ELR-8V | ELR-8tcs | ELR-8mVtcs

EARTH LEAKAGE RELAY - FLUSH-MOUNT VERSION **DIN 96x96** mm

GENERAL CHARACTERISTICS

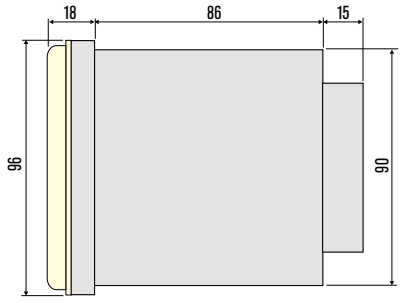
- Earth leakage relay type A
- 2 output relays each with changeover contact, configurable 2 tripping or 1 tripping and 1 alarm
- Configurable fail safe prealarm and operation
- Automatic toroid connection control
- Green power LED indicator (ON)
- Red relay tripped LED indicator (TRIP)
- Red tripping prealarm LED indicator (ALARM)
- Front TEST button
- Manual resetting by front RESET button or remote contact closing
- Automatic resetting by remote contact closing or rear jumper connection
- Constant toroid-relay circuit control
- Flag indicator (TRIP MEMORY) (ELR-8mVtcs only)
- Digital fault current measurement and display with configurable tripping value memory (ELR-8mVtcs only)
- Shunt tripping circuit operating test (TCS) (ELR-8tcs, ELR-8mVtcs only)
- Flush mount 96x96mm housing with transparent cover
- IEC degree of protection: IP20 terminals, IP40 on front with cover.

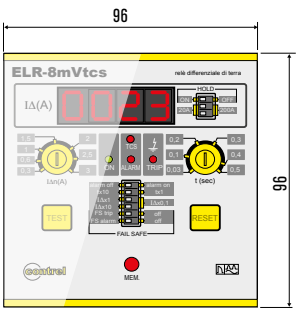
ADJUSTMENTS	
Configurable tripping set-point (IΔn)	0,03...30A 30A...300A (with external multiplier CT1-M)
Prealarm set-point	fixed 70%
Configurable tripping delay time (t)	0,02...0,5s | 0,2...5s.

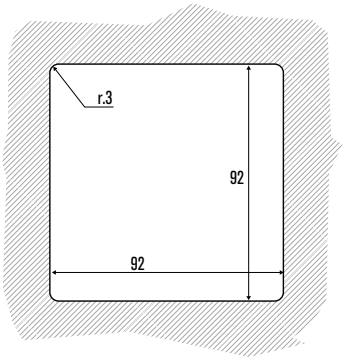
ORDER CODE	RATED AUXILIARY SUPPLY VOLTAGE	OUTPUTS CONTACTS	WT [kg]
ELR-8V 48	24-48 VAC/DC	2	0,570
ELR-8V 110	110 VDC	2	0,570
ELR-8V 415	110 VAC/DC-240-415 VAC	2	0,570
ELR-8Vtcs 48	24-48 VAC/DC	2	0,570
ELR-8Vtcs 110	110 VDC	2	0,570
ELR-8Vtcs 415	110 VAC/DC-240-415 VAC	2	0,570
ELR-8mVtcs 48	24-48 VAC/DC	2	0,570
ELR-8mVtcs 110	110 VDC	2	0,570
ELR-8mVtcs 415	110 VAC/DC-240-415 VAC	2	0,570

