

ELR-8V ELR-8tcs / ELR-8MVtcs

MICROENER

EARTH LEAKAGE RELAY

FLUSH MOUNTING VERSION DIN 96X96 mm WITH ADVANCED FUNCTIONS

GENERALITY



MODELS

| | |
|---------------------------------|---------------------|
| ELR-8V / ELR-8tcs / ELR-8MV-tcs | 110 - 230 - 400 Vac |
| ELR-8V / ELR-8tcs / ELR-8MV-tcs | 110 Vdc |
| ELR-8V / ELR-8tcs / ELR-8MV-tcs | 24-48 Vac/dc |

OPTIONS

| | |
|---|-----------------|
| T | tropicalisation |
|---|-----------------|

ELR-8V

The ELR-8V, is being manufactured in a DIN 96x96mm enclosure for flush mounting, It can be connected to any of our toroidal transformers of the CT-1 (closed core) and CTA-1 (split core) series.

The relay has a wide adjusting range, either in current sensitivity as in time delay . The mentioned setting range allows an easy selection of the tripping value, in order to maintain the voltage contact values below 50V, as required by IEC standard. This will also allow to conduct a tripping selectivity, when there are other ELR's and/or RCD's installed in the same line. There are various versions with different power supplies, in order to meet the end user's requirements. Other important feature is the instrument's insensitivity of the external disturbances, due to the filters installed at the input circuits, so as the insensitivity to the existing direct currents in the line under control, as required by the VDE standards (built harmonic filter is standard).

Nevertheless, its most outstanding feature is the frontal display, which is permanently visualising the actual leakage value, with the possibility of selecting the full scale value, between 20 or 200A, so as the possibility of blocking the reading of the tripping leakage values ("hold" function).

On top of the previous basic characteristics, it's fitted with following features:

- A double output changeover contact, one can be used for disconnection and the other for an alarm function at 70% of the set current (the selection of the working type of the second contact is being made by means of a dip-switch);
- It is possible to select the output relay's contacts position. Fail safe (relay excited at rest) or negative safety (the relay is unexcited at rest). The fail safe offers a notorious advantage, since the relay will open in case of a failure, in order to avoid leaving the installation operative without protection.

ELR-8 tcs

The present type, without the frontal display, has the possibility of controlling the opening coil and the disconnection circuit. Should there be a failure, the relay would signal same with a LED and a changeover relay (on top of the other 2 contacts) would be activated.

ELR-8MV-tcs

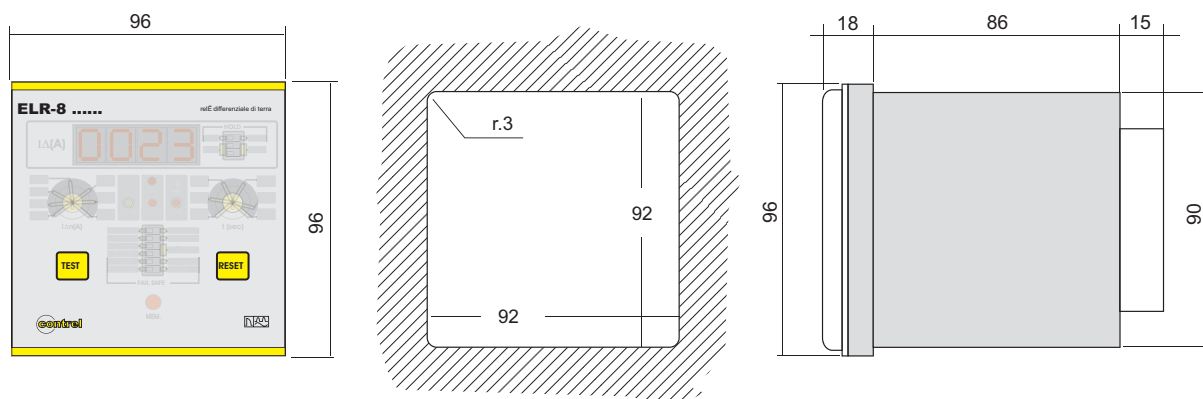
The ELR-8MV-tcs incorporates all the above functions and features in one, plus the mechanical signal, becomes the most complete flush mounting relay DIN 96 x96 mm.

