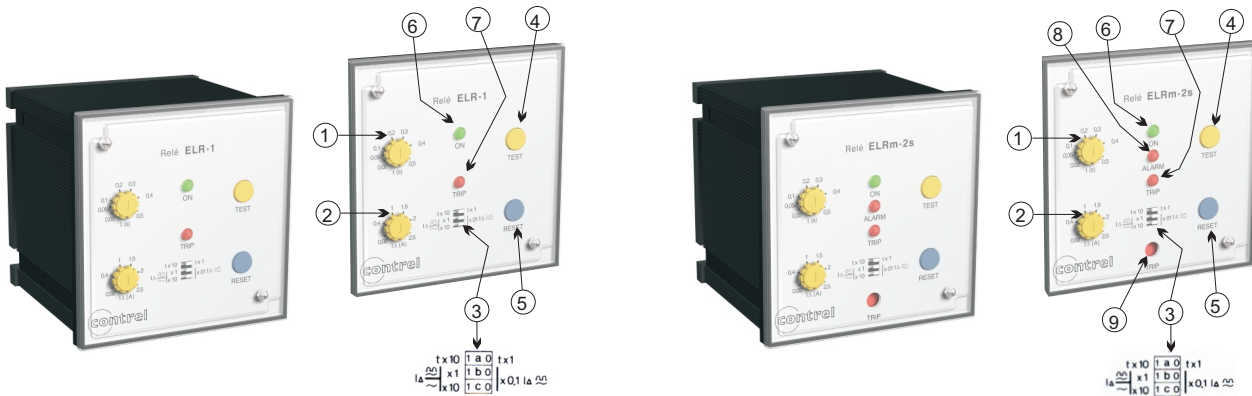


**ELR-1**  
**ELR-m1**  
**ELR-2S**  
**ELR-m2S**

**Earth Leakage Relays**  
 Flush mounting versions DIN 96x96mm



**GENERAL**

**ELR-1 ELR-m1**

The **ELR-1**, which is supplied in a flush mounting DIN 96 x 96mm enclosure, can be coupled to any of the CT-1 T/T's family. This ELR works with a normally de-energized relay, which is energized with a leakage to trip; but it can be supplied, working fail safe, under request. Its current and time settings range is very wide.

Such a feature allows to easily choose the tripping current value, in the way that the voltage values are maintained below 50V, in compliance with the CEI Standards.

It allows also to perform a tripping selectivity, whenever there are more ELR's or RCD's in the same line.

Other important feature is its insensitivity to external disturbances and pulse currents with dc components (presents in the line), due to the filters built on the input circuits, as the VDE Standards.

The **ELRm-1** has the feature of tripping mechanical signalling too, with a lack of auxiliary supply even.

It avoids the inconvenience of the auxiliary supply, sometimes dangerous. It could be seen the reason of tripping, even with the board open.

**ELR-2S ELRm-2S**

The **ELR-2S** adds to the above characteristics the alarm signalling, at the 70% of the tripping current set ( $I_{\Delta N}$ ).

The **ELRm-2S**, same as the previous one but with mechanical signalling.

**DESCRIPTION**

**ELR-1 ELR-m1**

- 1) Potentiometer for tripping time setting.
- 2) Potentiometer for tripping current setting.
- 3) Microswitches for constant selection:
  - time:
  - K = 1 with micro (a) in position 0;
  - K = 10 with micro (a) in position 1;
  - current:
  - K = 0,1 with micro (b-c) in position 0; K = 1 with micro (b) in position 1 and (c) in position 0; K = 10 with micros (c-b) in position 1
- 4) Test push button.
- 5) Manual reset push button.
- 6) Signalling lamp for Aux. Supply presence (green LED).
- 7) Signalling lamp for relay tripped (red LED).
- 8) Mechanical signalling for relay tripped (for ELRm-1 only).

**ELR-2S ELRm-2S**

- 1) Potentiometer for tripping time setting.
- 2) Potentiometer for tripping current setting.
- 3) Microswitches for constant selection:
  - time:
  - K = 1 with micro (a) in position 0;
  - K = 10 with micro (a) in position 1;
  - current:
  - K = 0,1 with micros (b-c) in position 0; K = 1 with micro (b) in position 1 and (c) in position 0; K = 10 with micros (c-b) in position 1
- 4) Test push button.
- 5) Manual reset push button.
- 6) Signalling lamp for Aux. Supply presence (green LED).
- 7) Signalling lamp for relay tripped (red LED).
- 8) Signalling lamp for alarm tripped (red LED).
- 9) Mechanical signalling for relay tripped (for ELRm-2S only).

