UK Technical Data 04
ELRC-1/***
Earth Leakage Relay - Type A

Function

ELRC 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 assembled combination within the panel, to verify the total breaking time (operation of the ELR + Shunt-trip + CB combined). We recommend sealing the transparent cover after completing the set up and testing of the ELR C unit.

ELRCs are suitable 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. The transparent cover must be resealed after adjustment.

ELRC -1/*** selection is based on the diameter of the CT aperture to accommodate the cross sectional area of the current carrying conductors.

Features

Green LED - power on, Red LED - relay tripped. Manual trip and reset buttons, can be configured for auto reset where it is safe to use this function. Suitable for detecting type A residual currents, wide range of current and time setting functions. Incorporated internal CT diameters available in 35, 60, 80 and 110 mm.

Mounting

Mount inside the panel on a secure back plate. To maintain detection accuracy the monitored cables must be positioned centrally within the CT aperture.

Settings

1. Potentiometer - Time delay trip setting   t(sec)

2. Potentiometer - Fault current trip setting   IΔn(A)

3. Dip switches -
   a) - Auto or Manual reset
   b) - t x 10 or t x 1 for time delay setting.
   c+d) - IΔn x 0,1 - IΔn x 1 - IΔn x 10 for fault current trip setting.
   Position of the dip switches as follows:
   Both dip switches on the right (IΔn x 0.1)   = 0.1
   Dip switch (IΔn x 1) left and (IΔnx0.1) right   = 1
   Both dip switches on the left (IΔn x 1 and IΔn x 10) = 10

4. Trip test button

5. Manual reset button
   - Remote reset; disconnect the power for > 1 second

6. Power-on LED (green)

7. Trip LED (red)
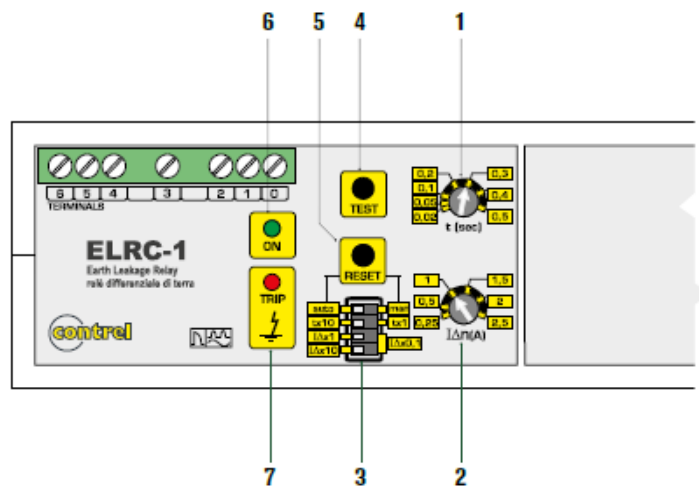
Note: Line & Neutral cable if applicable must pass through the CT and be positioned centrally.
          If cables are mounted off-center this will affect the accuracy of the relay detection thresholds.
          The PE earth conductor and any metal protection screen must not pass through the CT.

Technical Data

Technical Data	ELRC-1/***
Control Circuit	
Toroidal transformer (included)	035 = 35 mm, 060 = 60 mm, 080 = 80 mm, 110 = 110 mm
Adjustment tripping time (t)	0.02 s < 5 s
Residual operating current characteristics	Type A
Adjustment tripping current (IΔn)	0.025 A < 25 A
Frequency range response residual current Type A	50 Hz ... 60 Hz
Frequency range response residual current Type AC	50 Hz ... 60 Hz
Auxiliary Supply	
Auxiliary voltage (Us)	110 VAC/DC and 240-415 VAC "Other voltages available on request"
Rated frequency	50-60 Hz
Maximum power consumption	3 VA
Output Relays	
Contact arrangement	1 c/o (Trip)
Contact rating (Ith)	5 A (240 VAC)
Indicators	
Auxiliary voltage (On)	Green LED)
Relay tripped (Fault)	Red LED)
Insulation	
Withstand voltage	2.5 kV for 1 minute
Ambient Operating Conditions	
Operating temperature	-10 °C ... 60 °C
Storage temperature	-20 °C ... 80 °C
Relative humidity	< 90 %
Degree of protection	Terminals = IP20 / With clear protective cover in place = IP40
Certification	
Standards	IEC/EN 61010, 61000-6-2, 61000-6-3, IEC/TR 60755
Design requirements (OEM)	IEC/EN 60947-2 Annex M

Dimensions
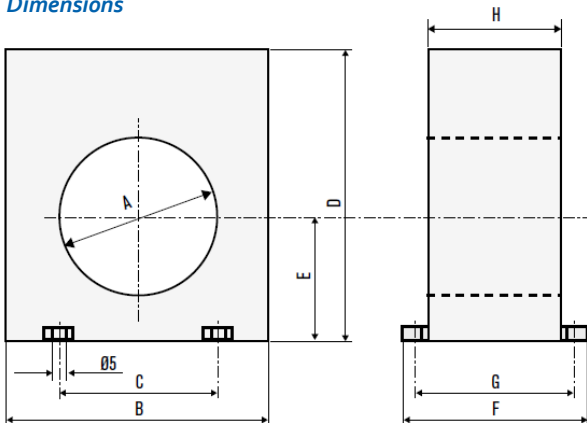
	A	B	C	D	E	F	G	H
ELRC-1/35	35	100	60	110	47	70	60	50
ELRC-1/60	60	100	60	110	47	70	60	50
ELRC-1/80	80	150	110	160	70	70	60	50
ELRC-1/110	110	150	110	160	70	70	60	50

Wiring example

Wiring example

GRD   Load

N   L1   L2   L3

BA2 (shunt coil)   Us

| 6 | 5 | 4 | | 3 | | 2 | 1 | 0 |

TRIP

0 - 1 = 24 Vac/dc
0 - 2 = 48 Vac/dc
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0 - 1 = 110-125 Vac
0 - 2 = 220-240Vac
0 - 3 = 380-415 Vac

Load

Wiring example