



## ENERGY AUTOMATION PRODUCTS

# Capacitor Bank Protection

## 7SR191 – Capa

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

The 7SR191 Capa is a numerical protection device with a highly comprehensive functional software package which includes a range of integral application functions aimed at reducing installation, commissioning, wiring and engineering time. Power capacitors improve the performance, quality and efficiency of the system and minimize power loss.



### Highlights



User selectable hardware configuration to suit different bank arrangements

- 3 pole overcurrent + 1 pole unbalance
- 1 pole overcurrent + 3 pole unbalance



Optional voltage inputs



Overvoltage Protection by integration analysis of current

### Your benefits

- Enhanced stability and reliability – Unbalance protection with natural spill compensation
- Increased safety and damage prevention – Re-energisation blocking to prevent CB closing until bank has self discharged
- Versatility and compatibility – Suitable for use with both internally/ externally fused and fuseless capacitors
- Enhanced customization and control – User programmable characteristics for all inverse voltage, current and thermal curves

## Application

The 7SR191 Capa protection relay is designed with all of the necessary functionality for use on shunt connected distribution capacitor banks arranged in all of the common connection configurations:

- Single Star
- Double star
- Delta
- H configuration

## Protection Functions

- 37 Undercurrent/Loss of Supply
- 46M Phase Unbalance
- 46NPS Negative Phase Sequence Overcurrent
- 49 Thermal Overload
- 50 Instantaneous Overcurrent
- 50N Instantaneous Earth Fault
- 50BF Circuit Breaker Fail
- 51 Time Delayed Overcurrent
- 51N Time Delayed Derived Earth Fault
- 59C Overvoltage by Current Integration
- 60C Capacitor Unbalance Current
- 87REF High Impedance REF
- 27/59 Under/Overvoltage
- 47 Negative Phase Sequence Voltage
- 59IT Inverse Time Overvoltage
- 59N Neutral Voltage Displacement
- 67/50 Directional Instantaneous Overcurrent
- 67/50N Directional Instantaneous Earth Fault
- 67/51 Directional Time Delayed Overcurrent
- 67/51N Directional Time Delayed Earth Fault
- 81 Under/Over Frequency

## User Interface and Control Functions

- Fascia Programmable
- CB control via fascia, binary inputs and communication SCADA system
- User definable logic both via Quicklogic equations and a graphical design tool
- Multiple setting groups

## Monitoring & Data Functions

- Measured values
- Fault records
- Disturbance waveform records
- Event records
- 6 User alarms for LCD text indications
- Trip circuit supervision
- Close circuit supervision
- Virtual Input/Output
- CB Operation counts
- Demand metering
- Harmonic analysis and THD


## Communication


- Fascia USB Interface for Reydisp Evolution and Reydisp Manager connection
- System/service RS485 Interface on rear
- IEC 60870-5-103
- DNP3.0
- MODBUS RTU
- IEC 61850 (Optional)

## Hardware


- 4 Current Inputs
- 3 Voltage Inputs (Optional)
- 3 or 6 Binary Inputs
- 5 or 8 Binary Outputs
- 9 User configurable tri-coloured LED's
- 4 Line x 20 character LCD display
- Size E4 case or E6 with IEC 61850 option

 [Configuration software - Reydisp Evolution](#)

 [Virtual Relay Tool](#)

 [Webinar series - Reyrolle essentials](#)

 [Catalog 7SR191 Capa](#)

 [Online shop - Industry Mall](#)

Siemens AG  
Smart Infrastructure  
Electrification & Automation  
Mozartstrasse 31c,  
91052 Erlangen, Germany

Siemens Industry Inc.  
3617 Parkway Lane  
Peachtree Corners, GA 30092  
United States

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