

Directional overcurrent time prot. 7SR51 4 curr. trans., 4 volt. trans., 19 BI, 12 BO  
Standard interface: 1 x USB (front), RS 485 (rear) + 2 x optical LC ports, S8  
enclosure, including conformal coating and 10 year warranty

| 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 |

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| 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                         |
| <b>Supply voltage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             |
| supply voltage / at AC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 100 ... 230 V               |
| supply voltage / at DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 24 ... 250 V                |
| type of voltage / of the supply voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | AC/DC                       |
| <b>Inputs / Outputs</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                             |
| number of digital inputs / maximum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 19                          |
| number of digital outputs / incl. signaling contact / maximum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 12                          |
| number of voltage inputs / maximum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4                           |
| number of current inputs / maximum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4                           |
| <b>Communication</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                             |
| 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                         |
| <b>Time synchronization</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                             |
| type of time synchronization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Data comms or Digital input |
| <b>Mechanical Design</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                             |
| width                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 205 mm                      |
| height                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 177 mm                      |
| depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 217.5 mm                    |
| frame size of enclosure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | S8                          |
| product function / hardware configuration expandable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | No                          |
| <b>Environmental conditions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                             |
| ambient temperature / during operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -10 ... +55 °C              |
| <b>Further information</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                             |
| <p><b>Siemens is working on the renewal of the current EAC certificates.</b><br/> 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).</p> <p><b>Information- and Downloadcenter (catalogues, leaflets,...)</b><br/> <a href="https://www.siemens.com/energy-automation">https://www.siemens.com/energy-automation</a></p> <p><b>Industry Mall (Online ordering system)</b><br/> <a href="https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=7SR5111-3AA22-2AA0">https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=7SR5111-3AA22-2AA0</a></p> <p><b>Service&amp;Support (Manuals, Certificates, Characteristics, FAQs,...)</b><br/> <a href="https://support.industry.siemens.com/cs/ww/en/ps/7SR5111-3AA22-2AA0">https://support.industry.siemens.com/cs/ww/en/ps/7SR5111-3AA22-2AA0</a></p> <p><b>Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)</b><br/> <a href="https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7SR5111-3AA22-2AA0">https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7SR5111-3AA22-2AA0</a></p> <p><b>Tender specifications</b><br/> <a href="https://www.siemens.com/specifications">https://www.siemens.com/specifications</a></p> <p><b>Power Academy - Your training and consulting partner in the area of power transmission and distribution</b><br/> <a href="https://www.siemens.com/poweracademy">https://www.siemens.com/poweracademy</a></p> |                             |

