

Features

- Monitors the value of the leakage ground current that can cause e.g. undesirable overheating of cables and a subsequent failure of the device or even dangerous voltage of the grounded device serves as protection of electrical engines, generators, transformers and other devices - the device is automatically disconnected in case of failure
- Continuous monitoring of the current value using an external current transformer
- Very short response time (< 40ms)
- Step-adjustable value of monitored current (in 10 steps)
- Step-adjustable response delay (in 10 steps)
- Switching the relay function on the device panel - ELRP or ELRS
- For each function the relay state in case of failure may be set - ON or OFF

RS PRO Earth Leakage Relay

RS Stock No.: 603239



RS PRO is the own brand of RS. The RS PRO Seal of Approval is your assurance of professional quality, a guarantee that every part is rigorously tested, inspected, and audited against demanding standards. Making RS PRO the Smart Choice for our customers.

Product Description

- *Monitors the value of the leakage ground current that can cause e.g. undesirable overheating of cables and a subsequent failure of the device or even dangerous voltage of the grounded device serves as protection of electrical engines, generators, transformers and other devices - the device is automatically disconnected in case of failure*
- *Continuous monitoring of the current value using an external current transformer*
- *Very short response time (< 40ms)*
- *Step-adjustable value of monitored current (in 10 steps)*
- *Step-adjustable response delay (in 10 steps)*
- *Switching the relay function on the device panel - ELRP or ELRS*
- *For each function the relay state in case of failure may be set - ON or OFF*
- *RESET & TEST button for the return to the initial state or device test*
- *Analogue output 0...1mA for the control meter*
- *2 types according to the value of the supply voltage: 24 - 240V AC/DC or 12 - 24V DC*
- *3-module version, mounted onto the DIN rail*
- *ELRP (Pre-alarm) function*
- *2 levels of monitored current - MAIN ALARM (set current value) and PRE-ALARM (60% of set current value)*
- *Each current level has a dedicated LED indicator*
- *When the current value PRE-ALARM is exceeded the relay 1 (contact 15-18) responds - without delay*
- *When the MAIN ALARM current value is exceeded relay 2 (contact 25-28) responds - with preset delay ELRS (Main alarm) function*
- *Both relays respond at the same time only when the MAIN ALARM current value is exceeded in other cases, the device behaves as in the case of ELRP function*

Specifications

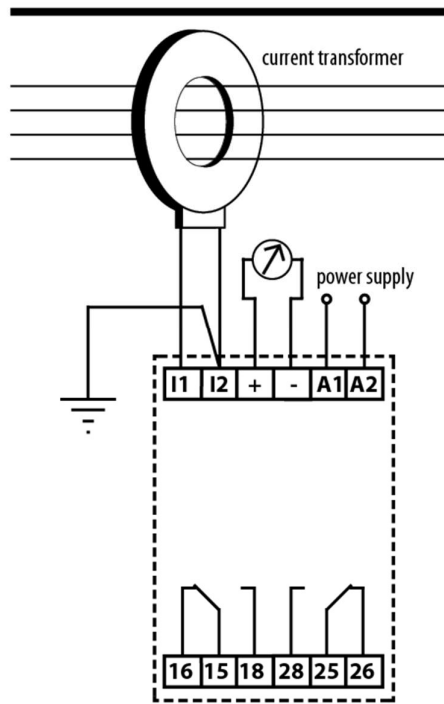
Supply voltage	12-24 V DC
Burden on supply	1W
A.C. Supply frequency	45-65 Hz
Supply voltage tolerance	±10%
Adjustable current levels (Imax)	0.03A, 0.1A, 0.2A, 0.3A, 0.5A, 1A, 2A, 3A, 5A, 10A
Overload capacity	20x set value (Imax) 1s max
Pre-Alarm (Ipa) Current level	60% (Imax)
Pre-Alarm difference	10% (Imax)
Adjustable delay t(s)	0s, 0.1s, 0.2s, 0.4s, 0.6s, 0.8s, 1s, 2s, 5s, 10s*
Analogue Output	0-1mA = 100% set Value (Imax)
Response time	< 40ms
Relay contacts: for general switching operations	2 x changeover, volt-free
Load capacity - a.c.	250V @ 8A, 2 kVA
Load capacity - d.c.	30V 8A
Insulation	4 kV/1 min
Mechanical endurance	30x10 ⁶ operations

