

RESYS P40

Type A differential relays
for motor load break



RESYS P40

Function

RESYS P40 earth leakage relays associated with a remote trip breaking device (automatic power breaking), provide the following functions:

- protection against indirect contact,
- limitation of earth leakage currents.

They also preventively monitor electrical installations via their (configurable) pre-alarm function or when used as signalling relays.

Advantages

Fully configurable

- 2 relays with configurable function (alarm or pre-alarm at 50% $I_{\Delta n}$).
- Adjustment of $I_{\Delta n}$ from 0.03 to 30 A.
- Time delay 0 to 10 s.
- Positive or negative security configurable by the user.
- Selection of toroid ratio.

Tripping accuracy by TRMS measurement

Improves immunity to nuisance tripping.

Instantaneous display of permanent leakage currents

The LED bargraph provides a real-time display of fluctuations in leakage currents.

Compact flush-mounting case

Measuring 48 x 48 mm, it is particularly suitable for integration into low-height pull-out drawers.

Improved immunity to EMC interference

The device has new electronics which improve electromagnetic compatibility.

The solution for

- Process
- Manufacture
- Oil, gas and petrochemicals

Strong points

- Fully configurable
- Tripping accuracy by TRMS measurement
- Instantaneous display of permanent leakage currents
- Compact flush-mounting case
- Improved immunity to EMC interference

Conformity to standards

- IEC 60755
- IEC 60947-2
- IEC 60664
- IEC 61543 A1



Approvals and certifications⁽¹⁾



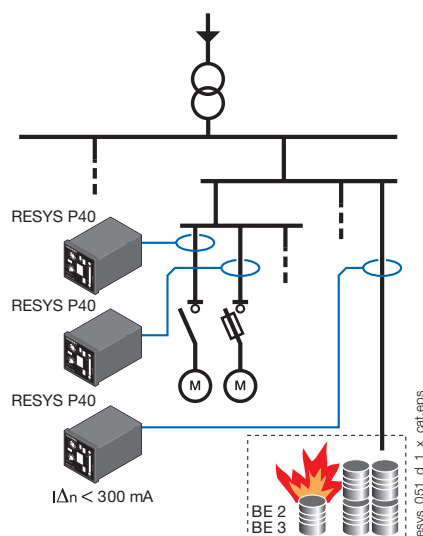
⁽¹⁾ Product part numbers on request.

Applications

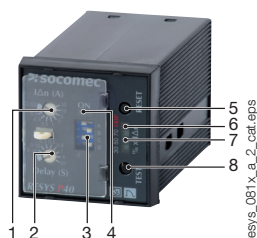
Rapid recognition of an insulation fault increases the availability of the distribution network by preventing accidental power cuts and the resulting loss of production. Due to its compact flush-mounting case, the RESYS P40 is particularly suitable for integration into electrical panels with removable drawers.

Protection against fire or explosion risks

The use of Residual Differential Devices (with $I_{\Delta n}$ setting ≤ 300 mA) provides protection against the risks of fire or explosion by monitoring earth leakage current and tripping the associated circuit protection device, in areas classed as BE2 or BE3 respectively. This protection is mandatory in TT, TN and IT neutral systems.



Front panel



1. $I_{\Delta n}$ setting.
2. Time delay setting.
3. Configuration DIP-switches (x4).
4. Green "ON" LED.
5. "RESET" pushbutton.
6. Red "TRIP" alarm LED.
7. LED Bargraph (% x $I_{\Delta n}$).
8. "TEST" pushbutton.

