DATA SHEET

Portable residual current devices

DPRCD-M1

AC/DC sensitive type B, 3-Phase PRCD module, With protective conductor monitoring

Article number 09342100

10000 KV

Function

PRCDs are portable devices that are used for additional protection on existing electrical installations with unknown or insufficient protection. They combine residual current protection, undervoltage tripping and neutral conductor monitoring. If a protective conductor is also connected, they also offer protective conductor monitoring. Devices in the DPRCD-M series are base components for producing three-phase PRCD personal protection devices. They are suitable for DIN rail mounting and are compatible with housings of leading manufacturers. The devices combine an AC-DC sensitive residual current device with network and protective conductor monitoring, and measure just 8 module widths. Thanks to 6-mA-DC detection, the device also ensures the protective function of upstream residual current circuit breakers. Type B PRCDs are to AC/DC for residual currents from 0 Hz. They have increased resistance to surge currents and lightning.

Features

Base component for setting up a PRCD, Includes residual current detection, undervoltage tripping, network and protective conductor monitoring, Tripping threshold of 6 mA for smooth DC residual currents, High short circuit resistance, double-sided two-tier terminals for large conductor cross-section and busbar, Switch position indicator, Viewing window for labels, Multifunctional knob with three positions: 'On', 'Off', 'Tripped'

Mounting

quick fastening to mounting rail, any installation position, supply from top

Applications

PRCDs are used in mobile applications in which the protective measure of the upstream electrical installation is unknown or insufficient, e.g. on construction sites, at events or during rescue operations.

Notes

DPRCD-M is the base component of a three-phase PRCD. The housing is not included in the scope of delivery. DPRCD-M is compatible with many housings from leading manufacturers.

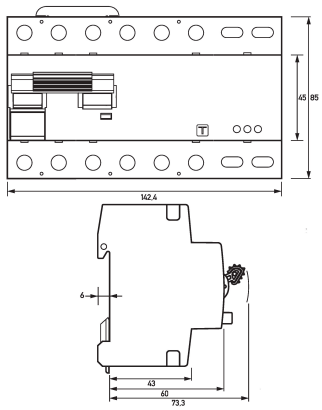
Technical Data

Technical Data	DPRCD-M1
Series	DPRCD-M
Residual current type	B
Rated current (AC)	40 A
Rated residual current IΔn	0.03 A
DC tripping threshold	6 mA
Short-time delayed	true
Selective	false
Tripping frequency	0 Hz ... 100 kHz
Maximum disconnection times	1 · IΔn: ≤ 300 ms; 5 · IΔn: ≤ 40 ms
Display elements	Switch position indicator, active conductors, Switch position indicator, PE conductor, Network error indicator, Rotating field direction indicator
Control elements	Switching knob, Residual current test button
Network fault detection	L conductor interruption, N conductor interruption, PE conductor interruption (> 40 kOhm), L and PE conductor mix-up, L and N conductor mix-up, No N and PE conductor mix-up detected

Technical Data	DPRCD-M1
Protective functions	Residual current protection, Restart protection, Anticlockwise rotating field locking, PE conductor monitoring, Undervoltage trip
max. Tolerance to all-pole voltage interruption	80 ms
	Error voltage monitoring
Rated residual voltage	25 V
DC tripping threshold	50 V
Short time delay	true
Tripping frequency range	0 Hz ... 100 kHz
max. Switch-off time error voltage 25 V	200 ms
max. Switch-off time error voltage ≥ 50 V	150 ms
Non-trip time	50 ms
	PE conductor monitoring
Rated external residual current 'Hold PE'	0.01 A
Tripping frequency range external residual current	50 Hz ... 60 Hz
max. Protective conductor test current	1 mA
Internal consumption	max. 4 W
Over voltage category	III
	load circuit
Specification	load disconnect contact
min. Contact opening	4 mm
Rated voltage (AC)	230 V, 400 V
Tolerance of rated voltage	70 % ... 110 %
Rated current (AC)	40 A
Rated short-circuit current	10 kA
Surge current strength	3 kA
max. Total rated switching capacity	500 A
Rated insulation voltage	400 V
Rated impulse withstand voltage	4 kV
Rated frequency	50 Hz
Current heat loss per current path	1.3 W
Short-circuit backup-fuse SCPD	80 A
Back-up fuse type	gG
	screw-type terminal top and bottom (load circuit)
Protection against direct contact	DGUV V_3, VDE 0660-514, finger and back-of-hand proof
Connection C1 Maximum number of conductors per terminal	2 (conductors of same type and cross-section)
Cross section solid	1-wire: 1.5 mm² ... 50 mm²; 2-wire: 1.5 mm² ... 16 mm²
Connecting capacity flexible	1-wire: 1.5 mm² ... 50 mm²; 2-wire: max. 16 mm²
Cross section stranded	1-wire: 1.5 mm² ... 50 mm²; 2-wire: 1.5 mm² ... 16 mm²
Tightening torque	2.5 Nm ... 3 Nm
	General data
Operating position	optional

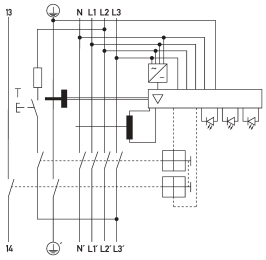
Technical Data	DPRCD-M1
max. Operating altitude above MSL	2000 m
Mechanical endurance	min. 5000 cycles
Electrical endurance	min. 2000 cycles
Surrounding atmosphere	normal environmental conditions
Storage temperature	-35 °C ... 75 °C
Ambient temperature	-25 °C ... 55 °C
Climate resistance	according to IEC 60068-2-30: humid heat / cyclic (25 °C / 55 °C; 93 % / 97 % RH)
Shock resistance	20 g / 20 ms Duration
Fatigue limit	> 5 g (f ≤ 80 Hz, duration > 30 min.)
Housing type	distribution board housing
Installation type	Mounting rail (35 mm)
Housing material	thermoplastic
Protection class	IP20
Width	144 mm
Height	85 mm
Depth	75 mm
Installation depth	69 mm
Module widths	8
Weight	0.813 kg
Degree of pollution	2

Dimensions



Dimensional drawing Group view

Wiring example



Wiring diagram