
32					0.9	1.2	1.7	2.2	3.1	5.4	7.6	10.0[2]
40								2.1	3.0	5.1	7.2	10.0[2]
50								1.9	2.8	4.7	6.6	9.5
63										4.4	6.3	8.6

Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

PLSM	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
0.75	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
1.0	0.9	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
1.5	<0.5[1]	0.6	1.3	4.2	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
2.0	<0.5[1]	0.6	1.0	2.5	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
2.5	<0.5[1]	0.5	1.0	2.1	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
3.0	<0.5[1]	<0.5[1]	0.7	1.2	1.8	2.6	4.7	6.6	10.0[2]	10.0[2]	10.0[2]	10.0[2]
3.5	<0.5[1]	<0.5[1]	0.7	1.1	1.7	2.4	4.2	6.0	10.0[2]	10.0[2]	10.0[2]	10.0[2]
4	<0.5[1]	<0.5[1]	0.7	1.0	1.5	2.1	3.6	5.0	10.0	10.0[2]	10.0[2]	10.0[2]
5	<0.5[1]	<0.5[1]	0.6	0.8	1.2	1.7	2.8	3.8	8.7	10.0[2]	10.0[2]	10.0[2]
6	<0.5[1]	<0.5[1]	0.5	0.8	1.2	1.5	2.5	3.3	5.7	10.0[2]	10.0[2]	10.0[2]
8	<0.5[1]	<0.5[1]	0.5	0.8	1.1	1.5	2.3	2.9	4.9	10.0[2]	10.0[2]	10.0[2]
10			0.5	0.7	1.0	1.4	2.0	2.5	3.8	8.0	10.0[2]	10.0[2]
13					1.0	1.3	1.9	2.4	3.6	7.0	10.0[2]	10.0[2]
16					1.0	1.3	1.8	2.3	3.3	6.0	8.8	10.0[2]
20					1.0	1.2	1.7	2.2	3.2	5.5	7.7	10.0[2]
25							1.6	2.1	3.0	5.2	7.3	10.0[2]
32								2.1	2.9	5.0	7.0	10.0[2]
40									2.8	4.8	6.7	10.0
50										4.5	6.3	9.5
63											5.9	8.4

Short circuit selectivity **characteristic D** towards fuse link **NH-00***)

PLSM	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
0.5	2.1	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
1.0	<0.5[1]	0,6	1.4	4.3	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
1.5	<0.5[1]	<0.5[1]	0.9	1.6	2.7	4.0	8.0	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
2.0	<0.5[1]	<0.5[1]	0.8	1.3	2.1	3.1	6.0	8.6	10.0[2]	10.0[2]	10.0[2]	10.0[2]
2.5	<0.5[1]	<0.5[1]	0.7	1.2	1.8	2.6	4.8	6.9	10.0[2]	10.0[2]	10.0[2]	10.0[2]
3.0	<0.5[1]	<0.5[1]	0.7	1.1	1.7	2.4	4.3	6.0	10.0[2]	10.0[2]	10.0[2]	10.0[2]
3.5	<0.5[1]	<0.5[1]	0.7	1.1	1.7	2.4	4.2	5.6	10.0[2]	10.0[2]	10.0[2]	10.0[2]
4	<0.5[1]	<0.5[1]	0.7	1.0	1.6	2.2	3.8	5.2	10.0	10.0[2]	10.0[2]	10.0[2]
5		<0.5[1]	0.6	0.9	1.4	1.9	3.2	4.1	7.1	10.0[2]	10.0[2]	10.0[2]
6		<0.5[1]	0.5	0.8	1.2	1.6	2.6	3.3	5.5	10.0[2]	10.0[2]	10.0[2]
8			0.5	0.8	1.1	1.5	2.2	2.7	4.1	8.7	10.0[2]	10.0[2]
10			0.5	0.7	1.0	1.3	1.9	2.5	3.6	7.2	10.0[2]	10.0[2]
13					1.0	1.3	1.9	2.3	3.4	6.5	9.5	10.0[2]
16						1.1	1.6	2.0	3.0	5.5	8.0	10.0[2]
20							1.4	1.8	2.8	5.0	7.5	10.0[2]
25								1.8	2.7	4.8	7.0	10.0[2]
32									2.4	4.1	6.2	9.3
40										4.0	6.0	9.0

[1] Selectivity limit current I_s under 0.5 kA

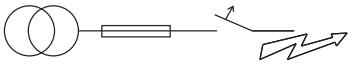
[2] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short Circuit Selectivity PLSM towards cylindrical fuse links

In case of short circuit, there is selectivity between the miniature circuit breakers PLSM and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse links **CH10x38 gG, CH14x51 gG, CH22x58 gG***)

PLSM	CH10x38 gG				CH15x51 gG					CH22x58 gG								
I_n [A]	16	20	25	32	20	25	32	40	50	16	20	25	32	40	50	63	80	100
1	0.5	>10	>10	>10	>10	>10	>10	>10	>10	1.2	>10	>10	>10	>10	>10	>10	>10	>10
2	<0.5	0.6	1.2	3.6	0.5	1.0	5.2	>10	>10	<0.5	0.5	1.1	>10	>10	>10	>10	>10	>10
3	<0.5	0.5	0.8	1.4	0.5	0.9	3.7	>10	>10	<0.5	0.5	1.0	8.0	>10	>10	>10	>10	>10
4	<0.5	<0.5	0.7	1.2	<0.5	0.7	1.7	4.0	>10	<0.5	<0.5	0.8	2.3	5.1	>10	>10	>10	>10
6	<0.5	<0.5	0.6	0.9	<0.5	0.7	1.3	2.0	2.7	<0.5	<0.5	0.7	1.5	2.2	2.6	5.6	10	>10
10	<0.5	<0.5	0.6	0.9	<0.5	0.6	1.1	1.5	2.0	<0.5	<0.5	0.6	1.2	1.6	1.9	3.2	4.8	9.0
13	<0.5	<0.5	0.6	0.8	<0.5	0.6	1.0	1.4	1.9	<0.5	<0.5	0.6	1.2	1.5	1.7	3.0	4.3	7.7
16		<0.5	0.5	0.8	<0.5	0.5	1.0	1.4	1.8		<0.5	0.5	1.1	1.4	1.6	2.7	3.8	6.3
20			0.5	0.8		<0.5	0.9	1.3	1.6			0.5	1.1	1.4	1.6	2.6	3.7	6.0
25				0.7			0.9	1.3	1.6				1.0	1.3	1.5	2.5	3.5	5.6
32								1.2	1.5					1.3	1.5	2.4	3.3	5.2
40									1.5						1.4	2.3	3.2	5.0
50																2.1	2.9	4.5
63																	2.8	4.2

no selectivity

Short circuit selectivity **characteristic C** towards fuse links **CH10x38 gG, CH14x51 gG, CH22x58 gG***)

PLSM	CH10x38 gG				CH15x51 gG					CH22x58 gG								
I_n [A]	16	20	25	32	20	25	32	40	50	16	20	25	32	40	50	63	80	100
0.5	1.9	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10
1	<0.5	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10
2	<0.5	0.6	1.2	3.6	0.5	1.0	4.5	>10	>10	<0.5	0.6	1.1	>10	>10	>10	>10	>10	>10
3	<0.5	0.5	0.8	1.4	<0.5	0.7	1.4	2.4	3.7	<0.5	<0.5	0.8	1.8	2.7	3.5	9.3	>10	>10
4	<0.5	<0.5	0.7	1.2	<0.5	0.7	1.2	2.0	2.9	<0.5	<0.5	0.7	1.5	2.2	2.7	6.7	>10	>10
6	<0.5	<0.5	0.6	0.9	<0.5	<0.5	1.0	1.4	2.0	<0.5	<0.5	0.6	1.1	1.6	1.9	4.2	7.0	>10
10	<0.5	<0.5	0.5	0.8	<0.5	<0.5	0.9	1.3	1.7	<0.5	<0.5	0.6	1.1.	1.5	1.8	2.9	4.1	7.5
13	<0.5	<0.5	0.5	0.8	<0.5	<0.5	0.9	1.3	1.7	<0.5	<0.5	0.5	1.0	1.4	1.7	2.7	3.8	6.5
16		<0.5	0.5	0.8	<0.5	<0.5	0.8	1.2	1.6		<0.5	<0.5	1.0	1.3	1.5	2.6	3.5	5.8
20			<0.5	0.7		<0.5	0.8	1.2	1.5			<0.5	0.9	1.2	1.4	2.5	3.3	5.4
25				0.7			0.8	1.1	1.4				0.9	1.2	1.4	2.3	3.2	5.0
32								1.1	1.4					1.1	1.3	2.2	3.0	4.8
40									1.3						1.2	2.0	2.8	4.6
50																1.9	2.6	4.2
63																	2.3	3.7

no selectivity

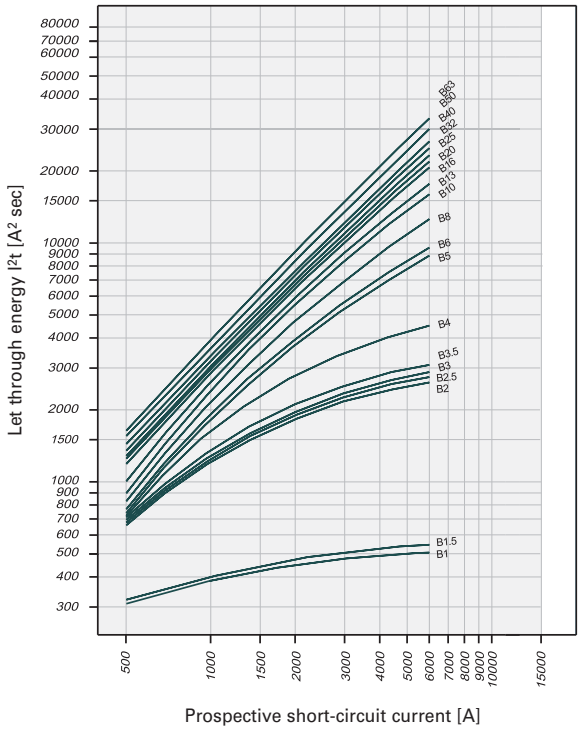
Short circuit selectivity **characteristic D** towards fuse links **CH10x38 gG, CH14x51 gG, CH22x58 gG***)

PLSM	CH10x38 gG				CH15x51 gG					CH22x58 gG								
I_n [A]	16	20	25	32	20	25	32	40	50	16	20	25	32	40	50	63	80	100
0.5	0.9	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10
1	<0.5	>10	>10	>10	>10	>10	>10	>10	>10	<0.5	0.6	1.5	>10	>10	>10	>10	>10	>10
2	<0.5	0.5	0.6	1.6	<0.5	1.0	1.7	>10	>10	<0.5	0.5	0.8	2.1	3.3	4.3	>10	>10	>10
3	<0.5	<0.5	0.8	1.3	<0.5	0.7	1.4	2.4	3.4	<0.5	<0.5	0.7	1.7	2.5	3.2	8.2	>10	>10
4	<0.5	<0.5	0.7	1.2	<0.5	0.7	1.3	2.0	3.1	<0.5	<0.5	0.7	1.6	2.3	3.0	7.0	>10	>10
6	<0.5	<0.5	0.6	1.0	<0.5	<0.5	1.0	1.6	2.0	<0.5	<0.5	0.6	1.3	1.7	2.1	4.2	7.0	>10
10	<0.5	<0.5	0.6	0.8	<0.5	<0.5	0.9	1.3	1.7	<0.5	<0.5	0.5	1.1	1.4	1.6	2.8	4.1	7.1
13	<0.5	<0.5	0.5	0.8	<0.5	<0.5	0.9	1.3	1.6	<0.5	<0.5	0.5	1.0	1.4	1.6	2.7	3.8	6.5
16		<0.5	0.5	0.7	<0.5	<0.5	0.8	1.1	1.4		<0.5	<0.5	1.0	1.2	1.4	2.3	3.2	5.5
20			<0.5	0.7		<0.5	0.7	1.0	1.3			<0.5	0.8	1.1	1.3	2.1	2.9	4.6
25				0.7			0.7	1.0	1.2				0.8	1.0	1.2	2.0	2.8	4.0
32														0.9	1.0	1.7	2.3	3.8
40															1.0	2.0	2.2	3.6

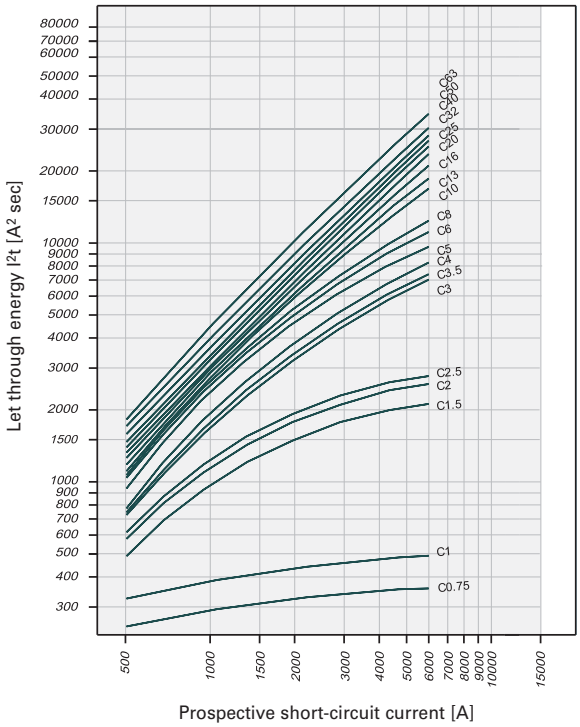
no selectivity

Let-through Energy PLS6

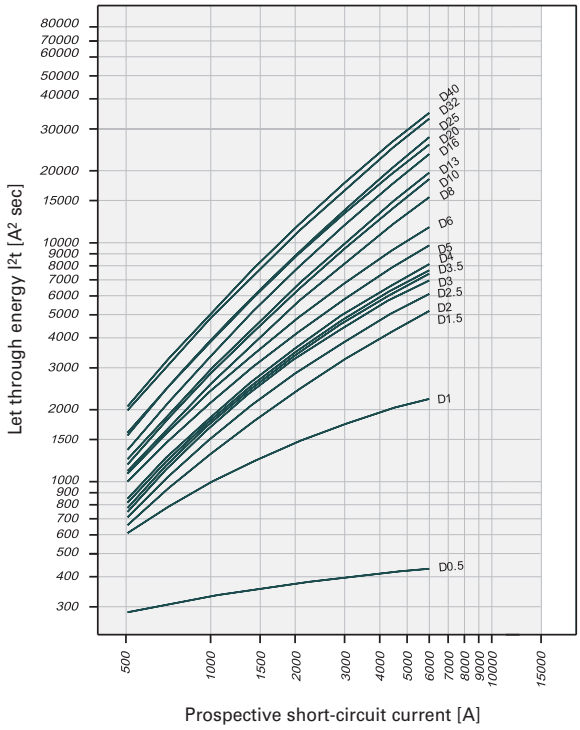
Let-through energy PLS6, characteristic B, 1-pole



Let-through energy PLS6, characteristic C, 1-pole



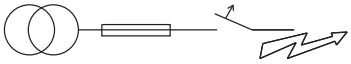
Let-through energy PLS6, characteristic D, 1-pole



Short Circuit Selectivity PLS6 towards DII-DIV fuse link

In case of short circuit, there is selectivity between the miniature circuit breakers PLS6 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

PLS6	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
1.0	<0.5[1)]	1.2	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
1.5	<0.5[1)]	1.0	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
2.0	<0.5[1)]	<0.5[1)]	0.8	1.6	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
2.5	<0.5[1)]	<0.5[1)]	0.8	1.5	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
3.0	<0.5[1)]	<0.5[1)]	0.8	1.4	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
3.5	<0.5[1)]	<0.5[1)]	0.7	1.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.6	1.0	3.6	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
5	<0.5[1)]	<0.5[1)]	0.6	0.9	2.0	3.5	6.0[2)]	6.0[2)]	6.0[2)]
6		<0.5[1)]	0.6	0.9	1.8	3.2	6.0[2)]	6.0[2)]	6.0[2)]
8		<0.5[1)]	0.5	0.8	1.6	2.6	5.2	6.0[2)]	6.0[2)]
10			0.5	0.8	1.4	2.2	3.9	6.0[2)]	6.0[2)]
13			0.5	0.7	1.3	2.0	3.6	5.4	6.0[2)]
16				0.6	1.2	1.9	3.2	4.6	6.0[2)]
20					1.2	1.8	3.1	4.4	6.0[2)]
25					1.2	1.8	3.0	4.2	6.0[2)]
32						1.7	2.8	3.9	6.0[2)]
40							2.7	3.8	6.0[2)]
50							2.5	3.5	5.7
63									5.3

Short circuit selectivity **characteristic C** towards fuse link **DII-DIV***)

PLS6	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.75	1.0	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
1.0	<0.5[1)]	1.2	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
1.5	<0.5[1)]	<0.5[1)]	1.0	2.2	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
2.0	<0.5[1)]	<0.5[1)]	0.8	1.6	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
2.5	<0.5[1)]	<0.5[1)]	0.8	1.4	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
3.0	<0.5[1)]	<0.5[1)]	0.8	0.9	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
3.5	<0.5[1)]	<0.5[1)]	0.6	0.9	2.2	4.5	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.6	0.8	1.8	3.6	6.0[2)]	6.0[2)]	6.0[2)]
5	<0.5[1)]	<0.5[1)]	0.6	0.7	1.5	2.7	6.0[2)]	6.0[2)]	6.0[2)]
6		<0.5[1)]	0.5	0.6	1.4	2.4	5.5	6.0[2)]	6.0[2)]
8		<0.5[1)]	<0.5[1)]	0.6	1.3	2.2	4.7	6.0[2)]	6.0[2)]
10			<0.5[1)]	0.6	1.3	2.0	3.6	6.0[2)]	6.0[2)]
13					1.3	1.9	3.3	5.0	6.0[2)]
16					1.2	1.8	3.2	4.4	6.0[2)]
20					1.2	1.8	3.1	4.1	6.0[2)]
25						1.7	2.8	3.8	6.0[2)]
32							2.7	3.7	6.0[2)]
40								3.5	5.9
50									5.5
63									

Short circuit selectivity **characteristic D** towards fuse link **DII-DIV***)

PLS6	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.5	0.5	3.0	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
1.0	<0.5[1)]	<0.5[1)]	1.0	2.4	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
1.5	<0.5[1)]	<0.5[1)]	0.7	1.2	3.5	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
2.0	<0.5[1)]	<0.5[1)]	0.6	1.0	2.8	5.8	6.0[2)]	6.0[2)]	6.0[2)]
2.5	<0.5[1)]	<0.5[1)]	0.6	1.4	2.3	4.6	6.0[2)]	6.0[2)]	6.0[2)]
3.0	<0.5[1)]	<0.5[1)]	0.6	0.9	2.3	4.3	6.0[2)]	6.0[2)]	6.0[2)]
3.5	<0.5[1)]	<0.5[1)]	0.6	0.9	2.1	4.0	6.0[2)]	6.0[2)]	6.0[2)]
4		<0.5[1)]	0.6	0.9	2.0	3.8	6.0[2)]	6.0[2)]	6.0[2)]
5		<0.5[1)]	0.5	0.7	1.7	3.1	6.0[2)]	6.0[2)]	6.0[2)]
6			0.5	0.7	1.5	2.6	5.3	6.0[2)]	6.0[2)]
8			<0.5[1)]	0.7	1.4	2.2	3.9	6.0[2)]	6.0[2)]
10				0.7	1.2	1.9	3.4	5.0	6.0[2)]
13					1.2	1.8	3.2	4.6	6.0[2)]
16						1.6	2.7	4.0	6.0[2)]
20						1.5	2.5	3.5	6.0[2)]
25							2.4	3.4	6.0[2)]
32								2.8	5.0
40									4.8

[1)] Selectivity limit current I_s under 0.5 kA

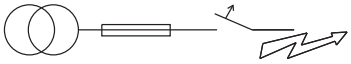
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short Circuit Selectivity PLS6 towards D01-D03 fuse link

In case of short circuit, there is selectivity between the miniature circuit breakers PLS6 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

PLS6	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
1.0	<0.5[1]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
1.5	<0.5[1]	4.1	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.0	<0.5[1]	<0.5[1]	0.6	1.0	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.5	<0.5[1]	<0.5[1]	0.6	1.0	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
3.0	<0.5[1]	<0.5[1]	0.5	1.0	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
3.5	<0.5[1]	<0.5[1]	0.5	0.9	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
4	<0.5[1]	<0.5[1]	0.5	0.9	2.5	6.0[2]	6.0[2]	6.0[2]	6.0[2]
5		<0.5[1]	0.5	0.8	1.7	4.0	6.0[2]	6.0[2]	6.0[2]
6		<0.5[1]	0.5	0.8	1.6	3.6	6.0[2]	6.0[2]	6.0[2]
8			0.5	0.8	1.4	2.8	4.3	6.0[2]	6.0[2]
10			0.5	0.7	1.3	2.4	3.4	6.0[2]	6.0[2]
13			<0.5[1]	0.7	1.2	2.3	3.2	5.3	6.0[2]
16				0.6	1.1	2.2	2.9	4.6	6.0[2]
20					1.1	2.1	2.8	4.4	6.0[2]
25					1.1	2.0	2.7	4.2	6.0[2]
32						2.0	2.6	4.0	6.0[2]
40							2.5	3.8	6.0[2]
50							2.3	3.4	6.0[2]
63									6.0[2]

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

PLS6	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.75	<0.5[1]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
1.0	<0.5[1]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
1.5	<0.5[1]	0.5	0.6	0.9	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.0	<0.5[1]	<0.5[1]	0.5	0.7	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.5	<0.5[1]	<0.5[1]	0.5	0.7	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
3.0	<0.5[1]	<0.5[1]	<0.5[1]	0.6	1.9	5.2	6.0[2]	6.0[2]	6.0[2]
3.5	<0.5[1]	<0.5[1]	<0.5[1]	0.6	1.8	4.7	6.0[2]	6.0[2]	6.0[2]
4	<0.5[1]	<0.5[1]	<0.5[1]	0.6	1.6	4.0	6.0[2]	6.0[2]	6.0[2]
5		<0.5[1]	<0.5[1]	0.5	1.3	3.1	5.7	6.0[2]	6.0[2]
6		<0.5[1]	<0.5[1]	<0.5[1]	1.2	2.7	4.5	6.0[2]	6.0[2]
8		<0.5[1]	<0.5[1]	<0.5[1]	1.2	2.5	4.0	6.0[2]	6.0[2]
10			<0.5[1]	<0.5[1]	1.2	2.3	3.1	5.4	6.0[2]
13					1.1	2.2	3.0	4.9	6.0[2]
16					1.1	2.1	2.8	4.4	6.0[2]
20					1.0	2.0	2.6	4.0	6.0[2]
25						1.9	2.5	3.8	6.0[2]
32							2.5	3.7	6.0[2]
40								3.5	6.0[2]
50									6.0[2]
63									

Short circuit selectivity **characteristic D** towards fuse link **D01-D03***)

PLS6	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.5	<0.5[1]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
1.0	<0.5[1]	<0.5[1]	0.7	1.3	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
1.5	<0.5[1]	<0.5[1]	0.6	0.9	2.8	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.0	<0.5[1]	<0.5[1]	0.6	0.8	2.2	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.5	<0.5[1]	<0.5[1]	0.5	0.7	1.9	5.4	6.0[2]	6.0[2]	6.0[2]
3.0	<0.5[1]	<0.5[1]	0.5	0.7	1.8	4.8	6.0[2]	6.0[2]	6.0[2]
3.5	<0.5[1]	<0.5[1]	0.5	0.7	1.7	4.7	6.0[2]	6.0[2]	6.0[2]
4		<0.5[1]	0.5	0.7	1.7	4.6	6.0[2]	6.0[2]	6.0[2]
5		<0.5[1]	<0.5[1]	0.6	1.5	3.5	5.8	6.0[2]	6.0[2]
6			<0.5[1]	0.5	1.3	2.9	4.5	6.0[2]	6.0[2]
8			<0.5[1]	0.5	1.2	2.4	3.5	6.0[2]	6.0[2]
10				0.5	1.1	2.2	3.0	5.0	6.0[2]
13					1.1	2.1	2.9	4.6	6.0[2]
16						1.9	2.6	3.9	6.0[2]
20						1.7	2.3	3.5	6.0[2]
25							2.2	3.4	6.0[2]
32								2.9	6.0[2]
40									5.7

[1] Selectivity limit current I_s under 0.5 kA

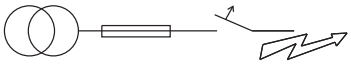
[2] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short Circuit Selectivity PLS6 towards NH-00 Fuses

In case of short circuit, there is selectivity between the miniature circuit breakers PLS6 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

PLS6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
1.0	0.9	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
1.5	0.8	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.0	<0.5[1]	0.5	1.0	2.5	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.5	<0.5[1]	0.5	1.0	2.3	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
3.0	<0.5[1]	0.5	0.9	2.1	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
3.5	<0.5[1]	0.5	0.9	1.8	5.5	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
4	<0.5[1]	<0.5[1]	0.8	1.3	2.3	4.3	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
5	<0.5[1]	<0.5[1]	0.7	1.1	1.6	2.2	3.6	4.8	6.0[2]	6.0[2]	6.0[2]	6.0[2]
6	<0.5[1]	<0.5[1]	0.7	1.1	1.5	2.0	3.3	4.3	6.0[2]	6.0[2]	6.0[2]	6.0[2]
8	<0.5[1]	<0.5[1]	0.6	1.0	1.3	1.7	2.6	3.3	5.2	6.0[2]	6.0[2]	6.0[2]
10		<0.5[1]	0.6	0.9	1.2	1.5	2.2	2.7	4.0	6.0[2]	6.0[2]	6.0[2]
13		<0.5[1]	0.6	0.8	1.1	1.4	2.1	2.6	3.8	6.0[2]	6.0[2]	6.0[2]
16			0.5	0.7	1.0	1.3	1.9	2.4	3.4	6.0[2]	6.0[2]	6.0[2]
20				0.7	1.0	1.3	1.9	2.4	3.3	6.0[2]	6.0[2]	6.0[2]
25				0.7	1.0	1.3	1.8	2.3	3.2	5.7	6.0[2]	6.0[2]
32					0.9	1.2	1.7	2.2	3.1	5.4	6.0[2]	6.0[2]
40								2.1	3.0	5.1	6.0[2]	6.0[2]
50								1.9	2.8	4.7	6.0[2]	6.0[2]
63										4.4	6.0[2]	6.0[2]

Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

PLS6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
0.75	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
1.0	0.9	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
1.5	<0.5[1]	0.6	1.3	4.2	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.0	<0.5[1]	0.6	1.0	2.5	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.5	<0.5[1]	0.5	1.0	2.1	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
3.0	<0.5[1]	<0.5[1]	0.7	1.2	1.8	2.6	4.7	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
3.5	<0.5[1]	<0.5[1]	0.7	1.1	1.7	2.4	4.2	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
4	<0.5[1]	<0.5[1]	0.7	1.0	1.5	2.1	3.6	5.0	6.0[2]	6.0[2]	6.0[2]	6.0[2]
5	<0.5[1]	<0.5[1]	0.6	0.8	1.2	1.7	2.8	3.8	6.0[2]	6.0[2]	6.0[2]	6.0[2]
6	<0.5[1]	<0.5[1]	0.5	0.8	1.2	1.5	2.5	3.3	5.7	6.0[2]	6.0[2]	6.0[2]
8	<0.5[1]	<0.5[1]	0.5	0.8	1.1	1.5	2.3	2.9	4.9	6.0[2]	6.0[2]	6.0[2]
10			0.5	0.7	1.0	1.4	2.0	2.5	3.8	6.0[2]	6.0[2]	6.0[2]
13					1.0	1.3	1.9	2.4	3.6	6.0[2]	6.0[2]	6.0[2]
16					1.0	1.3	1.8	2.3	3.3	6.0[2]	6.0[2]	6.0[2]
20					1.0	1.2	1.7	2.2	3.2	5.5	6.0[2]	6.0[2]
25							1.6	2.1	3.0	5.2	6.0[2]	6.0[2]
32								2.1	2.9	5.0	6.0[2]	6.0[2]
40									2.8	4.8	6.0[2]	6.0[2]
50										4.5	6.0[2]	6.0[2]
63											5.9	6.0[2]

Short circuit selectivity **characteristic D** towards fuse link **NH-00***)

PLS6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
0.5	2.1	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
1.0	<0.5[1]	0,6	1.4	4.3	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
1.5	<0.5[1]	<0.5[1]	0.9	1.6	2.7	4.0	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.0	<0.5[1]	<0.5[1]	0.8	1.3	2.1	3.1	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
2.5	<0.5[1]	<0.5[1]	0.7	1.2	1.8	2.6	4.8	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
3.0	<0.5[1]	<0.5[1]	0.7	1.1	1.7	2.4	4.3	6.0[2]	6.0[2]	6.0[2]	6.0[2]	6.0[2]
3.5	<0.5[1]	<0.5[1]	0.7	1.1	1.7	2.4	4.2	5.6	6.0[2]	6.0[2]	6.0[2]	6.0[2]
4	<0.5[1]	<0.5[1]	0.7	1.0	1.6	2.2	3.8	5.2	6.0[2]	6.0[2]	6.0[2]	6.0[2]
5		<0.5[1]	0.6	0.9	1.4	1.9	3.2	4.1	6.0[2]	6.0[2]	6.0[2]	6.0[2]
6		<0.5[1]	0.5	0.8	1.2	1.6	2.6	3.3	5.5	6.0[2]	6.0[2]	6.0[2]
8			0.5	0.8	1.1	1.5	2.2	2.7	4.1	6.0[2]	6.0[2]	6.0[2]
10			0.5	0.7	1.0	1.3	1.9	2.5	3.6	6.0[2]	6.0[2]	6.0[2]
13					1.0	1.3	1.9	2.3	3.4	6.0[2]	6.0[2]	6.0[2]
16						1.1	1.6	2.0	3.0	5.5	6.0[2]	6.0[2]
20							1.4	1.8	2.8	5.0	6.0[2]	6.0[2]
25								1.8	2.7	4.8	6.0[2]	6.0[2]
32									2.4	4.1	6.0[2]	6.0[2]
40										4.0	6.0[2]	6.0[2]

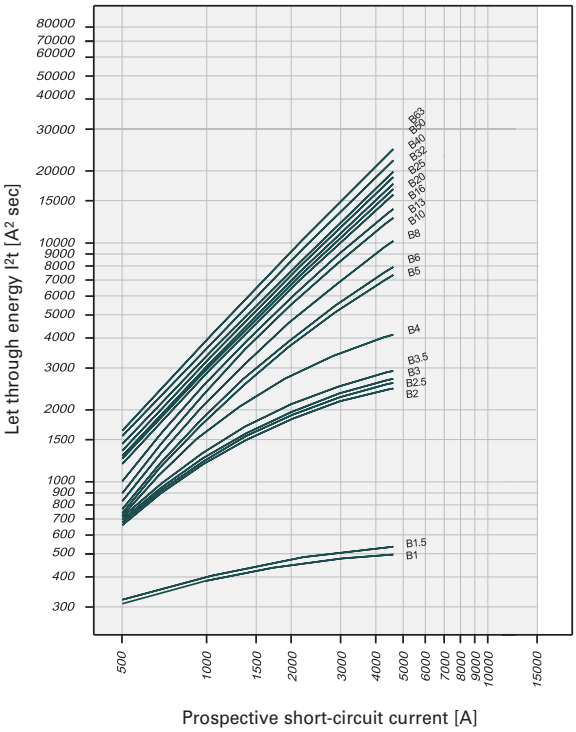
[1] Selectivity limit current I_s under 0.5 kA

[2] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

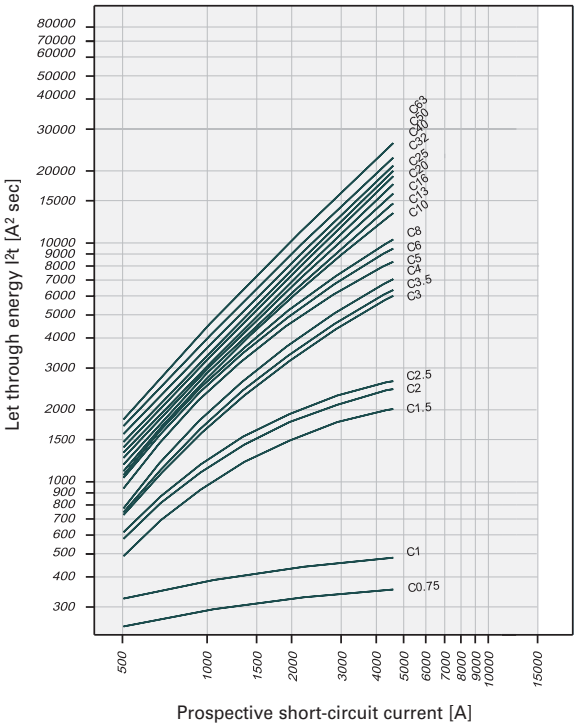
no selectivity

Let-through Energy PLS4

Let-through energy PLS4, characteristic B, 1-pole



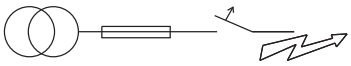
Let-through energy PLS4, characteristic C, 1-pole



Short Circuit Selectivity PLS4 towards DII-DIV fuse link

In case of short circuit, there is selectivity between the miniature circuit breakers PLS4 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



1) Selectivity limit current I_s under 0.5 kA

2) Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

PLS4	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
1.0	<0.5[1]	1.2	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
1.5	<0.5[1]	1.0	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
2.0	<0.5[1]	<0.5[1]	0.8	1.6	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
2.5	<0.5[1]	<0.5[1]	0.8	1.5	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
3.0	<0.5[1]	<0.5[1]	0.8	1.4	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
3.5	<0.5[1]	<0.5[1]	0.7	1.3	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
4	<0.5[1]	<0.5[1]	0.6	1.0	3.6	4.5[2]	4.5[2]	4.5[2]	4.5[2]
5	<0.5[1]	<0.5[1]	0.6	0.9	2.0	3.5	4.5[2]	4.5[2]	4.5[2]
6		<0.5[1]	0.6	0.9	1.8	3.2	4.5[2]	4.5[2]	4.5[2]
8		<0.5[1]	0.5	0.8	1.6	2.6	4.5[2]	4.5[2]	4.5[2]
10			0.5	0.8	1.4	2.2	3.9	4.5[2]	4.5[2]
13			0.5	0.7	1.3	2.0	3.6	4.5[2]	4.5[2]
16				0.6	1.2	1.9	3.2	4.5[2]	4.5[2]
20					1.2	1.8	3.1	4.4	4.5[2]
25					1.2	1.8	3.0	4.2	4.5[2]
32						1.7	2.8	3.9	4.5[2]
40							2.7	3.8	4.5[2]
50							2.5	3.5	4.5[2]
63									4.5[2]

Short circuit selectivity **characteristic C** towards fuse link **DII-DIV***)

PLS4	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.75	1.0	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
1.0	<0.5[1]	1.2	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
1.5	<0.5[1]	<0.5[1]	1.0	2.2	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
2.0	<0.5[1]	<0.5[1]	0.8	1.6	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
2.5	<0.5[1]	<0.5[1]	0.8	1.4	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
3.0	<0.5[1]	<0.5[1]	0.8	0.9	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
3.5	<0.5[1]	<0.5[1]	0.6	0.9	2.2	4.5[2]	4.5[2]	4.5[2]	4.5[2]
4	<0.5[1]	<0.5[1]	0.6	0.8	1.8	3.6	4.5[2]	4.5[2]	4.5[2]
5	<0.5[1]	<0.5[1]	0.6	0.7	1.5	2.7	4.5[2]	4.5[2]	4.5[2]
6		<0.5[1]	0.5	0.6	1.4	2.4	4.5[2]	4.5[2]	4.5[2]
8		<0.5[1]	<0.5[1]	0.6	1.3	2.2	4.5[2]	4.5[2]	4.5[2]
10			<0.5[1]	0.6	1.3	2.0	3.6	4.5[2]	4.5[2]
13					1.3	1.9	3.3	4.5[2]	4.5[2]
16					1.2	1.8	3.2	4.4	4.5[2]
20					1.2	1.8	3.1	4.1	4.5[2]
25						1.7	2.8	3.8	4.5[2]
32							2.7	3.7	4.5[2]
40								3.5	4.5[2]
50									4.5[2]
63									

In case of short circuit, there is selectivity between the miniature circuit breakers PLS4 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

1) Selectivity limit current I_s under 0.5 kA

2) Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short Circuit Selectivity PLS4 towards D01-D03 fuse link

Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

PLS4	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
1.0	<0.5 1)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.5	<0.5 1)	4.1	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.0	<0.5 1)	<0.5 1)	0.6	1.0	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.5	<0.5 1)	<0.5 1)	0.6	1.0	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.0	<0.5 1)	<0.5 1)	0.5	1.0	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.5	<0.5 1)	<0.5 1)	0.5	0.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
4	<0.5 1)	<0.5 1)	0.5	0.9	2.5	4.5 2)	4.5 2)	4.5 2)	4.5 2)
5		<0.5 1)	0.5	0.8	1.7	4.0	4.5 2)	4.5 2)	4.5 2)
6		<0.5 1)	0.5	0.8	1.6	3.6	4.5 2)	4.5 2)	4.5 2)
8			0.5	0.8	1.4	2.8	4.3	4.5 2)	4.5 2)
10			0.5	0.7	1.3	2.4	3.4	4.5 2)	4.5 2)
13			<0.5 1)	0.7	1.2	2.3	3.2	4.5 2)	4.5 2)
16				0.6	1.1	2.2	2.9	4.5 2)	4.5 2)
20					1.1	2.1	2.8	4.4	4.5 2)
25					1.1	2.0	2.7	4.2	4.5 2)
32						2.0	2.6	4.0	4.5 2)
40							2.5	3.8	4.5 2)
50							2.3	3.4	4.5 2)
63									4.5 2)

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

PLS4	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.75	<0.5 1)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.0	<0.5 1)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.5	<0.5 1)	0.5	0.6	0.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.0	<0.5 1)	<0.5 1)	0.5	0.7	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.5	<0.5 1)	<0.5 1)	0.5	0.7	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.0	<0.5 1)	<0.5 1)	<0.5 1)	0.6	1.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.5	<0.5 1)	<0.5 1)	<0.5 1)	0.6	1.8	4.5 2)	4.5 2)	4.5 2)	4.5 2)
4	<0.5 1)	<0.5 1)	<0.5 1)	0.6	1.6	4.0	4.5 2)	4.5 2)	4.5 2)
5		<0.5 1)	<0.5 1)	0.5	1.3	3.1	4.5 2)	4.5 2)	4.5 2)
6		<0.5 1)	<0.5 1)	<0.5 1)	1.2	2.7	4.5 2)	4.5 2)	4.5 2)
8		<0.5 1)	<0.5 1)	<0.5 1)	1.2	2.5	4.0	4.5 2)	4.5 2)
10			<0.5 1)	<0.5 1)	1.2	2.3	3.1	4.5 2)	4.5 2)
13					1.1	2.2	3.0	4.5 2)	4.5 2)
16					1.1	2.1	2.8	4.4	4.5 2)
20					1.0	2.0	2.6	4.0	4.5 2)
25						1.9	2.5	3.8	4.5 2)
32							2.5	3.7	4.5 2)
40								3.5	4.5 2)
50									4.5 2)
63									

Short Circuit Selectivity PLS4 towards NH-00 fuse link

Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

PLS4	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
1.0	0.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.5	0.8	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.0	<0.5 1)	0.5	1.0	2.5	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.5	<0.5 1)	0.5	1.0	2.3	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.0	<0.5 1)	0.5	0.9	2.1	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.5	<0.5 1)	0.5	0.9	1.8	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
4	<0.5 1)	<0.5 1)	0.8	1.3	2.3	4.3	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
5	<0.5 1)	<0.5 1)	0.7	1.1	1.6	2.2	3.6	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
6	<0.5 1)	<0.5 1)	0.7	1.1	1.5	2.0	3.3	4.3	4.5 2)	4.5 2)	4.5 2)	4.5 2)
8	<0.5 1)	<0.5 1)	0.6	1.0	1.3	1.7	2.6	3.3	4.5 2)	4.5 2)	4.5 2)	4.5 2)
10		<0.5 1)	0.6	0.9	1.2	1.5	2.2	2.7	4.0	4.5 2)	4.5 2)	4.5 2)
13		<0.5 1)	0.6	0.8	1.1	1.4	2.1	2.6	3.8	4.5 2)	4.5 2)	4.5 2)
16			0.5	0.7	1.0	1.3	1.9	2.4	3.4	4.5 2)	4.5 2)	4.5 2)
20				0.7	1.0	1.3	1.9	2.4	3.3	4.5 2)	4.5 2)	4.5 2)
25				0.7	1.0	1.3	1.8	2.3	3.2	4.5 2)	4.5 2)	4.5 2)
32					0.9	1.2	1.7	2.2	3.1	4.5 2)	4.5 2)	4.5 2)
40								2.1	3.0	4.5 2)	4.5 2)	4.5 2)
50								1.9	2.8	4.5 2)	4.5 2)	4.5 2)
63										4.4	4.5 2)	4.5 2)

Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

PLS4	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
0.75	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.0	0.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.5	<0.5 1)	0.6	1.3	4.2	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.0	<0.5 1)	0.6	1.0	2.5	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.5	<0.5 1)	0.5	1.0	2.1	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.0	<0.5 1)	<0.5 1)	0.7	1.2	1.8	2.6	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.5	<0.5 1)	<0.5 1)	0.7	1.1	1.7	2.4	4.2	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
4	<0.5 1)	<0.5 1)	0.7	1.0	1.5	2.1	3.6	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
5	<0.5 1)	<0.5 1)	0.6	0.8	1.2	1.7	2.8	3.8	4.5 2)	4.5 2)	4.5 2)	4.5 2)
6	<0.5 1)	<0.5 1)	0.5	0.8	1.2	1.5	2.5	3.3	4.5 2)	4.5 2)	4.5 2)	4.5 2)
8	<0.5 1)	<0.5 1)	0.5	0.8	1.1	1.5	2.3	2.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)
10			0.5	0.7	1.0	1.4	2.0	2.5	3.8	4.5 2)	4.5 2)	4.5 2)
13					1.0	1.3	1.9	2.4	3.6	4.5 2)	4.5 2)	4.5 2)
16					1.0	1.3	1.8	2.3	3.3	4.5 2)	4.5 2)	4.5 2)
20					1.0	1.2	1.7	2.2	3.2	4.5 2)	4.5 2)	4.5 2)
25							1.6	2.1	3.0	4.5 2)	4.5 2)	4.5 2)
32								2.1	2.9	4.5 2)	4.5 2)	4.5 2)
40									2.8	4.5 2)	4.5 2)	4.5 2)
50										4.5 2)	4.5 2)	4.5 2)
63											4.5 2)	4.5 2)

Miniature Circuit Breakers PLS6-DC

MW

SG45311

- High-quality miniature circuit breakers for DC-applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 50 A
- Tripping Characteristic C
- Rated breaking capacity 10 kA acc. to IEC/EN 60947-2
- Up to 250 V DC per pole

Miniature Circuit Breakers PLS6-DC for direct current application MW
10 kA, Characteristic C

SG45311

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
1	PLS6-C1-DC	243115	12/120
2	PLS6-C2-DC	243116	12/120
3	PLS6-C3-DC	243117	12/120
4	PLS6-C4-DC	243118	12/120
6	PLS6-C6-DC	243119	12/120
10	PLS6-C10-DC	243120	12/120
13	PLS6-C13-DC	243121	12/120
16	PLS6-C16-DC	243122	12/120
20	PLS6-C20-DC	243123	12/120
25	PLS6-C25-DC	243124	12/120
32	PLS6-C32-DC	243125	12/120
40	PLS6-C40-DC	243126	12/120
50	PLS6-C50-DC	243127	12/120

SG55411

2-pole

1	PLS6-C1/2-DC	243128	1/60
2	PLS6-C2/2-DC	243129	1/60
3	PLS6-C3/2-DC	243130	1/60
4	PLS6-C4/2-DC	243131	1/60
6	PLS6-C6/2-DC	243132	1/60
10	PLS6-C10/2-DC	243133	1/60
13	PLS6-C13/2-DC	243134	1/60
16	PLS6-C16/2-DC	243135	1/60
20	PLS6-C20/2-DC	243136	1/60
25	PLS6-C25/2-DC	243137	1/60
32	PLS6-C32/2-DC	243138	1/60
40	PLS6-C40/2-DC	243139	1/60
50	PLS6-C50/2-DC	243140	1/60

Specifications | Miniature Circuit Breakers PLS6-DC

Description

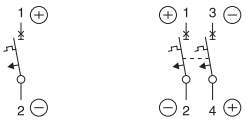
- High selectivity between MCB and back-up fuse due to low let-through energy
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Rated breaking capacity 10 kA acc. to IEC/EN 60947
- Rated voltage to 250 V (per pole), τ = 4 ms
- Take into account polarity!

