

RESYS M40R

INSTALLATION

Installation must only be carried out by qualified personnel.

Before installation, disconnect from the power supply. Connect the device as shown on the diagram below (N.B. some optional functions do not need to be cabled).

When installing the device, make the connections between the relay and the differential toroid as short as possible.

Do not put relay cables or the differential toroid beside power conductors.

Do not place differential toroids close to sources of intense magnetic fields.

> Note

This differential relay conforms to type A which trips sinusoidal alternating currents and pulsed currents, whether they are applied suddenly or change slowly. This product is also immune to interference.

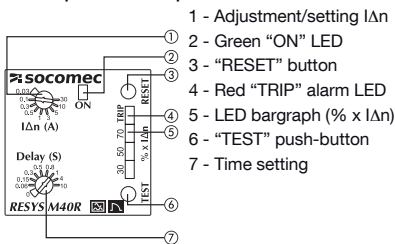
This relay must be installed in accordance with the regulations currently in force.

The device must be checked periodically to see that it complies with the regulations.

> Test Function

	Bargraph blinks	
"Trip" LED and "Alarm" relay activated		
> Continuous monitoring		
Test OK	NO	NO
Toroid input short circuit	NO	NO
Relay/Toroid connection break	YES	NO
> Activation of "Test" button (Press (>1s) or external button)		
Test OK	YES	YES
Toroid input short circuit	NO	NO
Relay/Toroid connection break	YES	NO

> Description of front panel



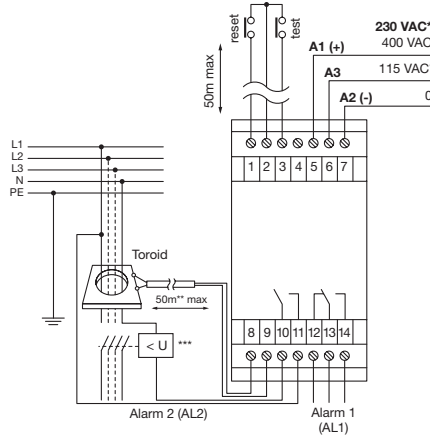
• With I_{Δn} set at 30 mA, the timing is set at 0 (instantaneous) and can not be modified.

• The pre-configured factory setting for the device is 30 mA/0s. These values can be modified as needed for operation. A plastic seal is provided with the device in order to lock the protective cover and ensure the settings.

Operating instructions

Earth leakage relay A and AC types with automatic reclosing function

TERMINAL CONNECTION DIAGRAM



* Dual voltage supply only available on 115/230 VAC model. For U_s = 115VAC, connect the supply to terminals 6 and 7. For the other supply options, cable between 5 and 7.

The output relays are shown in the non-excited state (for example, as if the auxiliary supply was not present). The protective earth wire must not pass through the toroid. For single-phase applications, only the phase and the neutral must pass through the toroid.

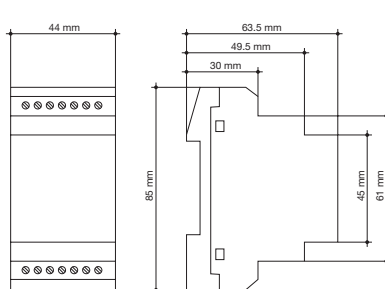
** Cabling: For distances > 1 m, use a twisted pair for connection between the relay and the toroid.

*** RESYS M40R relays must be associated with an automatic reclosing switching device: a motorised switch; a device fitted with an undervoltage coil; a contactor switch.

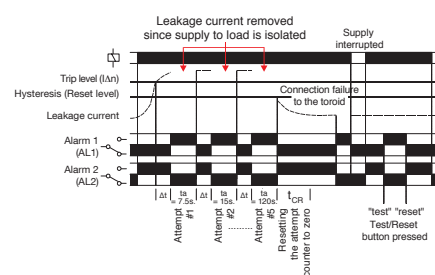
> Troubleshooting

If the product is not working properly, check that it is properly connected.

