



DATA SHEET
residual current monitors
DCTR B-X Hz 070-PoE
AC/DC sensitive type B
Article number 09344947



Function
Smart, all-current-sensitive residual current monitors (type B) reliably detect fault as well as residual currents and report them without switching off the system. The Ethernet interface transmits the measured residual current values via Modbus TCP protocol. The smart residual current monitors are an integral part of the e.Guard system, regardless of the selected e.Guard LEVEL.

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, Configuration of various settings and sending of residual current values over Ethernet, 2 configurable alarm relays with potential-free changeover contacts, Operating voltage from PoE (Power over Ethernet) or direct 24 V DC connection

Mounting
The devices are mounted on stable substrata using the supplied mounting brackets.

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 centres, laboratories, in the automotive industry and in conjunction with photovoltaic and UPS systems with frequency converters without transformers, air conditioning systems, frequency converters, switching power supplies, high-frequency converters, printing machines and packaging machines. , Suitable for monitoring DC circuits and systems in which electronic equipment may generate smooth DC residual currents or residual currents with frequencies not equal to 50 Hz.

Notes
Custom configuration is carried out via the DCTR Manager software.
Further information is available online: www.eguard.de.

Accessories
adapter rails DCTR B-RM, interfaces Gateway

Technical Data

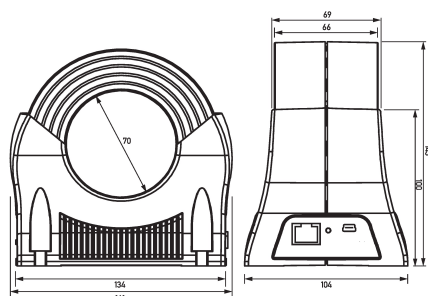
Technical Data	DCTR B-X Hz 070-PoE
Series	DCTR B-X Hz 070-PoE
Operating mode RCM	standalone
Error memory existent	false
Selectivity adjustable	false
Residual operating current characteristics	B
Residual operating current I _{Δn} (measuring ranges) AC	0.3 A, 1 A, 3 A, 10 A, 30 A
Residual operating current I _{Δn} (measuring ranges) DC	0.3 A, 3 A
Number of selective frequency ranges	7

Technical Data	DCTR B-X Hz 070-PoE
Frequency range response residual current Type A	0 Hz ... 100 kHz
Frequency range response residual current Type AC	0 Hz ... 100 kHz
Frequency range response residual current Type B	0 Hz ... 100 kHz
Rated voltage U_n of circuit monitored	0 V ... 1000 V
Rated frequency f_n of circuit monitored	0 Hz ... 400 Hz
Thermal rated short-time withstand current $I_{\Delta th}$	100 A
Thermal rated continuous withstand current $I_{\Delta ct}$	100 A
Control elements	test key
	serial interface (Ethernet (LAN))
Serial IF IF1 Protocols	Modbus TCP
Serial IF IF1 Ethernet rate	10BASE-T, 100BASE-TX
	Supply voltage (PoE (Ethernet interface), external adaptor)
PoE variant	802.3 af (PoE)
Operating voltage (DC)	24 V (21.6 V ... 26.4 V)
Internal consumption	max. 3.5 W
Rated impulse withstand voltage	1.5 kV
Over voltage category	III
	Display status output
Type	LED (green, orange, red)
	transformer, primary side
rated impulse withstand voltage	8 kV
rated insulation voltage	700 V
Overvoltage class	IV
Rated current	400 A
Measurement accuracy	AC: $\pm 5\%$, DC ($< 2A$): $\pm 5\%$, DC ($\geq 2A$): $\pm 10\%$
Frequency filter: Type 1 / cut-off frequency (-3 dB)	Butterworth, third-order / < 100 Hz, 100 Hz ... 1 kHz, > 1 kHz, > 10 kHz
Frequency filter: Type 2 / cut-off frequency (-3 dB)	Butterworth, fourth-order / 25 ... 100 Hz (rated 50/60 Hz) 85... 320 Hz (rated 150/180 Hz)
	supply
Galvanically separated	false
Rated voltage (DC)	24 V (21.6 V ... 26.4 V)
	alarm output
Specification	relays
Number	2
response delay relay	Adjustable from 0.5 s to 5.0 s in 0.5 s increments
drop delay relay	5 s
contact assignment	1 CO
Rated voltage (AC)	30 V
Rated voltage (DC)	30 V
Rated current (AC)	1 A
Rated current (DC)	1 A
	plug-in terminal (power supply, switching output)
Connection design	female
Allowed types of wires	flexible conductor, solid conductor

