



## UK Technical Data 01

### DRCM 1 A

#### Residual current monitor Type A



#### Function

RCMs (residual current monitors), when used in combination with separate residual current transformers, allow the monitoring of residual currents in an electrical installation - see Note to BS7671 - 411.1.

RCMs are not protection devices and cannot be used in place of RCCBs, RCBOs, CBRs or MRCDs. RCMs provide a warning that the residual current has reached a pre-set threshold, allowing for planned preventative maintenance by appropriately qualified staff.

DRCM residual current monitors must be used in conjunction with DCT-A current transformers, selection based on the cross sectional area of the current carrying conductors.

The LED display provides a view of the actual residual current. The alarm operates at a fixed response threshold. The value of the residual current, and the point where the response thresholds are exceeded can be seen on a 10-segment LED display. A faulty connection to the external current transformer is immediately indicated by the alarm LED through a flashing pattern and by the activation of the signal contacts. An adjustable time delay (0.1 s to 1 s, in increments of 100 ms) can be set to prevent a response to transient residual current impulses e.g. lightning strikes and switching over voltages. Selectivity of devices connected in series, simplifies the location of faults within a system. Two independent, volt-free changeover contacts provide the option of passing on the alarm to optional indicator panels, indicator lights, HMI panels, PLCs, etc. The DRC1 detects sinusoidal AC currents as well as pulsating DC residual currents.

#### Features

VDE - certified (DIN EN 62020), suitable for detecting type A residual currents, five settings (30, 100, 300, 1000 and 3000 mA), residual current transformers with internal diameters of 20, 30, 70 and 105 mm available, rated voltage of monitored circuit up to 690 V, fixed response threshold of alarm between 75% and 100% of the set rated residual operating current ( $I_{\Delta n}$ ), adjustable pre-alarm threshold, alarm relays with two volt-free changeover contacts (230 V AC/5 A), selectivity adjustable in ten levels (0.1 s to 1 s in increments of 100 ms), dependent on auxiliary voltage, compact, robust plastic housing, easy mounting.

#### Mounting

Quick fastening to mounting rail, any installation position

#### Applications

For use in the monitoring of electrical installations for purpose-built buildings and industrial facilities with TN-S, TN-C-S networks and IT networks, such as in server rooms for data centers, laboratories, in the automotive industry and in conjunction with air conditioning systems, printing machines and packaging machines. Not permitted for use in TN-C networks and direct current networks; not permitted for monitoring systems in which electronic equipment may cause DC residual currents or residual currents with frequencies not equal to the rated frequency of the RCCB.

#### Notes

The maximum cable length from the control relay to the transformer is 10 m.

#### Accessories

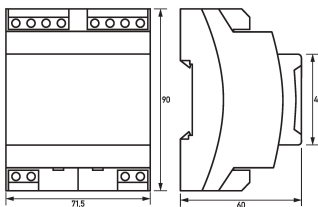
Residual current transformers DCT Type A, AC

**Technical Data**

Technical Data	DRCM 1 A
Series	DRCM 1A
Error memory existent	true
Selectivity adjustable	true
Residual operating current characteristics	A
Residual operating current $I_{\Delta n}$ (settings)	0.03 A, 0.1 A, 0.3 A, 1 A, 3 A
Frequency range response residual current Type A	50 Hz ... 60 Hz
Frequency range response residual current Type AC	50 Hz ... 60 Hz
adjustment values delay at $I_{\Delta n} = 30 \text{ mA}$	0.1 s, 0.2 s, 0.3 s, 0.4 s, 0.5 s, 0.6 s, 0.7 s, 0.8 s, 0.9 s, 1 s
adjustment values delay at $I_{\Delta n} \geq 100 \text{ mA}$	0.1 s, 0.2 s, 0.3 s, 0.4 s, 0.5 s, 0.6 s, 0.7 s, 0.8 s, 0.9 s, 1 s
Response threshold range of the pre-alarm	10 % ... 90 %
Response threshold range of the main alarm	80 % ... 100 %
Rated voltage $U_n$ of circuit monitored	0 V ... 690 V
Rated frequency $f_n$ of circuit monitored	50 Hz ... 60 Hz
Control elements	Range switch for residual response current, Range switch for pre-alarm threshold, Range switch for non-response lag time, Reset button, Test button
Current transformer external	DCT A-20, DCT A-30, DCT A-35, DCT A-70, DCT A-105, DCT A-140, DCT A-210
Operating voltage (AC)	230 V (85 V ... 264 V)
Operating frequency	50 Hz, 60 Hz
Internal consumption	max. 4 W
Rated impulse withstand voltage	4 kV
	Display Pre-alarm, Residual response current
Type	LED, LED display
nominal response residual current range	10 % ... 100 %
	Display Main alarm, Residual response current
Type	LED, LED display Relay
	Display Operation
Type	LED
	Pre-alarm output
Specification	Relay
Rated voltage (AC)	230 V
Rated current (AC)	max. 5 A
Rated frequency	50 Hz ... 60 Hz
Overvoltage class	III
	Main alarm output
Specification	Relay
Rated current (AC)	5 A
Rated frequency	50 Hz ... 60 Hz
	Screw-type terminal (Load circuit)
Cross section solid	1-wire: 0.22 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Cross section flexible with ferrule	0.22 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>

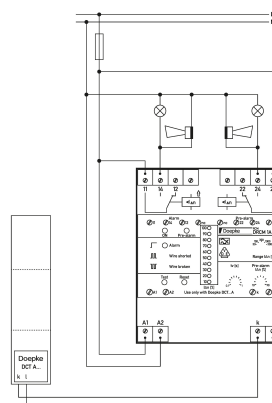
Technical Data	DRCM 1 A
Tightening torque	max. 0.6 Nm
	Screw-type terminal (Transformer input)
Cross section solid	1-wire: 0.22 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Cross section flexible with ferrule	0.22 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Tightening torque	max. 0.6 Nm
	General data
Operating position	any
max. Operating altitude above MSL	2000 m
Storage temperature	-40 °C ... 85 °C
Ambient temperature	-25 °C ... 65 °C
Housing type	Distributor housing
Mounting type	Mounting rail (35 mm)
Housing material	Polycarbonate (PC)
Specification housing cover	transparent
Protection class	IP40
sealable	true
Width	71.6 mm
Height	89.7 mm
Depth	62.2 mm
Installation depth	62.2 mm
Width (modules)	4
Design requirements/Standards	EN 62020, EN 60044
Certifications	VDE
Degree of pollution according to EN 60664	2

### Dimensions



Dimensional drawing Group view

### Wiring example



Wiring diagram