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal contact for subsequent installation	ZP-NHK	248437
Remote control and automatic switching device	Z-FW/LP	248296
Shunt trip release	ZP-ASA/..	248438, 248439
Undervoltage release	Z-USA/..	248288-248291
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Additional terminal 35 mm²	Z-HA-EK/35	263960
Switching interlock	Z-IS/SPE-1TE	274418

Connection diagrams

1-pole 2-pole



Technical Data

Electrical

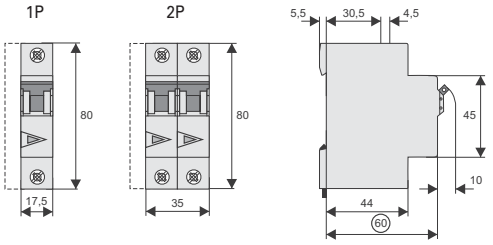
Design according to	IEC/EN 60947-2
Current test marks as printed onto the device	
Rated voltage DC	1-2 A type: 220V (per pole) 3-50 A type: 250V (per pole)
Rated breaking capacity acc. to IEC/EN 60947-2	10 kA
Characteristic	C
Back-up fuse	max. 100 A gL
Selectivity class	3
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50µs)
Endurance electrical comp.	≥ 4,000 switching op.
mechanical comp.	≥ 20,000 switching op.
Line voltage connection	optional (above/below)

Note: not for PV string protection!

Mechanical

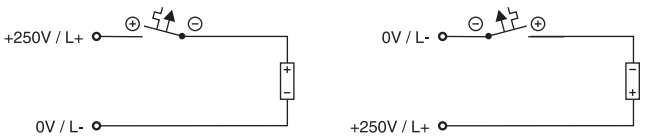
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm per pole (1MU)
Mounting	quick fastening with 3 lock-in positions on DIN rail IEC/EN 60715
Degree of protection	IP20
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity	1-25 mm²
Terminal fastening torque	2-2.4 Nm
Busbar thickness	0.8-2 mm
Mounting	independent of position

Dimensions (mm)

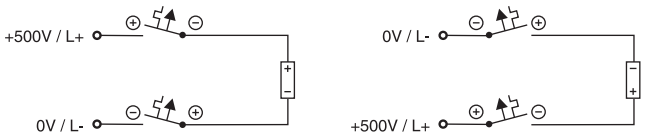


Connection examples

Connection example at 250V=, 1-pole

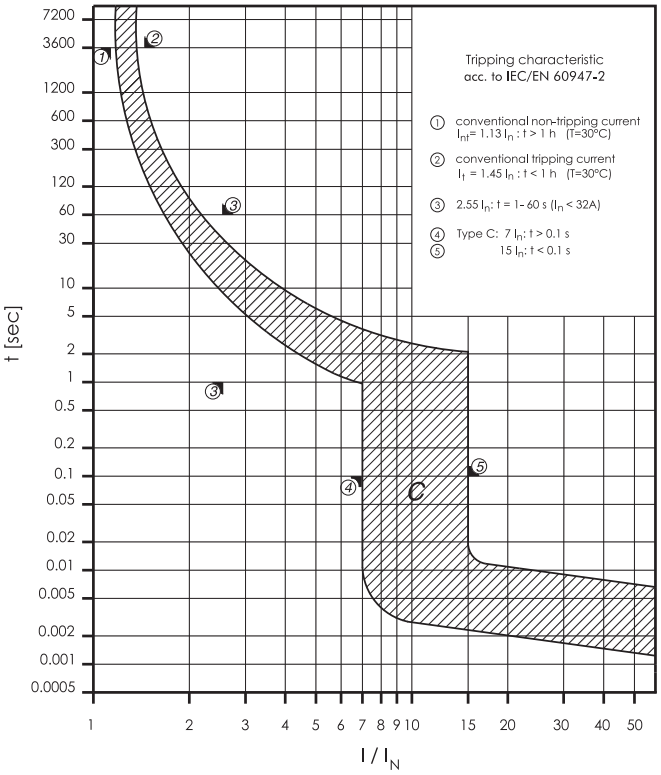


Connection example at 500V=, 2-pole



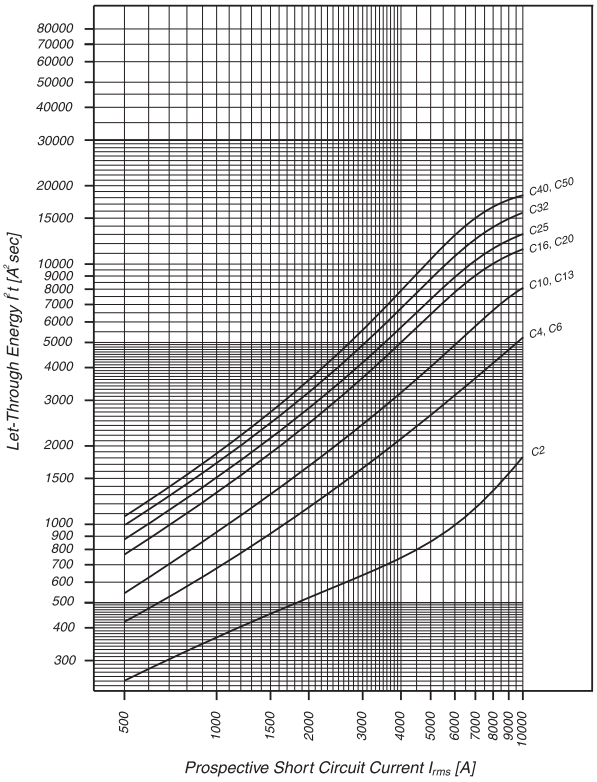
Tripping characteristic PLS6-DC

Type C



Let-through Energy PLS6-DC

Type C, 250 V d.c., τ = 5 ms (acc. to IEC/EN 60947-2)



Miniature Circuit Breakers PL7

SG06511

- High-quality miniature circuit breakers for commercial and residential applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 63 A
- Tripping characteristics B, C, D
- Rated breaking capacity 10 kA acc. to IEC/EN 60898-1

Miniature Circuit Breakers PL7
10 kA, Characteristic B

SG06211

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
1	PL7-B1/1	165052	12/120
1.5	PL7-B1,5/1	165048	12/120
1.6	PL7-B1,6/1	165049	12/120
2	PL7-B2/1	264839	12/120
2.5	PL7-B2,5/1	165053	12/120
3	PL7-B3/1	165055	12/120
3.5	PL7-B3,5/1	165054	12/120
4	PL7-B4/1	264850	12/120
5	PL7-B5/1	165056	12/120
6	PL7-B6/1	262673	12/120
8	PL7-B8/1	165057	12/120
10	PL7-B10/1	262674	12/120
12	PL7-B12/1	165050	12/120
13	PL7-B13/1	262675	12/120
15	PL7-B15/1	165051	12/120
16	PL7-B16/1	262676	12/120
20	PL7-B20/1	262677	12/120
25	PL7-B25/1	262678	12/120
32	PL7-B32/1	262679	12/120
40	PL7-B40/1	262690	12/120
50	PL7-B50/1	262691	12/120
63	PL7-B63/1	262692	12/120

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1+N-pole			
1	PL7-B1/1N	165214	8/80
1.5	PL7-B1,5/1N	165212	8/80
1.6	PL7-B1,6/1N	165213	8/80
2	PL7-B2/1N	165218	8/80
2.5	PL7-B2,5/1N	165217	8/80
3	PL7-B3/1N	165220	8/80
3.5	PL7-B3,5/1N	165219	8/80
4	PL7-B4/1N	165221	8/80
5	PL7-B5/1N	165222	8/80
6	PL7-B6/1N	262727	8/80
8	PL7-B8/1N	165223	8/80
10	PL7-B10/1N	262728	8/80
12	PL7-B12/1N	165215	8/80
13	PL7-B13/1N	262729	8/80
15	PL7-B15/1N	165216	8/80
16	PL7-B16/1N	262740	8/80
20	PL7-B20/1N	262741	8/80
25	PL7-B25/1N	262742	8/80
32	PL7-B32/1N	262743	8/80

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2-pole			
1	PL7-B1/2	165079	6/60
1.5	PL7-B1,5/2	165077	6/60
1.6	PL7-B1,6/2	165078	6/60
2	PL7-B2/2	165083	6/60
2.5	PL7-B2,5/2	165082	6/60
3	PL7-B3/2	165085	6/60
3.5	PL7-B3,5/2	165084	6/60
4	PL7-B4/2	165086	6/60
5	PL7-B5/2	165087	6/60
6	PL7-B6/2	262761	6/60
8	PL7-B8/2	165088	6/60
10	PL7-B10/2	262762	6/60
12	PL7-B12/2	165080	6/60
13	PL7-B13/2	262764	6/60
15	PL7-B15/2	165081	6/60
16	PL7-B16/2	262765	6/60
20	PL7-B20/2	262766	6/60
25	PL7-B25/2	262767	6/60
32	PL7-B32/2	262768	6/60
40	PL7-B40/2	262769	6/60
50	PL7-B50/2	263350	6/60
63	PL7-B63/2	263351	6/60

SG06511

Rated current I_n (A)	Type Designation	Article No.	Units per package
3-pole			
1	PL7-B1/3	165112	4/40
1.5	PL7-B1,5/3	165110	4/40
1.6	PL7-B1,6/3	165111	4/40
2	PL7-B2/3	165116	4/40
2.5	PL7-B2,5/3	165115	4/40
3	PL7-B3/3	165118	4/40
3.5	PL7-B3,5/3	165117	4/40
4	PL7-B4/3	116709	4/40
5	PL7-B5/3	165119	4/40
6	PL7-B6/3	263386	4/40
8	PL7-B8/3	165120	4/40
10	PL7-B10/3	263387	4/40
12	PL7-B12/3	165113	4/40
13	PL7-B13/3	263388	4/40
15	PL7-B15/3	165114	4/40
16	PL7-B16/3	263389	4/40
20	PL7-B20/3	263390	4/40
25	PL7-B25/3	263391	4/40
32	PL7-B32/3	263392	4/40
40	PL7-B40/3	263393	4/40
50	PL7-B50/3	263400	4/40
63	PL7-B63/3	263401	4/40

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3+N-pole			
1	PL7-B1/3N	165251	3/30
1.5	PL7-B1,5/3N	165249	3/30
1.6	PL7-B1,6/3N	165250	3/30
2	PL7-B2/3N	165255	3/30
2.5	PL7-B2,5/3N	165254	3/30
3	PL7-B3/3N	165257	3/30
3.5	PL7-B3,5/3N	165256	3/30
4	PL7-B4/3N	165258	3/30
5	PL7-B5/3N	165259	3/30
6	PL7-B6/3N	263982	3/30
8	PL7-B8/3N	165260	3/30
10	PL7-B10/3N	263983	3/30
12	PL7-B12/3N	165252	3/30
13	PL7-B13/3N	263984	3/30
15	PL7-B15/3N	165253	3/30
16	PL7-B16/3N	263985	3/30
20	PL7-B20/3N	263986	3/30
25	PL7-B25/3N	263987	3/30
32	PL7-B32/3N	263988	3/30
40	PL7-B40/3N	263989	3/30
50	PL7-B50/3N	263990	3/30
63	PL7-B63/3N	263991	3/30

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4-pole			
1	PL7-B1/4	165146	3/30
1.5	PL7-B1,5/4	165144	3/30
1.6	PL7-B1,6/4	165145	3/30
2	PL7-B2/4	165153	3/30
2.5	PL7-B2,5/4	165152	3/30
3	PL7-B3/4	165157	3/30
3.5	PL7-B3,5/4	165156	3/30
4	PL7-B4/4	165159	3/30
5	PL7-B5/4	165161	3/30
6	PL7-B6/4	165163	3/30
8	PL7-B8/4	165165	3/30
10	PL7-B10/4	165147	3/30
12	PL7-B12/4	165148	3/30
13	PL7-B13/4	165149	3/30
15	PL7-B15/4	165150	3/30
16	PL7-B16/4	165151	3/30
20	PL7-B20/4	165154	3/30
25	PL7-B25/4	165155	3/30
32	PL7-B32/4	165158	3/30
40	PL7-B40/4	165160	3/30
50	PL7-B50/4	165162	3/30
63	PL7-B63/4	165164	3/30

Miniature Circuit Breakers PL7
10 kA, Characteristic C

SG06211

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PL7-C0,16/1	262693	12/120
0.25	PL7-C0,25/1	262694	12/120
0.5	PL7-C0,5/1	262695	12/120
0.75	PL7-C0,75/1	262696	12/120
1	PL7-C1/1	262697	12/120
1.5	PL7-C1,5/1	165058	12/120
1.6	PL7-C1,6/1	262698	12/120
2	PL7-C2/1	262699	12/120
2.5	PL7-C2,5/1	165061	12/120
3	PL7-C3/1	165063	12/120
3.5	PL7-C3,5/1	165062	12/120
4	PL7-C4/1	262700	12/120
5	PL7-C5/1	165064	12/120
6	PL7-C6/1	262701	12/120
8	PL7-C8/1	165065	12/120
10	PL7-C10/1	262702	12/120
12	PL7-C12/1	165059	12/120
13	PL7-C13/1	262703	12/120
15	PL7-C15/1	165060	12/120
16	PL7-C16/1	262704	12/120
20	PL7-C20/1	262705	12/120
25	PL7-C25/1	262706	12/120
32	PL7-C32/1	262707	12/120
40	PL7-C40/1	262708	12/120
50	PL7-C50/1	262709	12/120
63	PL7-C63/1	262710	12/120

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1+N-pole

0.16	PL7-C0,16/1N	165224	8/80
0.25	PL7-C0,25/1N	165225	8/80
0.5	PL7-C0,5/1N	165226	8/80
0.75	PL7-C0,75/1N	165227	8/80
1	PL7-C1/1N	165230	8/80
1.5	PL7-C1,5/1N	165228	8/80
1.6	PL7-C1,6/1N	165229	8/80
2	PL7-C2/1N	262744	8/80
2.5	PL7-C2,5/1N	165233	8/80
3	PL7-C3/1N	165235	8/80
3.5	PL7-C3,5/1N	165234	8/80
4	PL7-C4/1N	262745	8/80
5	PL7-C5/1N	165236	8/80
6	PL7-C6/1N	262746	8/80
8	PL7-C8/1N	165237	8/80
10	PL7-C10/1N	262747	8/80
12	PL7-C12/1N	165231	8/80
13	PL7-C13/1N	262748	8/80
15	PL7-C15/1N	165232	8/80
16	PL7-C16/1N	262749	8/80
20	PL7-C20/1N	262750	8/80
25	PL7-C25/1N	262751	8/80
32	PL7-C32/1N	262752	8/80

SG06411

2-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PL7-C0,16/2	165089	6/60
0.25	PL7-C0,25/2	165090	6/60
0.5	PL7-C0,5/2	263352	6/60
0.75	PL7-C0,75/2	165091	6/60
1	PL7-C1/2	263353	6/60
1.5	PL7-C1,5/2	165092	6/60
1.6	PL7-C1,6/2	165093	6/60
2	PL7-C2/2	263354	6/60
2.5	PL7-C2,5/2	165096	6/60
3	PL7-C3/2	165098	6/60
3.5	PL7-C3,5/2	165097	6/60
4	PL7-C4/2	263355	6/60
5	PL7-C5/2	165099	6/60
6	PL7-C6/2	263356	6/60
8	PL7-C8/2	165100	6/60
10	PL7-C10/2	263357	6/60
12	PL7-C12/2	165094	6/60
13	PL7-C13/2	263358	6/60
15	PL7-C15/2	165095	6/60
16	PL7-C16/2	263359	6/60
20	PL7-C20/2	263360	6/60
25	PL7-C25/2	263361	6/60
32	PL7-C32/2	263362	6/60
40	PL7-C40/2	263363	6/60
50	PL7-C50/2	263364	6/60
63	PL7-C63/2	263365	6/60

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3-pole

0.16	PL7-C0,16/3	165121	4/40
0.25	PL7-C0,25/3	165122	4/40
0.5	PL7-C0,5/3	263402	4/40
0.75	PL7-C0,75/3	165123	4/40
1	PL7-C1/3	263403	4/40
1.5	PL7-C1,5/3	165124	4/40
1.6	PL7-C1,6/3	165125	4/40
2	PL7-C2/3	263404	4/40
2.5	PL7-C2,5/3	165128	4/40
3	PL7-C3/3	165130	4/40
3.5	PL7-C3,5/3	165129	4/40
4	PL7-C4/3	263405	4/40
5	PL7-C5/3	165131	4/40
6	PL7-C6/3	263406	4/40
8	PL7-C8/3	165132	4/40
10	PL7-C10/3	263407	4/40
12	PL7-C12/3	165126	4/40
13	PL7-C13/3	263408	4/40
15	PL7-C15/3	165127	4/40
16	PL7-C16/3	263409	4/40
20	PL7-C20/3	263410	4/40
25	PL7-C25/3	263411	4/40
32	PL7-C32/3	263412	4/40
40	PL7-C40/3	263413	4/40
50	PL7-C50/3	263414	4/40
63	PL7-C63/3	263415	4/40

SG06711

3+N-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PL7-C0,16/3N	165261	3/30
0.25	PL7-C0,25/3N	165262	3/30
0.5	PL7-C0,5/3N	165263	3/30
0.75	PL7-C0,75/3N	165264	3/30
1	PL7-C1/3N	165267	3/30
1.5	PL7-C1,5/3N	165265	3/30
1.6	PL7-C1,6/3N	165266	3/30
2	PL7-C2/3N	165271	3/30
2.5	PL7-C2,5/3N	165270	3/30
3	PL7-C3/3N	165273	3/30
3.5	PL7-C3,5/3N	165272	3/30
4	PL7-C4/3N	165274	3/30
5	PL7-C5/3N	165275	3/30
6	PL7-C6/3N	263992	3/30
8	PL7-C8/3N	165276	3/30
10	PL7-C10/3N	263993	3/30
12	PL7-C12/3N	165268	3/30
13	PL7-C13/3N	263994	3/30
15	PL7-C15/3N	165269	3/30
16	PL7-C16/3N	263995	3/30
20	PL7-C20/3N	263996	3/30
25	PL7-C25/3N	263997	3/30
32	PL7-C32/3N	263998	3/30
40	PL7-C40/3N	263999	3/30
50	PL7-C50/3N	264000	3/30
63	PL7-C63/3N	264001	3/30

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4-pole

0.16	PL7-C0,16/4	165166	3/30
0.25	PL7-C0,25/4	165167	3/30
0.5	PL7-C0,5/4	165168	3/30
0.75	PL7-C0,75/4	165169	3/30
1	PL7-C1/4	165172	3/30
1.5	PL7-C1,5/4	165170	3/30
1.6	PL7-C1,6/4	165171	3/30
2	PL7-C2/4	165178	3/30
2.5	PL7-C2,5/4	165177	3/30
3	PL7-C3/4	165182	3/30
3.5	PL7-C3,5/4	165181	3/30
4	PL7-C4/4	165184	3/30
5	PL7-C5/4	165186	3/30
6	PL7-C6/4	165188	3/30
8	PL7-C8/4	165190	3/30
10	PL7-C10/4	165173	3/30
12	PL7-C12/4	165174	3/30
13	PL7-C13/4	165175	3/30
15	PL7-C15/4	165176	3/30
16	PL7-C16/4	107329	3/30
20	PL7-C20/4	165179	3/30
25	PL7-C25/4	165180	3/30
32	PL7-C32/4	165183	3/30
40	PL7-C40/4	165185	3/30
50	PL7-C50/4	165187	3/30
63	PL7-C63/4	165189	3/30

Miniature Circuit Breakers PL7
10 kA, Characteristic D

SG06211

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.5	PL7-D0,5/1	165066	12/120
1	PL7-D1/1	165071	12/120
1.5	PL7-D1,5/1	165067	12/120
1.6	PL7-D1,6/1	165068	12/120
2	PL7-D2/1	262711	12/120
2.5	PL7-D2,5/1	165072	12/120
3	PL7-D3/1	165074	12/120
3.5	PL7-D3,5/1	165073	12/120
4	PL7-D4/1	262712	12/120
5	PL7-D5/1	165075	12/120
6	PL7-D6/1	262713	12/120
8	PL7-D8/1	165076	12/120
10	PL7-D10/1	262714	12/120
12	PL7-D12/1	165069	12/120
13	PL7-D13/1	262715	12/120
15	PL7-D15/1	165070	12/120
16	PL7-D16/1	262716	12/120
20	PL7-D20/1	262717	12/120
25	PL7-D25/1	262718	12/120
32	PL7-D32/1	262719	12/120
40	PL7-D40/1	262720	12/120

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1+N-pole

0.5	PL7-D0,5/1N	165238	8/80
1	PL7-D1/1N	165241	8/80
1.5	PL7-D1,5/1N	165239	8/80
1.6	PL7-D1,6/1N	165240	8/80
2	PL7-D2/1N	262753	8/80
2.5	PL7-D2,5/1N	165244	8/80
3	PL7-D3/1N	165246	8/80
3.5	PL7-D3,5/1N	165245	8/80
4	PL7-D4/1N	262754	8/80
5	PL7-D5/1N	165247	8/80
6	PL7-D6/1N	262755	8/80
8	PL7-D8/1N	165248	8/80
10	PL7-D10/1N	262756	8/80
12	PL7-D12/1N	165242	8/80
13	PL7-D13/1N	262757	8/80
15	PL7-D15/1N	165243	8/80
16	PL7-D16/1N	262758	8/80
20	PL7-D20/1N	262759	8/80
25	PL7-D25/1N	262760	8/80

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2-pole

0.5	PL7-D0,5/2	165101	6/60
1	PL7-D1/2	108184	6/60
1.5	PL7-D1,5/2	165102	6/60
1.6	PL7-D1,6/2	165103	6/60
2	PL7-D2/2	263366	6/60
2.5	PL7-D2,5/2	165106	6/60
3	PL7-D3/2	108185	6/60
3.5	PL7-D3,5/2	165107	6/60
4	PL7-D4/2	263367	6/60
5	PL7-D5/2	165108	6/60
6	PL7-D6/2	263368	6/60
8	PL7-D8/2	165109	6/60
10	PL7-D10/2	263369	6/60
12	PL7-D12/2	165104	6/60
13	PL7-D13/2	263380	6/60
15	PL7-D15/2	165105	6/60
16	PL7-D16/2	263381	6/60
20	PL7-D20/2	263382	6/60
25	PL7-D25/2	263383	6/60
32	PL7-D32/2	263384	6/60
40	PL7-D40/2	263385	6/60

SG06511

3-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.5	PL7-D0,5/3	165133	4/40
1	PL7-D1/3	165136	4/40
1.5	PL7-D1,5/3	165134	4/40
1.6	PL7-D1,6/3	165135	4/40
2	PL7-D2/3	263416	4/40
2.5	PL7-D2,5/3	165139	4/40
3	PL7-D3/3	165141	4/40
3.5	PL7-D3,5/3	165140	4/40
4	PL7-D4/3	263417	4/40
5	PL7-D5/3	165142	4/40
6	PL7-D6/3	263418	4/40
8	PL7-D8/3	165143	4/40
10	PL7-D10/3	263419	4/40
12	PL7-D12/3	165137	4/40
13	PL7-D13/3	263420	4/40
15	PL7-D15/3	165138	4/40
16	PL7-D16/3	263421	4/40
20	PL7-D20/3	263422	4/40
25	PL7-D25/3	263423	4/40
32	PL7-D32/3	263424	4/40
40	PL7-D40/3	263425	4/40

SG06711

3+N-pole

0.5	PL7-D0,5/3N	165277	3/30
1	PL7-D1/3N	165280	3/30
1.5	PL7-D1,5/3N	165278	3/30
1.6	PL7-D1,6/3N	165279	3/30
2	PL7-D2/3N	165284	3/30
25	PL7-D2,5/3N	165283	3/30
3	PL7-D3/3N	165286	3/30
3.5	PL7-D3,5/3N	165285	3/30
4	PL7-D4/3N	165287	3/30
5	PL7-D5/3N	165288	3/30
6	PL7-D6/3N	264002	3/30
8	PL7-D8/3N	165289	3/30
10	PL7-D10/3N	264003	3/30
12	PL7-D12/3N	165281	3/30
13	PL7-D13/3N	264004	3/30
15	PL7-D15/3N	165282	3/30
16	PL7-D16/3N	264005	3/30
20	PL7-D20/3N	264006	3/30
25	PL7-D25/3N	264007	3/30
32	PL7-D32/3N	264008	3/30
40	PL7-D40/3N	264009	3/30

SG06611

4-pole

0.5	PL7-D0,5/4	165191	3/30
1	PL7-D1/4	165194	3/30
1.5	PL7-D1,5/4	165192	3/30
1.6	PL7-D1,6/4	165193	3/30
2	PL7-D2/4	165201	3/30
2.5	PL7-D2,5/4	165200	3/30
3	PL7-D3/4	165205	3/30
3.5	PL7-D3,5/4	165204	3/30
4	PL7-D4/4	165207	3/30
5	PL7-D5/4	165209	3/30
6	PL7-D6/4	165210	3/30
8	PL7-D8/4	165211	3/30
10	PL7-D10/4	165195	3/30
12	PL7-D12/4	165196	3/30
13	PL7-D13/4	165197	3/30
15	PL7-D15/4	165198	3/30
16	PL7-D16/4	165199	3/30
20	PL7-D20/4	165202	3/30
25	PL7-D25/4	165203	3/30
32	PL7-D32/4	165206	3/30
40	PL7-D40/4	165208	3/30

Specifications | Miniature Circuit Breakers PL7

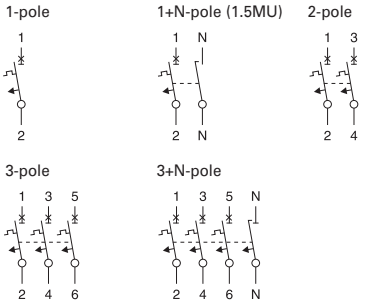
Description

- High selectivity between MCB and back-up fuse due to low let-through energy
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Suitable for applications up to 48 V DC (use PL7-DC for higher DC voltages)

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal contact for subsequent installation	ZP-NHK	248437
Remote control and automatic switching device	Z-FW/LP	248296
Shunt trip release	ZP-ASA/..	248438, 248439
Undervoltage release	Z-USA/..	248288-248291
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Additional terminal 35 mm²	Z-HA-EK/35	263960
Switching interlock	Z-IS/SPE-1TE	274418

Connection diagrams



Technical Data

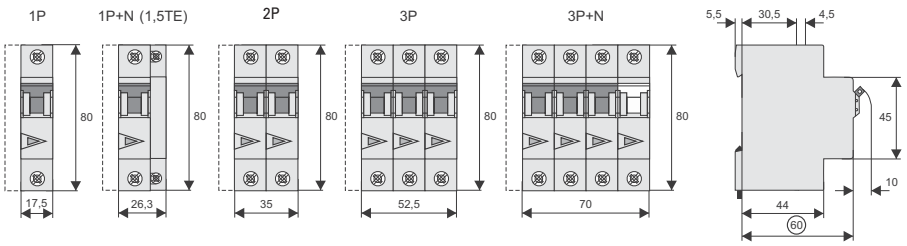
Electrical

Design according to	IEC/EN 60898-1
Current test marks as printed onto the device	
Rated voltage	AC: 230/400V DC: 48V (per pole, max. 2 poles)
Rated frequency	50/60 Hz
Rated breaking capacity IEC/EN 60898-1	10 kA
Characteristic	B, C, D
Back-up fuse	max. 125 A gL
Selectivity class	3
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50µs)
Endurance electrical comp.	≥ 10,000 switching op.
mechanical comp.	≥ 20,000 switching op.
Line voltage connection	optional (above/below)

Mechanical

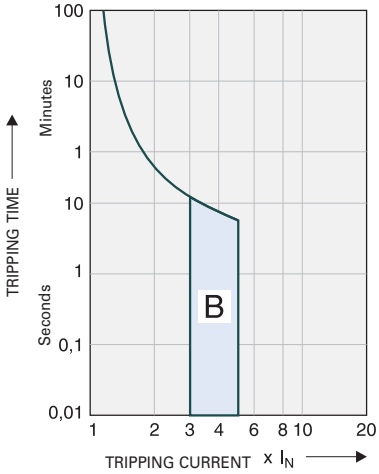
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm per pole (1MU) 26.3 mm: device 1P+N (1.5MU)
Mounting	quick fastening with 3 lock-in positions on DIN rail IEC/EN 60715
Degree of protection	IP20
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity (1p+N, 1.5MU)	1-25 mm² 1-25 mm² / 1-2x10 mm² (N)
Terminal fastening torque (1p+N, 1.5MU)	2-2.4 Nm 2-2.4 Nm / 1.2-1.5 Nm (N)
Busbar thickness	0.8-2 mm (except N 0.5 MU)
Mounting	independent of position

Dimensions (mm)

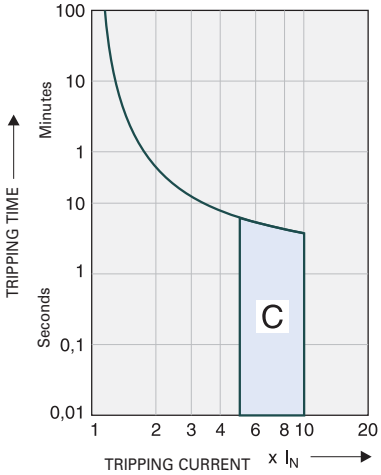


Tripping Characteristics (IEC/EN 60898-1)

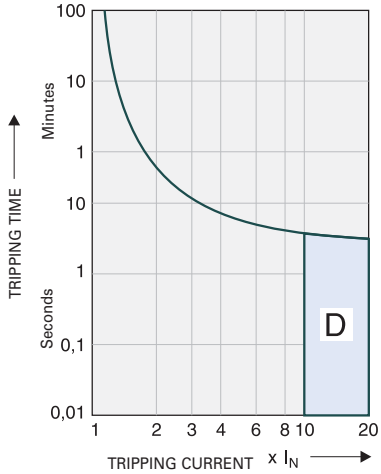
Tripping characteristic B



Tripping characteristic C



Tripping characteristic D



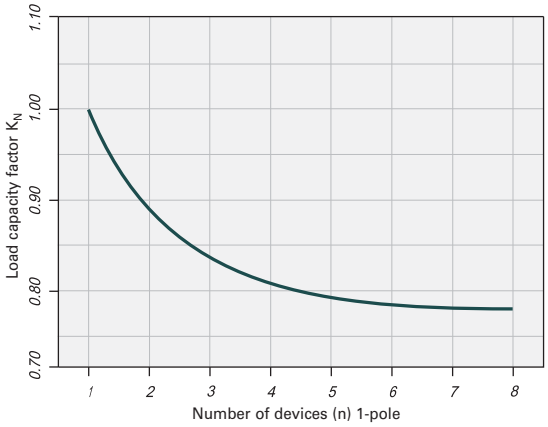
Quick-acting (B), slow (C), very slow (D)

Effect of the Ambient Temperature on Thermal Tripping Behaviour

Adjusted rated current values according to the ambient temperature

	Ambient temperature T [°C]															
I_n [A]	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**	**75**
0.16	0.20	0.19	0.19	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.13
0.25	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.25	0.24	0.24	0.23	0.23	0.22	0.22	0.21	0.21
0.5	0.61	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.48	0.47	0.46	0.45	0.44	0.43	0.42	0.41
0.75	0.92	0.90	0.87	0.84	0.81	0.78	0.75	0.74	0.73	0.71	0.69	0.68	0.66	0.65	0.64	0.62
1	1.2	1.2	1.2	1.1	1.1	1.0	1.0	0.99	0.97	0.95	0.93	0.90	0.89	0.87	0.85	0.83
1.5	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.3	1.3	1.2
1.6	2.0	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.3
2	2.4	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7
2.5	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2	2.2	2.1	2.1
3	3.7	3.6	3.5	3.4	3.3	3.1	3.0	3.0	2.9	2.8	2.8	2.7	2.7	2.6	2.5	2.5
3.5	4.3	4.2	4.1	3.9	3.8	3.7	3.5	3.4	3.4	3.3	3.2	3.2	3.1	3.0	3.0	2,9
4	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9	3.8	3.7	3.6	3.5	3.5	3.4	3.3
5	6.1	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1
6	7.3	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8	5.7	5.6	5.4	5.3	5.2	5.1	5.0
8	9.8	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7	7.6	7.4	7.2	7.1	6,9	6,8	6,6
10	12	12	12	11	11	10	10	9.9	9.7	9.5	9.3	9.0	8.9	8.7	8.5	8.3
12	15	14	14	13	13	13	12	12	12	11	11	11	11	10	10	10
13	16	16	15	15	14	14	13	13	13	12	12	12	12	11	11	11
15	18	18	17	17	16	16	15	15	15	14	14	14	13	13	13	12
16	20	19	19	18	17	17	16	16	15	15	15	14	14	14	14	13
20	24	24	23	22	22	21	20	20	19	19	19	18	18	17	17	17
25	31	30	29	28	27	26	25	25	24	24	23	23	22	22	21	21
32	39	38	37	36	35	33	32	32	31	30	30	29	28	28	27	26
40	49	48	47	45	43	42	40	39	39	38	37	36	35	35	34	33
50	61	60	58	56	54	52	50	49	48	47	46	45	44	43	42	41
63	77	76	73	71	68	66	63	62	61	60	58	57	56	55	53	52

Load Capacity of Series Connected Miniature Circuit Breakers



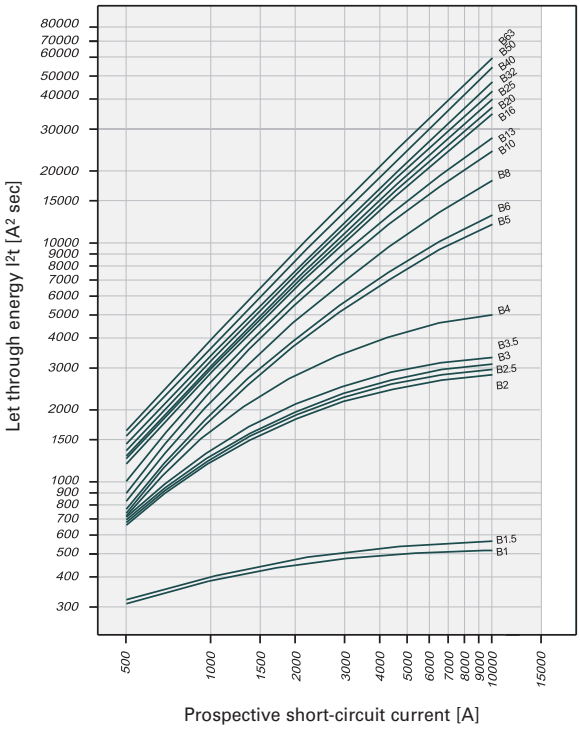
Effect of Power Frequency

Effect of power frequency on the tripping behaviour I_{MA} of the quick release

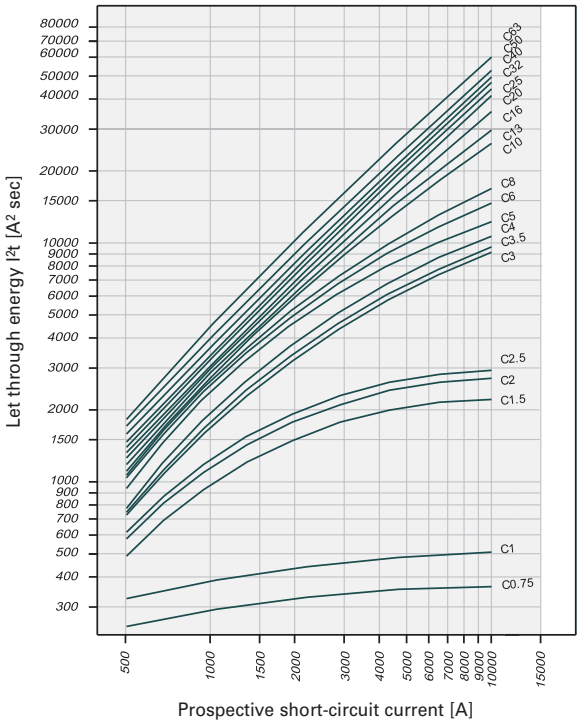
	Power frequency f [Hz]						
	$16^2/_3$	50	60	100	200	300	400
$I_{MA}(f)/I_{MA}(50Hz)$ [%]	91	100	101	106	115	134	141

Let-through Energy PL7

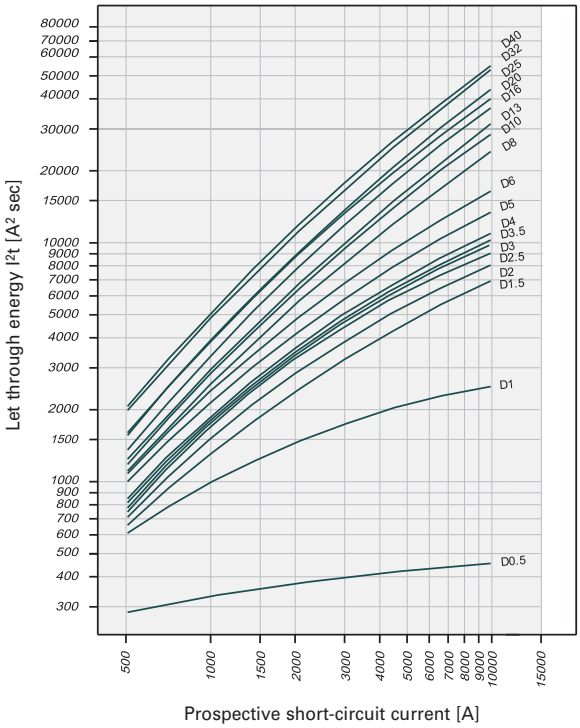
Let-through energy PL7, characteristic B, 1-pole



