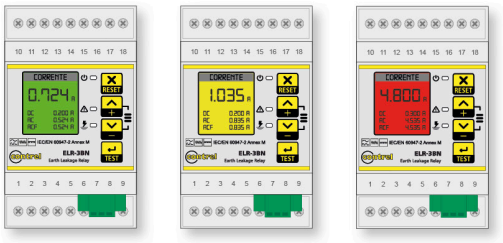
Operational set parameters and Alarm visual indication

UK Technical Data 12

ELR-3BN Earth Leakage Relay - Type B



Normal *Pre-alarm* *Trip*

Function

ELR-3BN units are designed for mounting in control assemblies e.g. EN61439-2 or similar, for use with separate fault breaking devices (see EN947 -2 Annex M). To meet the requirements of EN947 -2 Annex M, the OEM must set the relay and test the combination within the control assembly, to verify the total breaking time (operation of the ELR + Shunt-trip + CB combined).

ELR-3**BN** units are for use on sites or in installations under the control of electrically qualified staff. Any changes to the relay settings should be in accordance with the design requirements of the Installation Regulations (BS 7671 - Fault protection) and verified by suitable testing, to check the disconnection time.

ELR-3B must be used in conjunction with separately mounted Type B CTB-2/*** residual current transformers . The selection is based on the diameter of the CTB to accommodate the cross sectional area of the current carrying conductors. Note minimum detection limits based on CT diameter. For 22mm and 160mm; two CTBs required per ELR-3BN. Refer to CTB2 installation instructions.

Features

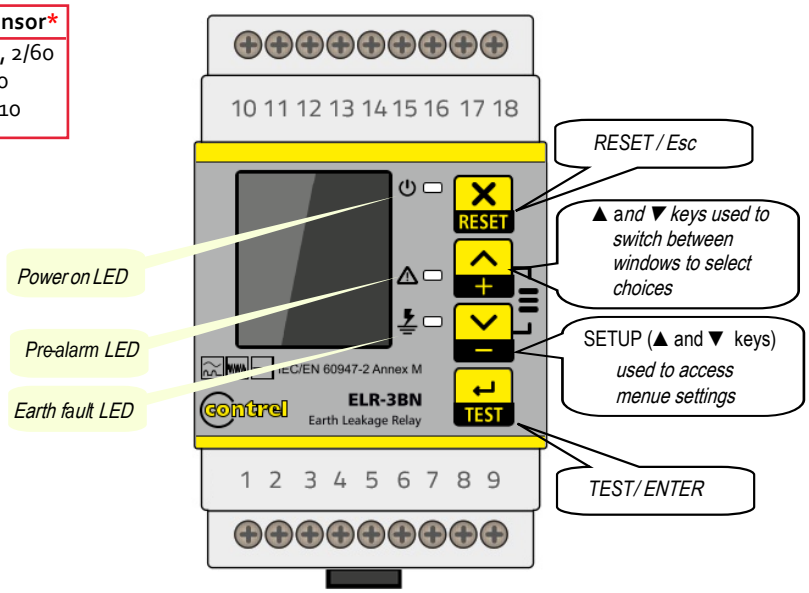
Screen displays: Green; current < set thresholds. Yellow; current > ALARM threshold < lower than TRIP threshold. Red; current > Alarm & Trip threshold or open circuit connection to CTB-or Test Button operated. For additional features refer to the operating instructions.

Mounting

Relay mounts on a standard 35 mm rail inside the panel. The CTB must be screwed to a secure back plate using the inbuilt fixing locators.