DIMENSIONS



FUNCTION DIAGRAM



TECHNICAL SPECIFICATIONS

- **Us supply (5, 6, 7):**
12 - 125 VDC (85 - 110 % de U_s) 115/230, 400 VAC (85 - 115 % de U_s) (see terminal connection diagram). All AC supplies are galvanically isolated from toroid, TEST and RESET inputs.
- **Frequency:** 50/60Hz (AC supply)
- **Isolation:** Over-voltage cat. III
- **Impulse voltage:**
2.5 kV (115 V AC supply)
(1.2 kV/ 50 μs) IEC 60664
4 kV (230 and 400 VAC supply)
- **Consumption (max.):**
6VA (AC supply) - 5W (DC supply)
- **Measured residual current:**
0 to 30A (15-400 Hz) (via external toroid with ratio 600:1 connected to terminals 8 and 9)
- **Sensitivity I_{Δn}:**
30, 100, 300, 500 mA, 1, 3, 5, 10, 30 A (adjustable)
- **Tripping accuracy:** 80 - 90% of I_{Δn}
- **Reset value:** ≈ 85% of trip threshold
- **Time delay I_{Δs}:** 0*, 60, 150, 300, 500, 800 ms, 1, 4, 10 s (adjustable) "time set for "0" or "Instantaneous" < 25 ms for residual current @ 5 x I_{Δn}.
- **Reset time:** < 2s (after eliminating the auxiliary power supply)
- **Indication des Leds:**
- Power supply present: green
- Bargraph: 3 green (30, 50 and 70% of the threshold value set)
- Tripping: red
- **Operating temperature:** -20 to +55° C
- **Storage temperature:** -30 to +70° C
- **Relative humidity:** +95 %

Outputs

- Number of contacts: 1 changeover contact relay + 1 single contact relay
- Type of contact:
Alarm 1 (12,13,14)
AC1 (250 V) 8 A (2000 VA)
AC15 (250 V) 2,5 A
DC1 (25 V) 8 A (200 W)
Alarm 2 (10,11)
AC1 (250 V) 6 A (1500 VA)
AC15 (250 V) 4 A
DC1 (25 V) 6 A (150 W)
- Lifetime ≥ 150 000 operations at nominal load
- Dielectric voltage: 2 kV AC (rms) IEC 60947-1
- Impulse voltage: 4 kV (1,2 kV/ 50 μs) IEC 60664

- **Remote Test and Reset (1, 2, 3) :**
With N.O. contact (e.g. push-button)Min. contact closure time: ≥ 80 ms
- **Reclosing:**
No. of automatic reclosing attempts: 6 max.
Time delay between two reclosing attempts:
7.5 - 15 - 30 - 60 - 120 - 240 s
Reset of automatic reclosing attempts counter (t_{CR}) to zero: 15 min.
- **Box:** grey, self-extinguishable, Lexan UL94 V0
- **Weight:** ≈ 190 g
- **Installation:** on 35 mm symmetrical DIN rail (BS5584 : 1978 - EN50 002 - DIN 46277-3)
- **Connecting terminal:**
≤ 2,5 mm² flexible, ≤ 4 mm² rigid
- **Certification:**
conforms to IEC 60755, 60947, 61543, 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-12, 61000-4-16. CE compliant. CISPR 22.

> References:

Auxiliary power supply:	Reference
115/230 VAC	4941 372A
400 VAC	4941 3741

> Accessories

Toroides (C.T.):	
ΔIC - Ø 15 mm	4950 6015
ΔIC - Ø 30 mm	4950 6030
ΔIC - Ø 50 mm	4950 6050
ΔIC - Ø 80 mm	4950 6080
ΔIC - Ø 120 mm	4950 6120
ΔIC - Ø 200 mm	4950 6200
ΔIC - Ø 300 mm	4950 6300

Use of toroids ≥ 120 mm: setting I_{Δn} min = 300 mA
Other toroids: consult us