SIEMENS



ENERGY AUTOMATION PRODUCTS

7SR23

High impedance

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The Reyrolle 7SR23 is a numeric high impedance circulating current relay that integrates the protection elements required to provide comprehensive high impedance protection for various electrical equipment and systems, such as busbars, connections, motors, transformers, and more. It comes with four current inputs and is specifically designed to detect phase and earth faults, playing a crucial role in protecting electrical infrastructure from these types of faults by ensuring quick isolation and thereby minimizing damage or interruptions to service.





Highlights

- Operating time < 1 cycle (in 5xIs)
- Overall differential protection 87/50(G)
- Additional flush mounted box (metrosil/ stabilising resistors) available to save internal panel space

Benefits

- High impedance busbar protection with IEC 61850 – Ensures safety and reliability
- Configurability – Offers multiple configuration options that allow for customization to meet specific protection requirements and operational needs
- Comprehensive functionality – Supports a wide range of applications, extending its use from industrial to utility-scale projects

Main Function	Phase segregated high impedance differential protection / high impedance REF / Earth Fault
Inputs and Outputs	• 4 Current Transformers with 1A and 5A Inputs, 9 Binary Inputs • 8 Binary Outputs or 19 Binary Inputs • 16 Binary Outputs
Communication	Front USB, Rear RS485, Additional optional comms interfaces as below
Housing	Size E6 or E8, 4U high withdrawable design

Applications

- 3 phase high impedance differential protection is typically applied to busbar, connectors, auto-transformers, reactors and motors
- Restricted earth fault protection is typically applied to provide protection of transformer windings
- The CT supervision function provides monitoring of CT secondary wiring connections
- The relay can be configured to provide the following modes of operation: 3 pole Diff + REF, 3 Pole Diff + EF, REF1 + REF2

Standard Monitoring Functions

- Primary and secondary differential currents
- Binary Input/Output status
- Trip circuit healthy/failure
- Time and Date can be synchronised over the communication channels
- Fault, Event and Waveform records

Data Communications

Standard Communications Ports

- Communication access to relay functionality is via a front USB port for local PC connection or rear electrical RS485 port for remote connection

Optional Communications Ports

- 2 rear ST fibre optic ports (2 x Tx/Rx)
- + IRIG-B port
- 1 rear RS485 + IRIG-B port
- 1 rear RS232 + IRIG-B port
- 2 rear electrical Ethernet RJ45
- 2 rear optical Ethernet duplex

Protocols

- IEC 60870-5-103
- Modbus RTU
- DNP 3.0
- Optional IEC 61850 protocols

Function Overview

Protection

- 50G Instantaneous/DTL Earth Fault
- 87REF High Impedance REF
- 87/50 Phase segregated Differential Protection
- CT50 CT Supervision
- User Programmable Logic

User Interface

- 20 character x 4 line backlit LCD
- Menu navigation keys
- 3 fixed LEDs
- 8 or 16 Programmable Tri-colour LEDs (Option)

Configuration software - Reydisp Evolution

Webinar series - Reyrolle essentials

Catalog Reyrolle 7SR23 DAD

Online shop - Industry Mall

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