Let-through energy PL7, characteristic C, 1-pole



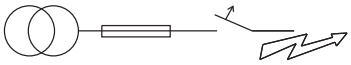
Let-through energy PL7, characteristic D, 1-pole



Short Circuit Selectivity PL7 towards DII-DIV fuse link

In case of short circuit, there is selectivity between the miniature circuit breakers PL7 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

PL7	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	<0.5[1)]	0.8	1.6	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
4	<0.5[1)]	<0.5[1)]	0.6	1.0	3.6	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
5	<0.5[1)]	<0.5[1)]	0.6	0.9	2.0	3.5	8.5	10.0[2)]	10.0[2)]
6		<0.5[1)]	0.6	0.9	1.8	3.2	7.4	10.0[2)]	10.0[2)]
8		<0.5[1)]	0.5	0.8	1.6	2.6	5.2	8.3	10.0[2)]
10			0.5	0.8	1.4	2.2	3.9	6.0	10.0[2)]
13			0.5	0.7	1.3	2.0	3.6	5.4	10.0[2)]
16				0.6	1.2	1.9	3.2	4.6	8.4
20					1.2	1.8	3.1	4.4	7.8
25					1.2	1.8	3.0	4.2	7.3
32						1.7	2.8	3.9	6.8
40							2.7	3.8	6.5
50							2.5	3.5	5.7
63									5.3

Short circuit selectivity **characteristic C** towards fuse link **DII-DIV***)

PL7	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.75	1.0	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.0	<0.5[1)]	1.2	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
1.6	<0.5[1)]	<0.5[1)]	1.0	2.2	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
2	<0.5[1)]	<0.5[1)]	0.8	1.6	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]	10.0[2)]
4	<0.5[1)]	<0.5[1)]	0.6	0.8	1.8	3.6	9.7	10.0[2)]	10.0[2)]
5	<0.5[1)]	<0.5[1)]	0.6	0.7	1.5	2.7	7.3	10.0[2)]	10.0[2)]
6		<0.5[1)]	0.5	0.6	1.4	2.4	5.5	10.0[2)]	10.0[2)]
8		<0.5[1)]	<0.5[1)]	0.6	1.3	2.2	4.7	8.7	10.0[2)]
10			<0.5[1)]	0.6	1.3	2.0	3.6	5.4	10.0[2)]
13					1.3	1.9	3.3	5.0	9.4
16					1.2	1.8	3.2	4.4	8.0
20					1.2	1.8	3.1	4.1	7.0
25						1.7	2.8	3.8	6.5
32							2.7	3.7	6.2
40								3.5	5.9
50									5.5
63									

Short circuit selectivity **characteristic D** towards fuse link **DII-DIV***)

PL7	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	<0.5[1)]	0.6	1.0	2.8	5.8	10.0[2)]	10.0[2)]	10.0[2)]
4		<0.5[1)]	0.6	0.9	2.0	3.8	9.5	10.0[2)]	10.0[2)]
5		<0.5[1)]	0.5	0.7	1.7	3.1	7.0	10.0[2)]	10.0[2)]
6			0.5	0.7	1.5	2.6	5.3	9.1	10.0[2)]
8			<0.5[1)]	0.7	1.4	2.2	3.9	6.0	10.0[2)]
10				0.7	1.2	1.9	3.4	5.0	9.5
13					1.2	1.8	3.2	4.6	8.6
16						1.6	2.7	4.0	7.4
20						1.5	2.5	3.5	6.7
25							2.4	3.4	6.2
32								2.8	5.0
40									4.8

[1)] Selectivity limit current I_s under 0.5 kA

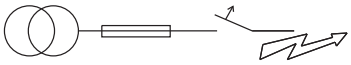
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short Circuit Selectivity PL7 towards D01-D03 fuse link

In case of short circuit, there is selectivity between the miniature circuit breakers PL7 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

PL7	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1]	<0.5[1]	0.6	1.0	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
4	<0.5[1]	<0.5[1]	0.5	0.9	2.5	10.0[2]	10.0[2]	10.0[2]	10.0[2]
5		<0.5[1]	0.5	0.8	1.7	4.0	7.0	10.0[2]	10.0[2]
6		<0.5[1]	0.5	0.8	1.6	3.6	6.0	10.0[2]	10.0[2]
8			0.5	0.8	1.4	2.8	4.3	8.2	10.0[2]
10			0.5	0.7	1.3	2.4	3.4	6.0	10.0[2]
13			<0.5[1]	0.7	1.2	2.3	3.2	5.3	10.0[2]
16				0.6	1.1	2.2	2.9	4.6	10.0
20					1.1	2.1	2.8	4.4	9.3
25					1.1	2.0	2.7	4.2	8.7
32						2.0	2.6	4.0	8.0
40							2.5	3.8	7.5
50							2.3	3.4	6.7
63									6.2

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

PL7	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.75	<0.5[1]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
1.0	<0.5[1]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
1.6	<0.5[1]	0.5	0.6	0.9	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
2	<0.5[1]	<0.5[1]	0.5	0.7	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
4	<0.5[1]	<0.5[1]	<0.5[1]	0.6	1.6	4.0	7.6	10.0[2]	10.0[2]
5		<0.5[1]	<0.5[1]	0.5	1.3	3.1	5.7	10.0[2]	10.0[2]
6		<0.5[1]	<0.5[1]	<0.5[1]	1.2	2.7	4.5	10.0[2]	10.0[2]
8		<0.5[1]	<0.5[1]	<0.5[1]	1.2	2.5	4.0	8.6	10.0[2]
10			<0.5[1]	<0.5[1]	1.2	2.3	3.1	5.4	10.0[2]
13					1.1	2.2	3.0	4.9	10.0[2]
16					1.1	2.1	2.8	4.4	9.5
20					1.0	2.0	2.6	4.0	8.3
25						1.9	2.5	3.8	7.8
32							2.5	3.7	7.3
40								3.5	7.0
50									6.5
63									

Short circuit selectivity **characteristic D** towards fuse link **D01-D03***)

PL7	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
4		<0.5[1]	0.5	0.7	1.7	4.6	7.7	10.0[2]	10.0[2]
5		<0.5[1]	<0.5[1]	0.6	1.5	3.5	5.8	10.0[2]	10.0[2]
6			<0.5[1]	0.5	1.3	2.9	4.5	9.0	10.0[2]
8			<0.5[1]	0.5	1.2	2.4	3.5	6.0	10.0[2]
10				0.5	1.1	2.2	3.0	5.0	10.0[2]
13					1.1	2.1	2.9	4.6	10.0[2]
16						1.9	2.6	3.9	9.0
20						1.7	2.3	3.5	8.0
25							2.2	3.4	7.5
32								2.9	6.0
40									5.7

[1] Selectivity limit current I_s under 0.5 kA

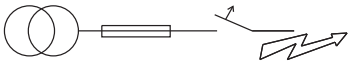
[2] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short Circuit Selectivity PL7 towards NH-00 Fuses

In case of short circuit, there is selectivity between the miniature circuit breakers PL7 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

PL7	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5[1]	0.5	1.0	2.5	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
4	<0.5[1]	<0.5[1]	0.8	1.3	2.3	4.3	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
5	<0.5[1]	<0.5[1]	0.7	1.1	1.6	2.2	3.6	4.8	8.9	10.0[2]	10.0[2]	10.0[2]
6	<0.5[1]	<0.5[1]	0.7	1.1	1.5	2.0	3.3	4.3	7.6	10.0[2]	10.0[2]	10.0[2]
8	<0.5[1]	<0.5[1]	0.6	1.0	1.3	1.7	2.6	3.3	5.2	10.0[2]	10.0[2]	10.0[2]
10		<0.5[1]	0.6	0.9	1.2	1.5	2.2	2.7	4.0	9.0	10.0[2]	10.0[2]
13		<0.5[1]	0.6	0.8	1.1	1.4	2.1	2.6	3.8	7.9	10.0[2]	10.0[2]
16			0.5	0.7	1.0	1.3	1.9	2.4	3.4	6.4	9.3	10.0[2]
20				0.7	1.0	1.3	1.9	2.4	3.3	6.0	8.7	10.0[2]
25				0.7	1.0	1.3	1.8	2.3	3.2	5.7	8.0	10.0[2]
32					0.9	1.2	1.7	2.2	3.1	5.4	7.6	10.0[2]
40								2.1	3.0	5.1	7.2	10.0[2]
50								1.9	2.8	4.7	6.6	9.5
63										4.4	6.3	8.6

Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

PL7	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
0.75	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
1.0	0.9	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
1.6	<0.5[1]	0.6	1.3	4.2	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
2	<0.5[1]	0.6	1.0	2.5	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]	10.0[2]
4	<0.5[1]	<0.5[1]	0.7	1.0	1.5	2.1	3.6	5.0	10.0	10.0[2]	10.0[2]	10.0[2]
5	<0.5[1]	<0.5[1]	0.6	0.8	1.2	1.7	2.8	3.8	8.7	10.0[2]	10.0[2]	10.0[2]
6	<0.5[1]	<0.5[1]	0.5	0.8	1.2	1.5	2.5	3.3	5.7	10.0[2]	10.0[2]	10.0[2]
8	<0.5[1]	<0.5[1]	0.5	0.8	1.1	1.5	2.3	2.9	4.9	10.0[2]	10.0[2]	10.0[2]
10			0.5	0.7	1.0	1.4	2.0	2.5	3.8	8.0	10.0[2]	10.0[2]
13					1.0	1.3	1.9	2.4	3.6	7.0	10.0[2]	10.0[2]
16					1.0	1.3	1.8	2.3	3.3	6.0	8.8	10.0[2]
20					1.0	1.2	1.7	2.2	3.2	5.5	7.7	10.0[2]
25							1.6	2.1	3.0	5.2	7.3	10.0[2]
32								2.1	2.9	5.0	7.0	10.0[2]
40									2.8	4.8	6.7	10.0
50										4.5	6.3	9.5
63											5.9	8.4

Short circuit selectivity **characteristic D** towards fuse link **NH-00***)

PL7	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
4	<0.5[1]	<0.5[1]	0.7	1.0	1.6	2.2	3.8	5.2	10.0	10.0[2]	10.0[2]	10.0[2]
5		<0.5[1]	0.6	0.9	1.4	1.9	3.2	4.1	7.1	10.0[2]	10.0[2]	10.0[2]
6		<0.5[1]	0.5	0.8	1.2	1.6	2.6	3.3	5.5	10.0[2]	10.0[2]	10.0[2]
8			0.5	0.8	1.1	1.5	2.2	2.7	4.1	8.7	10.0[2]	10.0[2]
10			0.5	0.7	1.0	1.3	1.9	2.5	3.6	7.2	10.0[2]	10.0[2]
13					1.0	1.3	1.9	2.3	3.4	6.5	9.5	10.0[2]
16						1.1	1.6	2.0	3.0	5.5	8.0	10.0[2]
20							1.4	1.8	2.8	5.0	7.5	10.0[2]
25								1.8	2.7	4.8	7.0	10.0[2]
32									2.4	4.1	6.2	9.3
40										4.0	6.0	9.0

[1] Selectivity limit current I_s under 0.5 kA

[2] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Miniature Circuit Breakers PL6

SG62211

- High-quality miniature circuit breakers for commercial and residential applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 63 A
- Tripping characteristics B, C, D
- Rated breaking capacity 6 kA acc. to IEC/EN 60898-1

Miniature Circuit Breakers PL6
6 kA, Characteristic B

SG45411

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
1	PL6-B1/1	164740	12/120
1.5	PL6-B1,5/1	164736	12/120
1.6	PL6-B1,6/1	164737	12/120
2	PL6-B2/1	286516	12/120
2.5	PL6-B2,5/1	164741	12/120
3	PL6-B3/1	164743	12/120
3.5	PL6-B3,5/1	164742	12/120
4	PL6-B4/1	286517	12/120
5	PL6-B5/1	164744	12/120
6	PL6-B6/1	286518	12/120
8	PL6-B8/1	164745	12/120
10	PL6-B10/1	286519	12/120
12	PL6-B12/1	164738	12/120
13	PL6-B13/1	286520	12/120
15	PL6-B15/1	164739	12/120
16	PL6-B16/1	286521	12/120
20	PL6-B20/1	286522	12/120
25	PL6-B25/1	286523	12/120
32	PL6-B32/1	286524	12/120
40	PL6-B40/1	286525	12/120
50	PL6-B50/1	286526	12/120
63	PL6-B63/1	286527	12/120

SG51411

1+N-pole			
1	PL6-B1/1N	164903	8/80
1.5	PL6-B1,5/1N	164901	8/80
1.6	PL6-B1,6/1N	164902	8/80
2	PL6-B2/1N	164907	8/80
2.5	PL6-B2,5/1N	164906	8/80
3	PL6-B3/1N	164911	8/80
3.5	PL6-B3,5/1N	164910	8/80
4	PL6-B4/1N	164913	8/80
5	PL6-B5/1N	164914	8/80
6	PL6-B6/1N	106025	8/80
8	PL6-B8/1N	164915	8/80
10	PL6-B10/1N	106026	8/80
12	PL6-B12/1N	164904	8/80
13	PL6-B13/1N	106027	8/80
15	PL6-B15/1N	164905	8/80
16	PL6-B16/1N	106028	8/80
20	PL6-B20/1N	164908	8/80
25	PL6-B25/1N	164909	8/80
32	PL6-B32/1N	164912	8/80

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2-pole			
1	PL6-B1/2	164803	6/60
1.5	PL6-B1,5/2	164801	6/60
1.6	PL6-B1,6/2	164802	6/60
2	PL6-B2/2	286550	6/60
2.5	PL6-B2,5/2	164806	6/60
3	PL6-B3/2	164808	6/60
3.5	PL6-B3,5/2	164807	6/60
4	PL6-B4/2	286551	6/60
5	PL6-B5/2	164809	6/60
6	PL6-B6/2	286552	6/60
8	PL6-B8/2	164810	6/60
10	PL6-B10/2	286553	6/60
12	PL6-B12/2	164804	6/60
13	PL6-B13/2	286554	6/60
15	PL6-B15/2	164805	6/60
16	PL6-B16/2	286555	6/60
20	PL6-B20/2	286556	6/60
25	PL6-B25/2	286557	6/60
32	PL6-B32/2	286558	6/60
40	PL6-B40/2	286559	6/60
50	PL6-B50/2	286560	6/60
63	PL6-B63/2	286561	6/60

SG62211

SG64711

SG26612

Rated current I_n (A)	Type Designation	Article No.	Units per package
3-pole			
1	PL6-B1/3	164868	4/40
1.5	PL6-B1,5/3	164866	4/40
1.6	PL6-B1,6/3	164867	4/40
2	PL6-B2/3	286584	4/40
2.5	PL6-B2,5/3	164871	4/40
3	PL6-B3/3	164873	4/40
3.5	PL6-B3,5/3	164872	4/40
4	PL6-B4/3	286585	4/40
5	PL6-B5/3	164874	4/40
6	PL6-B6/3	286586	4/40
8	PL6-B8/3	164875	4/40
10	PL6-B10/3	286587	4/40
12	PL6-B12/3	164869	4/40
13	PL6-B13/3	286588	4/40
15	PL6-B15/3	164870	4/40
16	PL6-B16/3	286589	4/40
20	PL6-B20/3	286590	4/40
25	PL6-B25/3	286591	4/40
32	PL6-B32/3	286592	4/40
40	PL6-B40/3	286593	4/40
50	PL6-B50/3	286594	4/40
63	PL6-B63/3	286595	4/40
3+N-pole			
1	PL6-B1/3N	165002	3/30
1.5	PL6-B1,5/3N	165000	3/30
1.6	PL6-B1,6/3N	165001	3/30
2	PL6-B2/3N	165007	3/30
2.5	PL6-B2,5/3N	165006	3/30
3	PL6-B3/3N	165009	3/30
3.5	PL6-B3,5/3N	165008	3/30
4	PL6-B4/3N	165010	3/30
5	PL6-B5/3N	165011	3/30
6	PL6-B6/3N	106035	3/30
8	PL6-B8/3N	165012	3/30
10	PL6-B10/3N	106036	3/30
12	PL6-B12/3N	165003	3/30
13	PL6-B13/3N	165004	3/30
15	PL6-B15/3N	165005	3/30
16	PL6-B16/3N	106037	3/30
20	PL6-B20/3N	106038	3/30
25	PL6-B25/3N	106039	3/30
32	PL6-B32/3N	106040	3/30
40	PL6-B40/3N	106041	3/30
50	PL6-B50/3N	106903	3/30
63	PL6-B63/3N	106904	3/30
4-pole			
1	PL6-B1/4	166489	3/30
1.5	PL6-B1,5/4	166487	3/30
1.6	PL6-B1,6/4	166488	3/30
2	PL6-B2/4	166496	3/30
2.5	PL6-B2,5/4	166495	3/30
3	PL6-B3/4	166499	3/30
4	PL6-B4/4	166501	3/30
5	PL6-B5/4	166503	3/30
6	PL6-B6/4	166505	3/30
8	PL6-B8/4	166507	3/30
10	PL6-B10/4	166490	3/30
12	PL6-B12/4	166491	3/30
13	PL6-B13/4	166492	3/30
15	PL6-B15/4	166493	3/30
16	PL6-B16/4	166494	3/30
20	PL6-B20/4	166497	3/30
25	PL6-B25/4	166498	3/30
32	PL6-B32/4	166500	3/30
40	PL6-B40/4	166502	3/30
50	PL6-B50/4	166504	3/30
63	PL6-B63/4	166506	3/30

Miniature Circuit Breakers PL6
6 kA, Characteristic C

SG45411

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
0.16	PL6-C0,16/1	164746	12/120
0.25	PL6-C0,25/1	164747	12/120
0.5	PL6-C0,5/1	164748	12/120
0.75	PL6-C0,75/1	164749	12/120
1	PL6-C1/1	164754	12/120
1.5	PL6-C1,5/1	164750	12/120
1.6	PL6-C1,6/1	164751	12/120
2	PL6-C2/1	286528	12/120
2.5	PL6-C2,5/1	164755	12/120
3	PL6-C3/1	164757	12/120
3.5	PL6-C3,5/1	164756	12/120
4	PL6-C4/1	286529	12/120
5	PL6-C5/1	164758	12/120
6	PL6-C6/1	286530	12/120
8	PL6-C8/1	164759	12/120
10	PL6-C10/1	286531	12/120
12	PL6-C12/1	164752	12/120
13	PL6-C13/1	286532	12/120
15	PL6-C15/1	164753	12/120
16	PL6-C16/1	286533	12/120
20	PL6-C20/1	286534	12/120
25	PL6-C25/1	286535	12/120
32	PL6-C32/1	286536	12/120
40	PL6-C40/1	286537	12/120
50	PL6-C50/1	286538	12/120
63	PL6-C63/1	286539	12/120

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1+N-pole			
0.16	PL6-C0,16/1N	164916	8/80
0.25	PL6-C0,25/1N	164917	8/80
0.5	PL6-C0,5/1N	164918	8/80
0.75	PL6-C0,75/1N	164919	8/80
1	PL6-C1/1N	164922	8/80
1.5	PL6-C1,5/1N	164920	8/80
1.6	PL6-C1,6/1N	164921	8/80
2	PL6-C2/1N	106029	8/80
2.5	PL6-C2,5/1N	164925	8/80
3	PL6-C3/1N	164929	8/80
3.5	PL6-C3,5/1N	164928	8/80
4	PL6-C4/1N	106030	8/80
5	PL6-C5/1N	164931	8/80
6	PL6-C6/1N	106031	8/80
8	PL6-C8/1N	164932	8/80
10	PL6-C10/1N	106032	8/80
12	PL6-C12/1N	164923	8/80
13	PL6-C13/1N	106033	8/80
15	PL6-C15/1N	164924	8/80
16	PL6-C16/1N	106034	8/80
20	PL6-C20/1N	164926	8/80
25	PL6-C25/1N	164927	8/80
32	PL6-C32/1N	164930	8/80

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2-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PL6-C0,16/2	164811	6/60
0.25	PL6-C0,25/2	164812	6/60
0.5	PL6-C0,5/2	164813	6/60
0.75	PL6-C0,75/2	164814	6/60
1	PL6-C1/2	164817	6/60
1.5	PL6-C1,5/2	164815	6/60
1.6	PL6-C1,6/2	164816	6/60
2	PL6-C2/2	286562	6/60
2.5	PL6-C2,5/2	164820	6/60
3	PL6-C3/2	164822	6/60
3.5	PL6-C3,5/2	164821	6/60
4	PL6-C4/2	286563	6/60
5	PL6-C5/2	164823	6/60
6	PL6-C6/2	286564	6/60
8	PL6-C8/2	164824	6/60
10	PL6-C10/2	286565	6/60
12	PL6-C12/2	164818	6/60
13	PL6-C13/2	286566	6/60
15	PL6-C15/2	164819	6/60
16	PL6-C16/2	286567	6/60
20	PL6-C20/2	286568	6/60
25	PL6-C25/2	286569	6/60
32	PL6-C32/2	286570	6/60
40	PL6-C40/2	286571	6/60
50	PL6-C50/2	286572	6/60
63	PL6-C63/2	286573	6/60

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3-pole

0.16	PL6-C0,16/3	164876	4/40
0.25	PL6-C0,25/3	164877	4/40
0.5	PL6-C0,5/3	164878	4/40
0.75	PL6-C0,75/3	164879	4/40
1	PL6-C1/3	164882	4/40
1.5	PL6-C1,5/3	164880	4/40
1.6	PL6-C1,6/3	164881	4/40
2	PL6-C2/3	286596	4/40
2.5	PL6-C2,5/3	164885	4/40
3	PL6-C3/3	164887	4/40
3.5	PL6-C3,5/3	164886	4/40
4	PL6-C4/3	286597	4/40
5	PL6-C5/3	164888	4/40
6	PL6-C6/3	286598	4/40
8	PL6-C8/3	164889	4/40
10	PL6-C10/3	286599	4/40
12	PL6-C12/3	164883	4/40
13	PL6-C13/3	286600	4/40
15	PL6-C15/3	164884	4/40
16	PL6-C16/3	286601	4/40
20	PL6-C20/3	286602	4/40
25	PL6-C25/3	286603	4/40
32	PL6-C32/3	286604	4/40
40	PL6-C40/3	286605	4/40
50	PL6-C50/3	286606	4/40
63	PL6-C63/3	286607	4/40

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3+N-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PL6-C0,16/3N	165013	3/30
0.25	PL6-C0,25/3N	165014	3/30
0.5	PL6-C0,5/3N	165015	3/30
0.75	PL6-C0,75/3N	165016	3/30
1	PL6-C1/3N	165019	3/30
1.5	PL6-C1,5/3N	165017	3/30
1.6	PL6-C1,6/3N	165018	3/30
2	PL6-C2/3N	106905	3/30
2.5	PL6-C2,5/3N	165022	3/30
3	PL6-C3/3N	165024	3/30
3.5	PL6-C3,5/3N	165023	3/30
4	PL6-C4/3N	106906	3/30
5	PL6-C5/3N	165025	3/30
6	PL6-C6/3N	106907	3/30
8	PL6-C8/3N	165026	3/30
10	PL6-C10/3N	106908	3/30
12	PL6-C12/3N	165020	3/30
13	PL6-C13/3N	106909	3/30
15	PL6-C15/3N	165021	3/30
16	PL6-C16/3N	106910	3/30
20	PL6-C20/3N	106911	3/30
25	PL6-C25/3N	106912	3/30
32	PL6-C32/3N	106913	3/30
40	PL6-C40/3N	106914	3/30
50	PL6-C50/3N	106915	3/30
63	PL6-C63/3N	106916	3/30

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4-pole

0.16	PL6-C0,16/4	166508	3/30
0.25	PL6-C0,25/4	166509	3/30
0.5	PL6-C0,5/4	166510	3/30
0.75	PL6-C0,75/4	166511	3/30
1	PL6-C1/4	166514	3/30
1.5	PL6-C1,5/4	166512	3/30
1.6	PL6-C1,6/4	166513	3/30
2	PL6-C2/4	166521	3/30
2.5	PL6-C2,5/4	166520	3/30
3	PL6-C3/4	166525	3/30
3.5	PL6-C3,5/4	166524	3/30
4	PL6-C4/4	166527	3/30
5	PL6-C5/4	166529	3/30
6	PL6-C6/4	166531	3/30
8	PL6-C8/4	166533	3/30
10	PL6-C10/4	166515	3/30
12	PL6-C12/4	166516	3/30
13	PL6-C13/4	166517	3/30
15	PL6-C15/4	166518	3/30
16	PL6-C16/4	166519	3/30
20	PL6-C20/4	166522	3/30
25	PL6-C25/4	166523	3/30
32	PL6-C32/4	166526	3/30
40	PL6-C40/4	166528	3/30
50	PL6-C50/4	166530	3/30
63	PL6-C63/4	166532	3/30

Miniature Circuit Breakers PL6
6 kA, Characteristic D

SG45411

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
0.5	PL6-D0,5/1	164760	12/120
1	PL6-D1/1	164765	12/120
1.5	PL6-D1,5/1	164761	12/120
1.6	PL6-D1,6/1	164762	12/120
2	PL6-D2/1	286540	12/120
2.5	PL6-D2,5/1	164766	12/120
3	PL6-D3/1	164768	12/120
3.5	PL6-D3,5/1	164767	12/120
4	PL6-D4/1	286541	12/120
5	PL6-D5/1	164769	12/120
6	PL6-D6/1	286542	12/120
8	PL6-D8/1	164770	12/120
10	PL6-D10/1	286543	12/120
12	PL6-D12/1	164763	12/120
13	PL6-D13/1	286544	12/120
15	PL6-D15/1	164764	12/120
16	PL6-D16/1	286545	12/120
20	PL6-D20/1	286546	12/120
25	PL6-D25/1	286547	12/120
32	PL6-D32/1	286548	12/120
40	PL6-D40/1	286549	12/120

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1+N-pole			
0.5	PL6-D0,5/1N	164933	8/80
1	PL6-D1/1N	164936	8/80
1.5	PL6-D1,5/1N	164934	8/80
1.6	PL6-D1,6/1N	164935	8/80
2	PL6-D2/1N	164943	8/80
2.5	PL6-D2,5/1N	164942	8/80
3	PL6-D3/1N	164947	8/80
3.5	PL6-D3,5/1N	164946	8/80
4	PL6-D4/1N	164948	8/80
5	PL6-D5/1N	164949	8/80
6	PL6-D6/1N	164950	8/80
8	PL6-D8/1N	164951	8/80
10	PL6-D10/1N	164937	8/80
12	PL6-D12/1N	164938	8/80
13	PL6-D13/1N	164939	8/80
15	PL6-D15/1N	164940	8/80
16	PL6-D16/1N	164941	8/80
20	PL6-D20/1N	164944	8/80
25	PL6-D25/1N	164945	8/80

SG51511

2-pole			
0.5	PL6-D0,5/2	164825	6/60
1	PL6-D1/2	164828	6/60
1.5	PL6-D1,5/2	164826	6/60
1.6	PL6-D1,6/2	164827	6/60
2	PL6-D2/2	286574	6/60
2.5	PL6-D2,5/2	164831	6/60
3	PL6-D3/2	164833	6/60
3.5	PL6-D3,5/2	164832	6/60
4	PL6-D4/2	286575	6/60
5	PL6-D5/2	164834	6/60
6	PL6-D6/2	286576	6/60
8	PL6-D8/2	164835	6/60
10	PL6-D10/2	286577	6/60
12	PL6-D12/2	164829	6/60
13	PL6-D13/2	286578	6/60
15	PL6-D15/2	164830	6/60
16	PL6-D16/2	286579	6/60
20	PL6-D20/2	286580	6/60
25	PL6-D25/2	286581	6/60
32	PL6-D32/2	286582	6/60
40	PL6-D40/2	286583	6/60

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3-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.5	PL6-D0,5/3	164890	4/40
1	PL6-D1/3	164893	4/40
1.5	PL6-D1,5/3	164891	4/40
1.6	PL6-D1,6/3	164892	4/40
2	PL6-D2/3	286608	4/40
2.5	PL6-D2,5/3	164896	4/40
3	PL6-D3/3	164898	4/40
3.5	PL6-D3,5/3	164897	4/40
4	PL6-D4/3	286609	4/40
5	PL6-D5/3	164899	4/40
6	PL6-D6/3	286610	4/40
8	PL6-D8/3	164900	4/40
10	PL6-D10/3	286611	4/40
12	PL6-D12/3	164894	4/40
13	PL6-D13/3	286612	4/40
15	PL6-D15/3	164895	4/40
16	PL6-D16/3	286613	4/40
20	PL6-D20/3	286614	4/40
25	PL6-D25/3	286615	4/40
32	PL6-D32/3	286616	4/40
40	PL6-D40/3	286617	4/40

SG64711

3+N-pole

0.5	PL6-B0,5/3N	165027	3/30
1	PL6-B1/3N	165030	3/30
1.5	PL6-B1,5/3N	165028	3/30
1.6	PL6-B1,6/3N	165029	3/30
2	PL6-B2/3N	165037	3/30
2.5	PL6-B2,5/3N	165036	3/30
3	PL6-B3/3N	165041	3/30
3.5	PL6-B3,5/3N	165040	3/30
4	PL6-B4/3N	165043	3/30
5	PL6-B5/3N	165045	3/30
6	PL6-B6/3N	165046	3/30
8	PL6-B8/3N	165047	3/30
10	PL6-B10/3N	165031	3/30
12	PL6-B12/3N	165032	3/30
13	PL6-B13/3N	165033	3/30
15	PL6-B15/3N	165034	3/30
16	PL6-B16/3N	165035	3/30
20	PL6-B20/3N	165038	3/30
25	PL6-B25/3N	165039	3/30
32	PL6-B32/3N	165042	3/30
40	PL6-B40/3N	165044	3/30

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4-pole

0.5	PL6-B0,5/4	166534	3/30
1	PL6-B1/4	166537	3/30
1.5	PL6-B1,5/4	166535	3/30
1.6	PL6-B1,6/4	166536	3/30
2	PL6-B2/4	166544	3/30
2.5	PL6-B2,5/4	166543	3/30
3	PL6-B3/4	166548	3/30
3.5	PL6-B3,5/4	166547	3/30
4	PL6-B4/4	166550	3/30
5	PL6-B5/4	166552	3/30
6	PL6-B6/4	166553	3/30
8	PL6-B8/4	166554	3/30
10	PL6-B10/4	166538	3/30
12	PL6-B12/4	166539	3/30
13	PL6-B13/4	166540	3/30
15	PL6-B15/4	166541	3/30
16	PL6-B16/4	166542	3/30
20	PL6-B20/4	166545	3/30
25	PL6-B25/4	166546	3/30
32	PL6-B32/4	166549	3/30
40	PL6-B40/4	166551	3/30

Specifications | Miniature Circuit Breakers PL6

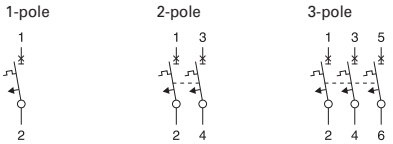
Description

- High selectivity between MCB and back-up fuse due to low let-through energy
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Suitable for applications up to 48 V DC

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal contact for subsequent installation	ZP-NHK	248437
Remote control and automatic switching device	Z-FW/LP	248296
Shunt trip release	ZP-ASA/..	248438, 248439
Undervoltage release	Z-USA/..	248288-248291
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Additional terminal 35 mm²	Z-HA-EK/35	263960
Switching interlock	Z-IS/SPE-1TE	274418

Connection diagrams



Technical Data

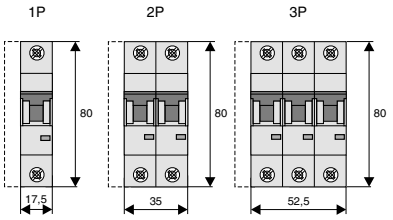
Electrical

Design according to	IEC/EN 60898-1
Current test marks as printed onto the device	
Rated voltage	AC: 230/400V DC: 48V (per pole, max. 2 poles)
Rated frequency	50/60 Hz
Rated breaking capacity IEC/EN 60898-1	6 kA
Characteristic	B, C, D
Back-up fuse max. 100 A gL	
Selectivity class	3
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50µs)
Endurance electrical comp.	≥ 10,000 switching op.
mechanical comp.	≥ 20,000 switching op.
Line voltage connection	optional (above/below)
Min. voltage	12 V AC/DC

Mechanical

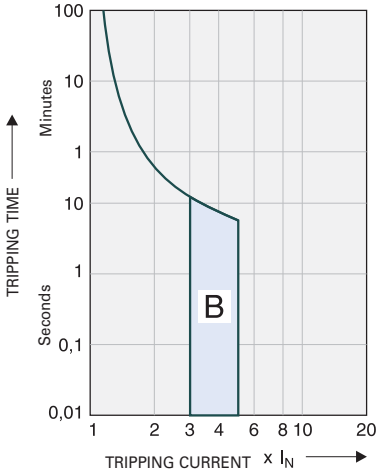
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm per pole (1MU)
Mounting	quick fastening with 3 lock-in positions on DIN rail IEC/EN 60715
Degree of protection	IP20
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity	1-25 mm²
Terminal fastening torque	2-2.4 Nm
Busbar thickness	0.8-2 mm
Mounting	independent of position

Dimensions (mm)

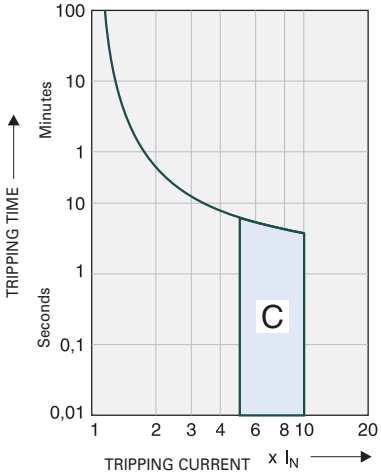


Tripping Characteristics (IEC/EN 60898-1)

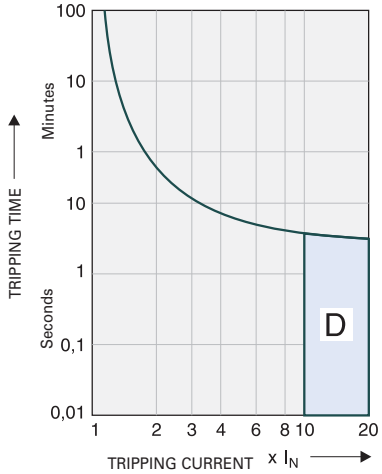
Tripping characteristic B



Tripping characteristic C



Tripping characteristic D



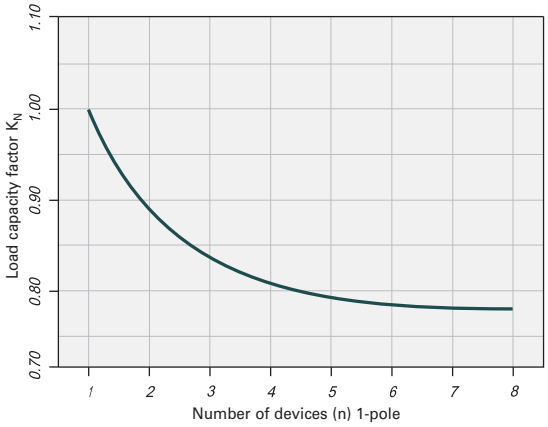
Quick-acting (B), slow (C), very slow (D)

Effect of the Ambient Temperature on Thermal Tripping Behaviour

Adjusted rated current values according to the ambient temperature

	Ambient temperature T [°C]															
I_n [A]	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**	**75**
0.16	0.20	0.19	0.19	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.13
0.25	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.25	0.24	0.24	0.23	0.23	0.22	0.22	0.21	0.21
0.5	0.61	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.48	0.47	0.46	0.45	0.44	0.43	0.42	0.41
0.75	0.92	0.90	0.87	0.84	0.81	0.78	0.75	0.74	0.73	0.71	0.69	0.68	0.66	0.65	0.64	0.62
1	1.2	1.2	1.2	1.1	1.1	1.0	1.0	0.99	0.97	0.95	0.93	0.90	0.89	0.87	0.85	0.83
1.5	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.3	1.3	1.2
1.6	2.0	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.3
2	2.4	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7
2.5	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2	2.2	2.1	2.1
3	3.7	3.6	3.5	3.4	3.3	3.1	3.0	3.0	2.9	2.8	2.8	2.7	2.7	2.6	2.5	2.5
3.5	4.3	4.2	4.1	3.9	3.8	3.7	3.5	3.4	3.4	3.3	3.2	3.2	3.1	3.0	3.0	2,9
4	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9	3.8	3.7	3.6	3.5	3.5	3.4	3.3
5	6.1	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1
6	7.3	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8	5.7	5.6	5.4	5.3	5.2	5.1	5.0
8	9.8	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7	7.6	7.4	7.2	7.1	6,9	6,8	6,6
10	12	12	12	11	11	10	10	9.9	9.7	9.5	9.3	9.0	8.9	8.7	8.5	8.3
12	15	14	14	13	13	13	12	12	12	11	11	11	11	10	10	10
13	16	16	15	15	14	14	13	13	13	12	12	12	12	11	11	11
15	18	18	17	17	16	16	15	15	15	14	14	14	13	13	13	12
16	20	19	19	18	17	17	16	16	15	15	15	14	14	14	14	13
20	24	24	23	22	22	21	20	20	19	19	19	18	18	17	17	17
25	31	30	29	28	27	26	25	25	24	24	23	23	22	22	21	21
32	39	38	37	36	35	33	32	32	31	30	30	29	28	28	27	26
40	49	48	47	45	43	42	40	39	39	38	37	36	35	35	34	33
50	61	60	58	56	54	52	50	49	48	47	46	45	44	43	42	41
63	77	76	73	71	68	66	63	62	61	60	58	57	56	55	53	52

Load Capacity of Series Connected Miniature Circuit Breakers



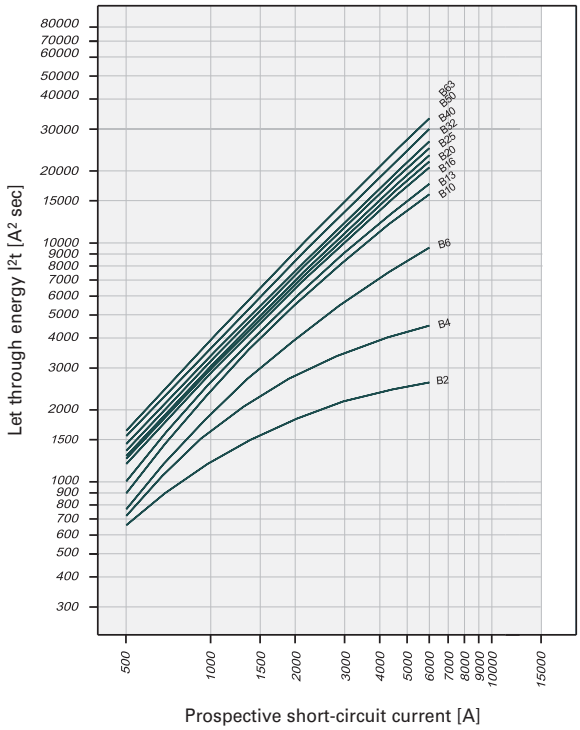
Effect of Power Frequency

Effect of power frequency on the tripping behaviour I_{MA} of the quick release

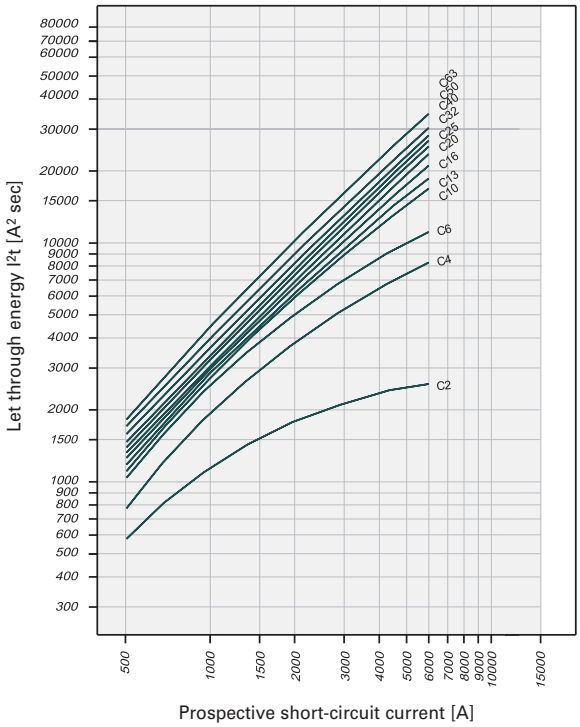
	Power frequency f [Hz]						
	$16^2/_3$	50	60	100	200	300	400
$I_{MA}(f)/I_{MA}(50Hz)$ [%]	91	100	101	106	115	134	141

