



CONTACTOR, AC-3, 4KW/400V, 2NO+2NC,  
AC 230V, 50/60 HZ,  
W. PLUGGED-ON VARISTOR 3-POLE,  
SZ S00 SCREW TERMINAL PERMANENT AUX. SWITCH

### General technical data:

|                                                              |    |                            |
|--------------------------------------------------------------|----|----------------------------|
| product brand name                                           |    | SIRIUS                     |
| Size of the contactor                                        |    | S00                        |
| Product extension / auxiliary switch                         |    | No                         |
| Product extension / function module for communication        |    | No                         |
| Protection class IP / on the front                           |    | IP20                       |
| Protection against electrical shock                          |    | finger-safe                |
| Degree of pollution                                          |    | 3                          |
| Installation altitude / at a height over sea level / maximum | m  | 2,000                      |
| Ambient temperature                                          |    |                            |
| • during storage                                             | °C | -55 ... +80                |
| • during operating                                           | °C | -25 ... +60                |
| Shock resistance                                             |    |                            |
| • at rectangular impulse                                     |    |                            |
| • at AC                                                      |    | 6,7g / 5 ms, 4,2g / 10 ms  |
| • at sine pulse                                              |    |                            |
| • at AC                                                      |    | 10,5g / 5 ms, 6,6g / 10 ms |
| Impulse voltage resistance / rated value                     | kV | 6                          |
| Insulation voltage / rated value                             | V  | 690                        |

|                                                                                                                               |                |            |
|-------------------------------------------------------------------------------------------------------------------------------|----------------|------------|
| <b>Maximum permissible voltage for protective separation / between coil and main contacts / in accordance with EN 60947-1</b> | V              | 400        |
| <b>Mechanical operating cycles as operating time</b>                                                                          |                |            |
| • of the contactor / typical                                                                                                  |                | 10,000,000 |
| • of the contactor with added auxiliary switch block / typical                                                                |                | 10,000,000 |
| • of the contactor with added electronics-compatible auxiliary switch block / typical                                         |                | 5,000,000  |
| <b>Main circuit:</b>                                                                                                          |                |            |
| <b>Number of NC contacts / for main contacts</b>                                                                              |                | 0          |
| <b>Number of NO contacts / for main contacts</b>                                                                              |                | 3          |
| <b>Operating current / at AC-1 / at 400 V</b>                                                                                 |                |            |
| • at 40 °C ambient temperature / rated value                                                                                  | A              | 22         |
| • at 60 °C ambient temperature / rated value                                                                                  | A              | 20         |
| <b>Connectable conductor cross-section / in main circuit</b>                                                                  |                |            |
| • at AC-1                                                                                                                     |                |            |
| • at 40 °C / minimum permissible                                                                                              | m <sup>2</sup> | 4          |
| • at 60 °C / minimum permissible                                                                                              | m <sup>2</sup> | 2.5        |
| <b>Operational current</b>                                                                                                    |                |            |
| • at AC-2 / at 400 V / rated value                                                                                            | A              | 9          |
| • at AC-3                                                                                                                     |                |            |
| • at 400 V / rated value                                                                                                      | A              | 9          |
| • at 500 V / rated value                                                                                                      | A              | 7.7        |
| • at 690 V / rated value                                                                                                      | A              | 6.7        |
| • at AC-4 / at 400 V / rated value                                                                                            | A              | 8.5        |
| <b>Operational current</b>                                                                                                    |                |            |
| • with 1 current path / at DC-1                                                                                               |                |            |
| • at 24 V / rated value                                                                                                       | A              | 20         |
| • at 110 V / rated value                                                                                                      | A              | 2.1        |
| • at 220 V / rated value                                                                                                      | A              | 0.8        |
| • at 440 V / rated value                                                                                                      | A              | 0.6        |
| • at 600 V / rated value                                                                                                      | A              | 0.6        |
| • with 2 current paths in series / at DC-1                                                                                    |                |            |
| • at 24 V / rated value                                                                                                       | A              | 20         |
| • at 110 V / rated value                                                                                                      | A              | 12         |
| • at 220 V / rated value                                                                                                      | A              | 1.6        |
| • at 440 V / rated value                                                                                                      | A              | 0.8        |
| • at 600 V / rated value                                                                                                      | A              | 0.7        |
| • with 3 current paths in series / at DC-1                                                                                    |                |            |
| • at 24 V / rated value                                                                                                       | A              | 20         |
| • at 110 V / rated value                                                                                                      | A              | 20         |