ELECTRICAL CHARACTERISTICS

| models and value | ELR-8V | ELR-8 tcs | ELR-8MV tcs |
|---|---|--------------|--------------|
| Auxiliary voltage supply | 110 - 230 - 400 Vac \pm 20% (standard) - 110Vdc - 24-48Vac/dc | | |
| Frequency | 50 \div 60 Hz | | |
| Maximum consumption | 4 VA | | |
| Tripping current setting range $I_{\Delta N}$ | 0,025 \div 0,25A K=0,1 - 0,25 \div 2,5A K=1 - 2,5 \div 25A K=10 25 \div 250A* | | |
| Alarm current setting range | 70% $I_{\Delta N}$ | | |
| Tripping time setting range | 0,02 \div 0,5 sec. K=1 - 0,2 \div 5 sec. K=10 | | |
| Mechanical signalisation | - | - | • |
| Output: changeover contacts | Nr.1 5A 250V | Nr.2 5A 250V | Nr.2 5A 250V |
| Working temperature | -10 + 60°C | | |
| Storing temperature | -20 + 80°C | | |
| Relative humidity | 90% | | |
| Insulation test | 2,5 kV 60 sec. | | |
| Standards of reference | CEI 41-1/IEC 255/VDE 0664/IEC 755/CEI 64.8/ EN 61008-1(1999-11)/EN 62020 (1999-09) / EN 61543 (1996-09) /EN61326-1(1998-04) / EN 61326/A1 (1999-05)-IEC 60947-2 ANNEX M | | |
| Wiring type | Screw terminals / cross section cables 2,5 mm ² | | |
| Terminal protection degree according with DIN 40050 | IP20 | | |
| Frontal protection degree | IP52 (optional Ip65) | | |
| Shunt coil and disconnecting circuit functionality (TCS function) | - | • | • |
| Frontal display with 4 digits / f.s. 20A o 200A | • | - | • |
| Selectable fail safe for each output relay | • | • | • |

* By means of external multiplier (see pag. 40)

DIMENSIONS



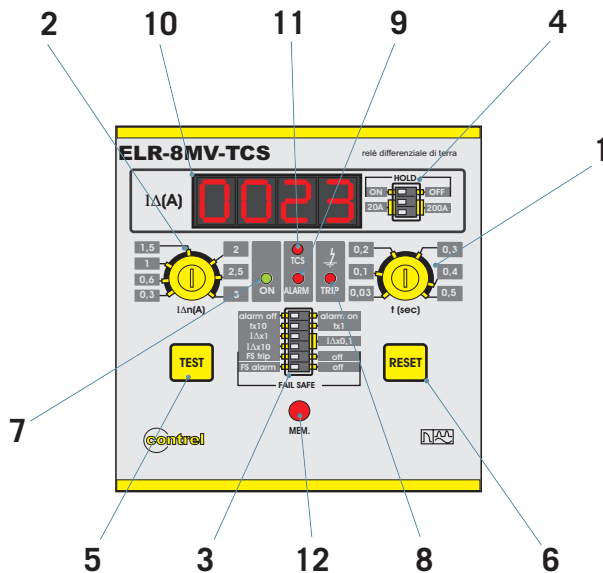
ELR-8V / ELR-8-TCS / ELR-8MV-TCS

EARTH LEAKAGE RELAY

FLUSH MOUNTING VERSION DIN 96X96 mm WITH ADVANCED FUNCTIONS

MICROENER

LEGEND - ELR-8V / ELR-8MV-TCS



| | |
|----|--|
| 1 | Potentiometer for tripping time setting. |
| 2 | Potentiometer for tripping current setting. |
| 3 | 6 ways of dip-switches: • On/Off the alarm feature . • Constant selection for time setting. • Constant selection for current setting. • On/Off the fail safe of the tripped relay. • On/Off the fail safe of the tripped alarm. |
| 4 | 3 ways of dip-switches: • On/Off leakage current reading on display. • Full scale selection on display. |
| 5 | Push button for test. |
| 6 | Push button for manual reset. |
| 7 | Green Led for auxiliary supply signalling. |
| 8 | Red Led for tripped relay signalling. |
| 9 | Red Led for tripped alarm signalling. |
| 10 | 4 digits display for current leakage visualisation. |
| 11 | Red Led for TCS alarm signalling (only for ELR/8MV-tcs) |
| 12 | Mechanical signalling of tripped relay (only for ELR/8MV-tcs) |

