

# ELRC-1

## EARTH LEAKAGE RELAY - COMPACT INTERNAL PANEL VERSION WITH INCORPORATED TOROIDAL TRANSFORMER

The ELRC-1 have the particularity that they are manufactured with the built-in Toroidal Transformers.

They are specially conceived for those applications, in which the space saving is an advantage (for example, in **MOTOR CONTROL CENTERS, BATTERIES OF DISTRIBUTION**, etc.). Although its reduced dimensions, the relay has as wide setting ranges as the other ELR's series.



### GENERAL CHARACTERISTICS

- Earth leakage relay type A
- Incorporated toroidal 35-60-80-110 mm standard diameter
- Green power LED indicator (ON)
- Red relay tripped LED indicator (TRIP)
- Front TEST and RESET buttons
- Configurable automatic or manual resetting
- Compact housing for fixing on panel mounting plate
- IEC degree of protection: IP20 terminals.

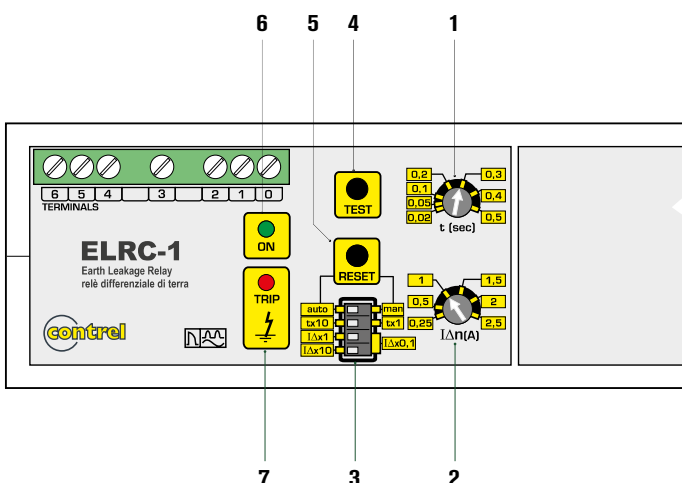
ORDER CODE	RATED AUXILIARY SUPPLY VOLTAGE	OUTPUTS CONTACTS	WT [kg]
ELRC-1 /... 48	24-48 VAC/DC	1	0,485
ELRC-1 /...415	110VAC/DC 240-415 VAC	1	0,485

/... Replace with the digit of the required diameter (35-60-80-110 mm)

OPTIONS	
<b>T</b>	Tropicalisation
<b>F</b>	Built-in filter for 3rd harmonic (ELR-92 only)
<b>2</b>	2 outputs (version ELRC-2 /...)

ADJUSTMENTS	
<b>Configurable tripping set-point (<math>I\Delta n</math>)</b>	0,025...0,25A 0,25...2,5A 2,5...25A 5...250A (with external multiplier CT1-M)
<b>Configurable tripping delay time (t)</b>	0,02...0,5s 0,2...5s.

LEGENDA	
<b>1</b>	Tripping delay time adjustment
<b>2</b>	Fault current to earth adjustment
<b>3</b>	<p>Dip switches settings:</p> <p><b>3a</b> - auto reset - man reset auto reset = automatic reset man reset = manual reset through the RESET key on the front. For remote resetting, simply shut off the auxiliary supply for about 1 second.</p> <p><b>3b</b> - tx10 - tx1 constant selection for tripping delay time adjustment.</p> <p>Examples: positioning the dip switch on tx10 and the potentiometer on 0.3 we will have a tripping delay upon exceeding the <math>I\Delta</math> threshold of <math>0.3 \times 10 = 3</math> seconds; positioning the dip switch on tx1 and the selector on 0.3 we will have a tripping delay upon exceeding the <math>I\Delta</math> threshold of <math>0.3 \times 1 = 0.3</math> seconds.</p> <p><b>3c</b> - <math>I\Delta n \times 0,1</math> - <math>I\Delta n \times 1</math> - <math>I\Delta n \times 10</math> constant selection for fault current to earth adjustment. The constants in relation to the position of the 2 dip switches are the following:                      - dip switch position <math>I\Delta n \times 0,1</math> and <math>I\Delta n \times 0,1</math> K = 0.1                      - dip switch position <math>I\Delta n \times 1</math> and <math>I\Delta n \times 0,1</math> K = 1                      - dip switch position <math>I\Delta n \times 1</math> and <math>I\Delta n \times 10</math> K = 10</p>
<b>4</b>	TEST key. Causes tripping of the relay.
<b>5</b>	RESET key. To reset the relay after tripping. For remote reset, simply shut off the auxiliary supply for about 1 second.
<b>6</b>	ON LED. Indicates the presence of auxiliary voltage.
<b>7</b>	TRIP LED. Lighting up indicates the cutting in of the TRIP relay due to exceeding the $I\Delta n$ set.
<b>8</b>	Built-in current transformer. It must be crossed by the cables of the line to be controlled; insert the phases and neutral if present. The earth cable must NOT cross the current transformer.

