

RESYS M40R

Type A differential relays
with automatic reclosing



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Function

RESYS M40R earth leakage relays associated with a remote trip breaking device (automatic power breaking and reclosing), provide the following functions:

- protection against indirect contact,
- limitation of earth leakage currents,
- reclosing of trip breaking device after earth leakage detection and power supply breaking. The relay recloses the system up to six consecutive times after different time intervals. If the fault is still present after the sequence of six reclosing attempts, the relay is locked in alarm mode and manual intervention will be required.

Rapid recognition of an insulation fault increases the availability of the distribution network by preventing accidental power cuts and the resulting loss of production. TRMS measurement avoids repeated nuisance tripping and the bargraph allows the display of permanent leakage current.

Advantages

Automatic reclosing

This function provides protection, particularly on isolated sites or for processes requiring a restart in the event of transient faults (continuity of service ensured in the absence of a maintenance team).

Fully configurable

Adjustment of $I\Delta n$ from 0.03 to 30 A.
Time delay 0 to 100 s.

Ensures continuity of the power supply for strategic applications or on isolated sites

In the majority of cases, where the fault is not permanent, simply reclosing may resolve the situation.

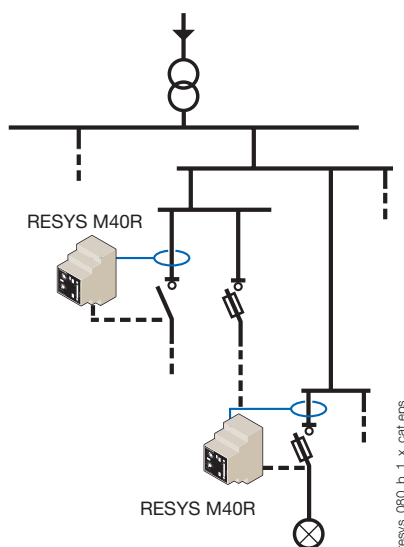
Tripping accuracy by TRMS measurement

Improves immunity to nuisance tripping.

Instantaneous display of permanent leakage currents

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

Applications



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The RESYS M40R relay must be combined with an automatic tripping/reclosing breaking device:

- a motorised switch
- a device fitted with an undervoltage coil
- a contactor.

The solution for

- > Power distribution (public lighting)
- > Water treatment
- > Process
- > Telecom, Datacom and broadcasting
- > Farm buildings

Strong points

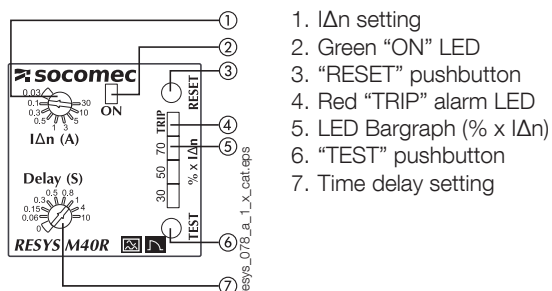
- > Automatic reclosing
- > Fully configurable
- > Continuity of power supply for strategic applications
- > Tripping accuracy by TRMS measurement
- > Instantaneous display of permanent leakage currents

Conformity to standards

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

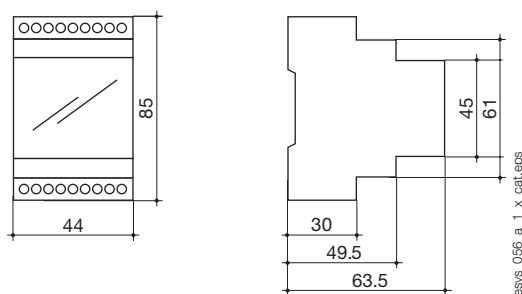


Front panel



1. $I\Delta n$ setting
2. Green "ON" LED
3. "RESET" pushbutton
4. Red "TRIP" alarm LED
5. LED Bargraph (% x $I\Delta n$)
6. "TEST" pushbutton
7. Time delay setting

Case



Type	modular
Number of modules	2.5
Dimensions W x H x D	44 x 85 x 63.5 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

Characteristics

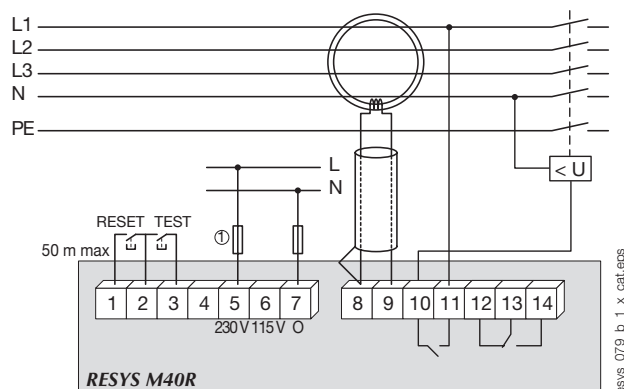
Auxiliary power supply U_s	
Frequency	47 ... 63 Hz
AC operating zone	0.8 ... 1.15 U_s
DC operating zone	0.8 ... 1.05 U_s
Max. consumption	6 VA (AC) / 5 W (DC)
Insulation (as per standard IEC 60664-1)	
Rated insulation voltage	250 VAC
Rated impulse voltage	2.5 kV (115 VAC) / 4 kV (230/400 VAC)
Pollution 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
Reclosing	
Nb of automatic reclosing attempts	6 max
Time delay between two reclosings	7.5 - 15 - 30 - 60 - 120 - 240 s
Reset of automatic reclosing counter (t_{CR})	15 min
Alarm	
Alarm configuration mode	automatic reset (6x max, then recording)
Reset	Manual by pushbutton / using terminal
Output contacts	
Number of contacts	2
Type of ALARM 1 contact	inverter
Type of ALARM 2 contact	simple
Characteristics contact ALARM 1	250 VAC - 8 A - 2000 VA
Characteristics contact ALARM 2	250 VAC - 6 A - 1500 VA
ALARM 1 operating mode	negative security ⁽¹⁾
ALARM 2 operating mode	positive security ⁽¹⁾

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

Operating conditions

Operating temperature	-20 ... +55 °C
Storage temperature	-30 ... +70 °C

Terminals and connections



(1) 2 A gG fuse.

- 1 - 2 - 3: external push buttons
- 5 - 6 - 7: auxiliary power supplies U_s
- 8 - 9: SOCOME core balance transformer connections
- 10 - 11: alarm relay 2 output
- 12 - 13 - 14: alarm relay 1 output

NOTE: The earth 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 for the connection between the relay and toroid. Do not connect the shield to earth.

References

Auxiliary power supply U_s ⁽¹⁾	RESYS M40R Reference
115/230 VAC	4941 3724
400 VAC	4941 3741

(1) Other voltages: please contact us.