Settings

Minimum Idn	with CTB- sensor*
30 mA	2/22, 2/35, 2/60
>= 100 mA	2/80, 2/110
>= 500 mA	2/160, 2/210

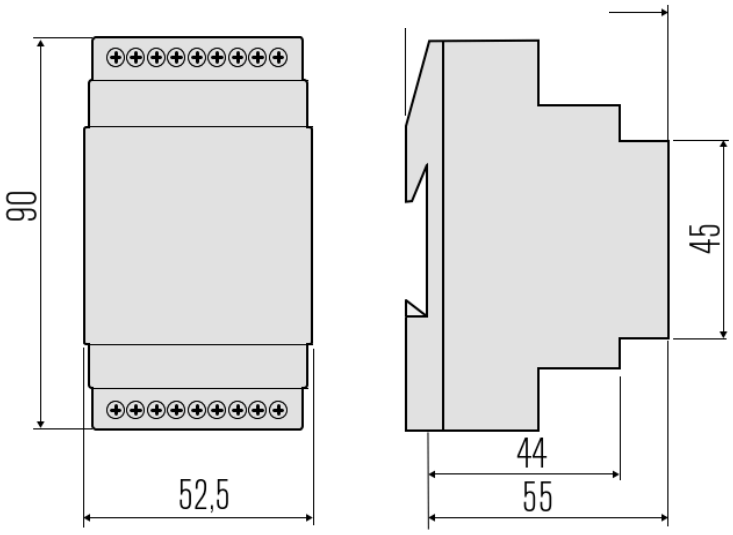


** For CTB-2 details refer to data sheet: Technical Data 13_CTB-2 0724 v1 en.pdf*

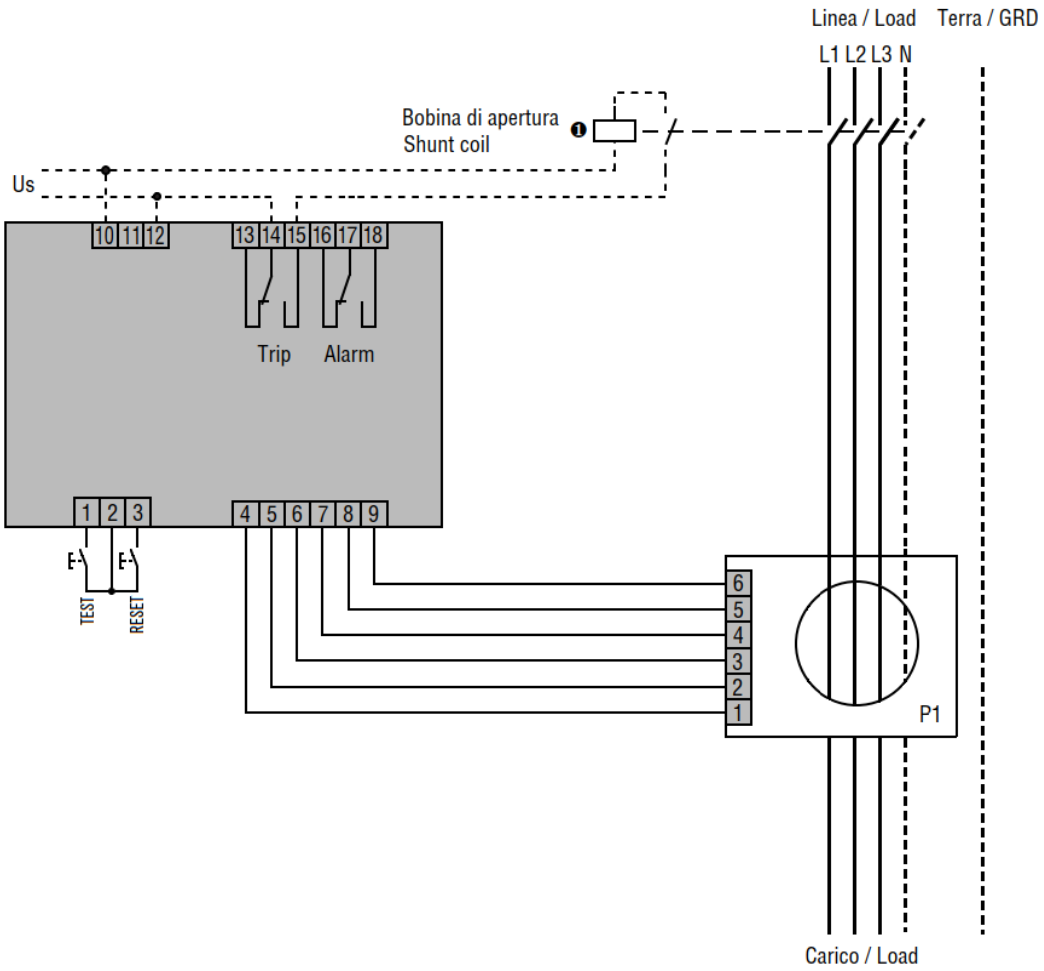
Technical Data

Technical Data	ELR-3BN
Control Circuit	
Toroidal transformer (External)	Order separately CTB-2/22 = 22 mm, 35 = 35 mm, 60 = 60 mm, 80 = 80 mm, 110 = 110mm, 160 = 160mm
Adjustment tripping time (t)	0.03 s < 10 s
Residual operating current characteristics	Type B
Adjustment tripping current (IΔn)	30 mA to 10 A
Frequency range response residual current Type AC & A	50-60 Hz:
Frequency range response residual current Type B	0 < 1000 Hz
Auxiliary Supply	
Auxiliary voltage (Us)	Standard version 230V +/- 20% "Other voltages available on request"
Rated frequency	50-60 Hz
Maximum power consumption	4VA
Output Relays	
Contact arrangement	2 c/o (1 alarm, 1 Trip) configurable normally energised or de-energised
Contact rating (Ith)	5A (240 VAC)
Display	
LEDs	Green; POWER on. Yellow; ALARM threshold exceeded. Red; TRIP threshold exceeded