**MODELS**

ELR-1 / ELR-m1 / ELR-2S / ELR-m2S = 110 - 230 - 400 Vac

ELR-1 / ELR-m1 / ELR-2S / ELR-m2S = 110 Vdc

ELR-1 / ELR-m1 / ELR-2S / ELR-m2S = 24-48 Vdc/ac

**Options:**

F = built-in filter for third harmonic

SP = fail safe

T = tropicalisation

# Earth Leakage Relays

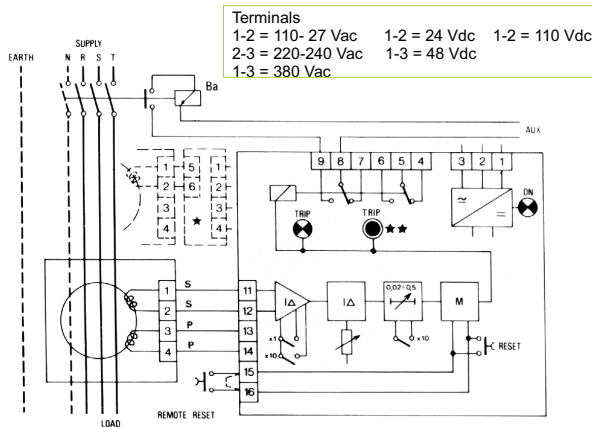
**ELR-1**  
**ELR-m1**  
**ELR-2S**  
**ELR-m2S**

## ELECTRICAL CHARACTERISTICS

TYPE	ELR-1	ELRm-1	ELR-2S	ELRM-2S
Auxiliary Voltage supply	24-48V ac/dc 110Vdc 110 - 230 - 400 Vac $\pm$ 20%			
Frequency	50+60 Hz			
Maximum consumption	4 VA			
Tripping current setting range $I\Delta N$	0,025+0,25A K=0,1 - 0,25+2,5A K=1 - 2,5+25A K=10 - 25+250A*			
Alarm current setting range	—		70% $I\Delta N$	
Time tripping setting range	0,02 $\div$ 0,5 sec. K=1 - 0,2 $\div$ 5 sec. K=10			
Mechanical signalisation	—	●	—	●
Output: 2 change-over contacts	5A 250V			
Working temperature	-10 + 60°C			
Storing temperature	-20 + 80°C			
Relative humidity	90%			
Insulation Test	2,5 kV 60 sec.			
Standards	CEI 41-1 - IEC 255 - VDE 0664			
Wiring method	Screw terminals for cross section wire 2,5 mm <sup>2</sup>			
Protection degree at terminals according with DIN 40050	IP20			

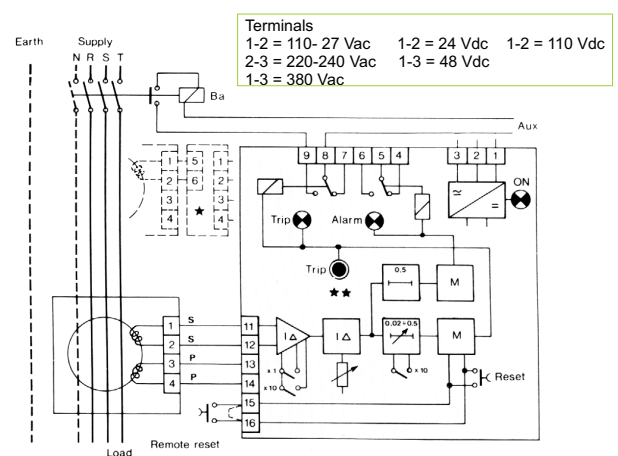
\* By means of an external multiplier

## WIRING DIAGRAM



### ELR-1 ELRm-1

- \* Eventual multiplier for setting 25+250A
- \*\* Mechanical signalling only for ELRm models
- Twist between themthe connecting wires 1-2 / 3-4



### ELR-2S ELRm-2S

- \* Eventual multiplier for setting 25+250A
- \*\* Mechanical signalling only for ELRm models
- Twist between themthe connecting wires 1-2 / 3-4\*

## DIMENSIONS ELR-1 ELRm-1 ELR-2S ELRm-2S

