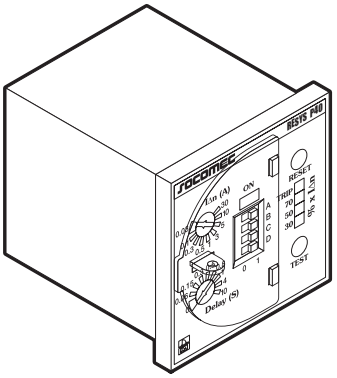
QUICK START GUIDE

EN

874627C

Earth leakage relay A and AC types

RESYS P40



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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.

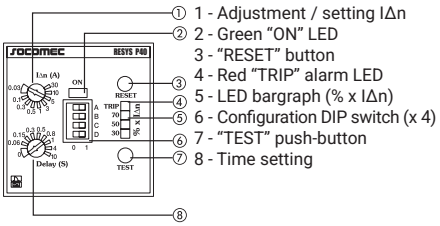
Test Function

	Bargraph blinks	
"Trip" LED and "Alarm" relay activated		
> Continuous monitoring		
Test OK	NO	NO
Toroid input short-circuited	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

Pre-alarm function

When the measured current exceeds 50 % of the threshold value, the pre-alarm relay changes state (if selected in this mode). Automatic reset to its original state if 30 % lower than pre-set threshold.

Description of front panel



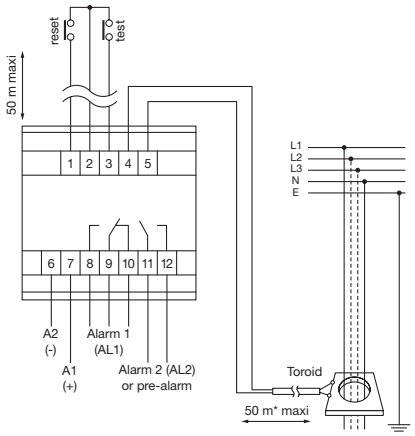
- With IΔn set at 30 mA, the timing is set at 0 (instantaneous) and can not be modified.
- The pre-configured factory setting for the device is 30 mA / 0s. These values can be modified as needed for operation. A seal is supplied with the device to guarantee these configurations.

Configuration (DIP switch)

Switch		SwitchRelay configuration	
A	**B**	AL1	AL2
0	0	Positive security	Positive security
1	0	Negative security	Pre-alarm (neg. security)
0	1	Negative security*	Positive security*
1	1	Negative security	Pre-alarm (pos. security)
C		**Storage mode**	
1		Automatic reset	
0		Storage mode*	
D		**Toroidal transformer ratio**	
1		600 : 1 > Socomec* toroid	
0		1000 : 1 > other manufacturers	

* factory configuration
- (negative security: relay excited in case of alarm/positive security: relay not excited in case of alarm).

TERMINAL CONNECTION DIAGRAM



The output relays are shown in the non-excited state (for example, as if the auxiliary supply was not present)

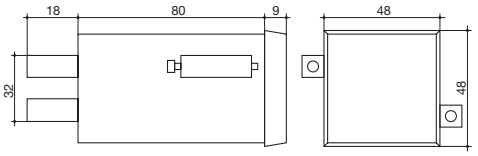
The protective earth wire must not pass through the toroid. For single-phase applications, only the phase and the neutral must pass through the toroid.

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

Troubleshooting

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

DIMENSIONS



TECHNICAL SPECIFICATIONS

- **Us supply (6, 7)**: 12 - 125 V DC (85 - 110 % of Us)
  115, 230 V AC (85 - 115 % of Us)
  (see terminal connection diagram).
  All AC supplies are galvanically isolated from toroid, TEST and RESET inputs.
- **Frequency**: 50 / 60 Hz (AC supply)
- **Isolation**: Over-voltage cat. III
- **Impulse voltage**: (1.2 / 50 µS) IEC 60664
  2.5 kV (115 V AC supply)
  4 kV (230 V AC supply)
- **Consumption (max.)**: 6 VA (AC supply)
  5 W (DC supply)
- **Measured residual current**: 0 to 30A (15 / 400 Hz)
  (via external toroid with ratio 600:1 or 1000:1 connected to terminals
  4 and 5)
- **Sensitivity IΔn**: 30, 100, 300, 500 mA, 1, 3, 5, 10, 30 A (adjustable)
- **Tripping accuracy**: 80 - 90 % of IΔn
- **Reset value**: ≈ 85 % of trip threshold
- **Time delay IΔs**: 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 IΔn.
- **Reset time**: < 2 s (after eliminating the auxiliary power supply)
- **LED's**:
- **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 %
- **Number of contacts**: 1 changeover contact relay + 1 single contact relay
- **Type of contact: Alarm 1 (8, 9, 10)**
  AC1 (250 V) 8 A (2000 VA)
  AC15 (250 V) 2.5 A
  DC1 (25 V) 8 A (200 W)
  Alarm 2 / Pre-alarm (11, 12)
  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 / 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
- **Box**: Black, flame-retardant,
  NORYL UL94 VO (front face + clip in ABS)
- **Weight**: ≈ 120 g (aux. supply DC / 200 g (aux. supply AC)
- **Installation**: flush-mounted, cutout 45 x 45 mm
- **Connecting terminal**: ≤ 2.5 mm2 flexible
- **Certification**: conforms to IEC 60755, 60947, 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-12, 61000-4-16, 61543. CE compliant

- References

Auxiliary power supply	Reference
12-125 V DC	4942 2602
115 V AC	4942 2711
230 V AC	4942 2723

- Accessories

Toroids (C.T.)	Reference
W0-S15 - Ø 15 mm	4793 2001
W1-S35 - Ø 35 mm	4793 2003
W2-S70 - Ø 70 mm	4793 2007
W3-S105- Ø 105 mm	4793 2010
W4-S140 - Ø 140 mm	4793 2014
W5-S210- Ø 210 mm	4793 2020
Other toroids	consult us
Protection cover IP65	4942 0000

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