WIRING DIAGRAM - ELR-8V / ELR-8MV-TCS - LEGEND

* Auxiliary supply Uaux

110-400 V

1 - 2 = 115 Vac
2 - 3 = 230 Vac
1 - 3 = 400 Vac

24/48 V

1 - 2 = 24 Vac / Vdc
1 - 3 = 48 Vac / Vdc

110 V

1 - 3 = 110 Vdc

110-400 V

1 - 2 = 115 Vac
2 - 3 = 230 Vac
1 - 3 = 400 Vac

24/48 V

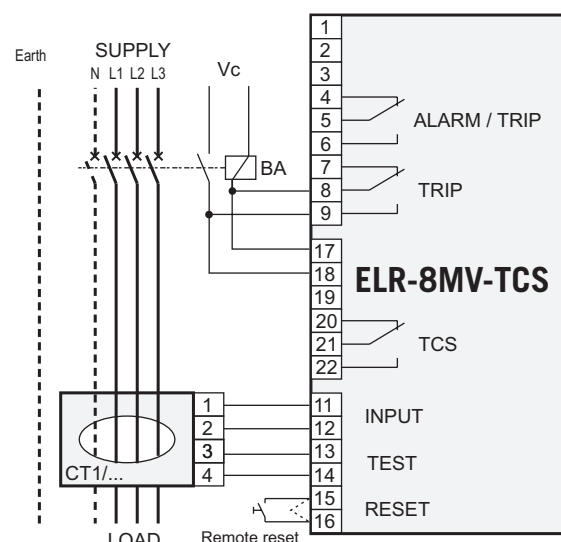
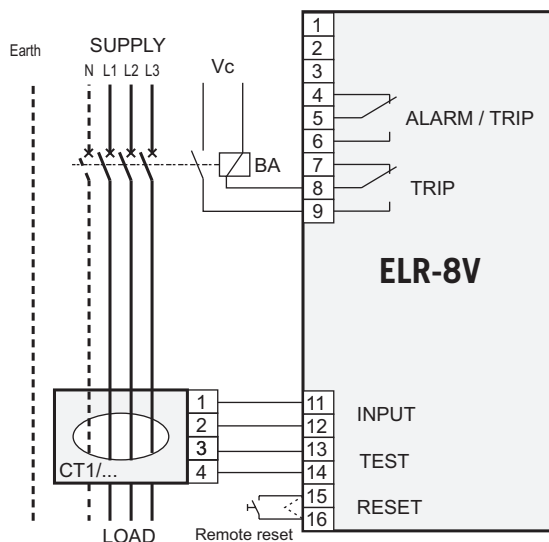
1 - 2 = 24 Vac / Vdc
1 - 3 = 48 Vac / Vdc

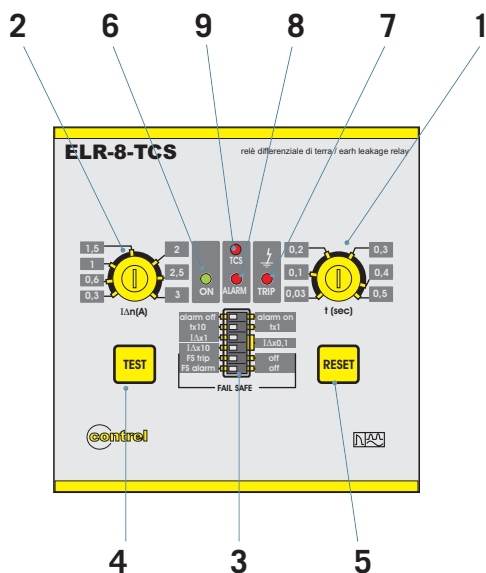
110 V

1 - 3 = 110 Vdc

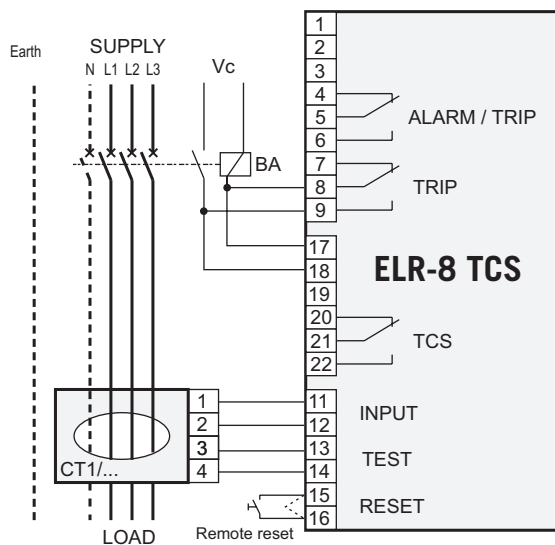
Vc

17-18=110-240 Vac/dc or 24 Vac/dc
17-19=380-415 Vac or 48 Vac/dc



LEGEND - ELR-8 TCS

| | |
|---|--|
| 1 | Potentiometer for tripping time setting. |
| 2 | Potentiometer for tripping current setting. |
| 3 | 6 ways of dip-switches: • On/Off the alarm feature . • Constant selection for time setting. • Constant selection for current setting. • On/Off the fail safe of the tripped relay. • On/Off the fail safe of the tripped alarm. |
| 4 | Push button for test. |
| 5 | Push button for manual reset. |
| 6 | Green Led for auxiliary supply signalling. |
| 7 | Red Led for tripped relay signalling. |
| 8 | Red Led for tripped alarm signalling. |
| 9 | Red Led for TCS alarm signalling. |

WIRING DIAGRAM - ELR-8 TCS - LEGEND

* alimentazione ausiliaria Uaux

110-400 V

1 - 2 = 115 Vac

2 - 3 = 230 Vac

1 - 3 = 400 Vac

24/48 V

1 - 2 = 24 Vac/ Vdc

1 - 3 = 48 Vac / Vdc

110 V

1 - 3 = 110 Vac / Vdc

Vc

17-18= 110-240 Vac/cc or 24 Vac/dc

17-19= 380-415 Vac or 48 Vac/dc