OPTIONS	
T	Tropicalisation

MECHANICAL DIMENSIONS





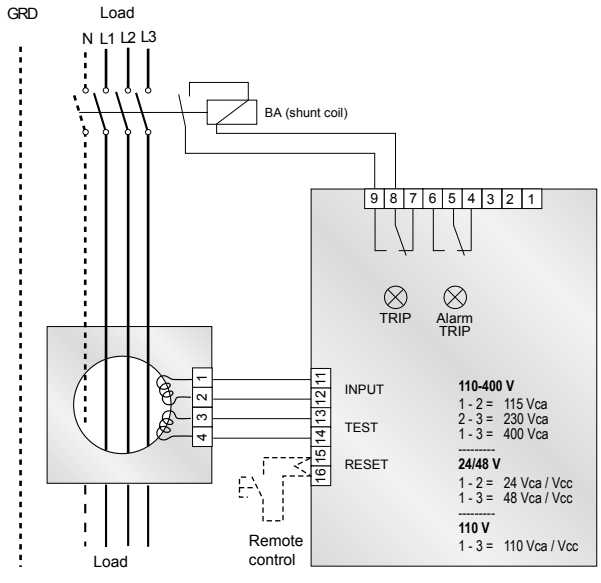


ELR-8V | ELR-8tcs | ELR-8mVtcs

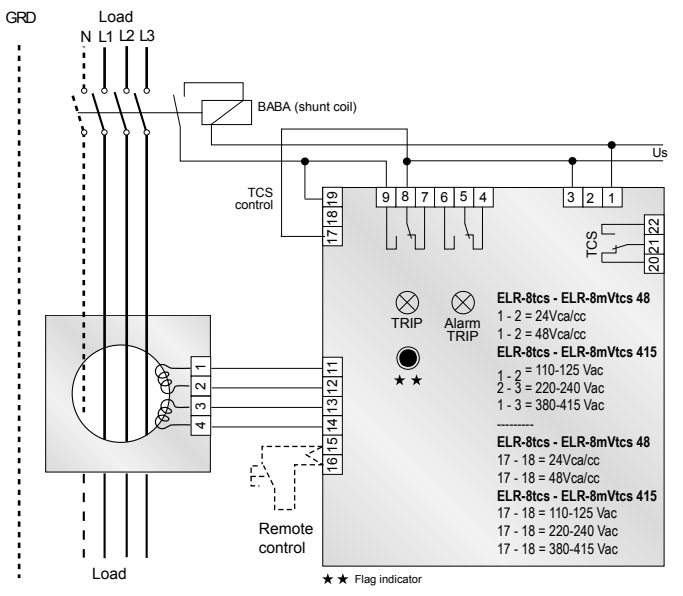
EARTH LEAKAGE RELAY - FLUSH-MOUNT VERSION **DIN 96x96** mm

TECHNICAL CHARACTERISTICS	ELR-8V	ELR-8tcs / ELR-8mVtcs
CONTROL CIRCUIT		
Toroidal transformer	External	External
Adjustments tripping set-point (IΔ)	0.03÷30A (30÷300A with external multiplier)	0.03÷30A (30÷300A with external multiplier)
Adjustments tripping time (t)	0.02÷5s	0.02÷5s
Shunt tripping control	-	Yes
AUXILIARY SUPPLY		
Auxiliary voltage (Us)	24-48 VAC/DC | 110 VDC | 110-240-415 VAC	24-48 VAC/DC | 110 VDC | 110-240-415 VAC
Rated frequency	50-60 Hz	50-60 Hz
Maximum power consumption	5,5 VA	5,5 VA
OUTPUT RELAYS		
Contact arrangement	1 changeover (trip)	2 changeovers (1 trip, 1 alarm)
Rated contact capacity Ith	5 A (240 VAC)	5 A (240 VAC)
INDICATIONS		
Auxiliary voltage available (ON)	Green LED	Green LED
Relay tripping (TRIP)	Red LED	Red LED
Alarm advance (ALARM)	Red LED	Red LED
Mechanical flag (TRIP)	Flag indicator (version ELR-8MVtcs)	Flag indicator (version ELR-8MVtcs)
Display	Display a 4 digit (version ELR-8V, ELR-8mVtcs)	Display a 4 digit (version ELR-8V, ELR-8mVtcs)
Shunt tripping circuit	Red LED (version ELR-8tcs, ELR-8mVtcs)	Red LED (version ELR-8tcs, ELR-8mVtcs)
INSULATION		
Insulation test	2.5kV for 1 minute	2.5kV for 1 minute
AMBIENT OPERATING CONDITIONS		
Operating temperature	-10÷60 °C	-10÷60 °C
Storage temperature	-20÷80 °C	-20÷80 °C
Relative humidity	≤90%	≤90%
ENCLOSURE		
Version	96x96mm	96x96mm
Degree of protection	IP20 terminals | IP40 with protective cover	IP20 terminals | IP40 with protective cover
CERTIFICATIONS AND COMPLIANCE		
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 ELR-8V