|                                                                                                      |     |        |
|------------------------------------------------------------------------------------------------------|-----|--------|
| • at 220 V / rated value                                                                             | A   | 20     |
| • at 440 V / rated value                                                                             | A   | 1.3    |
| • at 600 V / rated value                                                                             | A   | 1      |
| <b>Operational current</b>                                                                           |     |        |
| • with 1 current path / at DC-3 / at DC-5                                                            |     |        |
| • at 24 V / rated value                                                                              | A   | 20     |
| • at 110 V / rated value                                                                             | A   | 0.1    |
| • with 2 current paths in series / at DC-3 / at DC-5                                                 |     |        |
| • at 24 V / rated value                                                                              | A   | 20     |
| • at 110 V / rated value                                                                             | A   | 0.35   |
| • with 3 current paths in series / at DC-3 / at DC-5                                                 |     |        |
| • at 24 V / rated value                                                                              | A   | 20     |
| • at 110 V / rated value                                                                             | A   | 20     |
| • at 220 V / rated value                                                                             | A   | 1.5    |
| • at 440 V / rated value                                                                             | A   | 0.2    |
| • at 600 V / rated value                                                                             | A   | 0.2    |
| <b>Service power</b>                                                                                 |     |        |
| • at AC-1                                                                                            |     |        |
| • at 230 V / rated value                                                                             | kW  | 7.5    |
| • at 400 V / rated value                                                                             | kW  | 13     |
| • at 500 V / rated value                                                                             | kW  | 17     |
| • at 690 V / rated value                                                                             | kW  | 22     |
| • at AC-2 / at 400 V / rated value                                                                   | kW  | 4      |
| • at AC-3                                                                                            |     |        |
| • at 230 V / rated value                                                                             | kW  | 2.2    |
| • at 400 V / rated value                                                                             | kW  | 4      |
| • at 690 V / rated value                                                                             | kW  | 5.5    |
| • at AC-4 / at 400 V / rated value                                                                   | kW  | 4      |
| <b>Active power loss / at AC-3 / at 400 V / with rated operational current value / per conductor</b> | W   | 0.7    |
| <b>Off-load operating frequency</b>                                                                  |     |        |
| • at AC                                                                                              | 1/h | 10,000 |
| • at DC                                                                                              | 1/h | 10,000 |
| <b>Frequency of operation</b>                                                                        |     |        |
| • at AC-1 / according to IEC 60947-6-2                                                               | 1/h | 1,000  |
| • at AC-2 / according to IEC 60947-6-2                                                               | 1/h | 750    |
| • at AC-3 / according to IEC 60947-6-2                                                               | 1/h | 750    |
| • at AC-4 / according to IEC 60947-6-2                                                               | 1/h | 250    |

Control circuit:

|                                                                                       |     |               |
|---------------------------------------------------------------------------------------|-----|---------------|
| <b>Design of the surge suppressor</b>                                                 |     | with varistor |
| <b>Type of voltage / of the controlled supply voltage</b>                             |     | AC            |
| <b>Control supply voltage</b>                                                         |     |               |
| • at 50 Hz / at AC / rated value                                                      | V   | 230           |
| • at 60 Hz / at AC / rated value                                                      | V   | 230           |
| <b>operating range factor control supply voltage rated value / of the magnet coil</b> |     |               |
| • at 50 Hz / for AC                                                                   |     | 0.8 ... 1.1   |
| • at 60 Hz / for AC                                                                   |     | 0.85 ... 1.1  |
| <b>Apparent pull-in power / of the solenoid / for AC</b>                              | V·A | 27            |
| <b>Apparent holding power / of the solenoid / for AC</b>                              | V·A | 4.2           |
| <b>Inductive power factor</b>                                                         |     |               |
| • with the pull-in power of the coil                                                  |     | 0.8           |
| • with the pull-in power of the coil                                                  |     | 0.25          |
| <b>Closing delay</b>                                                                  |     |               |
| • at AC                                                                               | ms  | 9 ... 35      |
| <b>Opening delay</b>                                                                  |     |               |
| • at AC                                                                               | ms  | 3.5 ... 14    |
| <b>Arcing time</b>                                                                    | ms  | 10 ... 15     |
| <b>Residual current / of electronics / for control with signal &lt;0&gt;</b>          |     |               |
| • at 230 V / with AC / maximum permissible                                            | mA  | 3             |
| • at 24 V / with DC / maximum permissible                                             | mA  | 10            |