Let-through Energy PL6

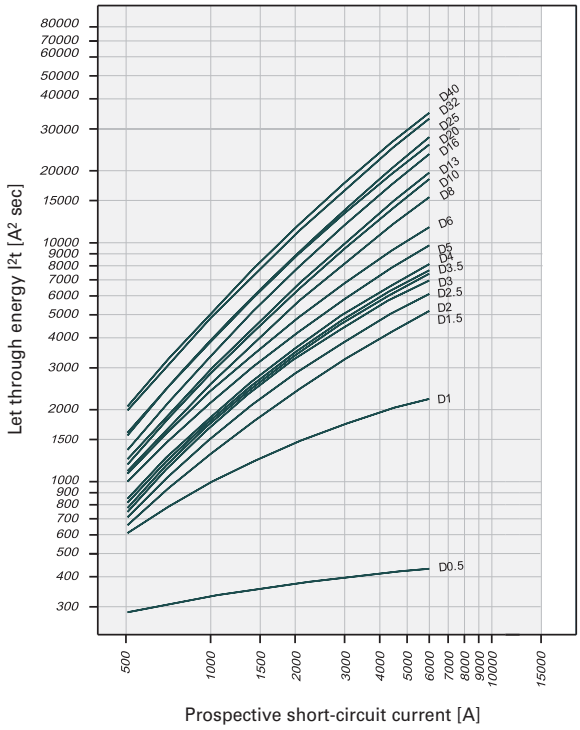
Let-through energy PL6, characteristic B, 1-pole



Let-through energy PL6, characteristic C, 1-pole



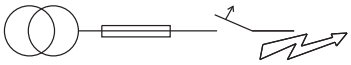
Let-through energy PL6, characteristic D, 1-pole



Short Circuit Selectivity PL6 towards DII-DIV fuse link

In case of short circuit, there is selectivity between the miniature circuit breakers PL6 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

PL6	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	<0.5[1)]	0.8	1.6	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.6	1.0	3.6	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
5	<0.5[1)]	<0.5[1)]	0.6	0.9	2.0	3.5	6.0[2)]	6.0[2)]	6.0[2)]
6		<0.5[1)]	0.6	0.9	1.8	3.2	6.0[2)]	6.0[2)]	6.0[2)]
8		<0.5[1)]	0.5	0.8	1.6	2.6	5.2	6.0[2)]	6.0[2)]
10			0.5	0.8	1.4	2.2	3.9	6.0[2)]	6.0[2)]
13			0.5	0.7	1.3	2.0	3.6	5.4	6.0[2)]
16				0.6	1.2	1.9	3.2	4.6	6.0[2)]
20					1.2	1.8	3.1	4.4	6.0[2)]
25					1.2	1.8	3.0	4.2	6.0[2)]
32						1.7	2.8	3.9	6.0[2)]
40							2.7	3.8	6.0[2)]
50							2.5	3.5	5.7
63									5.3

Short circuit selectivity **characteristic C** towards fuse link **DII-DIV***)

PL6	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	<0.5[1)]	0.8	1.6	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.6	0.8	1.8	3.6	6.0[2)]	6.0[2)]	6.0[2)]
5	<0.5[1)]	<0.5[1)]	0.6	0.7	1.5	2.7	6.0[2)]	6.0[2)]	6.0[2)]
6		<0.5[1)]	0.5	0.6	1.4	2.4	5.5	6.0[2)]	6.0[2)]
8		<0.5[1)]	<0.5[1)]	0.6	1.3	2.2	4.7	6.0[2)]	6.0[2)]
10			<0.5[1)]	0.6	1.3	2.0	3.6	6.0[2)]	6.0[2)]
13					1.3	1.9	3.3	5.0	6.0[2)]
16					1.2	1.8	3.2	4.4	6.0[2)]
20					1.2	1.8	3.1	4.1	6.0[2)]
25						1.7	2.8	3.8	6.0[2)]
32							2.7	3.7	6.0[2)]
40								3.5	5.9
50									5.5

Short circuit selectivity **characteristic D** towards fuse link **DII-DIV***)

PL6	DII-DIV gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
2	<0.5[1)]	<0.5[1)]	0.6	1.0	2.8	5.8	6.0[2)]	6.0[2)]	6.0[2)]
4		<0.5[1)]	0.6	0.9	2.0	3.8	6.0[2)]	6.0[2)]	6.0[2)]
5		<0.5[1)]	0.5	0.7	1.7	3.1	6.0[2)]	6.0[2)]	6.0[2)]
6			0.5	0.7	1.5	2.6	5.3	6.0[2)]	6.0[2)]
8			<0.5[1)]	0.7	1.4	2.2	3.9	6.0[2)]	6.0[2)]
10				0.7	1.2	1.9	3.4	5.0	6.0[2)]
13					1.2	1.8	3.2	4.6	6.0[2)]
16						1.6	2.7	4.0	6.0[2)]
20						1.5	2.5	3.5	6.0[2)]
25							2.4	3.4	6.0[2)]
32								2.8	5.0
40									4.8

[1)] Selectivity limit current I_s under 0.5 kA

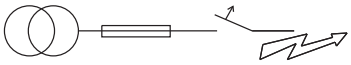
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short Circuit Selectivity PL6 towards D01-D03 fuse link

In case of short circuit, there is selectivity between the miniature circuit breakers PL6 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

PL6	**D01-D03 gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
2	<0.5[1)]	<0.5[1)]	0.6	1.0	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.5	0.9	2.5	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
5		<0.5[1)]	0.5	0.8	1.7	4.0	6.0[2)]	6.0[2)]	6.0[2)]
6		<0.5[1)]	0.5	0.8	1.6	3.6	6.0[2)]	6.0[2)]	6.0[2)]
8			0.5	0.8	1.4	2.8	4.3	6.0[2)]	6.0[2)]
10			0.5	0.7	1.3	2.4	3.4	6.0[2)]	6.0[2)]
13			<0.5[1)]	0.7	1.2	2.3	3.2	5.3	6.0[2)]
16				0.6	1.1	2.2	2.9	4.6	6.0[2)]
20					1.1	2.1	2.8	4.4	6.0[2)]
25					1.1	2.0	2.7	4.2	6.0[2)]
32						2.0	2.6	4.0	6.0[2)]
40							2.5	3.8	6.0[2)]
50							2.3	3.4	6.0[2)]
63									6.0[2)]

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

PL6	**D01-D03 gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
2	<0.5[1)]	<0.5[1)]	0.5	0.7	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	<0.5[1)]	0.6	1.6	4.0	6.0[2)]	6.0[2)]	6.0[2)]
5		<0.5[1)]	<0.5[1)]	0.5	1.3	3.1	5.7	6.0[2)]	6.0[2)]
6		<0.5[1)]	<0.5[1)]	<0.5[1)]	1.2	2.7	4.5	6.0[2)]	6.0[2)]
8		<0.5[1)]	<0.5[1)]	<0.5[1)]	1.2	2.5	4.0	6.0[2)]	6.0[2)]
10			<0.5[1)]	<0.5[1)]	1.2	2.3	3.1	5.4	6.0[2)]
13					1.1	2.2	3.0	4.9	6.0[2)]
16					1.1	2.1	2.8	4.4	6.0[2)]
20					1.0	2.0	2.6	4.0	6.0[2)]
25						1.9	2.5	3.8	6.0[2)]
32							2.5	3.7	6.0[2)]
40								3.5	6.0[2)]
50									6.0[2)]

Short circuit selectivity **characteristic D** towards fuse link **D01-D03***)

PL6	**D01-D03 gL/gG**								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
2	<0.5[1)]	<0.5[1)]	0.6	0.8	2.2	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4		<0.5[1)]	0.5	0.7	1.7	4.6	6.0[2)]	6.0[2)]	6.0[2)]
5		<0.5[1)]	<0.5[1)]	0.6	1.5	3.5	5.8	6.0[2)]	6.0[2)]
6			<0.5[1)]	0.5	1.3	2.9	4.5	6.0[2)]	6.0[2)]
8			<0.5[1)]	0.5	1.2	2.4	3.5	6.0[2)]	6.0[2)]
10				0.5	1.1	2.2	3.0	5.0	6.0[2)]
13					1.1	2.1	2.9	4.6	6.0[2)]
16						1.9	2.6	3.9	6.0[2)]
20						1.7	2.3	3.5	6.0[2)]
25							2.2	3.4	6.0[2)]
32								2.9	6.0[2)]
40									5.7

[1)] Selectivity limit current I_s under 0.5 kA

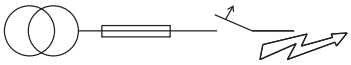
[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short Circuit Selectivity PL6 towards NH-00 Fuses

In case of short circuit, there is selectivity between the miniature circuit breakers PL6 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

PL6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5[1)]	0.5	1.0	2.5	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.8	1.3	2.3	4.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
5	<0.5[1)]	<0.5[1)]	0.7	1.1	1.6	2.2	3.6	4.8	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6	<0.5[1)]	<0.5[1)]	0.7	1.1	1.5	2.0	3.3	4.3	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
8	<0.5[1)]	<0.5[1)]	0.6	1.0	1.3	1.7	2.6	3.3	5.2	6.0[2)]	6.0[2)]	6.0[2)]
10		<0.5[1)]	0.6	0.9	1.2	1.5	2.2	2.7	4.0	6.0[2)]	6.0[2)]	6.0[2)]
13		<0.5[1)]	0.6	0.8	1.1	1.4	2.1	2.6	3.8	6.0[2)]	6.0[2)]	6.0[2)]
16			0.5	0.7	1.0	1.3	1.9	2.4	3.4	6.0[2)]	6.0[2)]	6.0[2)]
20				0.7	1.0	1.3	1.9	2.4	3.3	6.0[2)]	6.0[2)]	6.0[2)]
25				0.7	1.0	1.3	1.8	2.3	3.2	5.7	6.0[2)]	6.0[2)]
32					0.9	1.2	1.7	2.2	3.1	5.4	6.0[2)]	6.0[2)]
40								2.1	3.0	5.1	6.0[2)]	6.0[2)]
50								1.9	2.8	4.7	6.0[2)]	6.0[2)]
63										4.4	6.0[2)]	6.0[2)]

Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

PL6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5[1)]	0.6	1.0	2.5	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.7	1.0	1.5	2.1	3.6	5.0	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
5	<0.5[1)]	<0.5[1)]	0.6	0.8	1.2	1.7	2.8	3.8	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6	<0.5[1)]	<0.5[1)]	0.5	0.8	1.2	1.5	2.5	3.3	5.7	6.0[2)]	6.0[2)]	6.0[2)]
8	<0.5[1)]	<0.5[1)]	0.5	0.8	1.1	1.5	2.3	2.9	4.9	6.0[2)]	6.0[2)]	6.0[2)]
10			0.5	0.7	1.0	1.4	2.0	2.5	3.8	6.0[2)]	6.0[2)]	6.0[2)]
13					1.0	1.3	1.9	2.4	3.6	6.0[2)]	6.0[2)]	6.0[2)]
16					1.0	1.3	1.8	2.3	3.3	6.0[2)]	6.0[2)]	6.0[2)]
20					1.0	1.2	1.7	2.2	3.2	5.5	6.0[2)]	6.0[2)]
25							1.6	2.1	3.0	5.2	6.0[2)]	6.0[2)]
32								2.1	2.9	5.0	6.0[2)]	6.0[2)]
40									2.8	4.8	6.0[2)]	6.0[2)]
50										4.5	6.0[2)]	6.0[2)]
63											5.9	6.0[2)]

Short circuit selectivity **characteristic D** towards fuse link **NH-00***)

PL6	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5[1)]	<0.5[1)]	0.8	1.3	2.1	3.1	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
4	<0.5[1)]	<0.5[1)]	0.7	1.0	1.6	2.2	3.8	5.2	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
5		<0.5[1)]	0.6	0.9	1.4	1.9	3.2	4.1	6.0[2)]	6.0[2)]	6.0[2)]	6.0[2)]
6		<0.5[1)]	0.5	0.8	1.2	1.6	2.6	3.3	5.5	6.0[2)]	6.0[2)]	6.0[2)]
8			0.5	0.8	1.1	1.5	2.2	2.7	4.1	6.0[2)]	6.0[2)]	6.0[2)]
10			0.5	0.7	1.0	1.3	1.9	2.5	3.6	6.0[2)]	6.0[2)]	6.0[2)]
13					1.0	1.3	1.9	2.3	3.4	6.0[2)]	6.0[2)]	6.0[2)]
16						1.1	1.6	2.0	3.0	5.5	6.0[2)]	6.0[2)]
20							1.4	1.8	2.8	5.0	6.0[2)]	6.0[2)]
25								1.8	2.7	4.8	6.0[2)]	6.0[2)]
32									2.4	4.1	6.0[2)]	6.0[2)]
40										4.0	6.0[2)]	6.0[2)]

[1)] Selectivity limit current I_s under 0.5 kA

[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Miniature Circuit Breakers PL7-DC

SG06211

- High-quality miniature circuit breakers for DC-applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 50 A
- Tripping Characteristic C
- Rated breaking capacity 10 kA acc. to IEC/EN 60947-2
- Up to 250 V DC per pole

Miniature Circuit Breakers PL7-DC for AC/DC
10 kA, Characteristic C

SG06211

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
1	PL7-C1/1-DC	264851	12/120
2	PL7-C2/1-DC	264883	12/120
3	PL7-C3/1-DC	264884	12/120
4	PL7-C4/1-DC	264885	12/120
6	PL7-C6/1-DC	264886	12/120
10	PL7-C10/1-DC	264887	12/120
13	PL7-C13/1-DC	264888	12/120
16	PL7-C16/1-DC	264889	12/120
20	PL7-C20/1-DC	264890	12/120
25	PL7-C25/1-DC	264891	12/120
32	PL7-C32/1-DC	264892	12/120
40	PL7-C40/1-DC	264893	12/120
50	PL7-C50/1-DC	264894	12/120

SG06411

2-pole

1	PL7-C1/2-DC	264895	6/60
2	PL7-C2/2-DC	264896	6/60
3	PL7-C3/2-DC	264897	6/60
4	PL7-C4/2-DC	264898	6/60
6	PL7-C6/2-DC	264899	6/60
10	PL7-C10/2-DC	264900	6/60
13	PL7-C13/2-DC	264901	6/60
16	PL7-C16/2-DC	264902	6/60
20	PL7-C20/2-DC	264903	6/60
25	PL7-C25/2-DC	264904	6/60
32	PL7-C32/2-DC	264905	6/60
40	PL7-C40/2-DC	264906	6/60
50	PL7-C50/2-DC	264907	6/60

Specifications | Miniature Circuit Breakers PL7-DC

Description

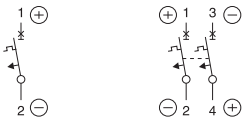
- High selectivity between MCB and back-up fuse due to low let-through energy
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Rated breaking capacity 10 kA acc. to IEC/EN 60947
- Rated voltage to 250 V (per pole), τ = 4 ms
- Take into account polarity!

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal contact for subsequent installation	ZP-NHK	248437
Remote control and automatic switching device	Z-FW/LP	248296
Shunt trip release	ZP-ASA/..	248438, 248439
Undervoltage release	Z-USA/..	248288-248291
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Additional terminal 35 mm²	Z-HA-EK/35	263960
Switching interlock	Z-IS/SPE-1TE	274418

Connection diagrams

1-pole 2-pole



Technical Data

Electrical

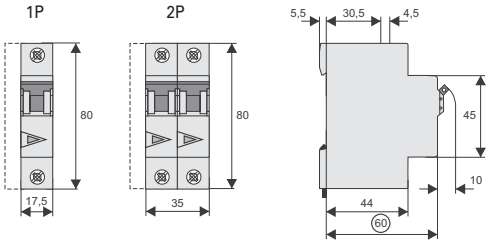
Design according to	IEC/EN 60947-2
Current test marks as printed onto the device	
Rated voltage DC	1-2 A type: 220V (per pole) 3-50 A type: 250V (per pole)
Rated breaking capacity acc. to IEC/EN 60947-2	10 kA
Characteristic	C
Back-up fuse	max. 100 A gL
Selectivity class	3
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50µs)
Endurance electrical comp.	≥ 4,000 switching op.
mechanical comp.	≥ 20,000 switching op.
Line voltage connection	optional (above/below)

Note: not for PV string protection!

Mechanical

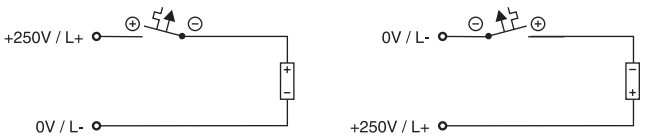
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm per pole (1MU)
Mounting	quick fastening with 3 lock-in positions on DIN rail IEC/EN 60715
Degree of protection	IP20
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity	1-25 mm²
Terminal fastening torque	2-2.4 Nm
Busbar thickness	0.8-2 mm
Mounting	independent of position

Dimensions (mm)

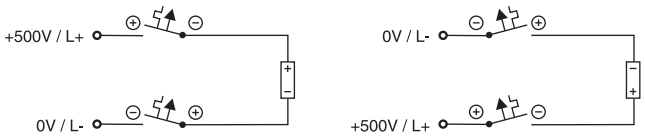


Connection examples

Connection example at 250V=, 1-pole

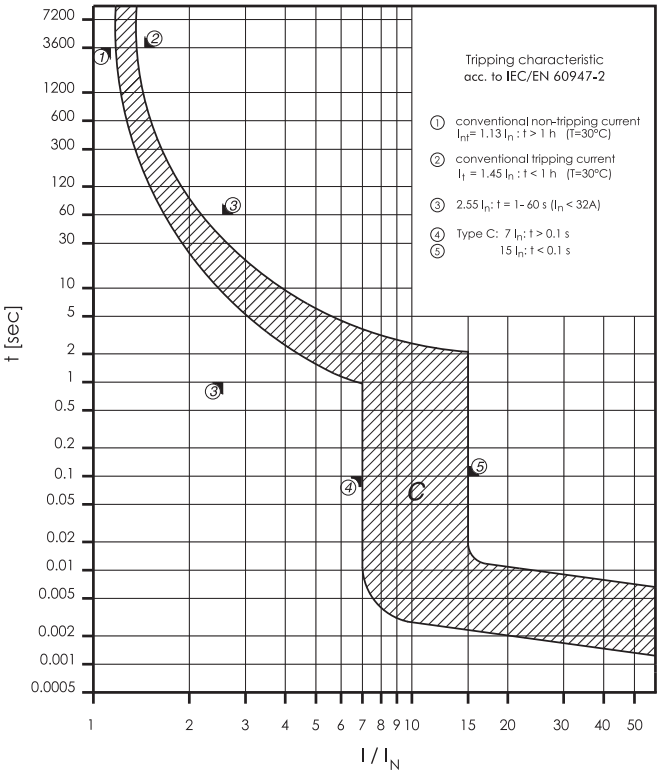


Connection example at 500V=, 2-pole



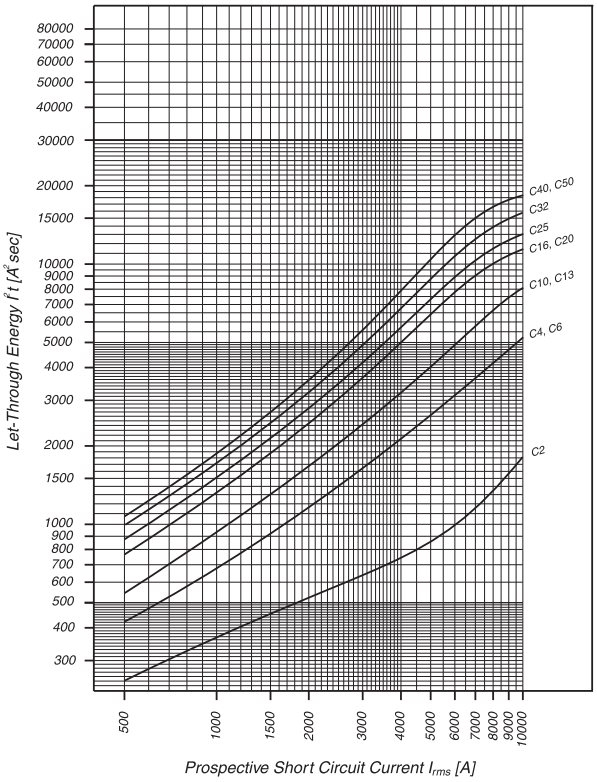
Tripping characteristic PL7-DC

Type C



Let-through Energy PL7-DC

Type C, 250 V d.c., τ = 5 ms (acc. to IEC/EN 60947-2)



Miniature Circuit Breakers PL4

SG49112

- High-quality miniature circuit breakers for commercial and residential applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 63 A
- Tripping characteristics B, C
- Rated breaking capacity 4.5 kA acc. to IEC/EN 60898-1

Miniature Circuit Breakers PL4
4.5 kA, Characteristic B

SG48712

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
1	PL4-B1/1	164711	12/120
1.5	PL4-B1,5/1	164706	12/120
1.6	PL4-B1,6/1	164707	12/120
2	PL4-B2/1	164713	12/120
2.5	PL4-B2,5/1	164712	12/120
3	PL4-B3/1	164715	12/120
3.5	PL4-B3,5/1	164714	12/120
4	PL4-B4/1	164716	12/120
5	PL4-B5/1	164717	12/120
6	PL4-B6/1	293113	12/120
8	PL4-B8/1	164718	12/120
10	PL4-B10/1	293114	12/120
12	PL4-B12/1	164708	12/120
13	PL4-B13/1	164709	12/120
15	PL4-B15/1	164710	12/120
16	PL4-B16/1	293115	12/120
20	PL4-B20/1	293116	12/120
25	PL4-B25/1	293117	12/120
32	PL4-B32/1	293118	12/120
40	PL4-B40/1	293119	12/120
50	PL4-B50/1	293120	12/120
63	PL4-B63/1	293121	12/120

SG48412

2-pole

1	PL4-B1/2	164773	6/60
1.5	PL4-B1,5/2	164771	6/60
1.6	PL4-B1,6/2	164772	6/60
2	PL4-B2/2	164778	6/60
2.5	PL4-B2,5/2	164777	6/60
3	PL4-B3/2	164780	6/60
3.5	PL4-B3,5/2	164779	6/60
4	PL4-B4/2	164781	6/60
5	PL4-B5/2	164782	6/60
6	PL4-B6/2	293131	6/60
8	PL4-B8/2	164783	6/60
10	PL4-B10/2	293132	6/60
12	PL4-B12/2	164774	6/60
13	PL4-B13/2	164775	6/60
15	PL4-B15/2	164776	6/60
16	PL4-B16/2	293133	6/60
20	PL4-B20/2	293134	6/60
25	PL4-B25/2	293135	6/60
32	PL4-B32/2	293136	6/60
40	PL4-B40/2	293137	6/60
50	PL4-B50/2	293138	6/60
63	PL4-B63/2	293139	6/60

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Rated current I_n (A)	Type Designation	Article No.	Units per package
3-pole			
1	PL4-B1/3	164838	4/40
1.5	PL4-B1,5/3	164836	4/40
1.6	PL4-B1,6/3	164837	4/40
2	PL4-B2/3	164843	4/40
2.5	PL4-B2,5/3	164842	4/40
3	PL4-B3/3	164845	4/40
3.5	PL4-B3,5/3	164844	4/40
4	PL4-B4/3	164846	4/40
5	PL4-B5/3	164847	4/40
6	PL4-B6/3	293149	4/40
8	PL4-B8/3	164848	4/40
10	PL4-B10/3	293150	4/40
12	PL4-B12/3	164839	4/40
13	PL4-B13/3	164840	4/40
15	PL4-B15/3	164841	4/40
16	PL4-B16/3	293151	4/40
20	PL4-B20/3	293152	4/40
25	PL4-B25/3	293153	4/40
32	PL4-B32/3	293154	4/40
40	PL4-B40/3	293155	4/40
50	PL4-B50/3	293156	4/40
63	PL4-B63/3	293157	4/40

SG49312

3+N-pole			
1	PL4-B1/3N	164954	1/30
1.5	PL4-B1,5/3N	164952	1/30
1.6	PL4-B1,6/3N	164953	1/30
2	PL4-B2/3N	164961	1/30
2.5	PL4-B2,5/3N	164960	1/30
3	PL4-B3/3N	164965	1/30
3.5	PL4-B3,5/3N	164964	1/30
4	PL4-B4/3N	164967	1/30
5	PL4-B5/3N	164969	1/30
6	PL4-B6/3N	164971	1/30
8	PL4-B8/3N	164973	1/30
10	PL4-B10/3N	164955	1/30
12	PL4-B12/3N	164956	1/30
13	PL4-B13/3N	164957	1/30
15	PL4-B15/3N	164958	1/30
16	PL4-B16/3N	164959	1/30
20	PL4-B20/3N	164962	1/30
25	PL4-B25/3N	164963	1/30
32	PL4-B32/3N	164966	1/30
40	PL4-B40/3N	164968	1/30
50	PL4-B50/3N	164970	1/30
63	PL4-B63/3N	164972	1/30

SG49212

Rated current I_n (A)	Type Designation	Article No.	Units per package
4-pole			
1	PL4-B1/4	166441	1/30
1.5	PL4-B1,5/4	166439	1/30
1.6	PL4-B1,6/4	166440	1/30
2	PL4-B2/4	166448	1/30
2.5	PL4-B2,5/4	166447	1/30
3	PL4-B3/4	166452	1/30
3.5	PL4-B3,5/4	166451	1/30
4	PL4-B4/4	166454	1/30
5	PL4-B5/4	166456	1/30
6	PL4-B6/4	166458	1/30
8	PL4-B8/4	166460	1/30
10	PL4-B10/4	166442	1/30
12	PL4-B12/4	166443	1/30
13	PL4-B13/4	166444	1/30
15	PL4-B15/4	166445	1/30
16	PL4-B16/4	166446	1/30
20	PL4-B20/4	166449	1/30
25	PL4-B25/4	166450	1/30
32	PL4-B32/4	166453	1/30
40	PL4-B40/4	166455	1/30
50	PL4-B50/4	166457	1/30
63	PL4-B63/4	166459	1/30

Miniature Circuit Breakers PL4
4.5 kA, Characteristic C

SG48712

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
0.16	PL4-C0,16/1	164719	12/120
0.25	PL4-C0,25/1	164720	12/120
0.5	PL4-C0,5/1	164721	12/120
0.75	PL4-C0,75/1	164722	12/120
1	PL4-C1/1	164728	12/120
1.5	PL4-C1,5/1	164723	12/120
1.6	PL4-C1,6/1	164724	12/120
2	PL4-C2/1	164730	12/120
2.5	PL4-C2,5/1	164729	12/120
3	PL4-C3/1	164732	12/120
3.5	PL4-C3,5/1	164731	12/120
4	PL4-C4/1	164733	12/120
5	PL4-C5/1	164734	12/120
6	PL4-C6/1	293122	12/120
8	PL4-C8/1	164735	12/120
10	PL4-C10/1	293123	12/120
12	PL4-C12/1	164725	12/120
13	PL4-C13/1	164726	12/120
15	PL4-C15/1	164727	12/120
16	PL4-C16/1	293124	12/120
20	PL4-C20/1	293125	12/120
25	PL4-C25/1	293126	12/120
32	PL4-C32/1	293127	12/120
40	PL4-C40/1	293128	12/120
50	PL4-C50/1	293129	12/120
63	PL4-C63/1	293130	12/120

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2-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PL4-C0,16/2	164784	6/60
0.25	PL4-C0,25/2	164785	6/60
0.5	PL4-C0,5/2	164786	6/60
0.75	PL4-C0,75/2	164787	6/60
1	PL4-C1/2	164790	6/60
1.5	PL4-C1,5/2	164788	6/60
1.6	PL4-C1,6/2	164789	6/60
2	PL4-C2/2	164795	6/60
2.5	PL4-C2,5/2	164794	6/60
3	PL4-C3/2	164797	6/60
3.5	PL4-C3,5/2	164796	6/60
4	PL4-C4/2	164798	6/60
5	PL4-C5/2	164799	6/60
6	PL4-C6/2	293140	6/60
8	PL4-C8/2	164800	6/60
10	PL4-C10/2	293141	6/60
12	PL4-C12/2	164791	6/60
13	PL4-C13/2	164792	6/60
15	PL4-C15/2	164793	6/60
16	PL4-C16/2	293142	6/60
20	PL4-C20/2	293143	6/60
25	PL4-C25/2	293144	6/60
32	PL4-C32/2	293145	6/60
40	PL4-C40/2	293146	6/60
50	PL4-C50/2	293147	6/60
63	PL4-C63/2	293148	6/60

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3-pole

0.16	PL4-C0,16/3	164849	4/40
0.25	PL4-C0,25/3	164850	4/40
0.5	PL4-C0,5/3	164851	4/40
0.75	PL4-C0,75/3	164852	4/40
1	PL4-C1/3	164855	4/40
1.5	PL4-C1,5/3	164853	4/40
1.6	PL4-C1,6/3	164854	4/40
2	PL4-C2/3	164860	4/40
2.5	PL4-C2,5/3	164859	4/40
3	PL4-C3/3	164862	4/40
3.5	PL4-C3,5/3	164861	4/40
4	PL4-C4/3	164863	4/40
5	PL4-C5/3	164864	4/40
6	PL4-C6/3	293158	4/40
8	PL4-C8/3	164865	4/40
10	PL4-C10/3	293159	4/40
12	PL4-C12/3	164856	4/40
13	PL4-C13/3	164857	4/40
15	PL4-C15/3	164858	4/40
16	PL4-C16/3	293160	4/40
20	PL4-C20/3	293161	4/40
25	PL4-C25/3	293162	4/40
32	PL4-C32/3	293163	4/40
40	PL4-C40/3	293164	4/40
50	PL4-C50/3	293165	4/40
63	PL4-C63/3	293166	4/40

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3+N-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
0.16	PL4-C0,16/3N	164974	1/30
0.25	PL4-C0,25/3N	164975	1/30
0.5	PL4-C0,5/3N	164976	1/30
0.75	PL4-C0,75/3N	164977	1/30
1	PL4-C1/3N	164980	1/30
1.5	PL4-C1,5/3N	164978	1/30
1.6	PL4-C1,6/3N	164979	1/30
2	PL4-C2/3N	164987	1/30
2.5	PL4-C2,5/3N	164986	1/30
3	PL4-C3/3N	164991	1/30
3.5	PL4-C3,5/3N	164990	1/30
4	PL4-C4/3N	164993	1/30
5	PL4-C5/3N	164995	1/30
6	PL4-C6/3N	164997	1/30
8	PL4-C8/3N	164999	1/30
10	PL4-C10/3N	164981	1/30
12	PL4-C12/3N	164982	1/30
13	PL4-C13/3N	164983	1/30
15	PL4-C15/3N	164984	1/30
16	PL4-C16/3N	164985	1/30
20	PL4-C20/3N	164988	1/30
25	PL4-C25/3N	164989	1/30
32	PL4-C32/3N	164992	1/30
40	PL4-C40/3N	164994	1/30
50	PL4-C50/3N	164996	1/30
63	PL4-C63/3N	164998	1/30

SG49212

4-pole

0.16	PL4-C0,16/4	166461	1/30
0.25	PL4-C0,25/4	166462	1/30
0.5	PL4-C0,5/4	166463	1/30
0.75	PL4-C0,75/4	166464	1/30
1	PL4-C1/4	166467	1/30
1.5	PL4-C1,5/4	166465	1/30
1.6	PL4-C1,6/4	166466	1/30
2	PL4-C2/4	166474	1/30
2.5	PL4-C2,5/4	166473	1/30
3	PL4-C3/4	166478	1/30
3.5	PL4-C3,5/4	166477	1/30
4	PL4-C4/4	166480	1/30
5	PL4-C5/4	166482	1/30
6	PL4-C6/4	166484	1/30
8	PL4-C8/4	166486	1/30
10	PL4-C10/4	166468	1/30
12	PL4-C12/4	166469	1/30
13	PL4-C13/4	166470	1/30
15	PL4-C15/4	166471	1/30
16	PL4-C16/4	166472	1/30
20	PL4-C20/4	166475	1/30
25	PL4-C25/4	166476	1/30
32	PL4-C32/4	166479	1/30
40	PL4-C40/4	166481	1/30
50	PL4-C50/4	166483	1/30
63	PL4-C63/4	166485	1/30

Specifications | Miniature Circuit Breakers PL4

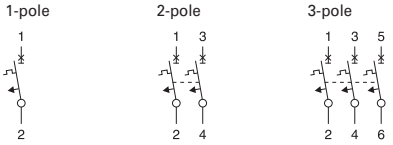
Description

- High selectivity between MCB and back-up fuse due to low let-through energy
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Suitable for applications up to 48 V DC

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal contact for subsequent installation	ZP-NHK	248437
Remote control and automatic switching device	Z-FW/LP	248296
Shunt trip release	ZP-ASA/..	248438, 248439
Undervoltage release	Z-USA/..	248288-248291
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Additional terminal 35 mm²	Z-HA-EK/35	263960
Switching interlock	Z-IS/SPE-1TE	274418

Connection diagrams



Technical Data

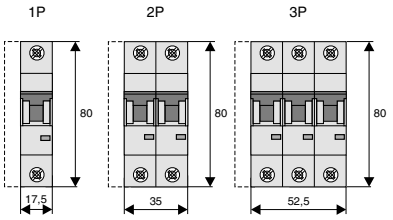
Electrical

Design according to	IEC/EN 60898-1
Current test marks as printed onto the device	
Rated voltage	AC: 230/400V DC: 48V (per pole, max. 2 poles)
Rated frequency	50/60 Hz
Rated breaking capacity IEC/EN 60898-1	4.5 kA
Characteristic	B, C, D
Back-up fuse	max. 100 A gL
Selectivity class	3
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50µs)
Endurance electrical comp.	≥ 10,000 switching op.
mechanical comp.	≥ 20,000 switching op.
Line voltage connection	optional (above/below)
Min. voltage	12 V AC/DC

Mechanical

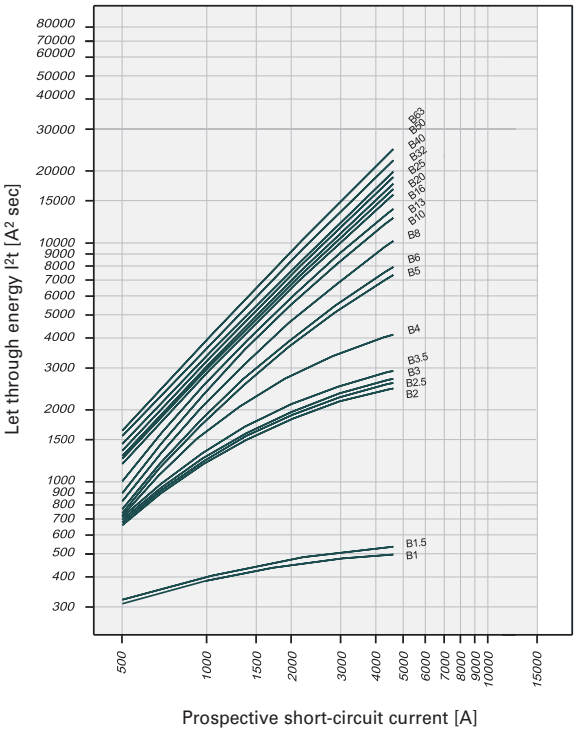
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm per pole (1MU)
Mounting	quick fastening with 3 lock-in positions on DIN rail IEC/EN 60715
Degree of protection	IP20
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity	1-25 mm²
Terminal fastening torque	2-2.4 Nm
Busbar thickness	0.8-2 mm
Mounting	independent of position

Dimensions (mm)

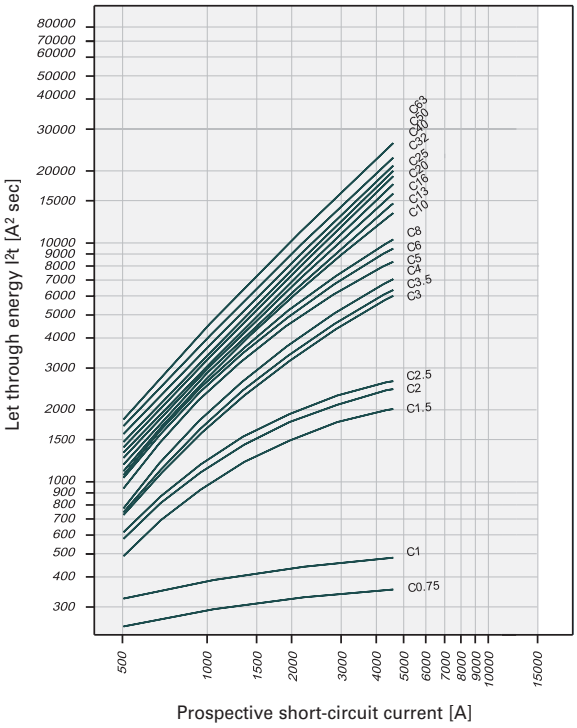


Let-through Energy PL4

Let-through energy PL4, characteristic B, 1-pole



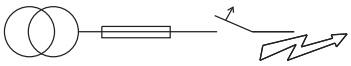
Let-through energy PL4, characteristic C, 1-pole



Short Circuit Selectivity PL4 towards DII-DIV fuse link

In case of short circuit, there is selectivity between the miniature circuit breakers PL4 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b



1) Selectivity limit current I_s under 0.5 kA

2) Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short circuit selectivity **characteristic B** towards fuse link **DII-DIV***)

PL4	DII-DIV gL/gG								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
1.0	<0.5[1]	1.2	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
1.5	<0.5[1]	1.0	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
2.0	<0.5[1]	<0.5[1]	0.8	1.6	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
2.5	<0.5[1]	<0.5[1]	0.8	1.5	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
3.0	<0.5[1]	<0.5[1]	0.8	1.4	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
3.5	<0.5[1]	<0.5[1]	0.7	1.3	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
4	<0.5[1]	<0.5[1]	0.6	1.0	3.6	4.5[2]	4.5[2]	4.5[2]	4.5[2]
5	<0.5[1]	<0.5[1]	0.6	0.9	2.0	3.5	4.5[2]	4.5[2]	4.5[2]
6		<0.5[1]	0.6	0.9	1.8	3.2	4.5[2]	4.5[2]	4.5[2]
8		<0.5[1]	0.5	0.8	1.6	2.6	4.5[2]	4.5[2]	4.5[2]
10			0.5	0.8	1.4	2.2	3.9	4.5[2]	4.5[2]
13			0.5	0.7	1.3	2.0	3.6	4.5[2]	4.5[2]
16				0.6	1.2	1.9	3.2	4.5[2]	4.5[2]
20					1.2	1.8	3.1	4.4	4.5[2]
25					1.2	1.8	3.0	4.2	4.5[2]
32						1.7	2.8	3.9	4.5[2]
40							2.7	3.8	4.5[2]
50							2.5	3.5	4.5[2]
63									4.5[2]

Short circuit selectivity **characteristic C** towards fuse link **DII-DIV***)

PL4	DII-DIV gL/gG								
I_n [A]	**10**	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
0.75	1.0	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
1.0	<0.5[1]	1.2	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
1.5	<0.5[1]	<0.5[1]	1.0	2.2	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
2.0	<0.5[1]	<0.5[1]	0.8	1.6	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
2.5	<0.5[1]	<0.5[1]	0.8	1.4	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
3.0	<0.5[1]	<0.5[1]	0.8	0.9	4.5[2]	4.5[2]	4.5[2]	4.5[2]	4.5[2]
3.5	<0.5[1]	<0.5[1]	0.6	0.9	2.2	4.5[2]	4.5[2]	4.5[2]	4.5[2]
4	<0.5[1]	<0.5[1]	0.6	0.8	1.8	3.6	4.5[2]	4.5[2]	4.5[2]
5	<0.5[1]	<0.5[1]	0.6	0.7	1.5	2.7	4.5[2]	4.5[2]	4.5[2]
6		<0.5[1]	0.5	0.6	1.4	2.4	4.5[2]	4.5[2]	4.5[2]
8		<0.5[1]	<0.5[1]	0.6	1.3	2.2	4.5[2]	4.5[2]	4.5[2]
10			<0.5[1]	0.6	1.3	2.0	3.6	4.5[2]	4.5[2]
13					1.3	1.9	3.3	4.5[2]	4.5[2]
16					1.2	1.8	3.2	4.4	4.5[2]
20					1.2	1.8	3.1	4.1	4.5[2]
25						1.7	2.8	3.8	4.5[2]
32							2.7	3.7	4.5[2]
40								3.5	4.5[2]
50									4.5[2]
63									

In case of short circuit, there is selectivity between the miniature circuit breakers PL4 and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

1) Selectivity limit current I_s under 0.5 kA

2) Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

no selectivity

Short Circuit Selectivity PL4 towards D01-D03 fuse link

Short circuit selectivity **characteristic B** towards fuse link **D01-D03***)