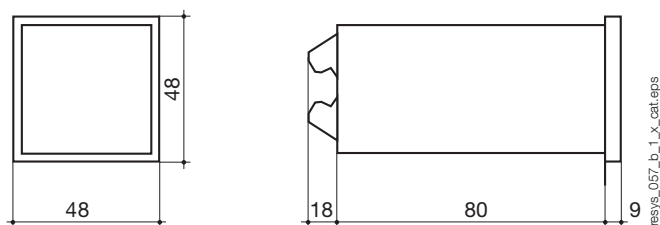
Characteristics

Auxiliary power supply U_s	
Frequency	47 ... 63 Hz
AC operating zone	0.8 ... 1.15 U_s
DC operating zone	0.8 ... 1.05 U_s
Consumption	6 VA (AC) / 5 W (DC)
Insulation (as per standard IEC 60664-1)	
Rated insulation voltage	250 VAC
Rated impulse voltage	2.5 kV (115 VAC) / 4 kV (230/400 VAC)
Pollution Degree	Class 3
Threshold values	
$I_{\Delta n}$ setting	0.03 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 - 10 - 30 A
Accuracy of tripping	-20 ... -10 % $I_{\Delta n}$
Network frequency range	15 to 400 Hz
Time delay setting	0 - 0.06 - 0.15 - 0.30 - 0.50 - 0.80 - 1.4 - 10 s
PRE-ALARM relay tripping	50% $I_{\Delta n}$
Hysteresis of the PRE-ALARM relay	20% $I_{\Delta n}$

Alarm	
Alarm configuration mode	storage / automatic reset
Alarm factory setting	storage
Reset	manual by pushbutton / using terminal
Output contacts	
Number of contacts	2
Type of ALARM 1 contact	250 VAC - 8 A - 2000 VA
Type of ALARM 2 or PRE-ALARM contact	250 VAC - 6 A - 1500 VA
ALARM 1 operating mode	positive/negative security ⁽¹⁾
ALARM 2 or PRE-ALARM operating mode	positive security ⁽¹⁾
Factory setting of ALARM 1 operating mode	negative security
Factory setting of ALARM 2 operating mode	positive security
Operating conditions	
Operating temperature	-20 ... +55 °C
Storage temperature	-30 ... +70 °C

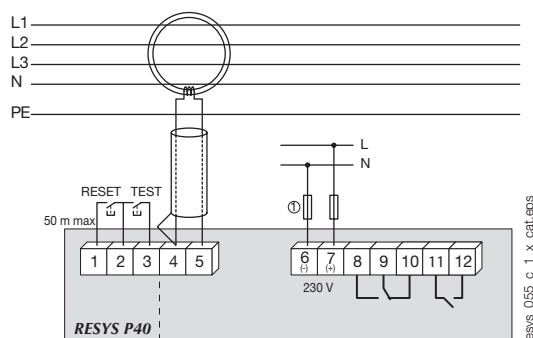
(1) Negative security: relay activated in case of alarm / Positive security: relay not activated in case of alarm.

Case



Type	flush-mounting
Dimensions W x H x D	48 x 48 x 107 mm
Case Ingress Protection rating	IP40
Terminal block Ingress Protection rating	IP20
Rigid cable cross-section	0.2 ... 4 mm ²
Flexible cable cross-section	0.2 ... 2.5 mm ²
Weight	190 g
Cutout	45 x 45 mm

Terminals and connections



- 1 - 2 - 3: external push buttons
- 4 - 5: SOCOMEC core balance transformer connections
- 6 - 7: auxiliary power supply U_s
- 8 - 9 - 10: alarm 1 relay output
- 11 - 12: alarm 2 relay output

NOTE: The protective conductor must not pass through the toroid. For single-phase applications, only the live and neutral must pass through the toroid.

Wiring: for distances > 1 m, use twisted pair cable connection between the relay and toroid.

Do not connect the shield to earth.

(1) 2 A gG fuse.

References

Auxiliary power supply U_s ⁽¹⁾	RESYS P40
115 VAC	Reference
230 VAC	4942 3711 ⁽²⁾
12 ... 125 VDC	4942 3723 ⁽²⁾
	4942 3602 ⁽²⁾

(1) Other voltages: please contact us.

(2) For references and characteristics of solid-core, split-core and rectangular toroids, see «Core balance transformers type A and B»

Description of accessories	Reference
Soft protection cover IP65	4942 0000