#### Auxiliary circuit:

|                                                                                 |   |                                                 |
|---------------------------------------------------------------------------------|---|-------------------------------------------------|
| <b>Contact reliability / of the auxiliary contacts</b>                          |   | 1 faulty switching per 100 million (17 V, 1 mA) |
| <b>Number of NC contacts / for auxiliary contacts / instantaneous switching</b> |   | 2                                               |
| <b>Number of NO contacts / for auxiliary contacts / instantaneous switching</b> |   | 2                                               |
| <b>Operating current / of the auxiliary contacts</b>                            |   |                                                 |
| • [nicht versorgt: PMD_ABP551_001_000]                                          |   |                                                 |
| •                                                                               | A | 2                                               |
| • at 690 V                                                                      | A | 1                                               |

#### UL/CSA ratings:

|                                            |    |      |
|--------------------------------------------|----|------|
| <b>yielded mechanical performance (hp)</b> |    |      |
| • for single-phase squirrel cage motors    |    |      |
| • at 110/120 V / rated value               | hp | 0.33 |
| • at 230 V / rated value                   | hp | 1    |
| • for three-phase squirrel cage motors     |    |      |
| • at 200/208 V / rated value               | hp | 2    |

|                                                                              |    |             |
|------------------------------------------------------------------------------|----|-------------|
| • at 220/230 V / rated value                                                 | hp | 3           |
| • at 460/480 V / rated value                                                 | hp | 5           |
| • at 575/600 V / rated value                                                 | hp | 7.5         |
| <b>Operating current (FLA) / for three-phase squirrel cage motors</b>        |    |             |
| • at 480 V / rated value                                                     | A  | 7.6         |
| • at 600 V / rated value                                                     | A  | 9           |
| <b>Contact rating designation / for auxiliary contacts / according to UL</b> |    | A600 / Q600 |

#### Short-circuit:

##### Design of the fuse link

- for short-circuit protection of the auxiliary switch / required
- for short-circuit protection of the main circuit
  - with type of assignment 1 / required
  - at type of coordination 2 / required

fuse gL/gG: 10 A

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 A

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 20A

#### Installation/mounting/dimensions:

|                                                                     |    |                                                                                                                                      |
|---------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>mounting position</b>                                            |    | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| <b>Type of mounting</b>                                             |    | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022                                               |
| <b>Type of fixing/fixation / series installation</b>                |    | Yes                                                                                                                                  |
| <b>Width</b>                                                        | mm | 45                                                                                                                                   |
| <b>Height</b>                                                       | mm | 57.5                                                                                                                                 |
| <b>Depth</b>                                                        | mm | 116                                                                                                                                  |
| <b>Distance, to be maintained, to the ranks assembly / sideways</b> | mm | 0                                                                                                                                    |

#### Connections:

##### Design of the electrical connection

- for main current circuit
- for auxiliary and control current circuit

screw-type terminals

screw-type terminals

##### Type of the connectable conductor cross-section

- for main contacts
  - solid
  - finely stranded
    - with conductor end processing
- for AWG conductors / for main contacts
- for auxiliary contacts
  - solid
  - finely stranded

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)

2x (20 ... 16), 2x (18 ... 14), 2x 12

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²

- with conductor end processing
- for AWG conductors / for auxiliary contacts

2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)  
 2x (20 ... 16), 2x (18 ... 14), 2x 12

#### Sicherheitsrelevante Kenngrößen:

##### B10 value / with high demand rate

- according to SN 31920

1,000,000

##### T1 value / for proof test interval or service life

- according to IEC 61508

a

20

##### Proportion of dangerous failures

- with low demand rate / according to SN 31920
- with high demand rate / according to SN 31920