Screen	Leakage current, AC and DC component, Alarm display, Trip display and more - see instructions
Insulation	
Withstand voltage CTB-1	2.5 kV for 1 minute
Ambient Operating Conditions	
Operating temperature	-10 °C ... 60 °C
Storage temperature	-20 °C ... 80 °C
Relative humidity	< 95 %
Degree of protection	Terminals = IP20 / Front = IP40
Certification	Note: Standards may have been applied in part, as identified within the manufacturing design process
Reference Standards	EN 61326-1 & 2-1-5 , EN 62423 , EN60947-2 Anx. M, EN61543. For details please contact Manufacturer
Design requirements (OEM)	EN 60947-2 Annex M 2 *"OEM responsible for testing the final control assembly"*

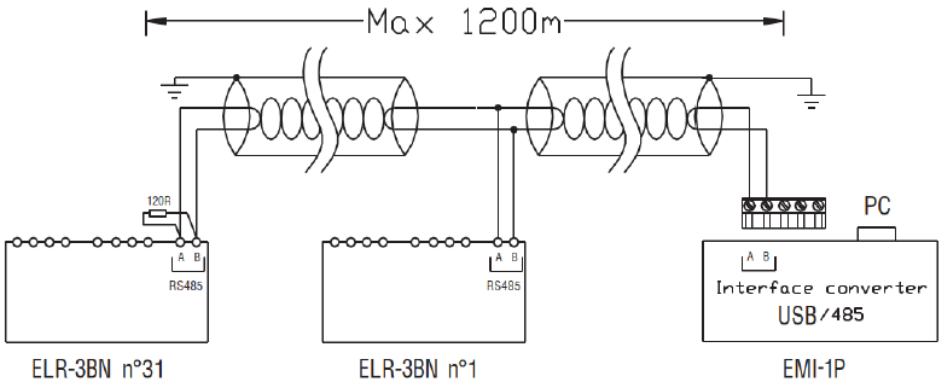
Dimensions



Wiring example



RS 485 Connection details



RS485	Unit of measure	Default	Range
Node	-	01	01-247
Baudrate	bps	38400	4800-115200
Stop bits	-	1	1-2
Data format	-	8 bit - n	8 bit, no parity 8 bit, odd 8 bit, even
Response time	ms	10	5-100

Node - Serial address (node number) for the communication protocol.
Baud rate - Serial communication speed.
Stop Bit - Number of stop bits.
Data format - Data format and parity.
Response time - Defines the delay time in the Modbus response.