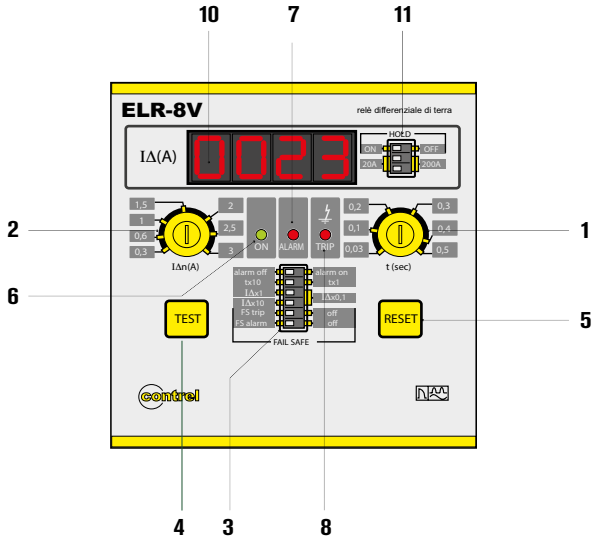


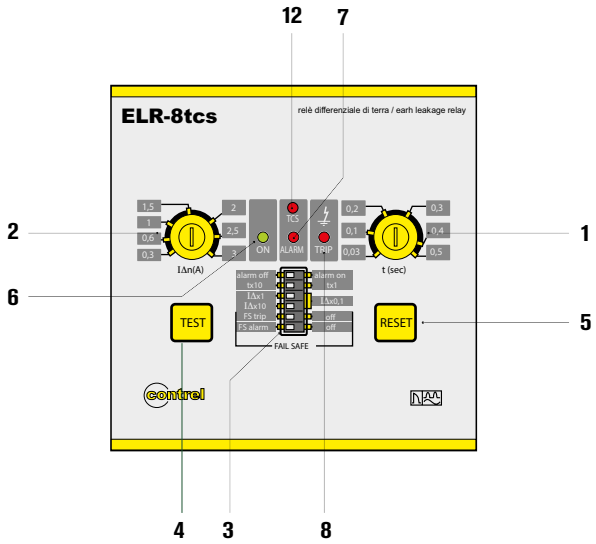
WIRING CONNECTION ELR-8tcs | ELR-8mVtcs

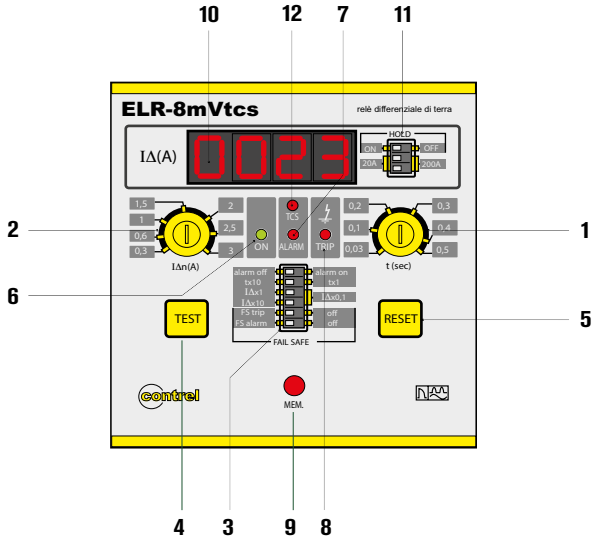


ELR-8V | ELR-8tcs | ELR-8mVtcs

EARTH LEAKAGE RELAY - FLUSH-MOUNT VERSION **DIN 96x96** mm







LEGENDA	
1	Tripping delay time adjustment
2	Fault current to earth adjustment
3	Dip switches settings: **3a** - alarm off - alarm on alarm off = trip prealarm deactivated; upon exceeding the set IΔn rate, output contact changeover takes place and LEDs ALARM and TRIP light up. alarm on = trip prealarm activated; upon reaching 70% of the set IΔn rate, LED ALARM lights up and signal contact changeover takes place. Upon exceeding the set IΔn rate LED TRIP will light up and the TRIP contacts will change over **3b** - tx10 - tx1 constant selection for tripping delay time adjustment. Examples: positioning the dip switch on tx10 and the potentiometer on 0.3 we will have a tripping delay upon exceeding the IΔn threshold of 0.3x10 = 3 seconds; positioning the dip switch on tx1 and the potentiometer on 0.3 we will have a tripping delay upon exceeding the IΔn threshold of 0.3x1 = 0.3 seconds **3c** - IΔnx0,1 - IΔnx1 - IΔnx10 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 IΔnx0.1 and IΔnx0.1 K = 0.1 • dip switch position IΔnx1 and IΔnx0.1 K = 1 • dip switch position IΔnx1 and IΔnx10 K = 10 **3d** - FS trip - off FS trip = positive safety activated on TRIP relay; in this condition the TRIP relay (terminals 7-8-9) is normally energised; therefore in the event of the lack of auxiliary voltage the output contacts move to the tripping condition (TRIP). Off = positive safety deactivated. TRIP relay normally deenergised. **3e** - FS alarm- off FS alarm = positive safety activated on ALARM relay, in this condition the prealarm relay ALARM is normally energised; therefore in the event of the lack of auxiliary voltage the output contacts move to the trip condition (TRIP). Off = positive safety deactivated. ALARM relay normally deenergised.
4	TEST key. Causes tripping of the relay.
5	RESET key. To reset the relay after tripping. For remote reset, simply shut off the auxiliary supply for about 1 second.
6	ON LED. Indicates the presence of auxiliary voltage.
7	ALARM LED. Lighting up depends on the dip switch programming; see the instructions of point 3a)
8	TRIP LED. Lighting up indicates the cutting in of the TRIP relay due to exceeding the IΔn set.
9	TRIP MEMORY (**versions ELR-8mVtcs**) Mechanical trip relay indicator for exceeding the IΔn set. It stores the indication also in the lack of auxiliary voltage. The flag indicator resetting can only be made with the RESET button.
10	4-digit display (**versions ELR-8V, ELR-8mVtcs**) for viewing the differential current.
11	Display setting dip switches (versions ELR-8V, ELR-8mVtcs) **11a)** hold on - hold off Earth leakage current display mode. hold on = the rate displayed is the one read in real time and the leakage current rate that caused tripping is kept on the display. hold off = the rate displayed is the one read in real time (the rate that caused tripping is not kept on the display). **11b)** 20A-200A 20A = display scale to 19.99A 200A = display scale to 199.9A
12	TCS LED (**versions EKR-8tcs, ELR-8mVtcs**). he indicator switches on when TCS control protection trips. This protection is used to monitor the trip shunt circuit operation when connected through the current shunt coil.