Subject to technical changes

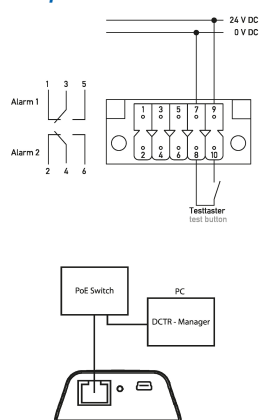
Technical Data	DCTR B-X Hz 070-PoE
	RJ45 (Ethernet connection, power supply)
Connection design	female
max. cable length	100 m
	General data
Operating position	optional
max. Operating altitude above MSL	2000 m
Storage temperature	-40 °C ... 85 °C
Ambient temperature	-25 °C ... 70 °C
Housing type	wall-mounted housing
Installation type	Wall mounting
Housing material	polycarbonate (PC)
Protection class	IP20
sealable	false
Width	134 mm
Height	143 mm
Depth	104 mm
Installation depth	143 mm
Inside diameter	70 mm
Design requirements/Standards	EN 55024, DIN EN 62020, DIN EN 61000-4-3, DIN EN 61000-4-6, VDE 0664-400
Degree of pollution according to EN 60664	2

Dimensions



Dimensional drawing Group view

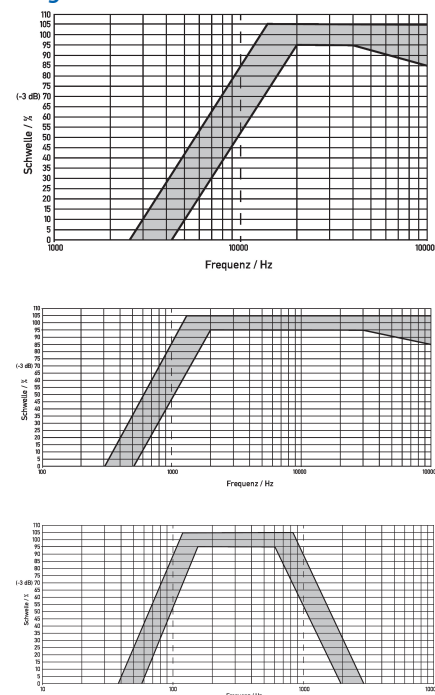
Wiring example

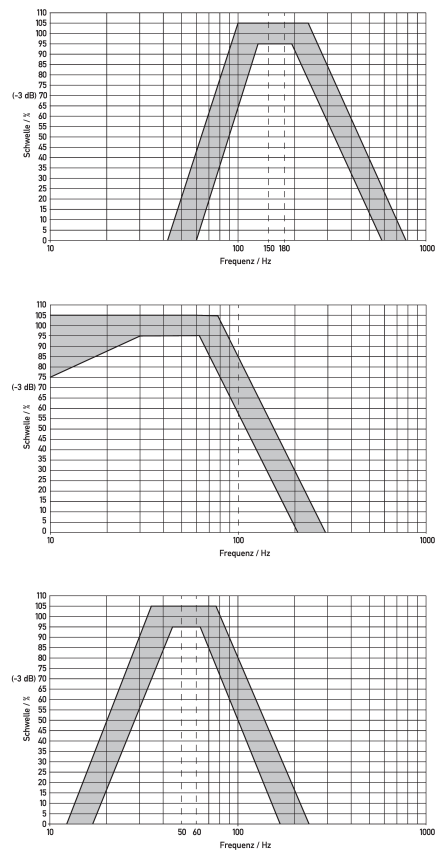


Wiring diagram Pin assignment for ten-pin female connector (de-energised)

Wiring diagram PoE switch and PC with DCTR-Manager

Diagrams





Characteristic Frequency response 50–60 Hz (band-pass)

Characteristic Frequency response < 100 Hz (low-pass/-3 db)

Characteristic Frequency response 150–180 Hz (band-pass)

Characteristic Frequency response 100–1 kHz (band-pass)

Characteristic Frequency response > 1 kHz (high-pass/-3 dB)

Characteristic Frequency response > 10 kHz (high-pass/-3 dB)