



ENERGY AUTOMATION PRODUCTS

7SR45

Self/Dual powered OC protection

[siemens.com/reyrolle](https://www.siemens.com/reyrolle)

The Reyrolle 7SR45 is a self/dual powered protective relay designed for non-directional overcurrent and earth fault protection in electrical systems. It is widely used across distribution and industrial networks safeguarding electrical systems against overloads and short circuits. Its flexibility in protection functions, binary inputs/outputs, power supply, and communication options ensures seamless integration and ensures stability in secondary distribution networks and automated energy systems.



Highlights



Self monitoring (incl. battery-condition monitor)



Unified / seamless power management (Fail-safe start up and shut down modes)



High sensitivity – Trip ready at 20 % of Irated (1-phase) and 10 % of Irated (3-phase)

Benefits

- Enhanced Protection – Proven overcurrent and earth fault protection as per IEC and ANSI standard
- System Stability – Optional Conformal coating protects against harsh environmental conditions
- Easy Integration - Relay configured through front port in absence of AUX power and CT power

Efficient Protection, Flexibility and Durability

The 7SR45 numerical overcurrent and earth fault protection relay provides both definite-time and inverse-time overcurrent and earth fault protection functions. The relay is CT powered with an option for connection to an external auxiliary supply. The relay functionality can be configured via a front USB port for local PC connection or rear electrical RS485 (optional) port for remote connection.

By using the Reydisp Evolution software, the user can update the settings and view/download the fault records and the event records (event log). The relay supports the IEC 60870-5-103 and Modbus communication protocols for connection to a SCADA system. The relay can indicate the trip with local and remote flag indicator based on the ordering options. Optionally, devices can be ordered with a conformal coating on the electronic modules to increase the protection from harmful environmental influences such as extreme moisture, corrosive gases and aggressive dust.

Main Function	Overcurrent and earth-fault protection
Inputs and Outputs	4 current transformers with 1 A or 5 A inputs 2 or 4 binary inputs and 2 or 4 binary outputs - pulse output to operate low power Trip coil - Remote flag output and Optional local flag indicator
Communication	Front USB port (for configuration via Reydisp Evolution) and rear RS485 port (optional)
Housing	Size 4 – non draw-out case with side mounting arrangement

Technical Features

- CT powered with option for external auxiliary supply connection
- Dedicated switch onto fault (SOTF) protection
- Internal lithium battery back-up for viewing fault data, setting the protection, and resetting of indications
- 4 user-programmable LEDs for indicating protection and other relay functions, 5 fixed non-programmable LEDs i.e. Prot Healthy, Trip, Pick-up, Trip ready, Low battery
- Mechanical flag indication
- Suitable for Ring Main Unit (RMU) mounting, that is used at the load connection points of a ring-type secondary distribution network
- Trip counter to measure trip command extended by relay
- Fault log with fault trip time and circuit-breaker operating time

Applications

- Protection relay for Ring Main Units (RMU)
- Backup protection relay for the MV applications
- Protection applications in remote locations where auxiliary supply is not available
- Incomers, feeders, distribution transformer medium voltage to low voltage (MV to LV) feed
- Panel refurbishment of old electromechanical protection relays

Protection Functions

- 49 Thermal overload
- 50 Instantaneous overcurrent – phase
- 50G Instantaneous earth fault – measured
- 50LC Line check/Switch onto fault
- 50N Instantaneous earth fault – calculated
- 51 Time-delayed overcurrent – phase
- 51G Time-delayed earth fault – measured
- 51N Time-delayed earth fault – calculated

Ancillary Functions

- 49T High-speed external trip via BI
- 86 Lockout

Communication

- IEC 60870-5-103
- Modbus RTU

Supervision Functions

- 81HBL2 Inrush-current detection
- 74TC Trip-circuit supervision

-  Configuration software - Reydisp Evolution
-  Webinar series - Reyrolle essentials
-  Catalog Reyrolle 7SR45
-  Online shop - Industry Mall