

Directional time-overcurrent protection 7SR51, 4 curr. trans., 4 volt. trans., 39 BI, 20 BO (incl. 4 HDBO (Heavy Duty)), Standard interface: 1 x USB (front), RS 485 (rear) + 2 x RJ45 interfaces, S12 enclosure, including conformal coating



Figure similar

### Product details

|                         |    |
|-------------------------|----|
| number of function keys | 7  |
| number of LEDs          | 28 |

### Product Functions

|                                                                             |     |
|-----------------------------------------------------------------------------|-----|
| type of measured value detection / of operational measured value / standard | Yes |
| type of measured value detection / expanded / min./max. values, mean values | Yes |
| switching statistics                                                        | Yes |
| circuit breaker monitoring                                                  | Yes |
| product feature / logic editor                                              | Yes |
| control                                                                     | Yes |
| fault recording for analog and digital signals                              | Yes |
| sequence-of-events recorder                                                 | Yes |
| monitoring                                                                  | Yes |
| number of parameter sets                                                    | 4   |
| parameter set switchover                                                    | Yes |
| circuit breaker test                                                        | Yes |

### Protection Functions

|                                                                |     |
|----------------------------------------------------------------|-----|
| three-pole tripping                                            | Yes |
| synchrocheck (ANSI 25)                                         | Yes |
| undervoltage protection (ANSI 27)                              | Yes |
| directional power monitoring (ANSI 32)                         | Yes |
| forward power supervision (ANSI 32F)                           | Yes |
| reverse power protection (ANSI 32R)                            | Yes |
| undercurrent protection (ANSI 37)                              | Yes |
| unbalance protection (ANSI 46)                                 | Yes |
| overcurrent-time protection negative sequence system (ANSI 46) | Yes |
| phase-rotation supervision (ANSI 47)                           | Yes |
| overvoltage protection negative-sequence system (ANSI 47)      | Yes |
| thermal overload protection (ANSI 49)                          | Yes |
| definite overcurrent-time protection (ANSI 50/50N)             | Yes |
| Switch On To Fault (ANSI SOTF)                                 | Yes |
| arc protection (ANSI AFD)                                      | Yes |
| sensitive ground current protection (ANSI 50Ns)                | Yes |
| circuit breaker failure protection (ANSI 50BF)                 | Yes |
| dependent overcurrent-time protection (ANSI 51/51N)            | Yes |
| dynamic response value changeover (ANSI 51C)                   | Yes |

|                                                                                                             |     |
|-------------------------------------------------------------------------------------------------------------|-----|
| voltage-dependent overcurrent-time protection (ANSI 51V)                                                    | Yes |
| power factor (ANSI 55)                                                                                      | Yes |
| overvoltage protection (ANSI 59)                                                                            | Yes |
| overvoltage protection zero-sequence system (ANSI 59N)                                                      | Yes |
| directional overcurrent-time protection, phases (ANSI 67)                                                   | Yes |
| directional ground fault protection (ANSI 67N)                                                              | Yes |
| directional sensitive ground-fault detection for resonant-grounded systems and isolated systems (ANSI 67Ns) | Yes |
| trip-circuit supervision (ANSI 74TC)                                                                        | Yes |
| automatic reclosing (ANSI 79)                                                                               | Yes |
| frequency protection (ANSI 81)                                                                              | Yes |
| frequency variation protection (ANSI 81R)                                                                   | Yes |
| vector step protection                                                                                      | Yes |
| closing lock-out (ANSI 86)                                                                                  | Yes |
| ground fault differential protection (ANSI 87N)                                                             | Yes |
| fault locator (ANSI FL)                                                                                     | Yes |
| inrush current detection                                                                                    | Yes |
| external trip initiation                                                                                    | Yes |

#### Supply voltage

|                                         |               |
|-----------------------------------------|---------------|
| supply voltage / at AC                  | 100 ... 230 V |
| supply voltage / at DC                  | 24 ... 250 V  |
| type of voltage / of the supply voltage | AC/DC         |

#### Inputs / Outputs

|                                                               |    |
|---------------------------------------------------------------|----|
| number of digital inputs / maximum                            | 39 |
| number of digital outputs / incl. signaling contact / maximum | 20 |
| number of voltage inputs / maximum                            | 4  |
| number of current inputs / maximum                            | 4  |

#### Communication

|                                                        |     |
|--------------------------------------------------------|-----|
| product component / operating interface (on the front) | Yes |
| protocol / is supported / Modbus TCP                   | Yes |
| protocol / is supported / IEC 60870-5-103              | Yes |
| protocol / is supported / IEC 61850-8-1                | Yes |
| protocol / is supported / Modbus RTU slave             | Yes |
| protocol / is supported / DNP 3, serial                | Yes |
| protocol / is supported / DNP 3.0 TCP as server        | Yes |
| protocol / is supported / PRP                          | Yes |
| protocol / is supported / RSTP                         | Yes |
| protocol / is supported / HSR                          | Yes |

#### Time synchronization

|                              |                             |
|------------------------------|-----------------------------|
| type of time synchronization | Data comms or Digital input |
|------------------------------|-----------------------------|

#### Mechanical Design

|                                                      |          |
|------------------------------------------------------|----------|
| width                                                | 308 mm   |
| height                                               | 177 mm   |
| depth                                                | 217.5 mm |
| frame size of enclosure                              | S12      |
| product function / hardware configuration expandable | No       |

#### Environmental conditions

|                                        |                |
|----------------------------------------|----------------|
| ambient temperature / during operation | -10 ... +55 °C |
|----------------------------------------|----------------|

#### Further information

**Siemens is working on the renewal of the current EAC certificates.**

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

**Information- and Downloadcenter (catalogues, leaflets,...)**

<https://www.siemens.com/energy-automation>

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=7SR5111-7BA16-1AA0>

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/7SR5111-7BA16-1AA0>

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)**

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=7SR5111-7BA16-1AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7SR5111-7BA16-1AA0)

**Tender specifications**

<https://www.siemens.com/specifications>

