

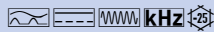


UK Technical Data 03

DCTR B NK ***/0,30-I (*dia. 020, 035, 070)

Residual current monitor Type B

4-20 mA output signal



Function

RCMs (residual current monitors), 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.

DCTR residual current monitors have integrated current transformers diameters 20 mm, 35mm and 70mm. Selection based on the cross sectional area of the current carrying conductors to be monitored. The 04-20 mA output from the DCTR must be fed into an appropriately designed monitoring and or control system e.g. SCADA, DCS, PLC or HMI

The DCTR continuously monitors the differential current (residual current / leakage current) and calculates the RMS value of all currents generated across the frequency spectrum 0 Hz < 150 kHz. This value is reproduced proportionally as a 4-20-mA output signal. The DCTR has a fixed response threshold set at 150 mA (50% of 300 mA). When this value is exceeded, a volt-free changeover contact activates and multicoloured LED signals the trip status (red) or that the device is ready (green).

Features

Suitable for detecting Type B residual currents, monitored frequency range 0 Hz – 100 kHz, Rated voltage of monitored circuit up to 690 V, compact, robust plastic housing, easy mounting, Output of the nominal response residual current over 4-20 mA interface, Alarm relay with volt-free changeover contacts, Operating voltage 24 V DC.

Mounting

The devices are mounted on a flat back plate using the mounting brackets supplied.

Applications

The monitoring device is suitable for use in power supplied to purpose-built buildings and industrial facilities with TN-S, TN-C-S networks, IT networks and direct current networks, such as in server rooms for data centers, laboratories, in the automotive industry and in conjunction with photo voltaic and UPS systems with frequency converters without transformers, air conditioning systems, frequency converters, switching power supplies, high-frequency converters, printing machines and packaging machines.

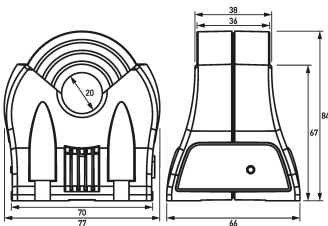
Technical Data	DCTR B NK ***/0,30-I
Series	020/0,30-I 035/0,30-I 070/0,30-I
Error memory existent	false
Selectivity adjustable	false
Residual operating current characteristics	B
Tripping characteristic curve	NK
Residual operating current I Δ n (settings)	0.3 A
Frequency range response residual current Type A	0 Hz ... 100 kHz
Frequency range response residual current Type AC	0 Hz ... 100 kHz

Technical Data	DCTR B NK ***/0,30-I		
Frequency range response residual current Type B	0 Hz ... 100 kHz		
Rated voltage Un of circuit monitored	0 V ... 690 V		
Rated frequency fn of circuit monitored	0 Hz ... 400 Hz		
Control elements	Test button		
Operating voltage (DC)	24 V (22V ... 26V)		
Internal consumption	max. 1.5 W		
Rated insulation voltage	30 V		
Rated impulse withstand voltage	1.5 kV		
Over voltage category	III		
	Display Alarm, Operation		
Type	LED (red, green)		
	Transformer primary		
rated impulse withstand voltage	8 kV		
rated insulation voltage	700 V		
Overvoltage class	IV		
Rated current	dia. 020 = 200 A	dia. 035 = 200 A	dia. 070 = 300 A
	External test button		
Galvanically separated	false		
Rated voltage (DC)	max. 24 V		
Rated current	max. 1 mA		
	Alarm output		
Specification	Relay		
Number	1		
Rated voltage (AC)	30 V (27 V ... 33 V)		
Rated voltage (DC)	30 V (27 V ... 33 V)		
Rated current (AC)	1 A		
Rated current (DC)	1 A		
	4-20 mA interface		
Specification	Semiconductor		
	Plug-in terminal connector (Transformer output, Voltage supply, Switching output, Control input)		
Connection design	female		
Allowed types of wires	flexible conductors, massive conductors		
Cross section solid	1-wire: 0.2 mm ² ... 1.5 mm ²		
Cross section stranded	1-wire: 0.2 mm ² ... 1.5 mm ²		
	General data		
Operating position	any		
max. Operating altitude above MSL	2000 m		
Storage temperature	-40 °C ... 85 °C		
Ambient temperature	-25 °C ... 70 °C		
Housing type	wall-mounted housing		
Mounting type	Wall mounting		
Housing material	Polycarbonate (PC)		
Protection class	IP20		
Dimensions / Internal C/T dia.	20 mm	35 mm	70 mm
Width	70 mm	99 mm	134 mm
Height	84 mm	113 mm	143 mm
Depth	66 mm	104 mm	104 mm

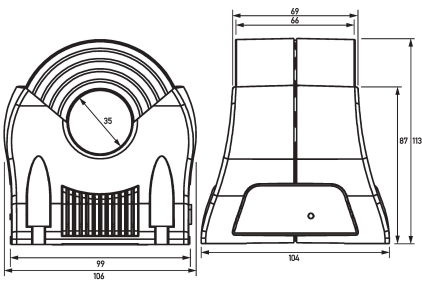
Technical Data	DCTR B NK ***/0,30-I
Installation depth	See height page 2
Inside diameter	See Internal C/T dia. page 2
Design requirements/Standards	DIN EN 62020, DIN EN 61000-4-3, DIN EN 61000-4-6, DIN IEC 381-1, ISA-50.1, VDE 0664-400
Degree of pollution according to EN 60664	2

Dimensions

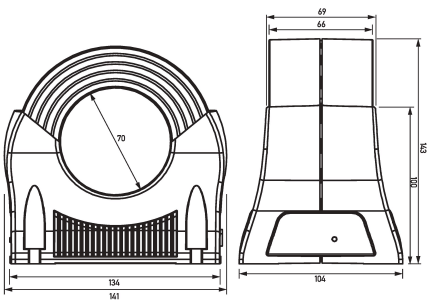
DCTR B NK 020/0,30-I



DCTR B NK 035/0,30-I

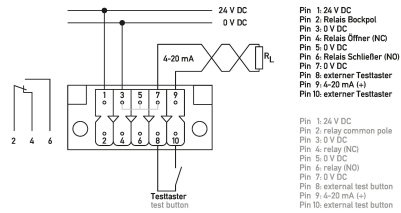


DCTR B NK 070/0,30-I

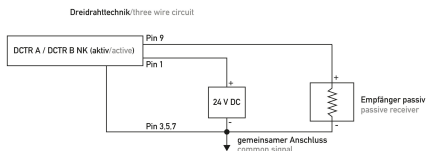


Dimensional drawing Group view

Wiring example



Wiring diagram 4-20 mA interface design



Wiring diagram Pin assignment for ten-pin female connector (de-energised)