PL4	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
1.0	<0.5 1)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.5	<0.5 1)	4.1	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.0	<0.5 1)	<0.5 1)	0.6	1.0	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.5	<0.5 1)	<0.5 1)	0.6	1.0	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.0	<0.5 1)	<0.5 1)	0.5	1.0	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.5	<0.5 1)	<0.5 1)	0.5	0.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
4	<0.5 1)	<0.5 1)	0.5	0.9	2.5	4.5 2)	4.5 2)	4.5 2)	4.5 2)
5		<0.5 1)	0.5	0.8	1.7	4.0	4.5 2)	4.5 2)	4.5 2)
6		<0.5 1)	0.5	0.8	1.6	3.6	4.5 2)	4.5 2)	4.5 2)
8			0.5	0.8	1.4	2.8	4.3	4.5 2)	4.5 2)
10			0.5	0.7	1.3	2.4	3.4	4.5 2)	4.5 2)
13			<0.5 1)	0.7	1.2	2.3	3.2	4.5 2)	4.5 2)
16				0.6	1.1	2.2	2.9	4.5 2)	4.5 2)
20					1.1	2.1	2.8	4.4	4.5 2)
25					1.1	2.0	2.7	4.2	4.5 2)
32						2.0	2.6	4.0	4.5 2)
40							2.5	3.8	4.5 2)
50							2.3	3.4	4.5 2)
63									4.5 2)

Short circuit selectivity **characteristic C** towards fuse link **D01-D03***)

PL4	D01-D03 gL/gG								
I_n [A]	10	16	20	25	35	50	63	80	100
0.75	<0.5 1)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.0	<0.5 1)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.5	<0.5 1)	0.5	0.6	0.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.0	<0.5 1)	<0.5 1)	0.5	0.7	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.5	<0.5 1)	<0.5 1)	0.5	0.7	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.0	<0.5 1)	<0.5 1)	<0.5 1)	0.6	1.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.5	<0.5 1)	<0.5 1)	<0.5 1)	0.6	1.8	4.5 2)	4.5 2)	4.5 2)	4.5 2)
4	<0.5 1)	<0.5 1)	<0.5 1)	0.6	1.6	4.0	4.5 2)	4.5 2)	4.5 2)
5		<0.5 1)	<0.5 1)	0.5	1.3	3.1	4.5 2)	4.5 2)	4.5 2)
6		<0.5 1)	<0.5 1)	<0.5 1)	1.2	2.7	4.5 2)	4.5 2)	4.5 2)
8		<0.5 1)	<0.5 1)	<0.5 1)	1.2	2.5	4.0	4.5 2)	4.5 2)
10			<0.5 1)	<0.5 1)	1.2	2.3	3.1	4.5 2)	4.5 2)
13					1.1	2.2	3.0	4.5 2)	4.5 2)
16					1.1	2.1	2.8	4.4	4.5 2)
20					1.0	2.0	2.6	4.0	4.5 2)
25						1.9	2.5	3.8	4.5 2)
32							2.5	3.7	4.5 2)
40								3.5	4.5 2)
50									4.5 2)
63									

Short Circuit Selectivity PL4 towards NH-00 fuse link

Short circuit selectivity **characteristic B** towards fuse link **NH-00***)

PL4	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
1.0	0.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.5	0.8	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.0	<0.5 1)	0.5	1.0	2.5	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.5	<0.5 1)	0.5	1.0	2.3	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.0	<0.5 1)	0.5	0.9	2.1	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.5	<0.5 1)	0.5	0.9	1.8	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
4	<0.5 1)	<0.5 1)	0.8	1.3	2.3	4.3	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
5	<0.5 1)	<0.5 1)	0.7	1.1	1.6	2.2	3.6	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
6	<0.5 1)	<0.5 1)	0.7	1.1	1.5	2.0	3.3	4.3	4.5 2)	4.5 2)	4.5 2)	4.5 2)
8	<0.5 1)	<0.5 1)	0.6	1.0	1.3	1.7	2.6	3.3	4.5 2)	4.5 2)	4.5 2)	4.5 2)
10		<0.5 1)	0.6	0.9	1.2	1.5	2.2	2.7	4.0	4.5 2)	4.5 2)	4.5 2)
13		<0.5 1)	0.6	0.8	1.1	1.4	2.1	2.6	3.8	4.5 2)	4.5 2)	4.5 2)
16			0.5	0.7	1.0	1.3	1.9	2.4	3.4	4.5 2)	4.5 2)	4.5 2)
20				0.7	1.0	1.3	1.9	2.4	3.3	4.5 2)	4.5 2)	4.5 2)
25				0.7	1.0	1.3	1.8	2.3	3.2	4.5 2)	4.5 2)	4.5 2)
32					0.9	1.2	1.7	2.2	3.1	4.5 2)	4.5 2)	4.5 2)
40								2.1	3.0	4.5 2)	4.5 2)	4.5 2)
50								1.9	2.8	4.5 2)	4.5 2)	4.5 2)
63										4.4	4.5 2)	4.5 2)

Short circuit selectivity **characteristic C** towards fuse link **NH-00***)

PL4	NH-00 gL/gG											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
0.75	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.0	0.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
1.5	<0.5 1)	0.6	1.3	4.2	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.0	<0.5 1)	0.6	1.0	2.5	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
2.5	<0.5 1)	0.5	1.0	2.1	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.0	<0.5 1)	<0.5 1)	0.7	1.2	1.8	2.6	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
3.5	<0.5 1)	<0.5 1)	0.7	1.1	1.7	2.4	4.2	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
4	<0.5 1)	<0.5 1)	0.7	1.0	1.5	2.1	3.6	4.5 2)	4.5 2)	4.5 2)	4.5 2)	4.5 2)
5	<0.5 1)	<0.5 1)	0.6	0.8	1.2	1.7	2.8	3.8	4.5 2)	4.5 2)	4.5 2)	4.5 2)
6	<0.5 1)	<0.5 1)	0.5	0.8	1.2	1.5	2.5	3.3	4.5 2)	4.5 2)	4.5 2)	4.5 2)
8	<0.5 1)	<0.5 1)	0.5	0.8	1.1	1.5	2.3	2.9	4.5 2)	4.5 2)	4.5 2)	4.5 2)
10			0.5	0.7	1.0	1.4	2.0	2.5	3.8	4.5 2)	4.5 2)	4.5 2)
13					1.0	1.3	1.9	2.4	3.6	4.5 2)	4.5 2)	4.5 2)
16					1.0	1.3	1.8	2.3	3.3	4.5 2)	4.5 2)	4.5 2)
20					1.0	1.2	1.7	2.2	3.2	4.5 2)	4.5 2)	4.5 2)
25							1.6	2.1	3.0	4.5 2)	4.5 2)	4.5 2)
32								2.1	2.9	4.5 2)	4.5 2)	4.5 2)
40									2.8	4.5 2)	4.5 2)	4.5 2)
50										4.5 2)	4.5 2)	4.5 2)
63											4.5 2)	4.5 2)

Miniature Circuit Breakers CLS6 DE

SG10411

- High-quality miniature circuit breakers for commercial and residential applications
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 63 A
- Tripping characteristics B, C, D
- Rated breaking capacity 6 kA acc. to IEC/EN 60898-1

Miniature Circuit Breakers CLS6
Characteristic B

DE

SG10011

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
2	CLS6-B2	247596	12/120
4	CLS6-B4	247597	12/120
6	CLS6-B6	247598	12/120
10	CLS6-B10	247599	12/120
13	CLS6-B13	247600	12/120
16	CLS6-B16	247601	12/120
20	CLS6-B20	247602	12/120
25	CLS6-B25	247603	12/120
32	CLS6-B32	247604	12/120
40	CLS6-B40	247605	12/120
50	CLS6-B50	247606	12/120
63	CLS6-B63	247607	12/120

SG10111

1+N-pole

2	CLS6-B2/1N	247630	1/60
4	CLS6-B4/1N	247631	1/60
6	CLS6-B6/1N	247632	1/60
10	CLS6-B10/1N	247633	1/60
13	CLS6-B13/1N	247634	1/60
16	CLS6-B16/1N	247635	1/60
20	CLS6-B20/1N	247636	1/60
25	CLS6-B25/1N	247637	1/60
32	CLS6-B32/1N	247638	1/60
40	CLS6-B40/1N	247639	1/60
50	CLS6-B50/1N	247640	1/60
63	CLS6-B63/1N	247641	1/60

SG10211

2-pole

2	CLS6-B2/2	247664	1/60
4	CLS6-B4/2	247665	1/60
6	CLS6-B6/2	247666	1/60
10	CLS6-B10/2	247667	1/60
13	CLS6-B13/2	247668	1/60
16	CLS6-B16/2	247669	1/60
20	CLS6-B20/2	247670	1/60
25	CLS6-B25/2	247671	1/60
32	CLS6-B32/2	247672	1/60
40	CLS6-B40/2	247673	1/60
50	CLS6-B50/2	247674	1/60
63	CLS6-B63/2	247675	1/60

SG10311

3-pole

2	CLS6-B2/3	247698	1/40
4	CLS6-B4/3	247699	1/40
6	CLS6-B6/3	247700	1/40
10	CLS6-B10/3	247701	1/40
13	CLS6-B13/3	247702	1/40
16	CLS6-B16/3	247703	1/40
20	CLS6-B20/3	247704	1/40
25	CLS6-B25/3	247705	1/40
32	CLS6-B32/3	247706	1/40
40	CLS6-B40/3	247707	1/40
50	CLS6-B50/3	247708	1/40
63	CLS6-B63/3	247709	1/40

Explanation CLS6:
C = XClear, LS = Miniature Circuit Breaker, 6 = 6 kA

SG10511

Rated current I_n (A)	Type Designation	Article No.	Units per package
3+N-pole			
2	CLS6-B2/3N	247732	1/30
4	CLS6-B4/3N	247733	1/30
6	CLS6-B6/3N	247734	1/30
10	CLS6-B10/3N	247735	1/30
13	CLS6-B13/3N	247736	1/30
16	CLS6-B16/3N	247737	1/30
20	CLS6-B20/3N	247738	1/30
25	CLS6-B25/3N	247739	1/30
32	CLS6-B32/3N	247740	1/30
40	CLS6-B40/3N	247741	1/30
50	CLS6-B50/3N	247742	1/30
63	CLS6-B63/3N	247743	1/30

SG10411

4-pole			
2	CLS6-B2/4	247766	1/30
4	CLS6-B4/4	247767	1/30
6	CLS6-B6/4	247768	1/30
10	CLS6-B10/4	247769	1/30
13	CLS6-B13/4	247770	1/30
16	CLS6-B16/4	247771	1/30
20	CLS6-B20/4	247772	1/30
25	CLS6-B25/4	247773	1/30
32	CLS6-B32/4	247774	1/30
40	CLS6-B40/4	247775	1/30
50	CLS6-B50/4	247776	1/30
63	CLS6-B63/4	247777	1/30

Miniature Circuit Breakers CLS6 Characteristic C

DE

SG10011

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
2	CLS6-C2	247608	12/120
4	CLS6-C4	247609	12/120
6	CLS6-C6	247610	12/120
10	CLS6-C10	247611	12/120
13	CLS6-C13	247612	12/120
16	CLS6-C16	247613	12/120
20	CLS6-C20	247614	12/120
25	CLS6-C25	247615	12/120
32	CLS6-C32	247616	12/120
40	CLS6-C40	247617	12/120
50	CLS6-C50	247618	12/120
63	CLS6-C63	247619	12/120

SG10111

1+N-pole			
2	CLS6-C2/1N	247642	1/60
4	CLS6-C4/1N	247643	1/60
6	CLS6-C6/1N	247644	1/60
10	CLS6-C10/1N	247645	1/60
13	CLS6-C13/1N	247646	1/60
16	CLS6-C16/1N	247647	1/60
20	CLS6-C20/1N	247648	1/60
25	CLS6-C25/1N	247649	1/60
32	CLS6-C32/1N	247650	1/60
40	CLS6-C40/1N	247651	1/60
50	CLS6-C50/1N	247652	1/60
63	CLS6-C63/1N	247653	1/60

Explanation CLS6:
C = XClear, LS = Miniature Circuit Breaker, 6 = 6 kA

SG10211

2-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
2	CLS6-C2/2	247676	1/60
4	CLS6-C4/2	247677	1/60
6	CLS6-C6/2	247678	1/60
10	CLS6-C10/2	247679	1/60
13	CLS6-C13/2	247680	1/60
16	CLS6-C16/2	247681	1/60
20	CLS6-C20/2	247682	1/60
25	CLS6-C25/2	247683	1/60
32	CLS6-C32/2	247684	1/60
40	CLS6-C40/2	247685	1/60
50	CLS6-C50/2	247686	1/60
63	CLS6-C63/2	247687	1/60

SG10311

3-pole

2	CLS6-C2/3	247710	1/40
4	CLS6-C4/3	247711	1/40
6	CLS6-C6/3	247712	1/40
10	CLS6-C10/3	247713	1/40
13	CLS6-C13/3	247714	1/40
16	CLS6-C16/3	247715	1/40
20	CLS6-C20/3	247716	1/40
25	CLS6-C25/3	247717	1/40
32	CLS6-C32/3	247718	1/40
40	CLS6-C40/3	247719	1/40
50	CLS6-C50/3	247720	1/40
63	CLS6-C63/3	247721	1/40

SG10511

3+N-pole

2	CLS6-C2/3N	247744	1/30
4	CLS6-C4/3N	247745	1/30
6	CLS6-C6/3N	247746	1/30
10	CLS6-C10/3N	247747	1/30
13	CLS6-C13/3N	247748	1/30
16	CLS6-C16/3N	247749	1/30
20	CLS6-C20/3N	247750	1/30
25	CLS6-C25/3N	247751	1/30
32	CLS6-C32/3N	247752	1/30
40	CLS6-C40/3N	247753	1/30
50	CLS6-C50/3N	247754	1/30
63	CLS6-C63/3N	247755	1/30

SG10411

4-pole

2	CLS6-C2/4	247778	1/30
4	CLS6-C4/4	247779	1/30
6	CLS6-C6/4	247780	1/30
10	CLS6-C10/4	247781	1/30
13	CLS6-C13/4	247782	1/30
16	CLS6-C16/4	247783	1/30
20	CLS6-C20/4	247784	1/30
25	CLS6-C25/4	247785	1/30
32	CLS6-C32/4	247786	1/30
40	CLS6-C40/4	247787	1/30
50	CLS6-C50/4	247788	1/30
63	CLS6-C63/4	247789	1/30

Explanation CLS6:
C = XClear, LS = Miniature Circuit Breaker, 6 = 6 kA

Miniature Circuit Breakers CLS6
Characteristic D

DE

SG10011

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
2	CLS6-D2	247620	12/120
4	CLS6-D4	247621	12/120
6	CLS6-D6	247622	12/120
10	CLS6-D10	247623	12/120
13	CLS6-D13	247624	12/120
16	CLS6-D16	247625	12/120
20	CLS6-D20	247626	12/120
25	CLS6-D25	247627	12/120
32	CLS6-D32	247628	12/120
40	CLS6-D40	247629	12/120

SG10111

1+N-pole

2	CLS6-D2/1N	247654	1/60
4	CLS6-D4/1N	247655	1/60
6	CLS6-D6/1N	247656	1/60
10	CLS6-D10/1N	247657	1/60
13	CLS6-D13/1N	247658	1/60
16	CLS6-D16/1N	247659	1/60
20	CLS6-D20/1N	247660	1/60
25	CLS6-D25/1N	247661	1/60
32	CLS6-D32/1N	247662	1/60
40	CLS6-D40/1N	247663	1/60

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2-pole

2	CLS6-D2/2	247688	1/60
4	CLS6-D4/2	247689	1/60
6	CLS6-D6/2	247690	1/60
10	CLS6-D10/2	247691	1/60
13	CLS6-D13/2	247692	1/60
16	CLS6-D16/2	247693	1/60
20	CLS6-D20/2	247694	1/60
25	CLS6-D25/2	247695	1/60
32	CLS6-D32/2	247696	1/60
40	CLS6-D40/2	247697	1/60

SG10311

3-pole

2	CLS6-D2/3	247722	1/40
4	CLS6-D4/3	247723	1/40
6	CLS6-D6/3	247724	1/40
10	CLS6-D10/3	247725	1/40
13	CLS6-D13/3	247726	1/40
16	CLS6-D16/3	247727	1/40
20	CLS6-D20/3	247728	1/40
25	CLS6-D25/3	247729	1/40
32	CLS6-D32/3	247730	1/40
40	CLS6-D40/3	247731	1/40

Explanation CLS6:
C = XClear, LS = Miniature Circuit Breaker, 6 = 6 kA

SG10511

Rated current I_n (A)	Type Designation	Article No.	Units per package
3+N-pole			
2	CLS6-D2/3N	247756	1/30
4	CLS6-D4/3N	247757	1/30
6	CLS6-D6/3N	247758	1/30
10	CLS6-D10/3N	247759	1/30
13	CLS6-D13/3N	247760	1/30
16	CLS6-D16/3N	247761	1/30
20	CLS6-D20/3N	247762	1/30
25	CLS6-D25/3N	247763	1/30
32	CLS6-D32/3N	247764	1/30
40	CLS6-D40/3N	247765	1/30

SG10411

4-pole			
2	CLS6-D2/4	247790	1/30
4	CLS6-D4/4	247791	1/30
6	CLS6-D6/4	247792	1/30
10	CLS6-D10/4	247793	1/30
13	CLS6-D13/4	247794	1/30
16	CLS6-D16/4	247795	1/30
20	CLS6-D20/4	247796	1/30
25	CLS6-D25/4	247797	1/30
32	CLS6-D32/4	247798	1/30
40	CLS6-D40/4	247799	1/30

Explanation CLS6:
C = XClear, LS = Miniature Circuit Breaker, 6 = 6 kA

Miniature Circuit Breakers CLS4 DE

SG83711

- High-quality miniature circuit breakers for residential applications
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 63 A
- Tripping characteristics B, C
- Rated breaking capacity 4.5 kA acc. to IEC/EN 60898-1

Miniature Circuit Breakers CLS4
Characteristic B

DE

SG83011

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
2	CLS4-B2	247824	12/120
4	CLS4-B4	247825	12/120
6	CLS4-B6	247826	12/120
10	CLS4-B10	247827	12/120
13	CLS4-B13	247828	12/120
16	CLS4-B16	247829	12/120
20	CLS4-B20	247830	12/120
25	CLS4-B25	247831	12/120
32	CLS4-B32	247832	12/120
40	CLS4-B40	247833	12/120
50	CLS4-B50	247834	12/120
63	CLS4-B63	247835	12/120

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1+N-pole

2	CLS4-B2/1N	247848	1/60
4	CLS4-B4/1N	247849	1/60
6	CLS4-B6/1N	247850	1/60
10	CLS4-B10/1N	247851	1/60
13	CLS4-B13/1N	247852	1/60
16	CLS4-B16/1N	247853	1/60
20	CLS4-B20/1N	247854	1/60
25	CLS4-B25/1N	247855	1/60
32	CLS4-B32/1N	247856	1/60
40	CLS4-B40/1N	247857	1/60
50	CLS4-B50/1N	247858	1/60
63	CLS4-B63/1N	247859	1/60

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2-pole

2	CLS4-B2/2	247872	1/60
4	CLS4-B4/2	247873	1/60
6	CLS4-B6/2	247874	1/60
10	CLS4-B10/2	247875	1/60
13	CLS4-B13/2	247876	1/60
16	CLS4-B16/2	247877	1/60
20	CLS4-B20/2	247878	1/60
25	CLS4-B25/2	247879	1/60
32	CLS4-B32/2	247880	1/60
40	CLS4-B40/2	247881	1/60
50	CLS4-B50/2	247882	1/60
63	CLS4-B63/2	247883	1/60

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3-pole

2	CLS4-B2/3	247896	1/40
4	CLS4-B4/3	247897	1/40
6	CLS4-B6/3	247898	1/40
10	CLS4-B10/3	247899	1/40
13	CLS4-B13/3	247900	1/40
16	CLS4-B16/3	247901	1/40
20	CLS4-B20/3	247902	1/40
25	CLS4-B25/3	247903	1/40
32	CLS4-B32/3	247904	1/40
40	CLS4-B40/3	247905	1/40
50	CLS4-B50/3	247906	1/40
63	CLS4-B63/3	247907	1/40

Explanation CLS4:
C = XClear, LS = Miniature Circuit Breaker, 4 = 4.5 kA

SG83811

Rated current I_n (A)	Type Designation	Article No.	Units per package
3+N-pole			
2	CLS4-B2/3N	247920	1/30
4	CLS4-B4/3N	247921	1/30
6	CLS4-B6/3N	247922	1/30
10	CLS4-B10/3N	247923	1/30
13	CLS4-B13/3N	247924	1/30
16	CLS4-B16/3N	247925	1/30
20	CLS4-B20/3N	247926	1/30
25	CLS4-B25/3N	247927	1/30
32	CLS4-B32/3N	247928	1/30
40	CLS4-B40/3N	247929	1/30
50	CLS4-B50/3N	247930	1/30
63	CLS4-B63/3N	247931	1/30

SG83711

4-pole			
2	CLS4-B2/4	247944	1/30
4	CLS4-B4/4	247945	1/30
6	CLS4-B6/4	247946	1/30
10	CLS4-B10/4	247947	1/30
13	CLS4-B13/4	247948	1/30
16	CLS4-B16/4	247949	1/30
20	CLS4-B20/4	247950	1/30
25	CLS4-B25/4	247951	1/30
32	CLS4-B32/4	247952	1/30
40	CLS4-B40/4	247953	1/30
50	CLS4-B50/4	247955	1/30
63	CLS4-B63/4	247956	1/30

Miniature Circuit Breakers CLS4 Characteristic C

DE

SG83011

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
2	CLS4-C2	247836	12/120
4	CLS4-C4	247837	12/120
6	CLS4-C6	247838	12/120
10	CLS4-C10	247839	12/120
13	CLS4-C13	247840	12/120
16	CLS4-C16	247841	12/120
20	CLS4-C20	247842	12/120
25	CLS4-C25	247843	12/120
32	CLS4-C32	247844	12/120
40	CLS4-C40	247845	12/120
50	CLS4-C50	247846	12/120
63	CLS4-C63	247847	12/120

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1+N-pole			
2	CLS4-C2/1N	247860	1/60
4	CLS4-C4/1N	247861	1/60
6	CLS4-C6/1N	247862	1/60
10	CLS4-C10/1N	247863	1/60
13	CLS4-C13/1N	247864	1/60
16	CLS4-C16/1N	247865	1/60
20	CLS4-C20/1N	247866	1/60
25	CLS4-C25/1N	247867	1/60
32	CLS4-C32/1N	247868	1/60
40	CLS4-C40/1N	247869	1/60
50	CLS4-C50/1N	247870	1/60
63	CLS4-C63/1N	247871	1/60

Explanation CLS4:
C = XClear, LS = Miniature Circuit Breaker, 4 = 4.5 kA

SG82711

2-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
2	CLS4-C2/2	247884	1/60
4	CLS4-C4/2	247885	1/60
6	CLS4-C6/2	247886	1/60
10	CLS4-C10/2	247887	1/60
13	CLS4-C13/2	247888	1/60
16	CLS4-C16/2	247889	1/60
20	CLS4-C20/2	247890	1/60
25	CLS4-C25/2	247891	1/60
32	CLS4-C32/2	247892	1/60
40	CLS4-C40/2	247893	1/60
50	CLS4-C50/2	247894	1/60
63	CLS4-C63/2	247895	1/60

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3-pole

2	CLS4-C2/3	247908	1/40
4	CLS4-C4/3	247909	1/40
6	CLS4-C6/3	247910	1/40
10	CLS4-C10/3	247911	1/40
13	CLS4-C13/3	247912	1/40
16	CLS4-C16/3	247913	1/40
20	CLS4-C20/3	247914	1/40
25	CLS4-C25/3	247915	1/40
32	CLS4-C32/3	247916	1/40
40	CLS4-C40/3	247917	1/40
50	CLS4-C50/3	247918	1/40
63	CLS4-C63/3	247919	1/40

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3+N-pole

2	CLS4-C2/3N	247932	1/30
4	CLS4-C4/3N	247933	1/30
6	CLS4-C6/3N	247934	1/30
10	CLS4-C10/3N	247935	1/30
13	CLS4-C13/3N	247936	1/30
16	CLS4-C16/3N	247937	1/30
20	CLS4-C20/3N	247938	1/30
25	CLS4-C25/3N	247939	1/30
32	CLS4-C32/3N	247940	1/30
40	CLS4-C40/3N	247941	1/30
50	CLS4-C50/3N	247942	1/30
63	CLS4-C63/3N	247943	1/30

SG83711

4-pole

2	CLS4-C2/4	247957	1/30
4	CLS4-C4/4	247958	1/30
6	CLS4-C6/4	247959	1/30
10	CLS4-C10/4	247960	1/30
13	CLS4-C13/4	247961	1/30
16	CLS4-C16/4	247962	1/30
20	CLS4-C20/4	247963	1/30
25	CLS4-C25/4	247964	1/30
32	CLS4-C32/4	247965	1/30
40	CLS4-C40/4	247966	1/30
50	CLS4-C50/4	247967	1/30
63	CLS4-C63/4	247968	1/30

Explanation CLS4:
C = XClear, LS = Miniature Circuit Breaker, 4 = 4.5 kA

Specifications | Miniature Circuit Breakers CLS.

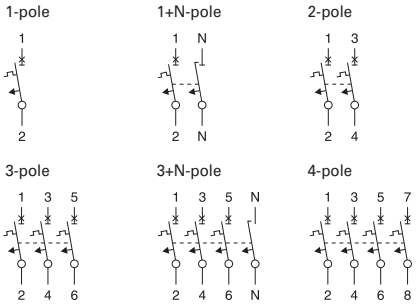
Description

- High selectivity between MCB and back-up fuse due to low let-through energy
- Twin-purpose terminal (lift/open-mouthed) above and below
- Compatible with standard busbar
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Suitable for applications up to 48 V DC (use CLS6-DC for higher DC voltages)

Accessories:

Auxiliary switch for subsequent installation	Z-AHK	248433
Tripping signal contact for subsequent installation	Z-NHK	248434
Remote control and automatic switching device	Z-FW/LP	248296
Shunt trip release	ZP-ASA	248438, 248439
Undervoltage release	Z-USA/..	248288-248291
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Additional terminal 35 mm²	Z-HA-EK/35	263960
Switching interlock	Z-IS/SPE-1TE	274418

Connection diagrams



Technical Data

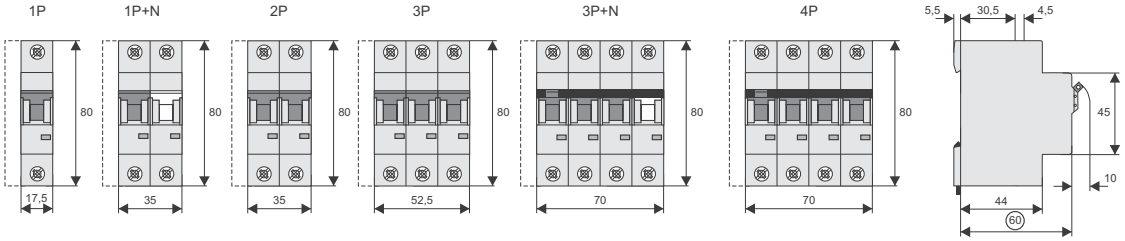
Electrical

Design according to	IEC/EN 60898-1
Current test marks as printed onto the device	
Rated voltage	AC: 230/400V DC: 48V (per pole, max. 2 poles)
Rated frequency	50/60 Hz
Rated breaking capacity acc. to IEC/EN 60898-1	
CLS6	6 kA
CLS4	4.5 kA
Characteristic	B, C, D
Back-up fuse	
>6 kA	max. 100 A gL
>4.5 kA	max. 80 A gL
Selectivity class	3
Endurance	≥ 8,000 electrical switching op.
Line voltage connection	optional (above/below)

Mechanical

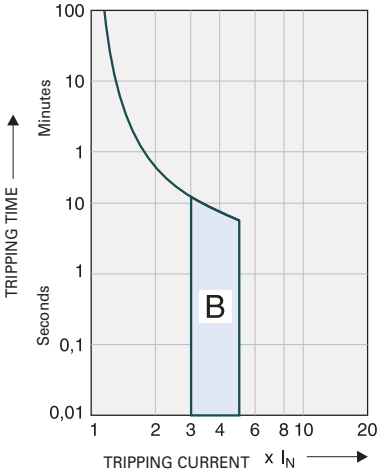
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm per pole (1MU) 26.3 mm: device 1P+N (1.5MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection	IP20
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity	1-25 mm²
Terminal fastening torque	2-2.4 Nm
Busbar thickness	0.8-2 mm

Dimensions (mm)

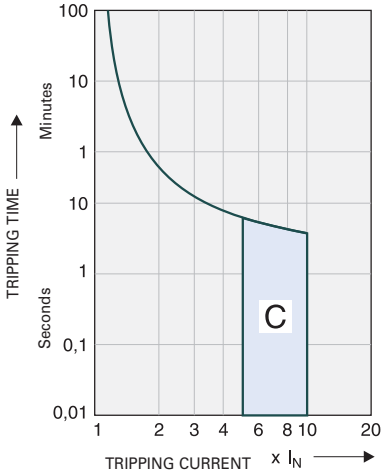


Tripping Characteristics (IEC/EN 60898-1)

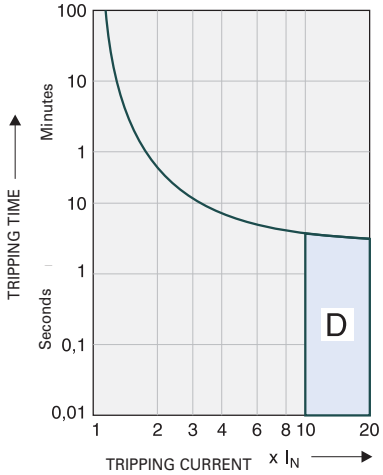
Tripping characteristic B



Tripping characteristic C



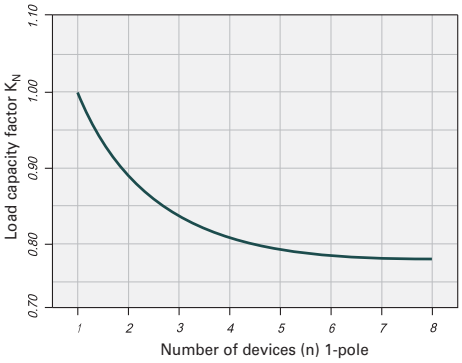
Tripping characteristic D



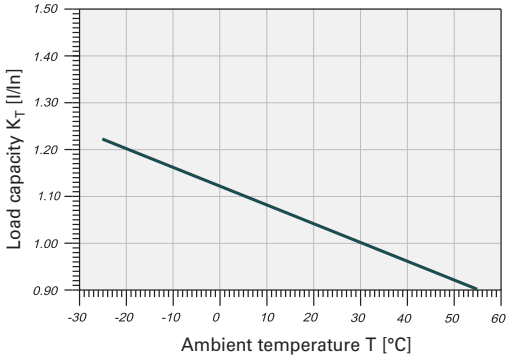
Quick-acting (B), slow (C), very slow (D)

Load Capacity

Load capacity in case of block installation (1-pole)

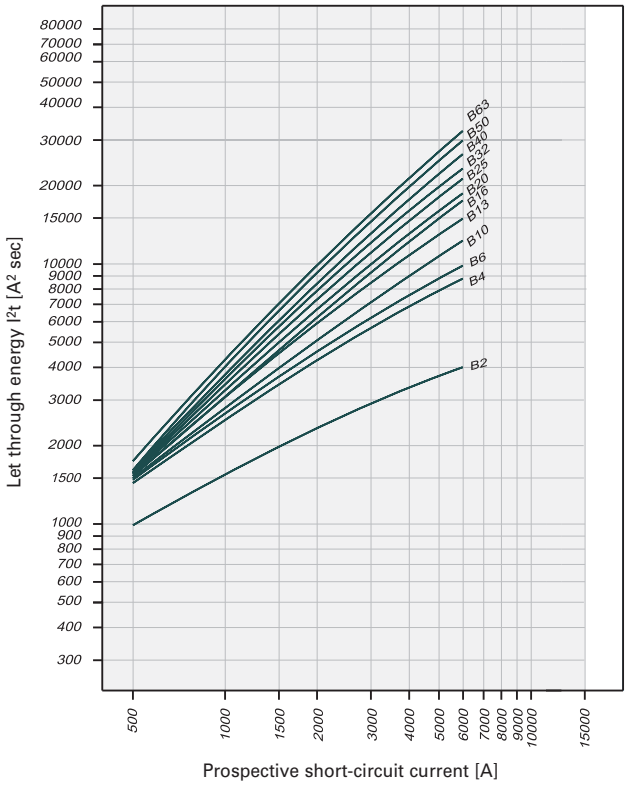


Effect of ambient temperature

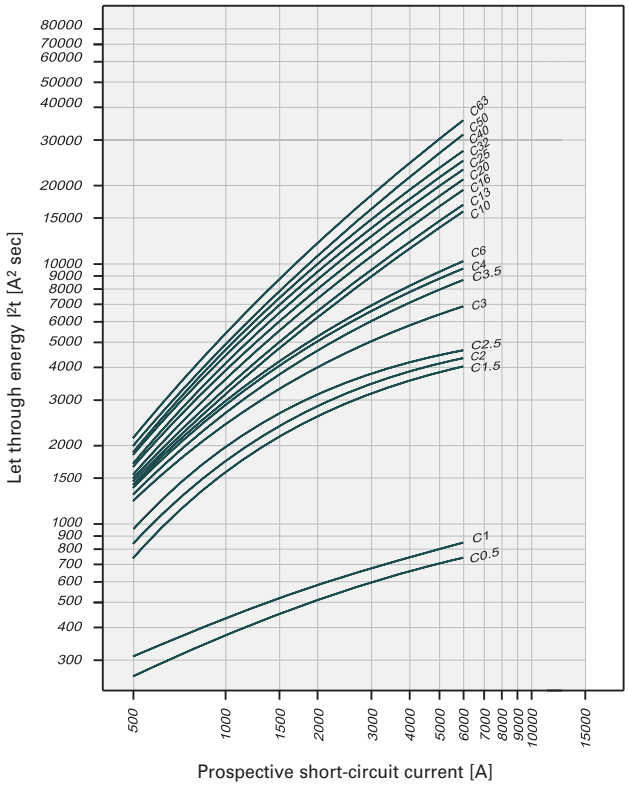


Let-through Energy CLS6

Let-through energy CLS6, characteristic B, 1-pole



Let-through energy CLS6, characteristic C, 1-pole



Determined according to EN 60898-1. Values for characteristic D upon enquiry.

Short Circuit Selectivity CLS6

- Short circuit selectivity (in kA) between CLS6 and upstream fuse D0 or NH, operating class gL/gG
- 1.4 . . selectivity up to 1.4 kA; . . . no selectivity

Selectivity towards back-up fuses D01, D02, D03

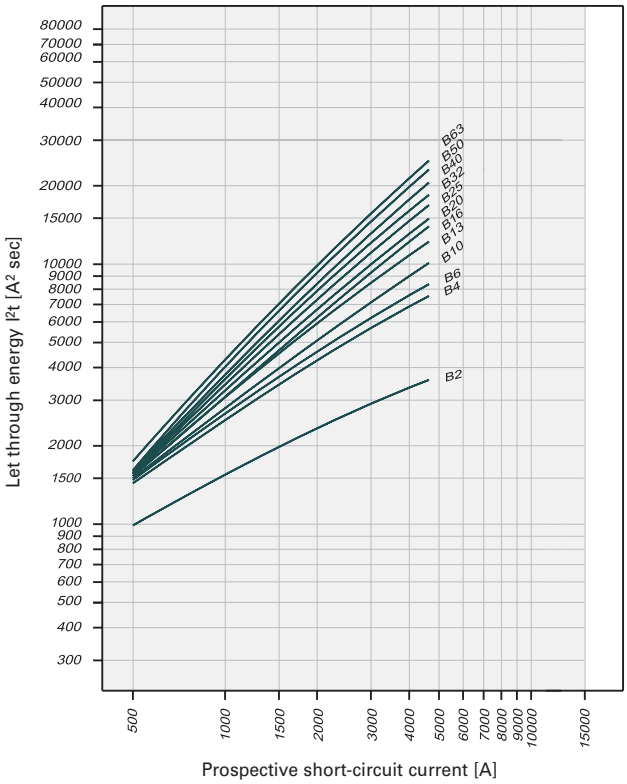
Rated current I_n of CLS6 in A		Rated current of the back-up fuse in A gL/gG								
		10	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
B-Characteristic	**2**	<0.5	<0.5	0.5	0.8	2.2	6.0	6.0	6.0	6.0
	4	<0.5	<0.5	<0.5	0.5	1.2	3.1	5.5	6.0	6.0
	6		<0.5	<0.5	0.5	1.2	2.7	4.5	6.0	6.0
	10			<0.5	0.5	1.1	2.3	3.6	5.0	6.0
	13			<0.5	0.5	1.0	2.0	3.1	4.3	6.0
	16				0.5	1.0	1.7	2.8	3.8	6.0
	20					0.9	1.6	2.7	3.6	6.0
	25					0.9	1.6	2.5	3.3	6.0
	32						1.6	2.3	3.0	5.8
	40							2.2	2.9	5.3
	50							2.1	2.7	4.8
	63									4.5
C-Characteristic	**0.5**	<0.5	1.1	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	1	<0.5	0.8	3.9	6.0	6.0	6.0	6.0	6.0	6.0
	2	<0.5	<0.5	0.5	0.8	1.7	6.0	6.0	6.0	6.0
	3	<0.5	<0.5	<0.5	0.6	1.3	4.3	6.0	6.0	6.0
	4	<0.5	<0.5	<0.5	0.6	1.2	2.7	4.7	6.0	6.0
	6		<0.5	<0.5	0.6	1.1	2.3	4.0	6.0	6.0
	10			<0.5	0.6	1.1	1.9	2.8	3.9	6.0
	13					1.0	1.8	2.7	3.7	6.0
	16					1.0	1.7	2.5	3.3	6.0
	20					0.9	1.6	2.3	3.1	6.3
	25						1.5	2.2	2.9	5.7
	32							2.1	2.7	5.3
	40								2.6	5.0
	50									4.5
	63									

Selectivity towards back-up fuses NH Gr. 00

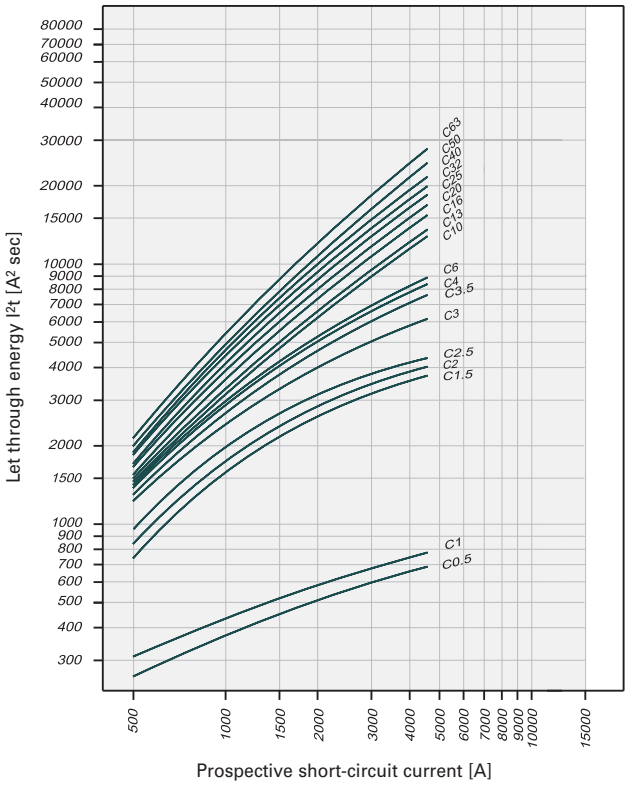
Rated current I_n of CLS6 in A		Rated current of the back-up fuse in A gL/gG										
		16	**20**	**25**	**35**	**40**	**50**	**63**	**80**	**100**	**125**	**160**
B-Characteristic	**2**	<0.5	<0.5	0.6	3.2	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	4	<0.5	<0.5	<0.5	1.2	1.8	3.0	4.8	7.2	6.0	6.0	6.0
	6	<0.5	<0.5	<0.5	1.1	1.6	2.6	4.0	5.8	6.0	6.0	6.0
	10		<0.5	<0.5	1.1	1.5	2.2	3.2	4.5	6.0	6.0	6.0
	13		<0.5	<0.5	1.0	1.4	2.0	2.9	4.0	6.0	6.0	6.0
	16			<0.5	0.9	1.3	1.8	2.6	3.5	6.0	6.0	6.0
	20				0.9	1.3	1.7	2.4	3.3	6.0	6.0	6.0
	25				0.9	1.1	1.6	2.3	3.1	5.5	6.0	6.0
	32				0.8	1.1	1.5	2.1	2.9	5.0	6.0	6.0
	40						1.5	2.0	2.8	4.6	6.0	6.0
	50							1.9	2.7	4.2	6.0	6.0
	63									3.9	6.0	6.0
C-Characteristic	**0.5**	0.9	2.7	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	1	0.7	2.0	1.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	2	<0.5	<0.5	0.6	2.2	4.2	6.0	6.0	6.0	6.0	6.0	6.0
	3	<0.5	<0.5	0.5	1.4	2.1	4.0	6.0	6.0	6.0	6.0	6.0
	4	<0.5	<0.5	<0.5	1.1	1.5	2.5	4.0	6.0	6.0	6.0	6.0
	6	<0.5	<0.5	<0.5	1.0	1.4	2.3	3.6	5.3	6.0	6.0	6.0
	10			<0.5	0.9	1.3	1.8	2.6	3.6	6.0	6.0	6.0
	13				0.9	1.3	1.7	2.5	3.5	6.0	6.0	6.0
	16				0.9	1.1	1.6	2.3	3.2	5.8	6.0	6.0
	20				0.8	1.1	1.5	2.1	3.0	5.3	6.0	6.0
	25						1.4	2.0	2.8	4.8	6.0	6.0
	32							1.9	2.6	4.5	6.0	6.0
	40								2.5	4.3	6.0	6.0
	50									4.0	6.0	6.0
	63										6.0	6.0

Let-through Energy CLS4

Let-through energy CLS4, characteristic B, 1-pole



Let-through energy CLS4, characteristic C, 1-pole



Determined according to EN 60898-1.