%

40

%

73

##### Failure rate (FIT value) / with low demand rate

- according to SN 31920

FIT

100

##### Product function

- mirror contact to IEC 60947-4-1
- comment
- positively driven operation to IEC 60947-5-1

Yes  
with 3RH29  
No

#### Certificates/approvals:

##### General Product Approval

##### Functional Safety / Safety of Machinery

##### Declaration of Conformity



[Type Examination](#)



##### Shipping Approval



##### Shipping Approval

##### other



[Confirmation](#)



#### Further information:

##### Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

##### Industry Mall (Online ordering system)

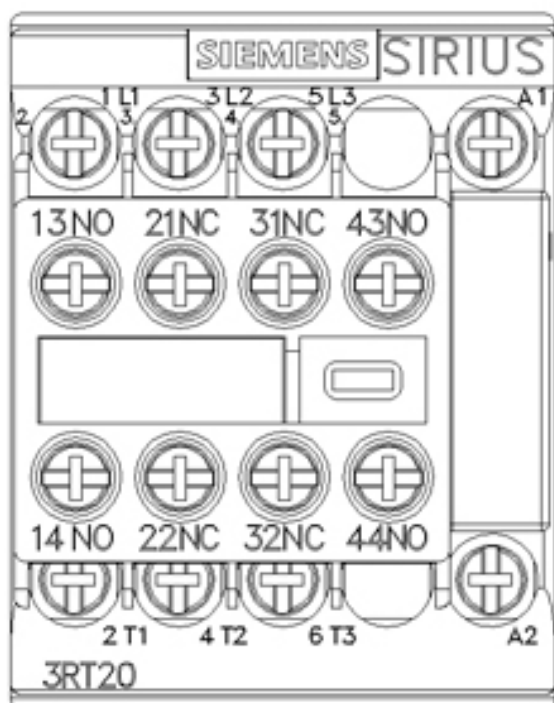
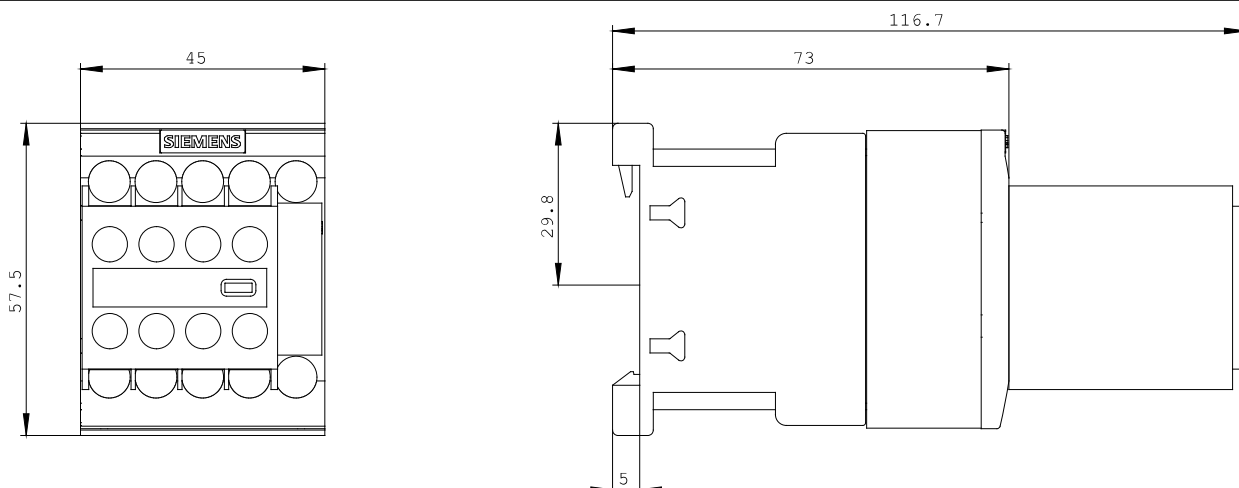
<http://www.siemens.com/industrial-controls/mall>

##### Cax online generator

<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3RT2016-1CP04-3MA0/all>



last change:

Feb 15, 2013