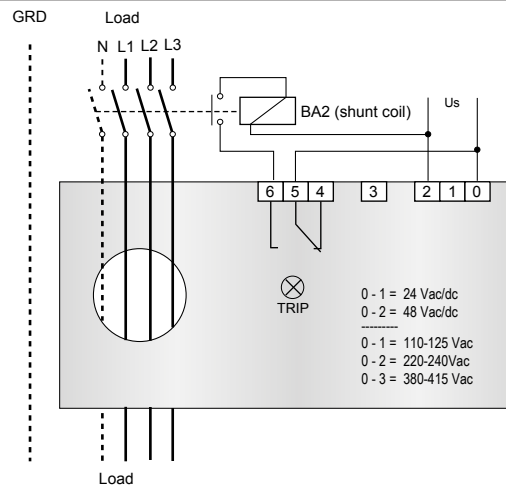


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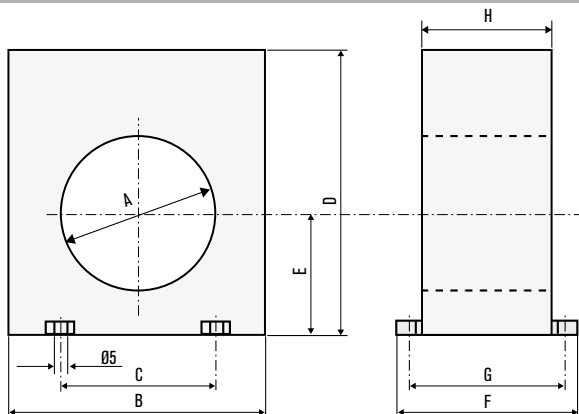
## EARTH LEAKAGE RELAY - COMPACT INTERNAL PANEL VERSION WITH INCORPORATED TOROIDAL TRANSFORMER

TECHNICAL CHARACTERISTICS	ELRC-1	
<b>CONTROL CIRCUIT</b>		
Toroidal transformer	Incorporated 35-60-80-110 mm standard diameter	
Adjustments tripping set-point (I $\Delta$ )	0.025÷25A	
Adjustments tripping time (t)	0.02÷5s	
<b>AUXILIARY SUPPLY</b>		
Auxiliary voltage (Us)	24-48 VAC/DC	110 VAC/DC-240-415 VAC
Rated frequency	50-60 Hz	
Maximum power consumption	3 VA	
<b>OUTPUT RELAYS</b>		
Contact arrangement	1 changeover (trip)	
Rated contact capacity Ith	5 A (240 VAC)	
<b>INDICATIONS</b>		
Auxiliary voltage available (ON)	Green LED	
Relay tripping (TRIP)	Red LED	
<b>INSULATION</b>		
Insulation test	2.5kV for 1 minute	
<b>AMBIENT OPERATING CONDITIONS</b>		
Operating temperature	-10÷60 °C	
Storage temperature	-20÷80 °C	
Relative humidity	≤90%	
<b>ENCLOSURE</b>		
Version	Compact	
Degree of protection	IP20 terminals	IP40 with protective cover
<b>CERTIFICATIONS AND COMPLIANCE</b>		
Reference standards	IEC/EN 61010, IEC/EN 61000-6-2	IEC/EN 61000-6-3, IEC/TR 60755   CEI EN 60947-2 Annex M

### WIRING CONNECTION



### MECHANICAL DIMENSIONS



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