Short Circuit Selectivity CLS4

- Short circuit selectivity (in kA) between CLS4 and upstream fuse D0 NH, operating class gL/gG
- 1.4 . . selectivity up to 1.4 kA; . . . no selectivity

Selectivity towards back-up fuses D01, D02, D03

Rated current I_n of CLS4 in A		Rated current of the back-up fuse in A gL/gG								
		10	**16**	**20**	**25**	**35**	**50**	**63**	**80**	**100**
B- Characteristic	**2**	<0.5	<0.5	0.5	0.8	2.2	4.5	4.5	4.5	4.5
	4	<0.5	<0.5	<0.5	0.5	1.2	3.1	4.5	4.5	4.5
	6		<0.5	<0.5	0.5	1.2	2.7	4.5	4.5	4.5
	10			<0.5	0.5	1.1	2.3	3.6	4.5	4.5
	13			<0.5	0.5	1.0	2.0	3.1	4.3	4.5
	16				0.5	1.0	1.7	2.8	3.8	4.5
	20					0.9	1.6	2.7	3.6	4.5
	25					0.9	1.6	2.5	3.3	4.5
	32						1.6	2.3	3.0	4.5
	40							2.2	2.9	4.5
	50							2.1	2.7	4.5
	63									4.5
C- Characteristic	**0.5**	<0.5	1.1	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	1	<0.5	0.8	3.9	4.5	4.5	4.5	4.5	4.5	4.5
	2	<0.5	<0.5	0.5	0.8	1.7	4.5	4.5	4.5	4.5
	3	<0.5	<0.5	<0.5	0.6	1.3	4.3	4.5	4.5	4.5
	4	<0.5	<0.5	<0.5	0.6	1.2	2.7	4.5	4.5	4.5
	6		<0.5	<0.5	0.6	1.1	2.3	4.0	4.5	4.5
	10			<0.5	0.6	1.1	1.9	2.8	3.9	4.5
	13					1.0	1.8	2.7	3.7	4.5
	16					1.0	1.7	2.5	3.3	4.5
	20					0.9	1.6	2.3	3.1	4.5
	25						1.5	2.2	2.9	4.5
	32							2.1	2.7	4.5
	40								2.6	4.5
	50									4.5
	63									

Short Circuit Selectivity CLS4

- Short circuit selectivity (in kA) between CLS4 and upstream fuse NH, operating class gL/gG
- 1.4 . . selectivity up to 1.4 kA; . . . no selectivity

Selectivity towards back-up fuses NH Gr. 00

Rated current I_n of CLS4 in A		Rated current of the back-up fuse in A gL/gG										
		16	**20**	**25**	**35**	**40**	**50**	**63**	**80**	**100**	**125**	**160**
B- Characteristic	**2**	<0.5	<0.5	0.6	3.2	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	4	<0.5	<0.5	<0.5	1.2	1.8	3.0	4.8	7.2	4.5	4.5	4.5
	6	<0.5	<0.5	<0.5	1.1	1.6	2.6	4.0	5.8	4.5	4.5	4.5
	10		<0.5	<0.5	1.1	1.5	2.2	3.2	4.5	4.5	4.5	4.5
	13		<0.5	<0.5	1.0	1.4	2.0	2.9	4.0	4.5	4.5	4.5
	16			<0.5	0.9	1.3	1.8	2.6	3.5	4.5	4.5	4.5
	20				0.9	1.3	1.7	2.4	3.3	4.5	4.5	4.5
	25				0.9	1.1	1.6	2.3	3.1	4.5	4.5	4.5
	32				0.8	1.1	1.5	2.1	2.9	4.5	4.5	4.5
	40						1.5	2.0	2.8	4.5	4.5	4.5
	50							1.9	2.7	4.2	4.5	4.5
	63									3.9	4.5	4.5
C- Characteristic	**0.5**	0.9	2.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	1	0.7	2.0	1.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	2	<0.5	<0.5	0.6	2.2	4.2	4.5	4.5	4.5	4.5	4.5	4.5
	3	<0.5	<0.5	0.5	1.4	2.1	4.0	4.5	4.5	4.5	4.5	4.5
	4	<0.5	<0.5	<0.5	1.1	1.5	2.5	4.0	4.5	4.5	4.5	4.5
	6	<0.5	<0.5	<0.5	1.0	1.4	2.3	3.6	4.5	4.5	4.5	4.5
	10			<0.5	0.9	1.3	1.8	2.6	3.6	4.5	4.5	4.5
	13				0.9	1.3	1.7	2.5	3.5	4.5	4.5	4.5
	16				0.9	1.1	1.6	2.3	3.2	4.5	4.5	4.5
	20				0.8	1.1	1.5	2.1	3.0	4.5	4.5	4.5
	25						1.4	2.0	2.8	4.5	4.5	4.5
	32							1.9	2.6	4.5	4.5	4.5
	40								2.5	4.3	4.5	4.5
	50									4.0	4.5	4.5
	63										4.5	4.5

Miniature Circuit Breakers CLS6-DC DE

SG83111

- High-quality miniature circuit breakers for DC-applications
- Contact position indicator red - green
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 50 A
- Tripping Characteristic C
- Rated breaking capacity 6 kA acc. to IEC/EN 60898-1
- Up to 250 V DC per pole

Miniature Circuit Breakers CLS6-DC for AC/DC
Characteristic C

DE

SG83111

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
2	CLS6-C2-DC	247800	12/120
3	CLS6-C3-DC	247801	12/120
4	CLS6-C4-DC	247802	12/120
6	CLS6-C6-DC	247803	12/120
10	CLS6-C10-DC	247804	12/120
13	CLS6-C13-DC	247805	12/120
16	CLS6-C16-DC	247806	12/120
20	CLS6-C20-DC	247807	12/120
25	CLS6-C25-DC	247808	12/120
32	CLS6-C32-DC	247809	12/120
40	CLS6-C40-DC	247810	12/120
50	CLS6-C50-DC	247811	12/120

SG82611

2-pole			
2	CLS6-C2/2-DC	247812	1/60
3	CLS6-C3/2-DC	247813	1/60
4	CLS6-C4/2-DC	247814	1/60
6	CLS6-C6/2-DC	247815	1/60
10	CLS6-C10/2-DC	247816	1/60
13	CLS6-C13/2-DC	247817	1/60
16	CLS6-C16/2-DC	247818	1/60
20	CLS6-C20/2-DC	247819	1/60
25	CLS6-C25/2-DC	247820	1/60
32	CLS6-C32/2-DC	247821	1/60
40	CLS6-C40/2-DC	247822	1/60
50	CLS6-C50/2-DC	247823	1/60

Explanation CLS6:
C = XClear, LS = Miniature Circuit Breaker, 6 = 6 kA

Specifications | Miniature Circuit Breakers CLS6-DC

Description

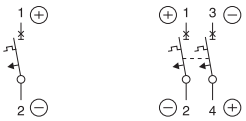
- High selectivity between MCB and back-up fuse due to low let-through energy
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Rated breaking capacity 10 kA acc. to IEC/EN 60947
- Rated voltage to 250 V (per pole), τ = 4 ms
- Take into account polarity!

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal contact for subsequent installation	ZP-NHK	248437
Remote control and automatic switching device	Z-FW/LP	248296
Shunt trip release	ZP-ASA/..	248438, 248439
Undervoltage release	Z-USA/..	248288-248291
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Additional terminal 35 mm²	Z-HA-EK/35	263960
Switching interlock	Z-IS/SPE-1TE	274418

Connection diagrams

1-pole 2-pole



Technical Data

Electrical

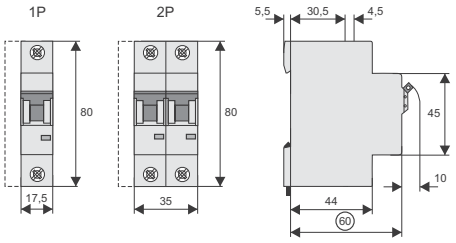
Design according to	IEC/EN 60947-2
Current test marks as printed onto the device	
Rated voltage DC	1-2 A type: 220V (per pole) 3-50 A type: 250V (per pole)
Rated breaking capacity acc. to IEC/EN 60947-2	10 kA
Characteristic	C
Back-up fuse	max. 100 A gL
Selectivity class	3
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50µs)
Endurance electrical comp.	≥ 4,000 switching op.
mechanical comp.	≥ 20,000 switching op.
Line voltage connection	optional (above/below)

Note: not for PV string protection!

Mechanical

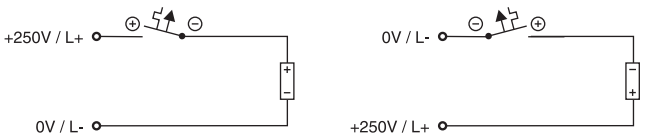
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm per pole (1MU)
Mounting	quick fastening with 3 lock-in positions on DIN rail IEC/EN 60715
Degree of protection	IP20
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity	1-25 mm²
Terminal fastening torque	2-2.4 Nm
Busbar thickness	0.8-2 mm
Mounting	independent of position

Dimensions (mm)

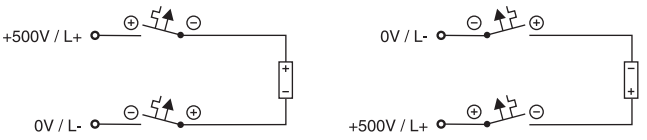


Connection examples

Connection example at 250V=, 1-pole

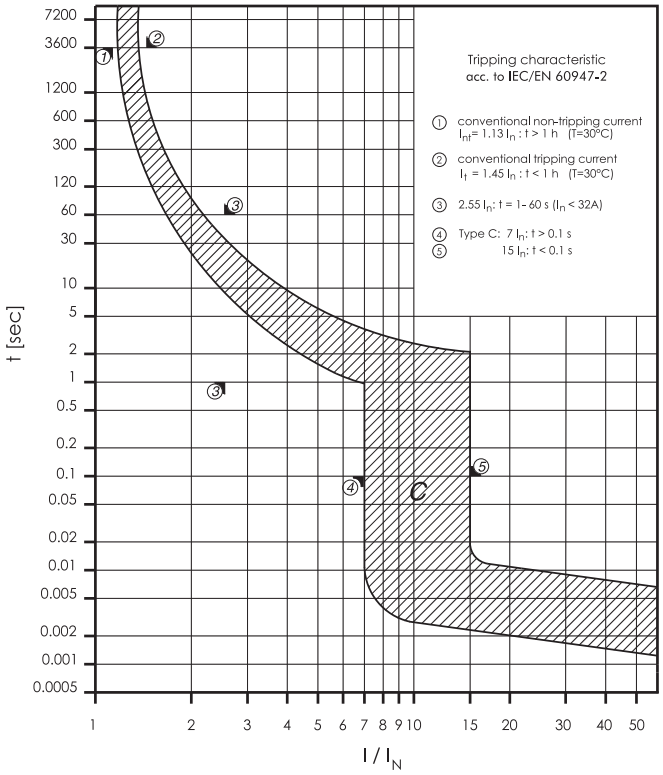


Connection example at 500V=, 2-pole



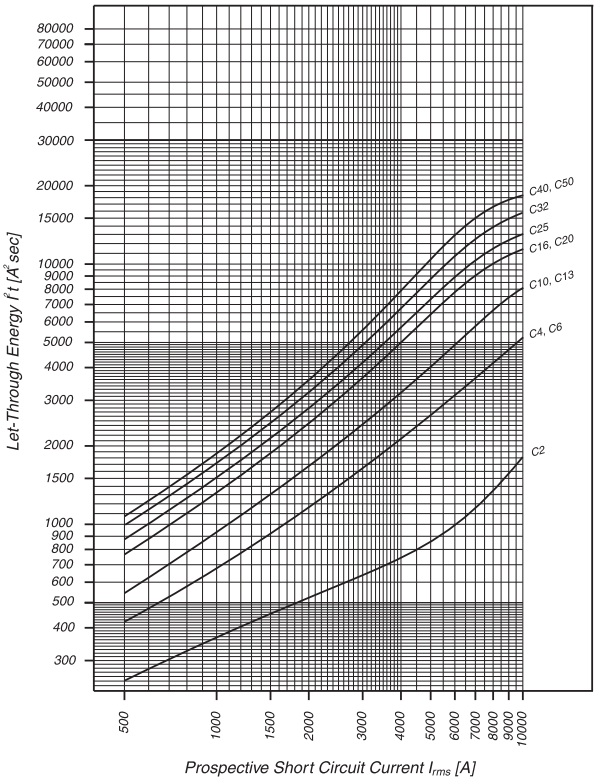
Tripping characteristic CLS6-DC

Type C



Let-through Energy CLS6-DC

Type C, 250 V d.c., τ = 5 ms (acc. to IEC/EN 60947-2)



Miniature Circuit Breakers with Plug-in Terminals PLI

SG33911

- Contact position indicator red - green
- Two plug-in terminals at the output side
- Single-wire lines can be connected without tools
- Plug-in terminals can be opened conveniently by means of a screwdriver
- Guide for secure terminal connection unten
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 16 A
- Tripping characteristics B, C, D
- Rated breaking capacity 10 kA acc. to IEC/EN 60898-1

Miniature Circuit Breakers with Plug-in Terminals at the output side PLI
10 kA, Characteristic B

SG11511

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
2	PLI-B2/1	101245	12/120
4	PLI-B4/1	101246	12/120
6	PLI-B6/1	101247	12/120
8	PLI-B8/1	101248	12/120
10	PLI-B10/1	101249	12/120
13	PLI-B13/1	101250	12/120
16	PLI-B16/1	101251	12/120

SG20011

1+N-pole 2MU			
2	PLI-B2/1N	101266	1/60
4	PLI-B4/1N	101267	1/60
6	PLI-B6/1N	101268	1/60
8	PLI-B8/1N	101269	1/60
10	PLI-B10/1N	101270	1/60
13	PLI-B13/1N	101271	1/60
16	PLI-B16/1N	101272	1/60

SG19511

2-pole			
2	PLI-B2/2	101287	1/60
4	PLI-B4/2	101288	1/60
6	PLI-B6/2	101289	1/60
8	PLI-B8/2	101290	1/60
10	PLI-B10/2	101291	1/60
13	PLI-B13/2	101292	1/60
16	PLI-B16/2	101293	1/60

SG33911

3-pole			
2	PLI-B2/3	101308	1/40
4	PLI-B4/3	101309	1/40
6	PLI-B6/3	101310	1/40
8	PLI-B8/3	101311	1/40
10	PLI-B10/3	101312	1/40
13	PLI-B13/3	101313	1/40
16	PLI-B16/3	101314	1/40

SG19211

3+N-pole			
2	PLI-B2/3N	101329	1/30
4	PLI-B4/3N	101330	1/30
6	PLI-B6/3N	101331	1/30
8	PLI-B8/3N	101332	1/30
10	PLI-B10/3N	101333	1/30
13	PLI-B13/3N	101334	1/30
16	PLI-B16/3N	101335	1/30

SG39011

4-pole			
2	PLI-B2/4	101350	1/30
4	PLI-B4/4	101351	1/30
6	PLI-B6/4	101352	1/30
8	PLI-B8/4	101353	1/30
10	PLI-B10/4	101354	1/30
13	PLI-B13/4	101355	1/30
16	PLI-B16/4	101356	1/30

Explanation PLI:
P = XPole, L = Miniature Circuit Breaker, I = 10 kA, Plug-in Terminals

Miniature Circuit Breakers with Plug-in Terminals at the output side PLI
10 kA, Characteristic C

SG11511

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
2	PLI-C2/1	101252	12/120
4	PLI-C4/1	101253	12/120
6	PLI-C6/1	101254	12/120
8	PLI-C8/1	101255	12/120
10	PLI-C10/1	101256	12/120
13	PLI-C13/1	101257	12/120
16	PLI-C16/1	101258	12/120

SG20011

1+N-pole 2MU			
2	PLI-C2/1N	101273	1/60
4	PLI-C4/1N	101274	1/60
6	PLI-C6/1N	101275	1/60
8	PLI-C8/1N	101276	1/60
10	PLI-C10/1N	101277	1/60
13	PLI-C13/1N	101278	1/60
16	PLI-C16/1N	101279	1/60

SG19511

2-pole			
2	PLI-C2/2	101294	1/60
4	PLI-C4/2	101295	1/60
6	PLI-C6/2	101296	1/60
8	PLI-C8/2	101297	1/60
10	PLI-C10/2	101298	1/60
13	PLI-C13/2	101299	1/60
16	PLI-C16/2	101300	1/60

SG33911

3-pole			
2	PLI-C2/3	101315	1/40
4	PLI-C4/3	101316	1/40
6	PLI-C6/3	101317	1/40
8	PLI-C8/3	101318	1/40
10	PLI-C10/3	101319	1/40
13	PLI-C13/3	101320	1/40
16	PLI-C16/3	101321	1/40

SG19211

3+N-pole			
2	PLI-C2/3N	101336	1/30
4	PLI-C4/3N	101337	1/30
6	PLI-C6/3N	101338	1/30
8	PLI-C8/3N	101339	1/30
10	PLI-C10/3N	101340	1/30
13	PLI-C13/3N	101341	1/30
16	PLI-C16/3N	101342	1/30

SG39011

4-pole			
2	PLI-C2/4	101357	1/30
4	PLI-C4/4	101358	1/30
6	PLI-C6/4	101359	1/30
8	PLI-C8/4	101360	1/30
10	PLI-C10/4	101361	1/30
13	PLI-C13/4	101362	1/30
16	PLI-C16/4	101363	1/30

Explanation PLI:
P = XPole, L = Miniature Circuit Breaker, I = 10 kA, Plug-in Terminals

Miniature Circuit Breakers with Plug-in Terminals at the output side PLI
10 kA, Characteristic D

SG11511

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
2	PLI-D2/1	101259	12/120
4	PLI-D4/1	101260	12/120
6	PLI-D6/1	101261	12/120
8	PLI-D8/1	101262	12/120
10	PLI-D10/1	101263	12/120
13	PLI-D13/1	101264	12/120
16	PLI-D16/1	101265	12/120

SG20011

1+N-pole 2MU			
2	PLI-D2/1N	101280	1/60
4	PLI-D4/1N	101281	1/60
6	PLI-D6/1N	101282	1/60
8	PLI-D8/1N	101283	1/60
10	PLI-D10/1N	101284	1/60
13	PLI-D13/1N	101285	1/60
16	PLI-D16/1N	101286	1/60

SG19511

2-pole			
2	PLI-D2/2	101301	1/60
4	PLI-D4/2	101302	1/60
6	PLI-D6/2	101303	1/60
8	PLI-D8/2	101304	1/60
10	PLI-D10/2	101305	1/60
13	PLI-D13/2	101306	1/60
16	PLI-D16/2	101307	1/60

SG33911

3-pole			
2	PLI-D2/3	101322	1/40
4	PLI-D4/3	101323	1/40
6	PLI-D6/3	101324	1/40
8	PLI-D8/3	101325	1/40
10	PLI-D10/3	101326	1/40
13	PLI-D13/3	101327	1/40
16	PLI-D16/3	101328	1/40

SG19211

3+N-pole			
2	PLI-D2/3N	101343	1/30
4	PLI-D4/3N	101344	1/30
6	PLI-D6/3N	101345	1/30
8	PLI-D8/3N	101346	1/30
10	PLI-D10/3N	101347	1/30
13	PLI-D13/3N	101348	1/30
16	PLI-D16/3N	101349	1/30

SG39011

4-pole			
2	PLI-D2/4	101364	1/30
4	PLI-D4/4	101365	1/30
6	PLI-D6/4	101366	1/30
8	PLI-D8/4	101367	1/30
10	PLI-D10/4	101368	1/30
13	PLI-D13/4	101369	1/30
16	PLI-D16/4	101370	1/30

Explanation PLI:
P = XPole, L = Miniature Circuit Breaker, I = 10 kA, Plug-in Terminals

Specifications | Miniature Circuit Breakers with Plug-in Terminals PLI

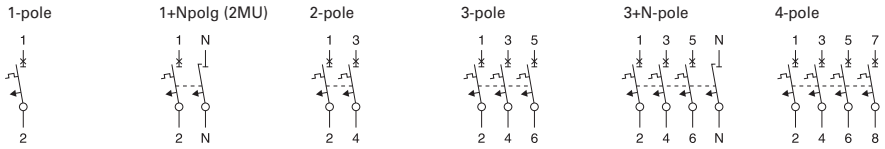
Description

- High selectivity between MCB and back-up fuse due to low let-through energy
- Plug-in terminals above (at the output side)
- Two terminal points per pole
- Single-wire lines can be connected without tools
- The conductor can be removed from the plug-in terminal and single- or fine-wire lines can be connected by means of a screwdriver DIN 5264 Type A and Type B (maximum blade width 3 mm)
- Twin-purpose terminal (lift/open-mouthed) below
- Compatible with standard busbar below
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Suitable for applications up to 48 V DC

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal contact for subsequent installation	ZP-NHK	248437
Remote control and automatic switching device	Z-FW/LP	248296
Shunt trip release	ZP-ASA/..	248438, 248439
Undervoltage release	Z-USA/..	248288-248291
Compact enclosure	KLV-TC-2	276240
	KLV-TC-4	276241
Additional terminal 35 mm²	Z-HA-EK/35	263960
Switching interlock	Z-IS/SPE-1TE	274418

Connection diagrams



Technical Data

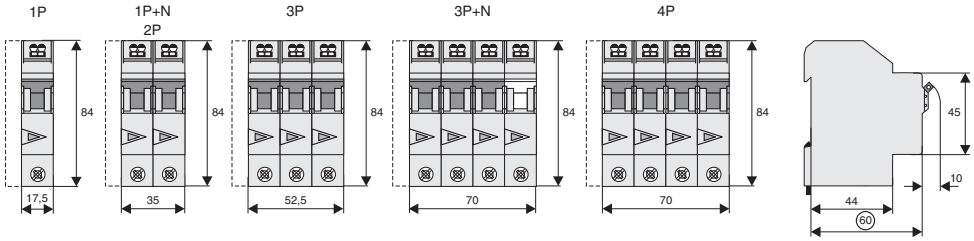
Electrical

Design according to	IEC/EN 60898-1
Current test marks as printed onto the device	
Rated voltage	AC: 230/400V DC: 48V (per pole)
Rated frequency	50/60 Hz
Rated breaking capacity acc. to IEC/EN 60898-1	10 kA
Characteristic	B, C, D
Back-up fuse	max. 125 A gL
Selectivity class	3
Endurance	≥ 8,000 switching op.
Line voltage connection	below

Mechanical

Frame size	45 mm
Device height	84 mm
Device width	17.5 mm per pole (1MU)
Mounting	quick fastening with 3 lock-in positions on DIN rail IEC/EN60715
Degree of protection	IP20
Upper terminals	twin plug-in terminals
Lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Upper terminal capacity	1-4 mm², with wire end sleeve 1-2.5 mm²
Lower terminal capacity	1-25 mm²
Terminal fastening torque	2-2.4 Nm
Busbar thickness	0.8-2 mm
Mounting	independent of position

Dimensions (mm)



Miniature Circuit Breakers PLN6

MW

SG14511

- Top-quality miniature circuit breakers 1P+N with a width of 1 module unit requiring little space for installation
- Contact position indicator red - green
- Guide for secure terminal connection
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 6 kA acc. to IEC/EN 60898-1

Miniature Circuit Breakers PLN6

MW

6 kA, 1+N-pole

SG14511

Rated current I_n (A)	Type Designation	Article No.	Units per package
Characteristic B			
6	PLN6-B6/1N	263161	12/120
10	PLN6-B10/1N	263162	12/120
13	PLN6-B13/1N	263163	12/120
16	PLN6-B16/1N	263164	12/120
20	PLN6-B20/1N	263165	12/120
25	PLN6-B25/1N	263166	12/120
32	PLN6-B32/1N	263167	12/120
40	PLN6-B40/1N	263168	12/120

SG14511

Characteristic C			
2	PLN6-C2/1N	263169	12/120
4	PLN6-C4/1N	263170	12/120
6	PLN6-C6/1N	263171	12/120
10	PLN6-C10/1N	263172	12/120
13	PLN6-C13/1N	263173	12/120
16	PLN6-C16/1N	263174	12/120
20	PLN6-C20/1N	263175	12/120
25	PLN6-C25/1N	263176	12/120
32	PLN6-C32/1N	263177	12/120
40	PLN6-C40/1N	263178	12/120

Explanation PLN6:
P = XPole, **LN =** Miniature Circuit Breakers 1P+N, 1MU, **6 =** 6 kA

Miniature Circuit Breakers PLN4

MW

SG15711

- Top-quality miniature circuit breakers 1P+N with a width of 1 module unit requiring little space for installation
- Contact position indicator red - green
- Guide for secure terminal connection
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 4.5 kA acc. to IEC/EN 60898-1

Miniature Circuit Breakers PLN4

MW

4.5 kA, 1+N-pole

SG15711

Rated current I_n (A)	Type Designation	Article No.	Units per package
Characteristic B			
6	PLN4-B6/1N	263179	12/120
10	PLN4-B10/1N	263180	12/120
13	PLN4-B13/1N	263181	12/120
16	PLN4-B16/1N	263182	12/120
20	PLN4-B20/1N	263183	12/120
25	PLN4-B25/1N	263184	12/120
32	PLN4-B32/1N	263185	12/120
40	PLN4-B40/1N	263186	12/120

SG15711

Characteristic C			
2	PLN4-C2/1N	263187	12/120
4	PLN4-C4/1N	263188	12/120
6	PLN4-C6/1N	263189	12/120
10	PLN4-C10/1N	263190	12/120
13	PLN4-C13/1N	263191	12/120
16	PLN4-C16/1N	263192	12/120
20	PLN4-C20/1N	263193	12/120
25	PLN4-C25/1N	263194	12/120
32	PLN4-C32/1N	263195	12/120
40	PLN4-C40/1N	263196	12/120

Explanation PLN4:
P = XPole, **LN =** Miniature Circuit Breakers 1P+N, 1MU, **4 =** 4.5 kA

Specifications | Miniature Circuit Breakers PLN6, PLN4

Description

- High selectivity between MCB and back-up fuse due to low let-through energy
- Busbar positioning optionally above or below
- Compatible with standard busbar
- Switching toggle in colour designating the rated current
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- 1-pole breaking capacity $I_{cn\ 1}$ = 3 kA

Accessories:

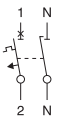
Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal contact for subsequent installation	ZP-NHK	248437
Remote control and automatic switching device	Z-FW/LP	248296
Shunt trip release	ZP-ASA/..	248438, 248439
Undervoltage release	Z-USA/..	248288-248291
Compact enclosure	KLV-TC-2	276240

Busbars:

see capter busbar systems

Connection diagram

1+N-pole



Technical Data

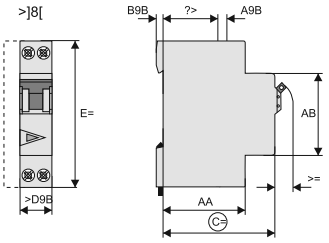
Electrical

Design according to	IEC/EN 60898-1
Current test marks as printed onto the device	
Rated voltage	230 VAC
Rated frequency	50/60 Hz
Rated breaking capacity	
PLN6	6 kA
PLN4	4.5 kA
Characteristic	B, C
Back-up fuse	
>6 kA	max. 100 A gL/gG
>4.5 kA	max. 80 A gL/gG
Selectivity class	3
Endurance	≥ 8,000 switching op.

Mechanical

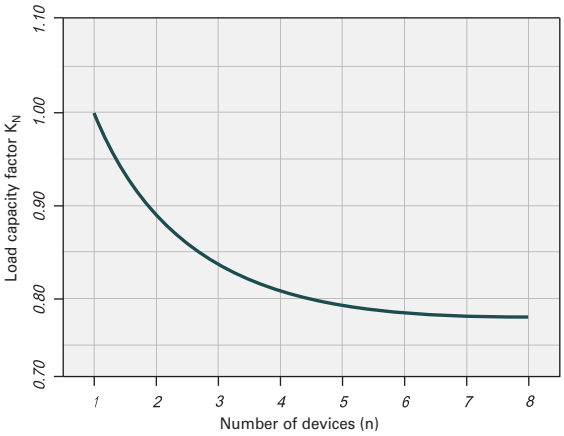
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm (1MU for 1+N)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection	IP20
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity	1 - 16 mm²

Dimensions (mm)

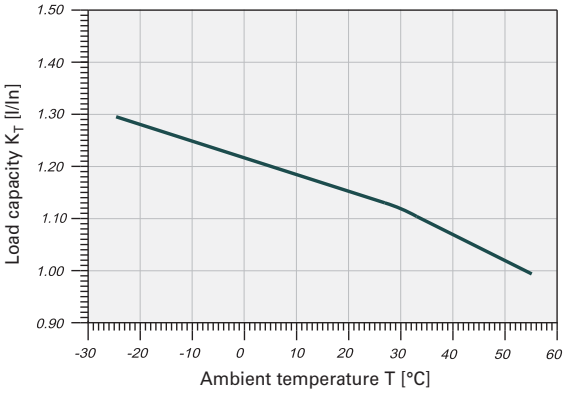


Load capacity PLN6

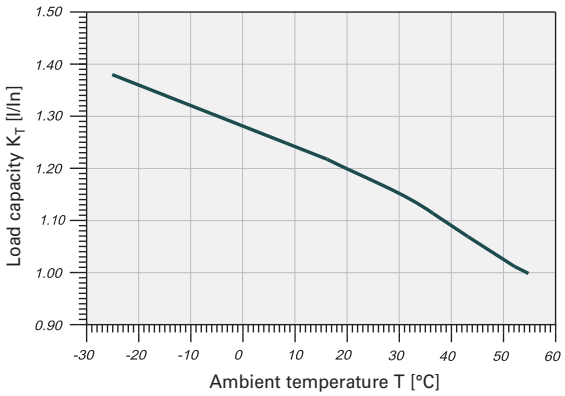
Load capacity in case of MCB block installation



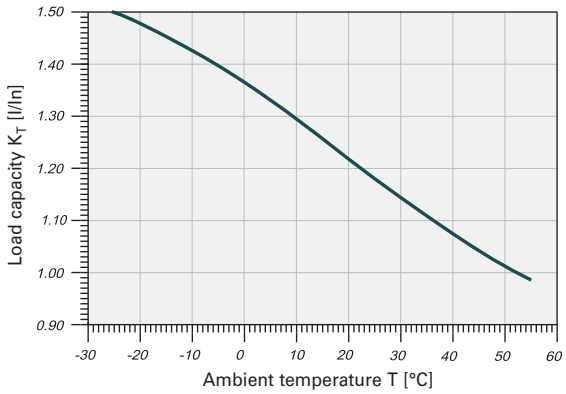
Current carrying capacity at ambient temperature (I_n = 2-13 A)



Current carrying capacity at ambient temperature (I_n = 16-25 A)



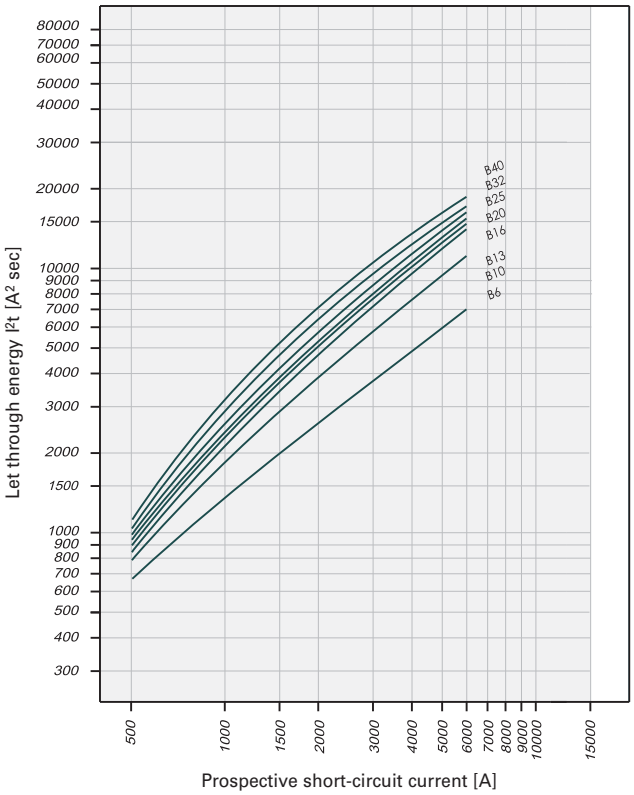
Current carrying capacity at ambient temperature (I_n = 32, 40 A)



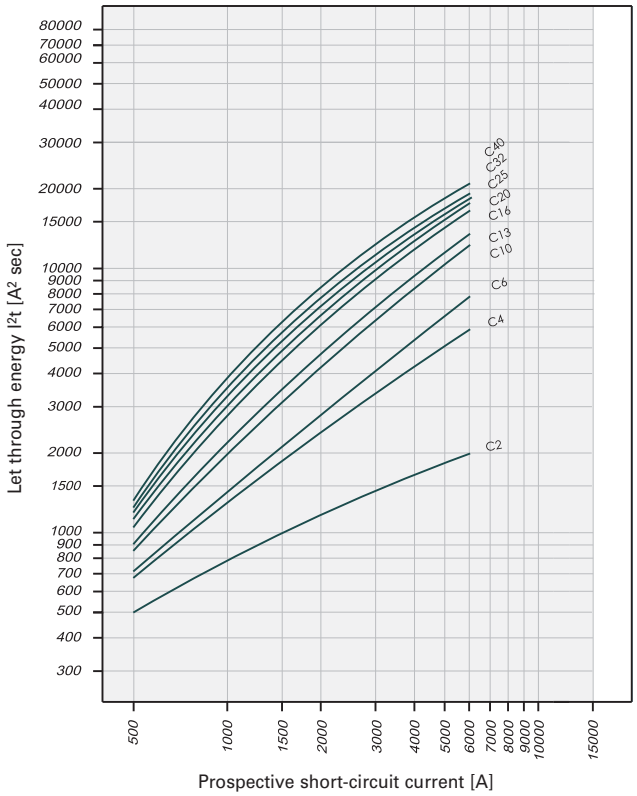
Permitted permanent load at ambient temperature T (°C) with n devices: $I_{DL} = I_n K_T(T) K_N(N)$.

Let-through energy PLN6

Maximum let-through energy PLN6, characteristic B



Maximum let-through energy PLN6, characteristic C



Detemined according to EN 60898-1.

