

Protective Devices

Residual Current Devices PFIM

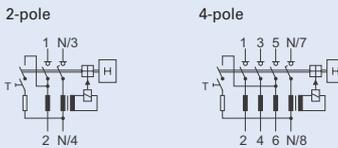
- Residual current devices
- Shape compatible with and suitable for standard busbar connection to other devices of the P-series
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Universal tripping 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 electrical 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 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 interval 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 intervals (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 avoid 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-2TE	285385
	Z-RC/AK-4TE	101062
Switching interlock	IS/SPE-1TE	101911

Connection diagrams



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	Overvoltage	Short circuit
$I_n = 16 A$	10 A gG/gL	16 A gG/gL
$I_n = 25 A$	16 A gG/gL	25 A gG/gL
$I_n = 40 A$	25 A gG/gL	40 A gG/gL
$I_n = 63 A$	40 A gG/gL	63 A gG/gL
$I_n = 80 A$	50 A gG/gL	80 A gG/gL
$I_n = 100 A$	63 A gG/gL	100 gG/gL
Type PFIM-X:		
$I_n = 40 A$	40 A gG/gL	40 A gG/gL
$I_n = 63 A$	63 A gG/gL	63 A gG/gL

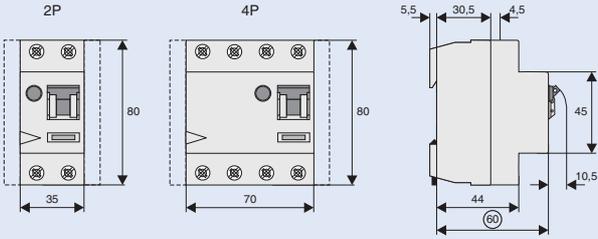
Rated breaking capacity I_m or	
Rated fault breaking capacity $I_{\Delta m}$	
$I_n = 16-40 A$	500 A
$I_n = 63 A$	630 A
$I_n = 80 A$	800 A
$I_n = 100 A$	1,000 A
Voltage range of test button	
2-pole	196 - 264 V~
4-pole 10, 30 mA	196 - 264 V~
4-pole 100, 300, 500 mA	196 - 456 V~
Endurance	
electrical comp.	≥ 4,000 operating cycles
mechanical comp.	≥ 20,000 operating cycles

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, BGV A3, ÖVE-EN 6
Terminal capacity	1.5 - 35 mm ² single wire 2 x 16 mm ² 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

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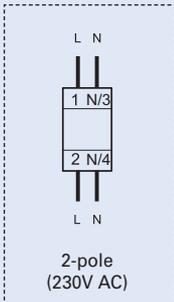
Dimensions (mm)



Correct connection

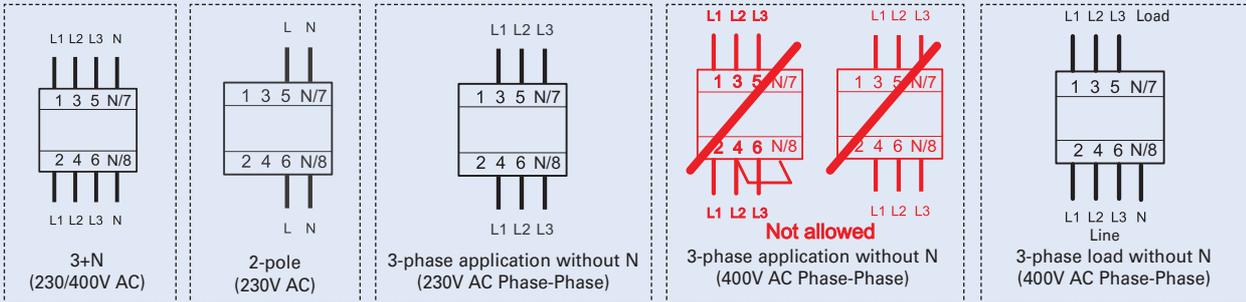
2-pole

30, 100, 300, 500mA Types:

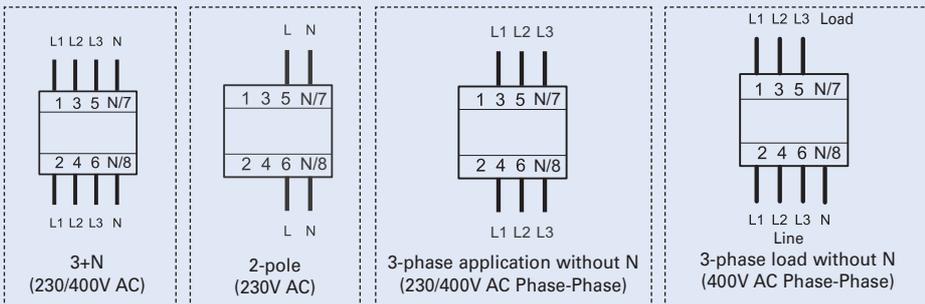


4-pole

10, 30mA Types:



100, 300, 500mA Types:



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

Ambient temperature	16A		25A		40A		63A		80A		100A	
	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