



**ORION ITALIA**

Protection relays & Metering division



**RD1**

**Earth Leakage Currents  
Monitoring & Protection**



## DESCRIPTION

The Earth Leakage Relay RD1 is a microprocessor-based electronic protection device designed to detect low-level current leakage.

The fundamental feature of the RD1 is to allow preventive control of the system's insulation with continuous displaying of the earth leakage current obtained by the use of a ring-type current transformer.

## PROTECTION

- (64) Time and current selective ground current protection

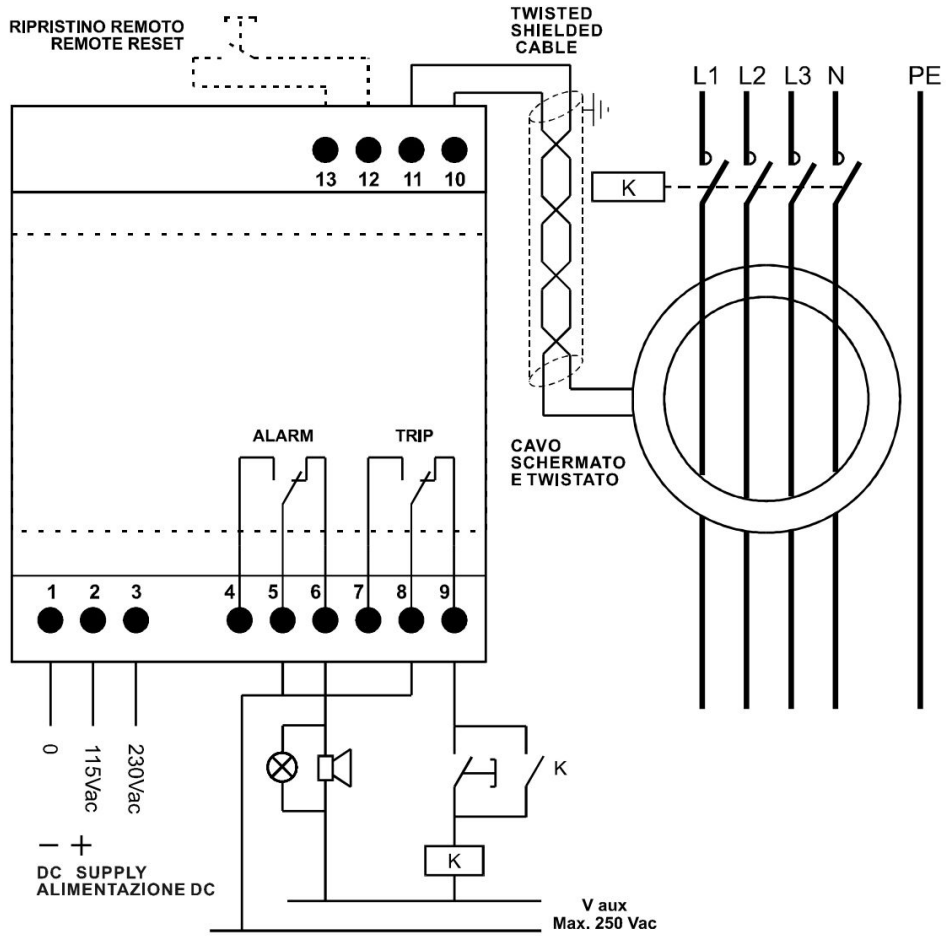
## FEATURES

- Digital display of earth-leakage current in Ampere or in percentage of Trip level.
- Independent current adjustments for alarm and tripping from 30 mA to 10 A.
- Independent time adjustments for alarm and tripping, from 0.03s to 5s.
- 2 Output relays: TRIP and ALARM, "latch" or "pulse" mode.
- Service function (Alarm relay).
- Indication and storage of the maximum fault current in a non-volatile memory.
- Manual or automatic reset. The automatic reset is lockout after 3 automatic operations in a period of time less than 9 minutes.
- Remote Reset input.
- Check of output relays and leds.
- Continuous control of CT wiring connection.
- High immunity to external disturbances and harmonic current components.
- Its function is also guaranteed with alternate sinusoidal and continually pulsing currents.
- Menu description on the front panel.