Short Circuit Selectivity PLN6

In case of short circuit, there is selectivity between the miniature circuit breakers PLN6-.../B,C and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **PLN6-B/C** towards fuse link **DII-DIV***)

	DII-DIV gL/gG						
	20	**25**	**35**	**50**	**63**	**80**	**100**
PLN6-B6/1N	0.7	1.2	2.9	4.5	6.0[2])	6.0[2])	6.0[2])
PLN6-B10/1N	0.6	0.9	1.9	3.1	5.7	6.0[2])	6.0[2])
PLN6-B13/1N	0.5	0.7	1.5	2.5	4.5	6.0[2])	6.0[2])
PLN6-B16/1N	0.5	0.7	1.4	2.3	4.3	6.0[2])	6.0[2])
PLN6-B20/1N	0.5	0.7	1.4	2.2	4.0	6.0[2])	6.0[2])
PLN6-B25/1N	0.5	0.6	1.3	2.0	3.8	5.8	6.0[2])
PLN6-B32/1N	0.5	0.6	1.2	1.8	3.4	5.5	6.0[2])
PLN6-B40/1N	<0.5[1])	0.6	1.1	1.7	3.1	5.0	6.0[2])
PLN6-C2/1N	1.5	3.8	6.0[2])	6.0[2])	6.0[2])	6.0[2])	6.0[2])
PLN6-C4/1N	0.7	1.2	3.3	6.0[2])	6.0[2])	6.0[2])	6.0[2])
PLN6-C6/1N	0.7	1.1	2.6	4.5	6.0[2])	6.0[2])	6.0[2])
PLN6-C10/1N	0.5	0.8	1.7	2.8	5.2	6.0[2])	6.0[2])
PLN6-C13/1N	0.5	0.7	1.5	2.5	4.5	6.0[2])	6.0[2])
PLN6-C16/1N	0.5	0.6	1.2	2.0	3.6	5.6	6.0[2])
PLN6-C20/1N	0.5	0.6	1.2	1.8	3.3	5.1	6.0[2])
PLN6-C25/1N	<0.5[1])	0.6	1.1	1.7	3.0	4.8	6.0[2])
PLN6-C32/1N	<0.5[1])	0.6	1.0	1.6	2.8	4.5	6.0[2])
PLN6-C40/1N	<0.5[1])	0.6	1.0	1.5	2.6	4.0	6.0[2])

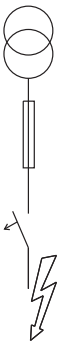
Short circuit selectivity **PLN6-B/C** towards fuse link **D01-D03***)

	D01-D03 gL/gG						
	20	**25**	**35**	**50**	**63**	**80**	**100**
PLN6-B6/1N	0.6	0.9	2.5	5.5	6.0[2])	6.0[2])	6.0[2])
PLN6-B10/1N	0.5	0.8	1.6	3.4	5.0	6.0[2])	6.0[2])
PLN6-B13/1N	0.5	0.7	1.3	2.7	4.0	6.0[2])	6.0[2])
PLN6-B16/1N	0.5	0.6	1.3	2.5	3.8	6.0[2])	6.0[2])
PLN6-B20/1N	<0.5[1])	0.6	1.3	2.4	3.6	6.0[2])	6.0[2])
PLN6-B25/1N	<0.5[1])	0.6	1.2	2.3	3.3	5.8	6.0[2])
PLN6-B32/1N	<0.5[1])	0.6	1.1	2.1	3.0	5.5	6.0[2])
PLN6-B40/1N	<0.5[1])	0.6	1.0	2.0	2.8	4.9	6.0[2])
PLN6-C2/1N	1.1	2.0	6.0[2])	6.0[2])	6.0[2])	6.0[2])	6.0[2])
PLN6-C4/1N	0.6	0.9	2.7	6.0[2])	6.0[2])	6.0[2])	6.0[2])
PLN6-C6/1N	0.6	0.9	2.3	5.0	6.0[2])	6.0[2])	6.0[2])
PLN6-C10/1N	0.5	0.7	1.5	3.0	4.5	6.0[2])	6.0[2])
PLN6-C13/1N	0.5	0.7	1.3	2.7	4.0	6.0[2])	6.0[2])
PLN6-C16/1N	<0.5[1])	0.6	1.1	2.2	3.1	5.5	6.0[2])
PLN6-C20/1N	<0.5[1])	0.6	1.1	2.1	2.9	5.2	6.0[2])
PLN6-C25/1N	<0.5[1])	0.5	1.0	2.0	2.7	4.8	6.0[2])
PLN6-C32/1N	<0.5[1])	0.5	1.0	1.9	2.6	4.5	6.0[2])
PLN6-C40/1N	<0.5[1])	0.5	0.9	1.7	2.3	4.0	6.0[2])

Short circuit selectivity **PLN6-B/C** towards fuse link **NH-00***)

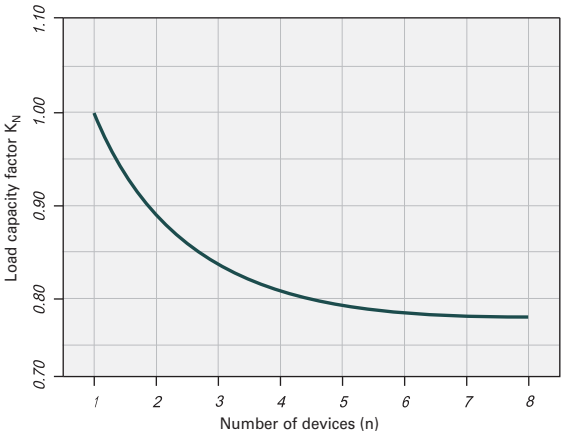
	NH-00 gL/gG								
	20	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**
PLN6-B6/1N	0.5	0.9	1.5	2.3	3.2	4.9	6.0[2])	6.0[2])	6.0[2])
PLN6-B10/1N	<0.5[1])	0.7	1.2	1.5	2.0	3.1	3.9	5.9	6.0[2])
PLN6-B13/1N	<0.5[1])	0.6	1.0	1.3	1.7	2.5	3.1	4.6	6.0[2])
PLN6-B16/1N	<0.5[1])	0.6	1.0	1.3	1.6	2.4	2.9	4.5	6.0[2])
PLN6-B20/1N	<0.5[1])	0.5	0.9	1.3	1.5	2.3	2.8	4.3	6.0[2])
PLN6-B25/1N	<0.5[1])	0.5	0.9	1.1	1.4	2.1	2.6	4.0	6.0[2])
PLN6-B32/1N	<0.5[1])	0.5	0.8	1.0	1.3	1.9	2.4	3.6	6.0[2])
PLN6-B40/1N	<0.5[1])	0.5	0.8	0.9	1.1	1.7	2.2	3.3	6.0[2])
PLN6-C2/1N	0.7	2.1	6.0	6.0[2])	6.0[2])	6.0[2])	6.0[2])	6.0[2])	6.0[2])
PLN6-C4/1N	0.5	0.9	1.6	2.6	3.7	6.0	6.0[2])	6.0[2])	6.0[2])
PLN6-C6/1N	0.5	0.8	1.4	2.1	2.9	4.5	5.7	6.0[2])	6.0[2])
PLN6-C10/1N	<0.5[1])	0.6	1.0	1.4	1.9	2.8	3.5	5.2	6.0[2])
PLN6-C13/1N	<0.5[1])	0.6	0.9	1.3	1.7	2.5	3.1	4.7	6.0[2])
PLN6-C16/1N	<0.5[1])	0.5	0.7	1.0	1.3	2.0	2.5	3.8	6.0[2])
PLN6-C20/1N	<0.5[1])	0.5	0.7	0.9	1.2	1.8	2.3	3.5	6.0[2])
PLN6-C25/1N	<0.5[1])	0.5	0.7	0.9	1.1	1.6	2.1	3.3	6.0[2])
PLN6-C32/1N	<0.5[1])	<0.5[1])	0.6	0.8	1.1	1.5	2.0	3.1	6.0[2])
PLN6-C40/1N	<0.5[1])	<0.5[1])	0.6	0.8	1.0	1.4	1.9	2.9	6.0[2])

[1]) Selectivity limit current I_s under 0.5 kA
[2]) Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

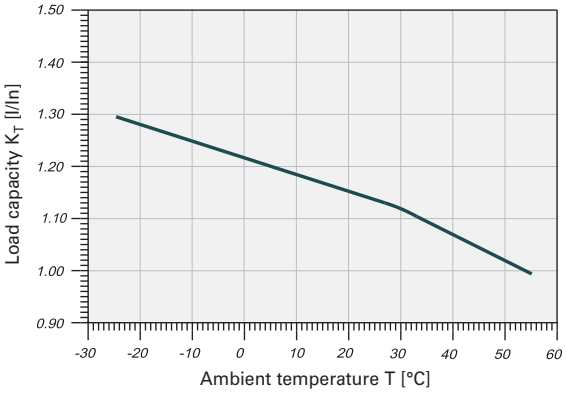


Load capacity PLN4

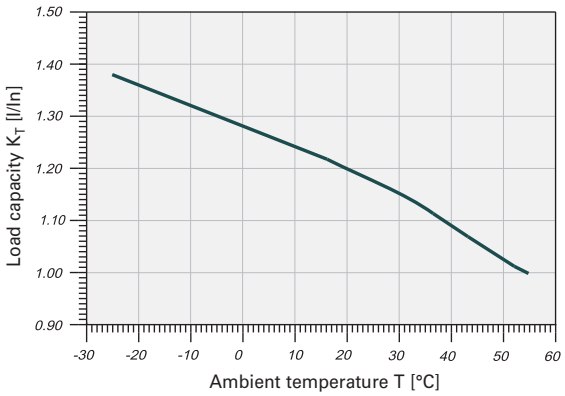
Load capacity in case of MCB block installation



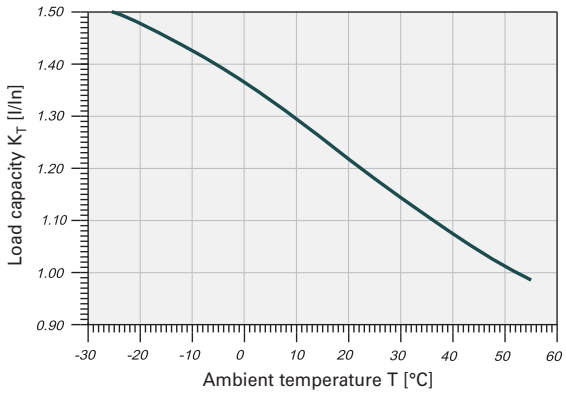
Current carrying capacity at ambient temperature (I_n = 2-13 A)



Current carrying capacity at ambient temperature (I_n = 16-25 A)



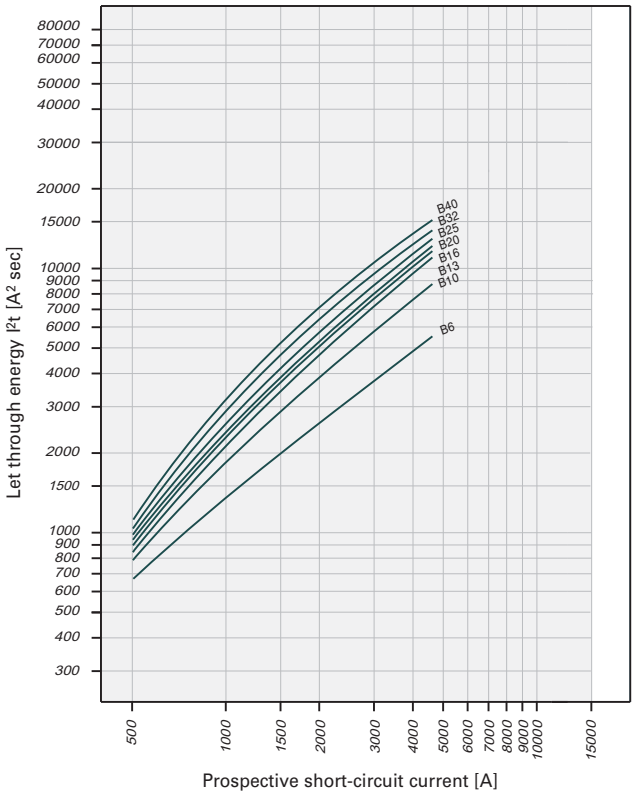
Current carrying capacity at ambient temperature (I_n = 32, 40 A)



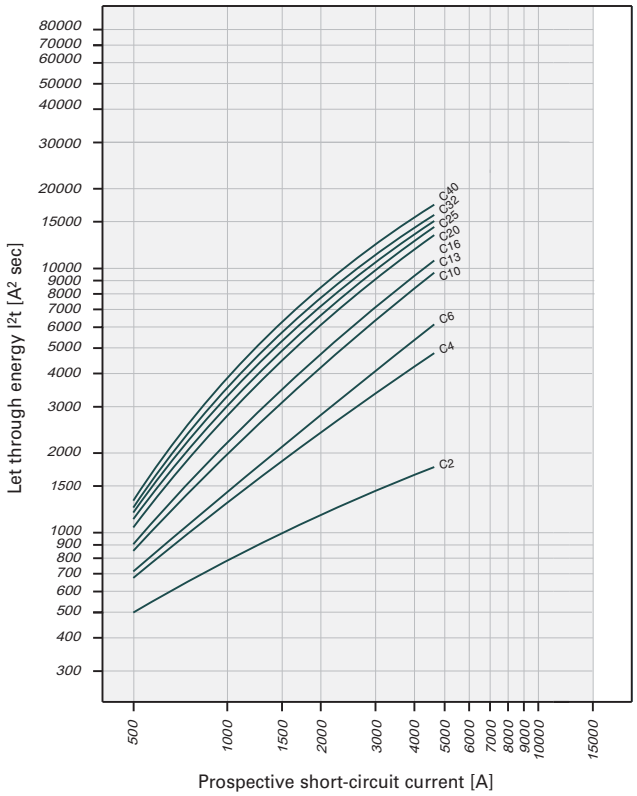
Permitted permanent load at ambient temperature T (°C) with n devices: $I_{DL} = I_n K_T(T) K_N(N)$.

Let-through energy PLN4

Maximum let-through energy PLN4, characteristic B



Maximum let-through energy PLN4, characteristic C



Detemined according to EN 60898-1.

Short Circuit Selectivity PLN4

In case of short circuit, there is selectivity between the miniature circuit breakers PLN4-.../B,C and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).
*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **PLN4-B/C** towards fuse link **DII-DIV***)

	DII-DIV gL/gG						
	20	**25**	**35**	**50**	**63**	**80**	**100**
PLN4-B6/1N	0.7	1.2	2.9	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-B10/1N	0.6	0.9	1.9	3.1	4.5[2])	4.5[2])	4.5[2])
PLN4-B13/1N	0.5	0.7	1.5	2.5	4.5[2])	4.5[2])	4.5[2])
PLN4-B16/1N	0.5	0.7	1.4	2.3	4.3	4.5[2])	4.5[2])
PLN4-B20/1N	0.5	0.7	1.4	2.2	4.0	4.5[2])	4.5[2])
PLN4-B25/1N	0.5	0.6	1.3	2.0	3.8	4.5[2])	4.5[2])
PLN4-B32/1N	0.5	0.6	1.2	1.8	3.4	4.5[2])	4.5[2])
PLN4-B40/1N	<0.5[1])	0.6	1.1	1.7	3.1	4.5[2])	4.5[2])
PLN4-C2/1N	1.5	3.8	4.5[2])	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-C4/1N	0.7	1.2	3.3	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-C6/1N	0.7	1.1	2.6	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-C10/1N	0.5	0.8	1.7	2.8	4.5[2])	4.5[2])	4.5[2])
PLN4-C13/1N	0.5	0.7	1.5	2.5	4.5[2])	4.5[2])	4.5[2])
PLN4-C16/1N	0.5	0.6	1.2	2.0	3.6	4.5[2])	4.5[2])
PLN4-C20/1N	0.5	0.6	1.2	1.8	3.3	4.5[2])	4.5[2])
PLN4-C25/1N	<0.5[1])	0.6	1.1	1.7	3.0	4.5[2])	4.5[2])
PLN4-C32/1N	<0.5[1])	0.6	1.0	1.6	2.8	4.5[2])	4.5[2])
PLN4-C40/1N	<0.5[1])	0.6	1.0	1.5	2.6	4.0	4.5[2])

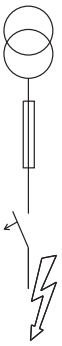
Short circuit selectivity **PLN4-B/C** towards fuse link **D01-D03***)

	D01-D03 gL/gG						
	20	**25**	**35**	**50**	**63**	**80**	**100**
PLN4-B6/1N	0.6	0.9	2.5	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-B10/1N	0.5	0.8	1.6	3.4	4.5[2])	4.5[2])	4.5[2])
PLN4-B13/1N	0.5	0.7	1.3	2.7	4.0	4.5[2])	4.5[2])
PLN4-B16/1N	0.5	0.6	1.3	2.5	3.8	4.5[2])	4.5[2])
PLN4-B20/1N	<0.5[1])	0.6	1.3	2.4	3.6	4.5[2])	4.5[2])
PLN4-B25/1N	<0.5[1])	0.6	1.2	2.3	3.3	4.5[2])	4.5[2])
PLN4-B32/1N	<0.5[1])	0.6	1.1	2.1	3.0	4.5[2])	4.5[2])
PLN4-B40/1N	<0.5[1])	0.6	1.0	2.0	2.8	4.5[2])	4.5[2])
PLN4-C2/1N	1.1	2.0	4.5[2])	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-C4/1N	0.6	0.9	2.7	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-C6/1N	0.6	0.9	2.3	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-C10/1N	0.5	0.7	1.5	3.0	4.5[2])	4.5[2])	4.5[2])
PLN4-C13/1N	0.5	0.7	1.3	2.7	4.0	4.5[2])	4.5[2])
PLN4-C16/1N	<0.5[1])	0.6	1.1	2.2	3.1	4.5[2])	4.5[2])
PLN4-C20/1N	<0.5[1])	0.6	1.1	2.1	2.9	4.5[2])	4.5[2])
PLN4-C25/1N	<0.5[1])	0.5	1.0	2.0	2.7	4.5[2])	4.5[2])
PLN4-C32/1N	<0.5[1])	0.5	1.0	1.9	2.6	4.5[2])	4.5[2])
PLN4-C40/1N	<0.5[1])	0.5	0.9	1.7	2.3	4.0	4.5[2])

Short circuit selectivity **PLN6-B/C** towards fuse link **NH-00***)

	NH-00 gL/gG								
	20	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**
PLN4-B6/1N	0.5	0.9	1.5	2.3	3.2	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-B10/1N	<0.5[1])	0.7	1.2	1.5	2.0	3.1	3.9	4.5[2])	4.5[2])
PLN4-B13/1N	<0.5[1])	0.6	1.0	1.3	1.7	2.5	3.1	4.5[2])	4.5[2])
PLN4-B16/1N	<0.5[1])	0.6	1.0	1.3	1.6	2.4	2.9	4.5[2])	4.5[2])
PLN4-B20/1N	<0.5[1])	0.5	0.9	1.3	1.5	2.3	2.8	4.3	4.5[2])
PLN4-B25/1N	<0.5[1])	0.5	0.9	1.1	1.4	2.1	2.6	4.0	4.5[2])
PLN4-B32/1N	<0.5[1])	0.5	0.8	1.0	1.3	1.9	2.4	3.6	4.5[2])
PLN4-B40/1N	<0.5[1])	0.5	0.8	0.9	1.1	1.7	2.2	3.3	4.5[2])
PLN4-C2/1N	0.7	2.1	4.5[2])	4.5[2])	4.5[2])	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-C4/1N	0.5	0.9	1.6	2.6	3.7	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-C6/1N	0.5	0.8	1.4	2.1	2.9	4.5[2])	4.5[2])	4.5[2])	4.5[2])
PLN4-C10/1N	<0.5[1])	0.6	1.0	1.4	1.9	2.8	3.5	4.5[2])	4.5[2])
PLN4-C13/1N	<0.5[1])	0.6	0.9	1.3	1.7	2.5	3.1	4.5[2])	4.5[2])
PLN4-C16/1N	<0.5[1])	0.5	0.7	1.0	1.3	2.0	2.5	3.8	4.5[2])
PLN4-C20/1N	<0.5[1])	0.5	0.7	0.9	1.2	1.8	2.3	3.5	4.5[2])
PLN4-C25/1N	<0.5[1])	0.5	0.7	0.9	1.1	1.6	2.1	3.3	4.5[2])
PLN4-C32/1N	<0.5[1])	<0.5[1])	0.6	0.8	1.1	1.5	2.0	3.1	4.5[2])
PLN4-C40/1N	<0.5[1])	<0.5[1])	0.6	0.8	1.0	1.4	1.9	2.9	4.5[2])

[1]) Selectivity limit current I_s under 0.5 kA
[2]) Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB



Miniature Circuit Breakers PLHT

SG43611

- High-quality miniature circuit breakers for commercial and industrial applications
- Contact position indicator red - green
- Accessories suitable for subsequent installation
- Rated currents up to 125 A
- Tripping characteristics B, C, D
- Rated breaking capacity to 25 kA acc. to EN 60947-2

Miniature Circuit Breakers PLHT
Characteristic B

SG41311

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
20	PLHT-B20	247972	12
25	PLHT-B25	247973	12
32	PLHT-B32	247974	12
40	PLHT-B40	247975	12
50	PLHT-B50	247976	12
63	PLHT-B63	247977	12
80	PLHT-B80	247978	12
100	PLHT-B100	247979	12
125	PLHT-B125	247980	12

SG42111

2-pole			
20	PLHT-B20/2	247998	6
25	PLHT-B25/2	247999	6
32	PLHT-B32/2	248000	6
40	PLHT-B40/2	248001	6
50	PLHT-B50/2	248002	6
63	PLHT-B63/2	248003	6
80	PLHT-B80/2	248004	6
100	PLHT-B100/2	248005	6
125	PLHT-B125/2	248006	6

SG42911

3-pole			
20	PLHT-B20/3	248024	4
25	PLHT-B25/3	248025	4
32	PLHT-B32/3	248026	4
40	PLHT-B40/3	248027	4
50	PLHT-B50/3	248028	4
63	PLHT-B63/3	248029	4
80	PLHT-B80/3	248030	4
100	PLHT-B100/3	248031	4
125	PLHT-B125/3	248032	4

SG45111

3+N-pole			
20	PLHT-B20/3N	248050	3
25	PLHT-B25/3N	248051	3
32	PLHT-B32/3N	248052	3
40	PLHT-B40/3N	248053	3
50	PLHT-B50/3N	248054	3
63	PLHT-B63/3N	248055	3
80	PLHT-B80/3N	248056	3
100	PLHT-B100/3N	248057	3
125	PLHT-B125/3N	248058	3

SG44811

4-pole			
20	PLHT-B20/4	248076	3
25	PLHT-B25/4	248077	3
32	PLHT-B32/4	248078	3
40	PLHT-B40/4	248079	3
50	PLHT-B50/4	248080	3
63	PLHT-B63/4	248081	3
80	PLHT-B80/4	248082	3
100	PLHT-B100/4	248083	3
125	PLHT-B125/4	248084	3

Explanation PLHT:
P = XPole, LH = Miniature Circuit Breakers hochwertig, T = Rated breaking capacity 15, 20, 25 kA

Miniature Circuit Breakers PLHT
Characteristic C

SG41311

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
20	PLHT-C20	247981	12
25	PLHT-C25	247982	12
32	PLHT-C32	247983	12
40	PLHT-C40	247984	12
50	PLHT-C50	247985	12
63	PLHT-C63	247986	12
80	PLHT-C80	247987	12
100	PLHT-C100	247988	12
125	PLHT-C125	247989	12

SG42111

2-pole

20	PLHT-C20/2	248007	6
25	PLHT-C25/2	248008	6
32	PLHT-C32/2	248009	6
40	PLHT-C40/2	248010	6
50	PLHT-C50/2	248011	6
63	PLHT-C63/2	248012	6
80	PLHT-C80/2	248013	6
100	PLHT-C100/2	248014	6
125	PLHT-C125/2	248015	6

SG42911

3-pole

20	PLHT-C20/3	248033	4
25	PLHT-C25/3	248034	4
32	PLHT-C32/3	248035	4
40	PLHT-C40/3	248036	4
50	PLHT-C50/3	248037	4
63	PLHT-C63/3	248038	4
80	PLHT-C80/3	248039	4
100	PLHT-C100/3	248040	4
125	PLHT-C125/3	248041	4

SG45111

3+N-pole

20	PLHT-C20/3N	248059	3
25	PLHT-C25/3N	248060	3
32	PLHT-C32/3N	248061	3
40	PLHT-C40/3N	248062	3
50	PLHT-C50/3N	248063	3
63	PLHT-C63/3N	248064	3
80	PLHT-C80/3N	248065	3
100	PLHT-C100/3N	248066	3
125	PLHT-C125/3N	248067	3

SG44811

4-pole

20	PLHT-C20/4	248085	3
25	PLHT-C25/4	248086	3
32	PLHT-C32/4	248087	3
40	PLHT-C40/4	248088	3
50	PLHT-C50/4	248089	3
63	PLHT-C63/4	248090	3
80	PLHT-C80/4	248091	3
100	PLHT-C100/4	248092	3
125	PLHT-C125/4	248093	3

Explanation PLHT:
P = XPole, LH = Miniature Circuit Breakers hochwertig, T = Rated breaking capacity 15, 20, 25 kA

Miniature Circuit Breakers PLHT
Characteristic D

SG41311

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
20	PLHT-D20	247990	12
25	PLHT-D25	247991	12
32	PLHT-D32	247992	12
40	PLHT-D40	247993	12
50	PLHT-D50	247994	12
63	PLHT-D63	247995	12
80	PLHT-D80	247996	12
100	PLHT-D100	247997	12

SG42111

2-pole

20	PLHT-D20/2	248016	6
25	PLHT-D25/2	248017	6
32	PLHT-D32/2	248018	6
40	PLHT-D40/2	248019	6
50	PLHT-D50/2	248020	6
63	PLHT-D63/2	248021	6
80	PLHT-D80/2	248022	6
100	PLHT-D100/2	248023	6

SG42911

3-pole

20	PLHT-D20/3	248042	4
25	PLHT-D25/3	248043	4
32	PLHT-D32/3	248044	4
40	PLHT-D40/3	248045	4
50	PLHT-D50/3	248046	4
63	PLHT-D63/3	248047	4
80	PLHT-D80/3	248048	4
100	PLHT-D100/3	248049	4

SG45111

3+N-pole

20	PLHT-D20/3N	248068	3
25	PLHT-D25/3N	248069	3
32	PLHT-D32/3N	248070	3
40	PLHT-D40/3N	248071	3
50	PLHT-D50/3N	248072	3
63	PLHT-D63/3N	248073	3
80	PLHT-D80/3N	248074	3
100	PLHT-D100/3N	248075	3

SG44811

4-pole

20	PLHT-D20/4	248094	3
25	PLHT-D25/4	248095	3
32	PLHT-D32/4	248096	3
40	PLHT-D40/4	248097	3
50	PLHT-D50/4	248098	3
63	PLHT-D63/4	248099	3
80	PLHT-D80/4	248100	3
100	PLHT-D100/4	248101	3

Explanation PLHT:
P = XPole, LH = Miniature Circuit Breakers hochwertig, T = Rated breaking capacity 15, 20, 25 kA

Miniature Circuit Breakers PLHT-V similar to characteristic D

SG69611

Rated current I_n (A)	Type Designation	Article No.	Units per package
1-pole			
20	PLHT-20-V	248102	12
25	PLHT-25-V	248103	12
32	PLHT-32-V	248104	12
40	PLHT-40-V	248105	12
50	PLHT-50-V	248106	12
63	PLHT-63-V	248107	12

Accessories for Miniature Circuit Breakers PLHT, PLHT-V

Shunt trip release, Shunt trip release-Kit

SG09311

Operational voltage range V~	Type Designation	Article No.	Units per package
110-415/Shunt trip release	Z-LHASA/230	248442	8
12-60/Shunt trip release	Z-LHASA/24	248441	8
110-415/Shunt trip release-Kit	Z-BHASA/230	248445	8
12-60/Shunt trip release-Kit	Z-BHASA/24	248444	8

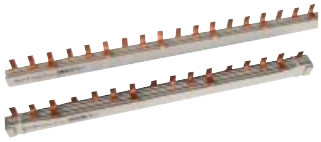
Auxiliary switch

SG16111

Function	Type Designation	Article No.	Units per package
1NO+1NC	Z-LHK	248440	10/100

Accessories for Miniature Circuit Breakers PLHT-V

wa_sg11402



Description	Type Designation	Article No.	Units per package
Switching interlock	LH-SPL	285752	1
Switching interlock	LHSP-E	215999	1
Switchoff interlock	LHSP-A	216000	1
Busbar block 35 mm²	Z-SV-35/PLHT-V	264939	4

Neutral disconnector

SG15911

Type Designation	Article No.	Units per package
Z-NTS	248443	1

Specifications | Miniature Circuit Breakers PLHT

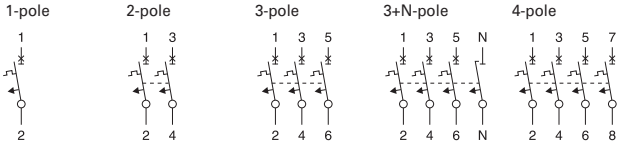
Description

- Independent switching contacts
- With isolator function, meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation

Accessories:

Auxiliary switch for subsequent installation (0.5 MU)	Z-LHK	248440
Shunt trip release subsequent installation (1.5 MU)	Z-LHASA/230	248442
	Z-LHASA/24	248441
Anti-tamper device	LH-SPL	285752
Busbar see capter busbar system		

Connection diagrams



Technical Data

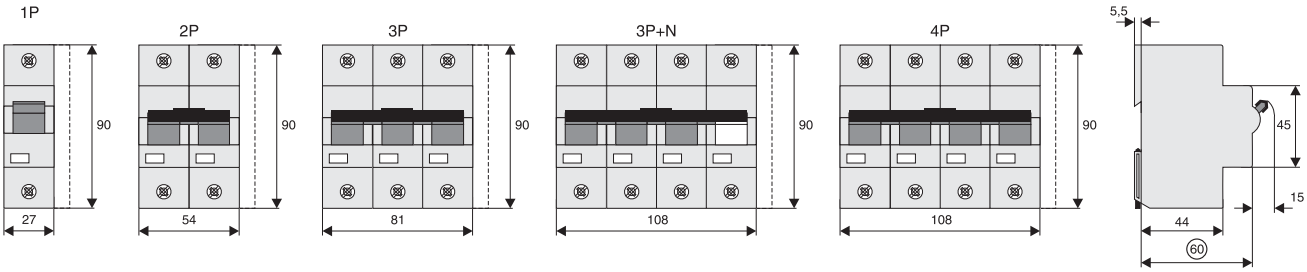
Electrical

Design according to	EN 60947-2	
Current test marks as printed onto the device		
Rated voltage		
AC	230/400V	
DC	60V (per pole, max. 2 poles)	
Ultimate short circuit breaking capacity acc. to IEC/EN 60947-2		
Characteristic B,C	I_n = 20-63 A	25 kA
	I_n = 80-100 A	20 kA
	I_n = 125 A	15 kA
Characteristic D	I_n = 20-63 A	25 kA
	I_n = 80 A	20 kA
	I_n = 100 A	15 kA
Characteristic	in accordance with characteristics B, C, D	
Back-up fuse	max. 200 A gL	
Rated insulation voltage	440 V	
Peak withstand voltage U_{imp}	4 kV	
Selectivity class	in acc. with class 3	
Endurance	≥ 20,000 switching op.	

Mechanical

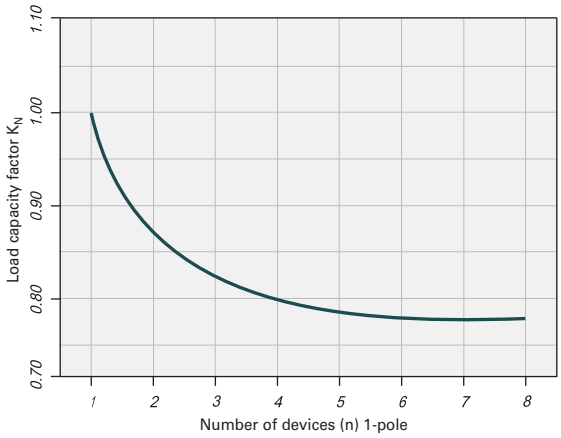
Frame size	45 mm
Device height	90 mm
Device width	27 mm (1.5MU) per pole
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Upper and lower terminals	lift terminals
Terminal protection	finger and hand touch safe DGUV VS3, EN 50274
Terminal capacity	2.5-50 mm²

Dimensions (mm)

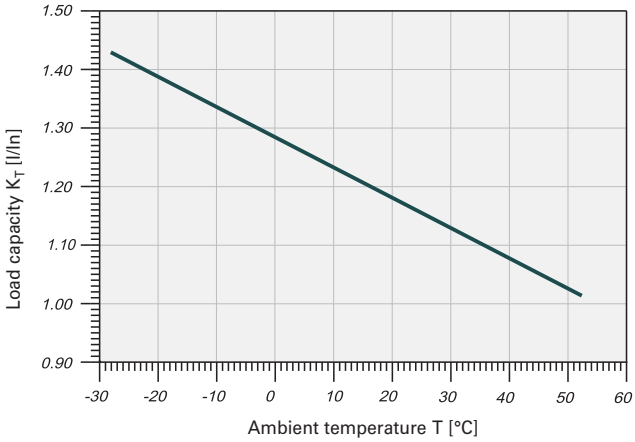


Load Capacity

Load capacity in case of block installation



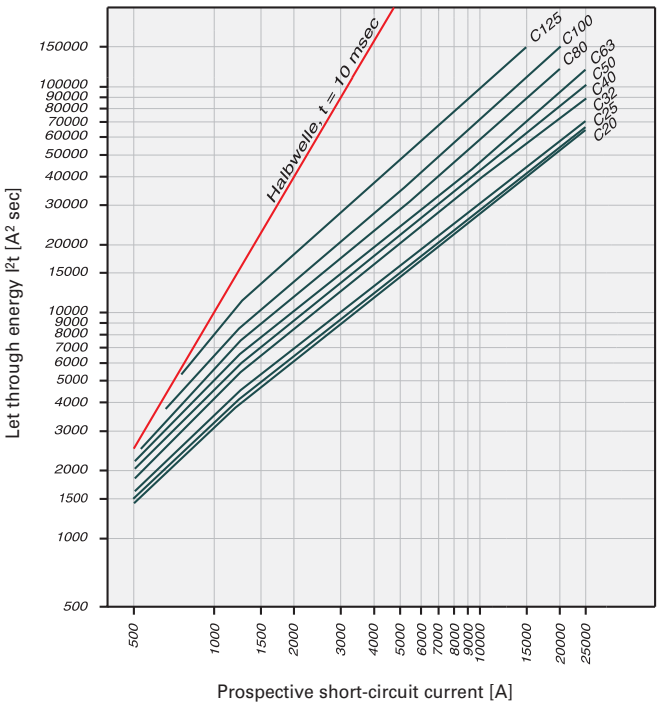
Effect of ambient temperature



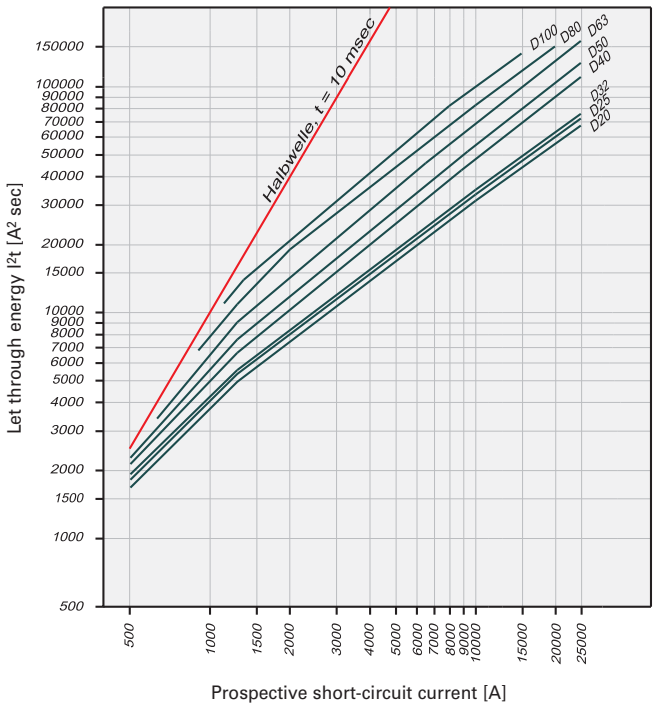
Permitted permanent load at ambient temperature T [°C] with n devices: $I_{DL} = I_n K_T(T) K_N(N)$.

Let-through Energy

Maximum let-through energyPLHT, characteristic C, 1-pole



Maximum let-through energyPLHT, characteristic D, 1-pole



Determined according to EN 60898-1.

Short Circuit Selectivity

- Short circuit selectivity (in kA) between PLHT and upstream fuse D0 or NH, operating class gL/gG
- 1.4 . . selectivity up to 1.4 kA; . . . no selectivity

Selectivity towards back-up fuses D01, D02, D03

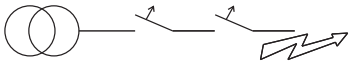
	Rated current I_n PLHT in A	Rated current of the back-up fuse in A					
		25	**35**	**50**	**63**	**80**	**100**
C-Characteristic	**20**	0.5	1.0	2.0	2.9	3.9	7.6
	25		1.0	1.9	2.8	3.8	7.3
	32		1.0	1.8	2.7	3.6	7.0
	40			1.6	2.2	3.0	5.6
	50				2.1	2.8	5.2
	63					2.7	4.8
	80						4.3
	100						
	125						
D-Characteristic	**20**	0.5	0.9	1.7	2.5	3.4	6.7
	25		0.9	1.6	2.3	3.2	6.2
	32		0.9	1.5	2.3	3.0	6.0
	40			1.4	2.0	2.6	4.7
	50				1.8	2.3	4.3
	63					2.1	3.7
	80						3.1
	100						

Selectivity towards back-up fuses NH Gr. 00

	Rated current I_n PLHT in A	Rated current of the back-up fuse in A									
		25	**35**	**40**	**50**	**63**	**80**	**100**	**125**	**160**	**200**
C-Characteristic	**20**	0.5	1.0	1.3	1.9	2.7	3.7	6.7	17.0	25.0	25.0
	25		0.9	1.3	1.8	2.6	3.5	6.5	17.0	25.0	25.0
	32		0.9	1.2	1.7	2.4	3.3	6.0	15.0	23.0	25.0
	40				1.4	2.1	2.9	4.8	12.0	18.0	25.0
	50					1.9	2.7	4.5	11.0	17.0	25.0
	63							4.2	10.0	15.0	25.0
	80							3.8	8.5	12.0	25.0
	100								7.0	10.0	25.0
	125									7.5	25.0
D-Characteristic	**20**	<0.5	0.8	1.1	1.5	2.3	3.1	5.6	16.0	25.0	25.0
	25		0.7	1.0	1.4	2.1	3.0	5.3	14.0	23.0	25.0
	32		0.7	1.0	1.3	2.1	2.9	5.0	13.0	22.0	25.0
	40				1.1	1.8	2.5	4.2	10.0	15.0	25.0
	50					1.6	2.3	3.8	8.5	13.0	22.0
	63						2.1	3.2	7.0	10.5	18.0
	80							2.8	5.5	8.4	15.0
	100								4.8	7.5	12.5

Short Circuit Selectivity PLHT towards NZM 1

In case of short circuit, there is selectivity between the miniature circuit breakers PLHT and the upstream NZM up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond). Overload and short-circuit release unit NZM at max. value.
*) basically in accordance with EN 60898-1 D.5.2.b



Short circuit selectivity **characteristic C** towards **NZM***)

PLHT	**NZM...1-A gL/gG**					
I_n [A]	**40**	**50**	**63**	**80**	**100**	**125**
20	0.3	0.4	0.5	0.75	0.9	1.25
25	0.3	0.4	0.5	0.7	0.9	1.2
32		0.4	0.5	0.7	0.85	1.2
40			0.5	0.6	0.85	1.1
50				0.6	0.85	1.1
63					0.8	1
80						1
100						
125						

Short circuit selectivity **characteristic D** towards **NZM***)

PLHT	**NZM...1-A gL/gG**					
I_n [A]	**40**	**50**	**63**	**80**	**100**	**125**
50						
63						
80						
100						

no selectivity

Short Circuit Selectivity PLHT towards NZM 2

In case of short circuit, there is selectivity between the miniature circuit breakers PLHT and the upstream NZM up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{ks} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond). Overload and short-circuit release unit NZM at max. value.
*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **characteristic C** towards **NZM***)

PLHT	**NZM...2-A gL/gG**								
I_n [A]	**40**	**50**	**63**	**80**	**100**	**125**	**160**	**200**	**250**
20	0.3	0.4	0.5	0.75	0.9	1.25	1.8	2.5	3.5
25	0.3	0.4	0.5	0.7	0.9	1.2	1.7	2.4	3.3
32		0.4	0.5	0.7	0.85	1.2	1.65	2.3	3.2
40			0.5	0.6	0.85	1.1	1.5	2.1	2.9
50				0.6	0.85	1.1	1.5	2	2.8
63					0.8	1	1.4	1.8	2.5
80						1	1.4	1.8	2.4
100							1.3	1.7	2.3
125								1.6	2.1

Short circuit selectivity **characteristic D** towards **NZM***)

PLHT	**NZM...2-A gL/gG**								
I_n [A]	**40**	**50**	**63**	**80**	**100**	**125**	**160**	**200**	**250**
50							1	1.4	2.6
63							1	1.3	2.3
80									2.1
100									

no selectivity

Specifications | Miniature Circuit Breakers PLHT-V

Description

- Special type of miniature circuit breaker PLHT for trade and industry applications upstream of the meter
- Independent switching contacts
- High current limit
- With isolator function, meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Anti-Tamper device and Switchoff interlock available

Accessories:		
Auxiliary switch for subsequent installation (0.5 MU)	Z-LHK	248440
Shunt trip release subsequent installation (1.5 MU)	Z-LHASA/230	248442
	Z-LHASA/24	248441
Neutral disconnector	Z-NTS	248443
Busbar see capter busbar systems		

Connection diagram

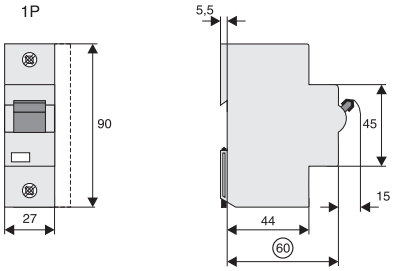
1-pole

Technical Data

Electrical	
Design according to	EN 60947-2
Current test marks as printed onto the device	
Rated voltage	
AC	230/400V
DC	60V (per pole, max. 2 poles)
Rated frequency	50/60 Hz
Ultimate short circuit breaking capacity acc. to IEC/EN 60947-2	25 kA
Service short circuit breaking capacity	20 kA
Rated breaking capacity	
DC	max. 60V, 1-pole
Characteristic	similar to D
Back-up fuse	max. 200 A gL (>20 kA)
Rated insulation voltage	440 V
Peak withstand voltage Uimp	4 kV
Selectivity class	in acc. with class 3
Endurance	≥ 20,000 switching op.