Mechanical Specifications

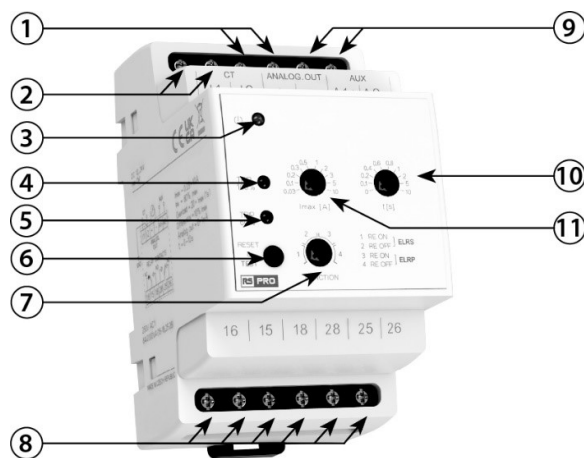
Dimensions	90 x 52 x 64 mm
Weight	135g approx.
Maximum conductor size	2 x 1.5 mm ² or 1 x 2.5 mm ²
Operating temperature	-20 to +55 °C
Storage temperature	-30 to +70 °C
Over-voltage category	III
Pollution degree	2
Environmental protection	IP40 for front panel and IP20 for terminals
Standards	EN 60255-6, EN 60255-27, EN 61000-6-2, EN 61000-6-4

Connection

The grounding device must lead outside the current transformer.

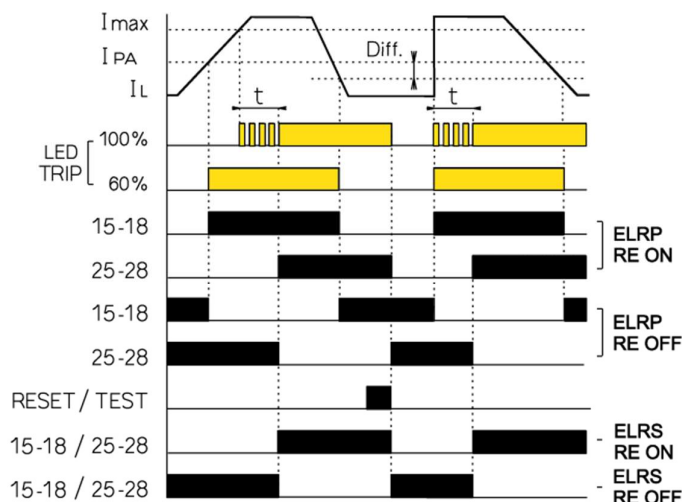


Device description



1. Analogue output
2. Terminals for the connection of the current transformer
3. Supply voltage indication
4. Indication TRIP 100%
5. Indication TRIP 60%
6. Button RESET & TEST
7. Relay function setting
8. Output contacts
9. Supply voltage terminals
10. Delay setting
11. I_{max} setting

Description and function



(ELRP) function description

After the connection of the supply voltage to the supply terminals (A1-A2) the green LED goes on. The device is monitoring the value of the leakage current (at terminals I1, I2) by means of external current transformer. If the current value exceeds 60% of the set value the red LED TRIP 60% goes on and relay 1 responds. If the current value exceeds the set value (100%) the red LED TRIP 100% goes on after the delay timing elapses and relay 2 responds. The red LED is flashing during the timing.

If the current range is set to 30mA, relay 2 responds without delay. The relay also responds if the set current value is exceeded 5 times.

If the current value drops below the set value, relay 2 remains unchanged. If the current value drops below 60% of the set value and the difference is overridden the state of relay 1 changes.

Relay 2 returns into the idle state by briefly pressing the RESET & TEST button. It can also be reset by disconnecting the supply voltage.

(ELRS) function description

Both relays respond at the same time only when the set current value (100%) is exceeded. In other cases, the device behaves as in the case of the ELRP function.

By pressing and holding (for longer than 1s) the button the device test is activated - both the relays respond in the same way as in the case of exceeding the set current value. After releasing the button the relay returns to the initial state.

Core Balanced current transformer

Function principle: all phase conductors (also the neutral conductor, if connected) lead through the Core Balanced core of the current transformer. In the ideal case, the currents flowing through the conductors into the load and back become neutral due to their mutual effect and there is no signal on the secondary coil of the current transformer. If other undesirable current leakage is detected (e.g.: in case of insulation defect) the balance is disrupted and the current transformer evaluates the current difference.