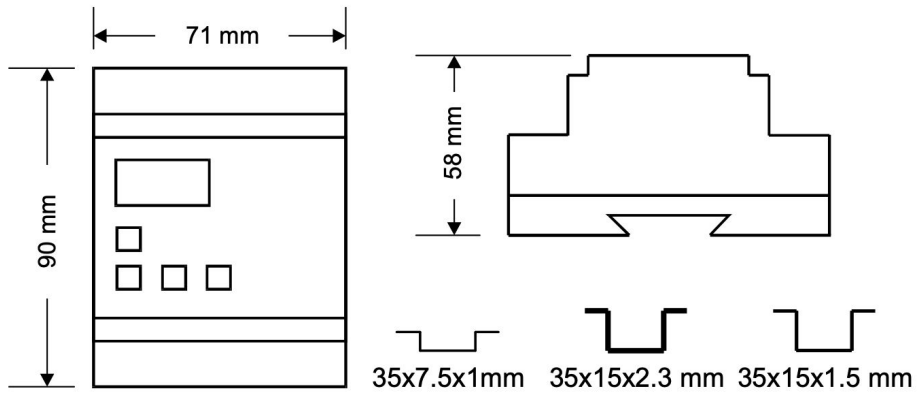
## SPECIFICATIONS

<b>SUPPLY VOLTAGE</b> 115/230 Vac -15%, +10% 50-60 Hz 24 Vdc, 48 Vdc, -15%, +10%	<b>POWER CONSUMPTION</b> 3 VA (W) max
<b>TEMPERATURE RANGE</b> Operational: from 0 °C to +50 °C Storage: from -20 °C to +70 °C	<b>RELATIVE HUMIDITY</b> Max. 90% (non condensing)
<b>BURN IN</b> 48 hours at 50°C	<b>DIELECTRIC WITHSTAND VOLTAGE</b> 2 kVac, 60 s
<b>CONSTRUCTION</b> According to VDE, CEI standards	<b>OUTPUT CONTACT</b> <i>Rated current: 8A resistive @ 250Vac or 24Vdc</i> <i>Max. continuous current: 5A</i> <i>Max. operating voltage: 250 Vac, 125 Vdc</i>
<b>INPUT</b> <i>Rated frequency fn: 47 to 63 Hz</i> <i>Current transformer (CT) ratio: 1/500</i> <i>Input impedance: 20 Ohm</i>	<b>DIGITAL INPUT</b> Type: dry contacts only
<b>TRIP &amp; ALARM PICKUP</b> 30 mA to 10 A, steps of 10 mA, 0.1 A <i>Accuracy: ±5% ±1 digit</i>	<b>DELAY TIME ALARM &amp; TRIP PICKUP</b> 0.03s ÷ 5s, in steps of 10 ms <i>Accuracy: ±5% or ± 10 ms whichever is greater</i>
<b>THIRD HARMONIC FILTER</b> <i>Attenuation: 83% @ 150 Hz</i> <i>Attenuation: 93% @ 180 Hz</i>	<b>TERMINAL BLOCK</b> Fixed terminals, 2,5mm <sup>2</sup> -section cable (14 AWG)
<b>FRAME</b> Self-extinguish Noryl UL 94 V-0 (IP40)	<b>INSTALLATION</b> 35mm DIN omega rail
<b>REFERENCE STANDARD</b> CEI EN 50263 CEI EN 60255-5	<b>DIMENSIONS AND WEIGHT</b> 71x90x58mm 254g
<b>EMISSIONS TESTS</b> <b>Radiated emissions</b> References: EN 55022 <b>Conducted emissions</b> References: EN 55014  <b>INSULATING TESTS</b> <ul style="list-style-type: none"> <li>• <u>Dielectric test</u>  Reference Standard: EN 60255-5</li> <li>• <u>Pulse test</u>  Reference Standard: EN 60255-5</li> </ul>	<b>IMMUNITY TESTS</b> <ul style="list-style-type: none"> <li>• <u>Conducted disturbances induced by RF field</u>  References: EN 61000-4-6</li> <li>• <u>Radiated electromagnetic field</u>  References: EN 61000-4-3</li> <li>• <u>Electrostatic discharge</u>  References: EN 60255-22-2</li> <li>• <u>Fast transients (burst)</u>  References: EN 60255-22-4</li> <li>• <u>Surge</u>  References: EN 61000-4-5</li> <li>• <u>Voltage dips and short interruptions</u>  References: IEC 60255-11</li> <li>• <u>1MHz Burst</u>  Reference Standard: EN 60255-22-1</li> </ul>

**RD1 WIRING DIAGRAM**



**RD1 OVERALL DIMENSIONS**



**ORDER CODE**