Mechanical	
Frame size	45 mm
Device height	90 mm
Device width	27 mm (1.5MU) per pole 30 mm per pole PLHT-V with interlock
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Upper and lower terminals	lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	2.5-50 mm²

Dimensions (mm)

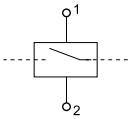


Specifications | Accessories for PLHT, PLHT-V

Shunt trip release Z-LHASA

- Can be mounted subsequently
- Contact position indicator red - green
- Marking labels can be fitted
- Wide operational voltage range
- Sufficient power of extra low voltage source must be ensured
  Z-LHASA/24: min. 90 VA

Connection diagram



Technical Data

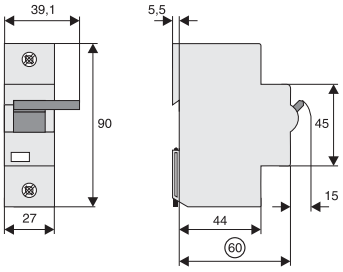
Electrical

Operational voltage range	
Z-LHASA/230:	110-415 V~
Z-LHASA/24:	12-60 V~
Operational frequency	50-60 Hz
Maximum current consumption during switch-on at U_n	
Z-LHASA/230:	2 A
Z-LHASA/24:	18 A

Mechanical

Frame size	45 mm
Device height	90 mm
Device width	27 mm
Mounting	quick fastening on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Upper and lower terminals	lift terminals

Dimensions (mm)



Auxiliary switch Z-LHK

- Auxiliary switch according to IEC 947-5-1
- Can be mounted subsequently

Connection diagram

Technical Data

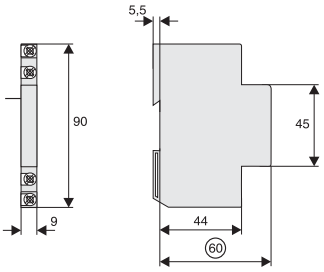
Electrical

Rated operational current	(250 V~) 6A/AC13
Mindest-Minimum operational voltage	24V each line
Rated thermal current	8 A
Rated insulation voltage	440 V~
Maximum back-up fuse	6 A gL or CLS6-4/./B-HS
Contacts	1NO+1NC
Utilisation category AC13	6A/250VAC 2A/440VAC
Utilisation category DC13	4A/60VDC 2A/110VDC 0.5A/230VDC

Mechanical

Frame size	45 mm
Device height	90 mm
Device width	9 mm
Mounting	mounted onto protective devices
Degree of protection, built-in	IP40
Upper and lower terminals	lift terminals
Terminal capacity	1 x 1 mm² to 2 x 2.5 mm²

Dimensions (mm)



Specifications | Accessories for PLHT-V

Anti-tamper device LHSP-E, LH-SPL

- Prevents undesired switching ON or OFF

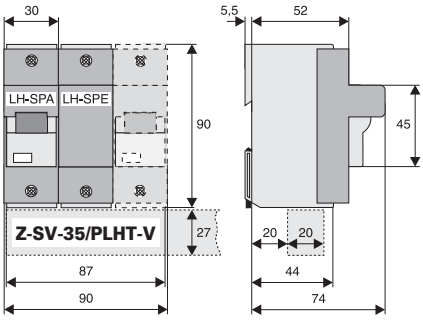
Switchoff interlock LHSP-A

- Prevents undesired switch-OFF

Busbar block 35 mm² Z-SV-35/PLHT-V, 3-pole (see capter busbar systems)

- 110/220 A
- Step distance 30 mm

Dimensions (mm)



Adjustable MCB, Power Limiter, Motor-protective Circuit-breaker

SG09811

SG09711

Aadjustable MCB Z-MS

SG09911

Poles	Setting Range (A)	Type Designation	Article No.	Units per package
2	0.10 - 0.16	Z-MS-0,16/2	248389	1/60
2	0.16 - 0.25	Z-MS-0,25/2	248390	1/60
2	0.25 - 0.40	Z-MS-0,4/2	248391	1/60
2	0.40 - 0.63	Z-MS-0,63/2	248392	1/60
2	0.63 - 1.00	Z-MS-1/2	248393	1/60
2	1.00 - 1.60	Z-MS-1,6/2	248394	1/60
2	1.60 - 2.50	Z-MS-2,5/2	248395	1/60
2	2.50 - 4.00	Z-MS-4/2	248396	1/60
2	4.00 - 6.30	Z-MS-6,3/2	248397	1/60
2	6.30 - 10.0	Z-MS-10/2	248398	1/60
2	10.0 - 16.0	Z-MS-16/2	248399	1/60
2	16.0 - 25.0	Z-MS-25/2	248400	1/60
2	25.0 - 40.0	Z-MS-40/2	248401	1/60

SG09811

3	0.10 - 0.16	Z-MS-0,16/3	248402	1/40
3	0.16 - 0.25	Z-MS-0,25/3	248403	1/40
3	0.25 - 0.40	Z-MS-0,4/3	248404	1/40
3	0.40 - 0.63	Z-MS-0,63/3	248405	1/40
3	0.63 - 1.00	Z-MS-1/3	248406	1/40
3	1.00 - 1.60	Z-MS-1,6/3	248407	1/40
3	1.60 - 2.50	Z-MS-2,5/3	248408	1/40
3	2.50 - 4.00	Z-MS-4/3	248409	1/40
3	4.00 - 6.30	Z-MS-6,3/3	248410	1/40
3	6.30 - 10.0	Z-MS-10/3	248411	1/40
3	10.0 - 16.0	Z-MS-16/3	248412	1/40
3	16.0 - 25.0	Z-MS-25/3	248413	1/40
3	25.0 - 40.0	Z-MS-40/3	248414	1/40

Power Limiter Z-TS

SG09611

Rated Current I_n (A)	Setting Range (A)	Type Designation	Article No.	Units per package
1-pole, 230 V~				
20	13-20	Z-TS20/1	266850	2
25	16-25	Z-TS25/1	266852	2
32	20-32	Z-TS32/1	266853	2
40	25-40	Z-TS40/1	266854	2
50	40-50	Z-TS50/1	266855	2
63	50-63	Z-TS63/1	266856	2

SG09711

3-pole, 400 V~				
20	13-20	Z-TS20/3	266857	1
25	16-25	Z-TS25/3	266858	1
32	20-32	Z-TS32/3	266859	1
40	25-40	Z-TS40/3	266860	1
50	40-50	Z-TS50/3	266861	1
63	50-63	Z-TS63/3	266862	1

Accessories for Adjustable MCB and Power Limiter

Function	Type Designation	Article No.	Units per package
Shunt trip release 24V	ZP-ASA/24	248438	6/60
Shunt trip release 230V	ZP-ASA/230	248439	6/60
Undervoltage release 115V	Z-USA/115	248288	6/60
Undervoltage release 230V	Z-USA/230	248289	6/60
Undervoltage release 400V	Z-USA/400	248290	6/60
Undervoltage release, delayed 115V	Z-USD/115	248292	6/60
Undervoltage release, delayed 230V	Z-USD/230	248291	6/60
Auxiliary switch	ZP-IHK	286052	4/120
Tripping signal switch	ZP-NHK	248437	4/120
Remote control and automatic switching device	Z-FW-LP	248296	1/20
Moisture-proof enclosure	Z-MFG	248383	1
Moisture-proof enclosure N-conductor	Z-MFG/NL	248384	1
Moisture-proof enclosure EMERGENCY OFF	Z-MFG/NOT	248385	1
Additional terminal 35 mm²	Z-HA-EK/35	263960	12/720

Moisture-proof enclosure Z-MFG, IP54

SG82111

Function	Type Designation	Article No.	Units per package
ON/OFF	Z-MFG	248383	1
ON/OFF N-conductor	Z-MFG/NL	248384	1
ON/OFF with EMERGENCY OFF	Z-MFG/NOT	248385	1

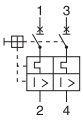
Specifications | Adjustable MCB Z-MS

Description

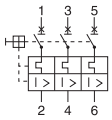
- Reliable protection in case of thermal overload and short circuit
- Suitable for installation in compact distribution boxes
- Contact position indicator red - green
- Main field of application: switching and protection of three-phase AC motors with power ratings up to 15 kW (380/400 V) and other consumers up to 40 A
- Also suitable as main switch, isolating characteristics according to IEC/EN 60947
- All manual motor starters with thermal overload tripping and magnetic short-circuit tripping
- Terminals and accessories compatible with CLS6, Z-A40, PFIM etc.

Connection diagram

2-pole



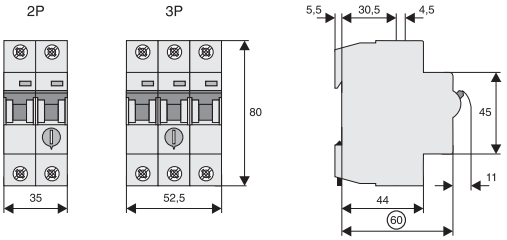
3-pole



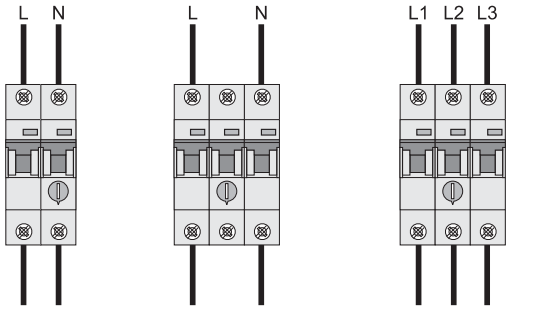
Technical Data

General		
Terminal capacity		1 - 25 mm²
Busbar thickness		0.8 - 2 mm
Mechanical endurance		20.000 switching operations
Shock resistance (shock duration 20 ms)		20 g
Ambient temperature	open	-25 ... + 50°C
	hermetically enclosed	-25 ... + 40°C
Resistance to climatic conditions		
- humidity and heat, constant, according to		IEC 68-2-3
- humidity and heat, periodical, according to		IEC 68-2-30
Weight approx.		244/366 g
Degree of protection		IP20
Main Current Paths		
Rated insulation voltage U_i		440 V
Rated peak withstand voltage U_{imp}		4 kV
Rated short circuit breaking capacity I_q		10 kA
Thermal current $I_{thmax} = I_{emax}$		40 A
Electrical endurance AC3 at I_e		6000 switching operations
Motor switching capacity AC3		400 (415) V
Power loss per contact		2.3W (1.6-10A); 3.3W (16A); 4.5W (25-40A)
Auxiliary switch Z-AHK/Z-NHK		
Rated insulation voltage U_i		440 V
Thermal current I_{th}		8 A
Rated operational current I_e	250 V	6 A
AC 13	440 V	2 A
Max. back-up fuse for short-circuit protection		4 A (gL, gG) CLS6-4/B-HS
Terminal capacity (1 or 2 conductors)		0.75 ... 2.5 mm²
Moisture-Proof Enclosure 4 MU IP54, Z-MFG		
Reliable power loss of incorporated devices		17W (e.g Z-MS-40/3+Z-USA/230)

Dimensions (mm)



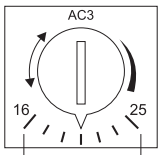
Connection



1-phase / 2-pole 1-phase / 3-pole 3-phase / 3-pole

Ue = 400 V~
Ie = 10 - 16 A
Iq = 10000 A

Z-MS - **25** /3



Magnetic release responding current (typ.)
referring to setting range end value . . . .16x . . . . . 10x Ie

Selection of Switches for the Protection of Motors

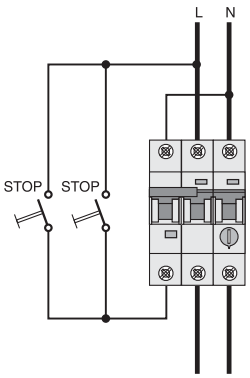
Motor power and current						
1-phase 230 - 240 V		3-phase 230 - 240 V		3-phase 400 - 415 V		Setting ranges of overload release
kW	A	kW	A	kW	A	A
				0.06	0.2	0.16 - 0.25
		0.06	0.4	0.09	0.3	0.25 - 0.4
		0.09	0.5	0.12	0.4	0.4 - 0.63
				0.18	0.6	0.4 - 0.63
0.06	0.7	0.12	0.7	0.25	0.8	0.63 - 1
0.09	0.7					0.63 - 1
0.12	1.3	0.18	1.0	0.37	1.1	1 - 1.6
		0.25	1.4	0.55	1.5	1 - 1.6
0.18	1.9	0.37	2.0	0.75	1.9	1.6 - 2.5
0.25	2.4					1.6 - 2.5
0.37	2.9	0.55	2.7	1.1	2.6	2.5 - 4
		0.8	3.2	1.5	3.6	2.5 - 4
0.55	4.2	1.1	4.6	2.2	5.0	4 - 6.3
0.75	5.6					4 - 6.3
1.1	7.4	1.5	6.3	2.5-3.0	6.6	6.3 - 10
1.5	8.9	2.5	8.7			6.3 - 10
				4.0	8.5	6.3 - 10
2.2	14.5	3.0	11.5	5.5	11.3	10 - 16
				7.5	13.2	10 - 16
3	17.8	4.0	14.8			16 - 20
		5.5	19.6	11.0	21.7	16 - 20
		7.5	26.4	15.0	29.3	25 - 40
		11.0	38.0	18.5	36.0	25 - 40

Overview of Types, Maximum Back-up Fuse and Short Circuit Behaviour

Type	Setting range (A)	max. back-up fuse gL, gG[1] (A) 3 x 230 V	(A) 3 x 400 V	Typical responding currents of short-circuit releases (A)
Z-MS-0,16	0.10 - 0.16			1.3 - 1.7
Z-MS-0,25	0.16 - 0.25	in case of short circuit currents		2.0 - 2.6
Z-MS-0,40	0.25 - 0.40	up to the short circuit		3.1 - 4.8
Z-MS-0,63	0.40 - 0.63	breaking capacity,		4.9 - 6.6
Z-MS-1,00	0.63 - 1.00	no back-up fuse required		10 - 13
Z-MS-1,60	1.0 - 1.6			16 - 21
Z-MS-2,50	1.6 - 2.5			25 - 33
Z-MS-4,00	2.5 - 4.0			40 - 52
Z-MS-6,30	4.0 - 6.3	100	100	63 - 82
Z-MS-10,0	6.3 - 10.0	100	100	78 - 105
Z-MS-16,0	10.0 - 16.0	100	100	160 - 208
Z-MS-25,0	16.0 - 25.0	100	100	250 - 325
Z-MS-40,0	25.0 - 40.0	100	100	400 - 520

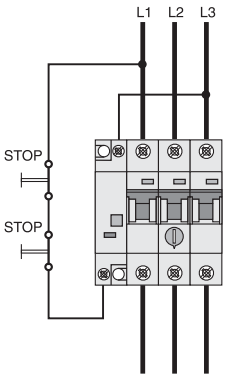
[1] In case of short circuit currents up to the rated breaking capacity, no back-up fuse is required (inherent current withstand capability)

Connection of Shunt Trip Release



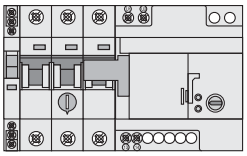
e.g.
Z-MS-2p + ZP-ASA

Connection of Undervoltage Release



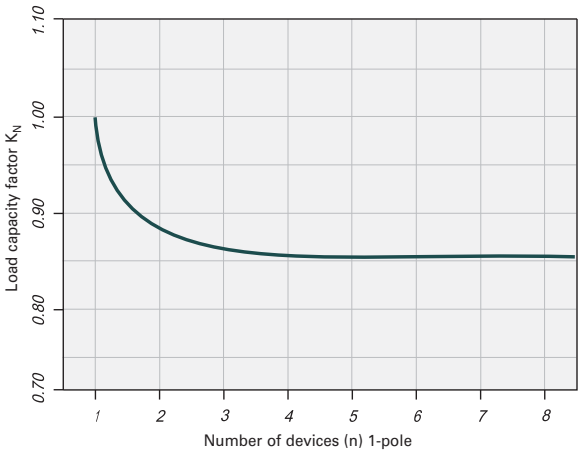
e.g.
Z-MS-3p + Z-USA

Block Diagram with Remote Switching Device



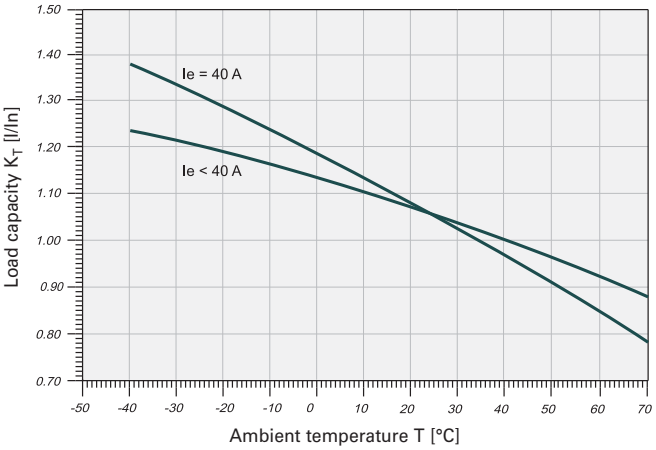
ZP-NHK + Z-MS-3p + Z-FW-LP

Load Capacity in Case of Block Installation



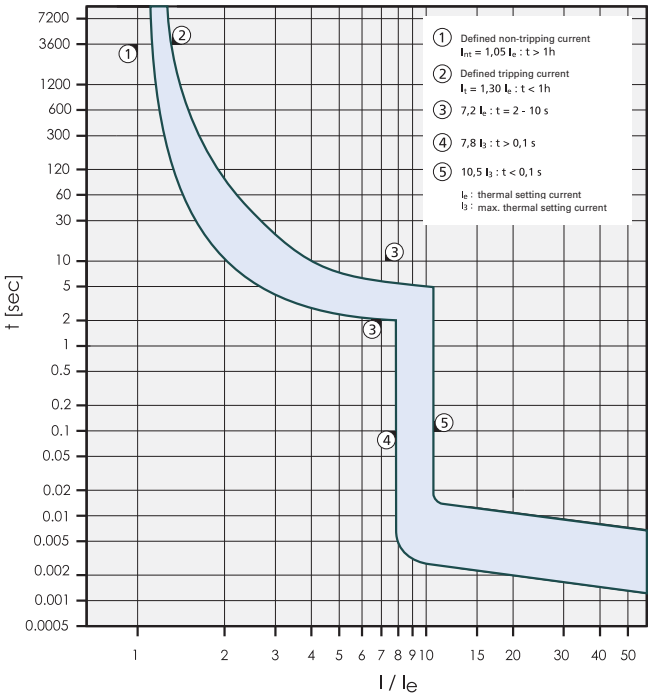
Permitted permanent load at ambient temperature T [°C] with n devices:
$I_{DL}(T,n) = I_n K_T(T)\ K_n(_n)$

Effect of the Ambient Temperature on the Load Capacity



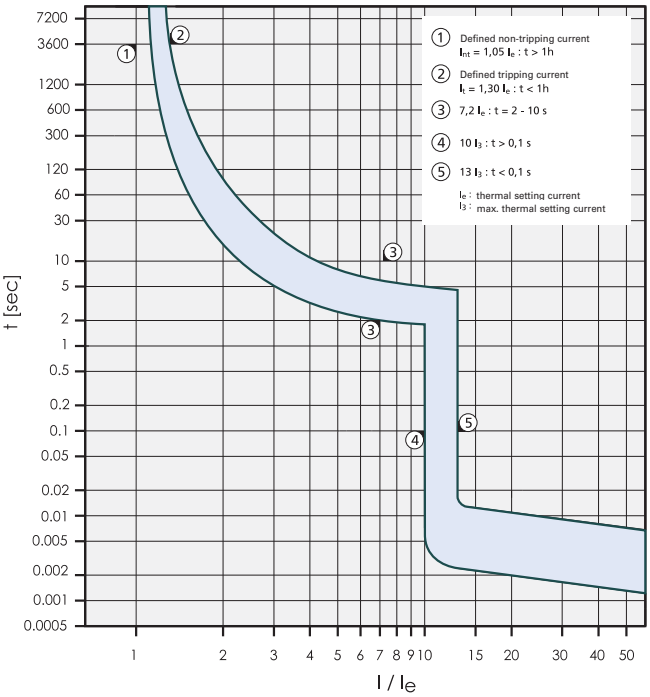
Valid for Z-MS devices, 3-pole, reference ambient temperature 20°C, permitted permanent load at ambient temperature T [°C] with n devices:
$I_L(T) = I_n K_T(T)$

Typical Tripping Characteristic MS 0,16/0,25/0,4/0,63/10A



Tripping current as a multiple of the maximum setting current, at an ambient temperature of 20 °C, from cold state

Typical Tripping Characteristic MS 1/1,6/2,5/4/6,3/16/25/40A

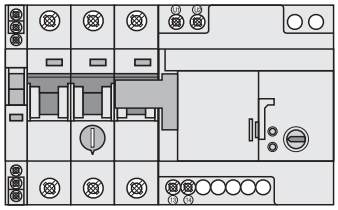


Tripping current as a multiple of the maximum setting current, at an ambient temperature of 20 °C, from cold state

Accessories for Adjustable MCB

- Accessories for Adjustable MCB are the same as for PFIM, CLS etc. (releases, auxiliary switches, and busbars
- Shunt trip release ZP-ASA
- Undervoltage releases
  Z-USA: instantaneous
  Z-USD: delayed
- Auxiliary switch ZP-IHK: 1 NO + 1 NC
- Tripping signal switch ZP-NHK: 1 CO + 1 CO
- Remote control and automatic switching device Z-FW
- Moisture-proof enclosure IP54
  Z-MFG
  Z-MFG/NL: with N-led through (solid neutral)
  Z-MFG/NOT: with N-led through (solid neutral) and EMERGENCY OFF key

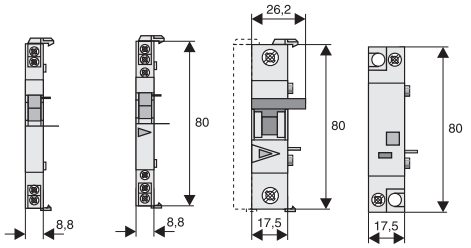
Installation Example



ZP-NHK + Z-MS-2p + Z-FW-LP

Dimensions (mm)

ZP-IHK ZP-NHK ZP-ASA Z-USA, -USD



Moisture-proof Enclosure Z-MFG

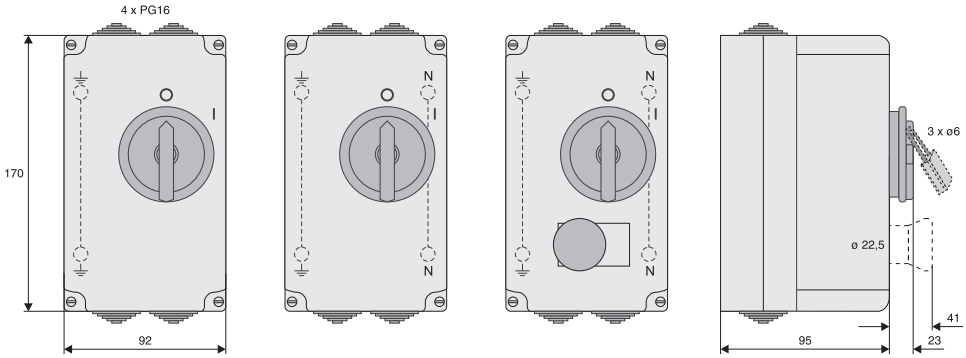
- According to EN 50298
- Suitable for manual motor starters Z-MS, e.g. 3p (+ Z-USA); miniature circuit breakers CLS, e.g. 3p (+ Z-USA); circuit breakers Z-A40
- Earth conductor connection integrated in all types
- Entries for 4 x PG16 cable glands prepared
- Operation: Turning handle, can be locked in the OFF-position by means of 3 padlocks, max. Ø 6 mm
- Enclosure cover can be sealed with leads in 2 locations
- Scope of delivery: 4 entry bushes, 1 mushroom-shaped pushbutton (red) + 1 contact (NC) in Z-MFG/NOT

Technical Data

	Z-MFG	Z-MFG//NL	Z-MFG/NOT
Electrical			
Power Loss of installed devices	max. 17 W	max. 17 W	max. 17 W
Mechanical			
Degree of protection	IP54	IP54	IP54
Protection class	II	II	II
Neutral connection	–	integrated	integrated
Max. Device width	4MU	4MU	4MU
Terminal capacity N/PE	max. 16 mm²	max. 16 mm²	max. 16 mm²
Tightening torque			
N/PE-terminals	max. 2 Nm	max. 2 Nm	max. 2 Nm
cover screws	max. 2 Nm	max. 2 Nm	max. 2 Nm

Dimensions (mm)

Z-MFG Z-MFG/NL Z-MFG/NOT



Specifications | Power Limiter Z-TS

- Design according to EN/IEC 60898-1, EN/IEC 60947
- Shape compatible with and suitable for standard busbar connection to e.g. CLS6, PLSM, Z-A40, Z-MS, PFIM
- Switching device for voluntary or power-authority limitation of power consumption of user systems and equipment
- Approved by the Austrian regional power supply companies, easy to re-set by the customer
- 1- and 3-pole design
- Adjustment screw for setting range under sealable cover cap

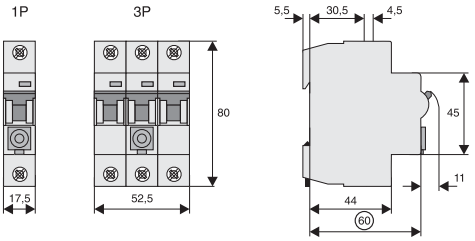
Connection diagram

1-pole 3-pole

Technical Data

	Z-TS20/.	Z-TS25/.	Z-TS32/.	Z-TS40/.	Z-TS50/.	Z-TS63/.
Electrical						
Rated operating voltage U_e	230/400 V AC	230/400 V AC	230/400 V AC	230/400 V AC	230/400 V AC	230/400 V AC
Rated frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Rated current (Current setpoint values) I_e	13-16-20 A	16-20-25 A	20-25-32 A	25-32-40 A	40-50 A	50-63 A
Rated impulse withstand voltage U_{imp}	4 kV (1.2/50 µs)	4 kV (1.2/50 µs)	4 kV (1.2/50 µs)	4 kV (1.2/50 µs)	4 kV (1.2/50 µs)	4 kV (1.2/50 µs)
Rated insulation voltage U_i	500 V	500 V	500 V	500 V	500 V	500 V
Reference ambient temperature	30°C	30°C	30°C	30°C	30°C	30°C
Tripping method	Overload release and magnetic fast release					
Conventional non-tripping current I_{nt}	1.13 I_e (t > 1 h)	1.13 I_e (t > 1 h)	1.13 I_e (t > 1 h)	1.13 I_e (t > 1 h)	1.13 I_e (t > 1 h)	1.13 I_e (t > 1 h)
Conventional tripping current I_t	1.45 I_e (t < 1 h)	1.45 I_e (t < 1 h)	1.45 I_e (t < 1 h)	1.45 I_e (t < 1 h)	1.45 I_e (t < 1 h)	1.45 I_e (t < 1 h)
Response values for the magnetic fast release I_{MA}	200-300 A	250-375 A	320-500 A	320-500 A	380-500 A	380-500 A
Utilization category	AC-1 (Conventional operating behavior / switch and breaking capacity according to EN/IEC 60947): $I = I_e$, $U = 1.05\ U_e$, $\cos\varphi = 0.8$, 6000 operating cycles $I = 1.5\ I_e$, $U = 1.05\ U_e$, $\cos\varphi = 0.8$, 50 operating cycles					
Rated breaking capacity I_{cn} (acc. to EN/IEC 60868)	10 kA	10 kA	10 kA	6 kA	6 kA	6 kA
Service short circuit breaking capacity I_{cs} (acc. to EN/IEC 60868)	7.5 kA	7.5 kA	7.5 kA	6 kA	6 kA	6 kA
Energy limitation class (acc. to EN/IEC 60898-1)	3	3	3	3	3	3
Maximum back-up fuse	125 A gL/gG	125 A gL/gG	125 A gL/gG	125 A gL/gG	125 A gL/gG	125 A gL/gG
Mechanical						
Frame size	45 mm	45 mm	45 mm	45 mm	45 mm	45 mm
Device height	80 mm	80 mm	80 mm	80 mm	80 mm	80 mm
Device width	1MU (1P), 3MU (3P)	1MU (1P), 3MU (3P)	1MU (1P), 3MU (3P)	1MU (1P), 3MU (3P)	1MU (1P), 3MU (3P)	1MU (1P), 3MU (3P)
Number of poles	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3
Mounting	quick fastening on DIN rail IEC/EN 60715					
Upper and lower terminals	lift terminals	lift terminals	lift terminals	lift terminals	lift terminals	lift terminals
Terminal capacity single/multi wire	1x(1-25) mm²	1x(1-25) mm²	1x(1-25) mm²	1x(1-25) mm²	1x(1-25) mm²	1x(1-25) mm²
Terminal capacity fine wire with wire end sleeve	1x(0.75-16) mm²	1x(0.75-16) mm²	1x(0.75-16) mm²	1x(0.75-16) mm²	1x(0.75-16) mm²	1x(0.75-16) mm²
Terminal screws	M5, Phillips according to DIN 7962-Z2, Pozidrive					
Tightening torque of the terminal screws	max. 2.4 Nm	max. 2.4 Nm	max. 2.4 Nm	max. 2.4 Nm	max. 2.4 Nm	max. 2.4 Nm
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274					
Resistance to climate	Damp heat, constant, acc. to IEC 68-2-3 Damp heat, cyclic, acc. to IEC 68-2-30					

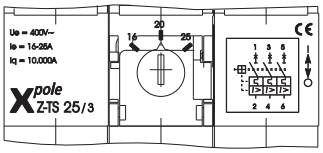
Dimensions (mm)



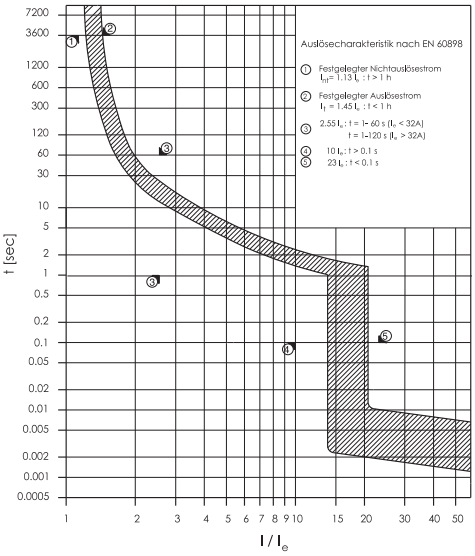
Accessories

- Busbar block ZV7
- Auxiliary switch and tripping signal switch Z-AHK, Z-NHK
- Shunt trip release and undervoltage release Z-ASA, Z-USA, Z-USD
- Moisture-proof enclosure Z-MFG

Imprint



Typical tripping characteristic, e.g. for Z-TS20/3



xStart Motor Protectors

Motor-protective circuit-breaker PKZM01

wa_sg02711

Motor rating (kW)	Setting Range Overload release (A)	Type Designation	Article No.	Units per package
Push-button operated				
–	0,1 - 0,16	PKZM01-0,16	278475	1
0.06	0.16 - 0.25	PKZM01-0,25	278476	1
0.09	0,25 - 0,4	PKZM01-0,4	278477	1
0.12	0,4 - 0,63	PKZM01-0,63	278478	1
0.25	0,63 - 1	PKZM01-1	278479	1
0.55	1 - 1,6	PKZM01-1,6	278480	1
0.75	1,6 - 2,5	PKZM01-2,5	278481	1
1.5	2,5 - 4	PKZM01-4	278482	1
2.2	4 - 6,3	PKZM01-6,3	278483	1
4	6,3 - 10	PKZM01-10	278484	1
5.5	10 - 12	PKZM01-12	278485	1
7.5	12 - 16	PKZM01-16	283390	1

Accessories

	Type Designation	Article No.	Units per package
Plastic enclosure for PKZM01	CI-PKZ01-G	281404	1

Motor-protective circuit-breaker - complete unit PKZM01-G

wa_sg03311

Motor rating (kW)	Setting Range Overload release (A)	Type Designation	Article No.	Units per package
Degree of protection of the housing IP65				
–	0,1 - 0,16	PKZM01-0,16-G	286068	1
0.06	0.16 - 0.25	PKZM01-0,25-G	286069	1
0.09	0,25 - 0,4	PKZM01-0,4-G	286080	1
0.12	0,4 - 0,63	PKZM01-0,63-G	286081	1
0.25	0,63 - 1	PKZM01-1-G	286082	1
0.55	1 - 1,6	PKZM01-1,6-G	286083	1
0.75	1,6 - 2,5	PKZM01-2,5-G	286084	1
1.5	2,5 - 4	PKZM01-4-G	286085	1
2.2	4 - 6,3	PKZM01-6,3-G	286086	1
4	6,3 - 10	PKZM01-10-G	286087	1
5.5	10 - 12	PKZM01-12-G	286088	1
7.5	12 - 16	PKZM01-16-G	286089	1

Motor-protective circuit-breaker PKZM0

wa_sg02110

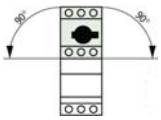
Motor rating (kW)	Setting Range Overload release (A)	Type Designation	Article No.	Units per package
Rotary operator knob				
–	0,1 - 0,16	PKZM0-0,16	072730	1
0.06	0.16 - 0.25	PKZM0-0,25	072731	1
0.09	0,25 - 0,4	PKZM0-0,4	072732	1
0.12	0,4 - 0,63	PKZM0-0,63	072733	1
0.25	0,63 - 1	PKZM0-1	072734	1
0.55	1 - 1,6	PKZM0-1,6	072735	1
0.75	1,6 - 2,5	PKZM0-2,5	072736	1
1.5	2,5 - 4	PKZM0-4	072737	1
2.2	4 - 6,3	PKZM0-6,3	072738	1
4	6,3 - 10	PKZM0-10	072739	1
5.5	10 - 12	PKZM0-12	278486	1
7.5	12 - 16	PKZM0-16	046938	1
9	16 - 20	PKZM0-20	046988	1
12.5	20 - 25	PKZM0-25	046989	1
15	25 - 32	PKZM0-32	278489	1

Accessories

Function	Type Designation	Article No.	Units per package
Plastic enclosure for PKZM0 Rotary operator knob black	CI-K2-PKZ0-G	219654	1
Plastic enclosure for PKZM0 Rotary operator knob red, for use as EMERGENCY OFF	CI-K2-PKZ0-GR	219655	1
Auxiliary switch PKZ, 1NO/1NC, on the side	NHI11-PKZ0	072896	1
Auxiliary switch PKZ, 1NO/1NC, below	NHI-E-11-PKZ0	082882	1
Undervoltage release PKZ, 230V/50Hz	U-PKZ0(230V50HZ)	073135	1
Undervoltage release PKZ, 400V/50Hz	U-PKZ0(400V50HZ)	073138	1

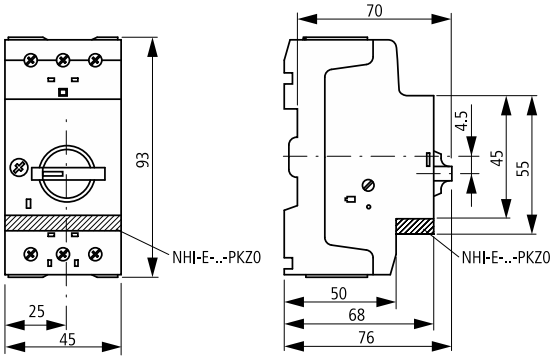
Specifications | xStart Motor Protectors

Technical Data

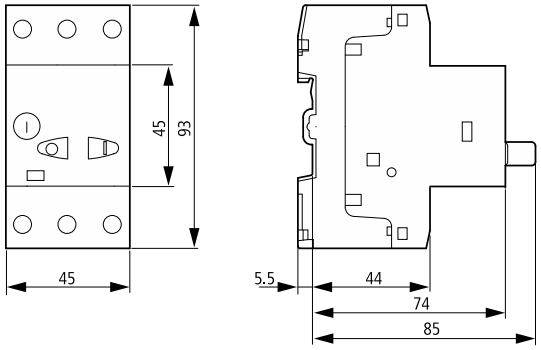
		PKZM01-...	PKZM0-...
General information			
Standards and regulations		IEC/EN 60947, VDE 0660, UL 508, CSA C 22.2 No. 14	
Resistance to climatic conditions		Humidity and heat, constant according to IEC 60068-2-78 Humidity and heat, periodical according to IEC 60068-2-30	
Mounting position			
Power input direction		any	any
Degree of protection			
Device		IP20	IP20
Terminals		IP00	IP00
Protection against accidental contact		finger and hand touch safe	
Shock resistance half-sinusoidal shock 10 ms acc. to IEC 60068-2-27	g	25	25
Mounting height	m	max. 2,000	max. 2,000
Terminal capacity			
Solid	mm^2	1 x (1-6) 2 x (1-6)	1 x (1-6) 2 x (1-6)
Flexible with ferrule according to DIN 46228	mm^2	1 x (1-6) 2 x (1-6)	1 x (1-6) 2 x (1-6)
Solid or stranded	AWG	18-10	18-10
Tightening torque of terminal screws			
Main contact	Nm	1.7	1.7
Auxiliary contact	Nm	1	1
Main current paths			
Rated peak withstand voltage U_{imp}	V AC	6,000	6,000
Overvoltage category/Pollution degree		III/3	III/3
Rated operating voltage U_e	V AC	690	690
Rated uninterrupted current I_u = Rated operating current I_e	A	16 or current setting for excess current release	32 or current setting for excess current release
Rated frequency	Hz	40-60	40-60
Current heat loss, 3-pole, operating temperature	W	6	6
Mechanical lifespan	operations x 10^6	0.05	0.1
Electric lifespan (AC-3 at 400 V)	operations x 10^6	0.05	0.1
Max. operating frequency	operations/h	25	40
Short-circuit resistance DC	kA	60	60 (up to PKZM0-16) 40 (PKZM0-20 to PKZM0-32)
Motor switching capacity			
AC-3 (up to 690 V)	A	12	32
DC-5 (up to 250 V)	A	12 (3 current paths in series)	25 (3 current paths in series)
Releases			
Temperature compensation			
according to IEC/EN 60947, VDE 0660	°C	-5/40	-5/40
Operating range	°C	-25 to +55	-25 to +55
Residual fault of temperature compensation for T > 20 °C	%/K	≤ 0.25	≤ 0.25
Setting range for overload release	x I_u	0.6-1	0.6-1
Short-circuit release - fixed setting	x I_u	14	14
Short-circuit release tolerance	%	± 20	± 20
Phase-failure sensitivity		IEC/EN 60947-1-1, VDE 0660 Section 102	

Dimensions (mm)

PKZM0-...



PKZM01-...



NZMB1-A Power Circuit-Breaker

wa_sg02011

- Rated uninterrupted current max.160 A
- Switching capacity up to 35 kA
- Setting ranges for overload and short-circuit
- 3-pole

xEnergy Power Circuit-Breaker

NZMB1-A Power Circuit-Breaker

wa_sg02011

Setting range Overload release (A)	Short-circuit release (A)	Type Designation	Article No.	Units per package
Protection of systems				
15 - 20	350	NZMB1-A20	280987	1
20 - 25	350	NZMB1-A25	280988	1
25 - 32	350	NZMB1-A32	280989	1
32 - 40	320 - 400	NZMB1-A40	259075	1
40 - 50	300 - 500	NZMB1-A50	259076	1
50 - 63	380 - 630	NZMB1-A63	259077	1
63 - 80	480 - 800	NZMB1-A80	259078	1
80 - 100	600 - 1000	NZMB1-A100	259079	1
100 - 125	750 - 1250	NZMB1-A125	259080	1
125 - 160	1280	NZMB1-A160	281230	1

Accessories

SG06410

Description	Type Designation	Article No.	Units per package
Auxiliary Contact - NO	M22-K10	216376	20
Auxiliary Contact - NC	M22-K01	216378	20

wa_sg01911

Undervoltage release 208-240 AC	NZM1-XU208-240AC	259442	1
Shunt trip release 208-250 AC/DC	NZM1-XA208-250AC/DC	259726	1

SG06011

Door coupling handle	NZM1-XTD	260160	1
Door coupling handle red/yellow	NZM1-XTVDVR	260178	1
Extension axle 400 mm	NZM1/2-XV4	261232	1
Extension axle 600 mm	NZM1/2-XV6	260191	1
Main switch kit	NZM1-XHB	266626	1
Main switch kit red/yellow	NZM1-XHBR	266632	1

wa_sg08805

Cover for screw connection	NZM1-XKSA	260021	1

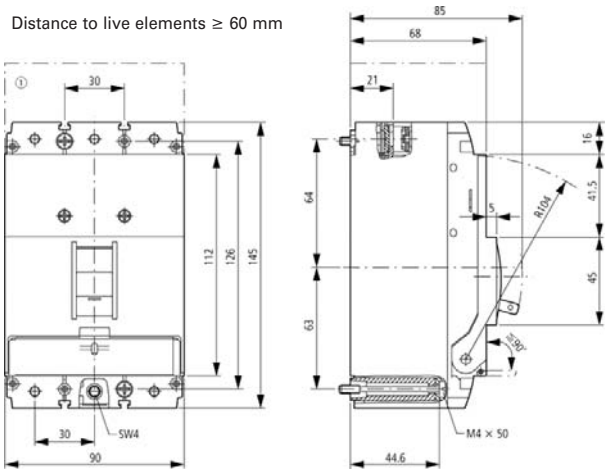
Specifications | xEnergy Power Circuit-Breaker

Technical Data

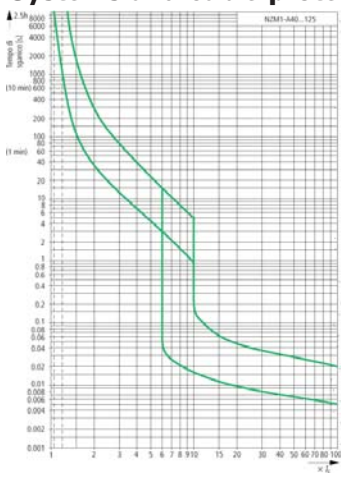
		NZMB1-A
Power circuit-breaker		
Rated uninterrupted current	A	max. 160
Rated peak withstand voltage U_{imp}		
Main current paths	V AC	6,000
Auxiliary current paths	V AC	6,000
Overvoltage category/Pollution degree		III/3
Rated operating voltage U_e	V AC	690
Switching capacity		
Rated short-circuit making capacity I_{cm}		
240 V	kA	63
400/415 V	kA	53
440 V	kA	53
525 V	kA	30
690 V	kA	–
Rated short-circuit breaking capacity I_{cn}, I_{cu} according to IEC/EN 60947, switching sequence 0-t-C0		
240 V	kA	30
400/415 V	kA	25
440 V	kA	25
525 V	kA	15
690 V	kA	–
Rated short-circuit breaking capacity I_{cn}, I_{cs} according to IEC/EN 60947, switching sequence 0-t-C0-t-C0		
240 V	kA	30
400/415 V	kA	25
440 V	kA	25
525 V	kA	7.5
690 V	kA	–
Switching capacity I_u NA-switch (UL489, CSA 22.2 No. 5.1)		
240 V 60 Hz	kA	35
480 V 60 Hz	kA	25
600 V 60 Hz	kA	–
Category of use		A
Rated making and breaking capacity I_e		
Rated operating current AC-1		
400/415 V	A	160
690 V	A	160
Rated operating current AC-3		
400/415 V	A	160
690 V	A	160
Mechanical lifespan	operations	20,000 (max. 50% thereof released through A/U release)
Max. switching capacity	operations/h	120
Electric lifespan		
AC-1 at 400 V	operations	10,000
AC-1 at 690 V	operations	7,500
AC-3 at 400 V	operations	7,500
AC-3 at 690 V	operations	5,000
Current heat loss per pole at I_u	W	13
Overload release, temperature compensation acc. to IEC/EN 60947, VDE 0660 Section 101, residual fault in the range of -25°C/+70°C (reference temperature 40°C), thermo-magnetic	%/K	0.7
Total off-duty time in case of a short-circuit	ms	< 10

Dimensions (mm)

Distance to live elements ≥ 60 mm



Systems and cable protection with NZMB1-A



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Publication No.
Printed in Austria
July 2017
Grafics: SRA, Schrems

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