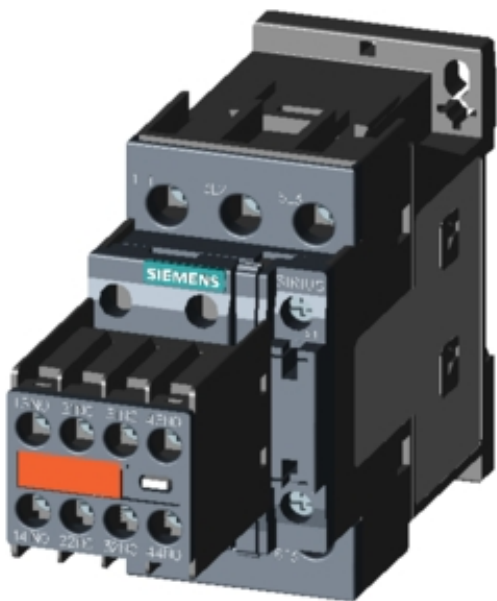




CONTACTOR, AC-3, 7.5KW/400V, 2NO+2NC,  
AC 230V 50/60HZ, 3-POLE,  
SZ S0 SCREW TERMINAL PERMANENT AUX. SWITCH  
FOR SUVA APPLICATIONS

| General technical data:                                      |    |                            |
|--------------------------------------------------------------|----|----------------------------|
| product brand name                                           |    | SIRIUS                     |
| Size of the contactor                                        |    | S0                         |
| 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                                                      |    | 7,5g / 5 ms, 4,7g / 10 ms  |
| • at sine pulse                                              |    |                            |
| • at AC                                                      |    | 11,8g / 5 ms, 7,4g / 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              | 40         |
| • at 60 °C ambient temperature / rated value                                                                                  | A              | 35         |
| <b>Connectable conductor cross-section / in main circuit</b>                                                                  |                |            |
| • at AC-1                                                                                                                     |                |            |
| • at 40 °C / minimum permissible                                                                                              | m <sup>2</sup> | 10         |
| • at 60 °C / minimum permissible                                                                                              | m <sup>2</sup> | 10         |
| <b>Operational current</b>                                                                                                    |                |            |
| • at AC-2 / at 400 V / rated value                                                                                            | A              | 17         |
| • at AC-3                                                                                                                     |                |            |
| • at 400 V / rated value                                                                                                      | A              | 17         |
| • at 500 V / rated value                                                                                                      | A              | 17         |
| • at 690 V / rated value                                                                                                      | A              | 13         |
| • at AC-4 / at 400 V / rated value                                                                                            | A              | 15.5       |
| <b>Operational current</b>                                                                                                    |                |            |
| • with 1 current path / at DC-1                                                                                               |                |            |
| • at 24 V / rated value                                                                                                       | A              | 35         |
| • at 110 V / rated value                                                                                                      | A              | 4.5        |
| • at 220 V / rated value                                                                                                      | A              | 1          |
| • at 440 V / rated value                                                                                                      | A              | 0.4        |
| • at 600 V / rated value                                                                                                      | A              | 0.25       |
| • with 2 current paths in series / at DC-1                                                                                    |                |            |
| • at 24 V / rated value                                                                                                       | A              | 35         |
| • at 110 V / rated value                                                                                                      | A              | 35         |
| • at 220 V / rated value                                                                                                      | A              | 5          |
| • at 440 V / rated value                                                                                                      | A              | 1          |
| • at 600 V / rated value                                                                                                      | A              | 0.8        |
| • with 3 current paths in series / at DC-1                                                                                    |                |            |
| • at 24 V / rated value                                                                                                       | A              | 35         |
| • at 110 V / rated value                                                                                                      | A              | 35         |

|                                                                                                      |     |       |
|------------------------------------------------------------------------------------------------------|-----|-------|
| • at 220 V / rated value                                                                             | A   | 35    |
| • at 440 V / rated value                                                                             | A   | 2.9   |
| • at 600 V / rated value                                                                             | A   | 1.4   |
| <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   | 2.5   |
| • at 220 V / rated value                                                                             | A   | 1     |
| • at 440 V / rated value                                                                             | A   | 0.09  |
| • at 600 V / rated value                                                                             | A   | 0.06  |
| • with 2 current paths in series / at DC-3 / at DC-5                                                 |     |       |
| • at 24 V / rated value                                                                              | A   | 35    |
| • at 110 V / rated value                                                                             | A   | 15    |
| • at 220 V / rated value                                                                             | A   | 3     |
| • at 440 V / rated value                                                                             | A   | 0.27  |
| • at 600 V / rated value                                                                             | A   | 0.16  |
| • with 3 current paths in series / at DC-3 / at DC-5                                                 |     |       |
| • at 24 V / rated value                                                                              | A   | 35    |
| • at 110 V / rated value                                                                             | A   | 35    |
| • at 220 V / rated value                                                                             | A   | 10    |
| • at 440 V / rated value                                                                             | A   | 0.6   |
| • at 600 V / rated value                                                                             | A   | 0.6   |
| <b>Service power</b>                                                                                 |     |       |
| • at AC-1                                                                                            |     |       |
| • at 230 V / rated value                                                                             | kW  | 13.3  |
| • at 400 V / rated value                                                                             | kW  | 23    |
| • at 500 V / rated value                                                                             | kW  | 29    |
| • at 690 V / rated value                                                                             | kW  | 40    |
| • at AC-2 / at 400 V / rated value                                                                   | kW  | 7.5   |
| • at AC-3                                                                                            |     |       |
| • at 230 V / rated value                                                                             | kW  | 4     |
| • at 400 V / rated value                                                                             | kW  | 7.5   |
| • at 690 V / rated value                                                                             | kW  | 11    |
| • at AC-4 / at 400 V / rated value                                                                   | kW  | 7.5   |
| <b>Active power loss / at AC-3 / at 400 V / with rated operational current value / per conductor</b> | W   | 0.9   |
| <b>Off-load operating frequency</b>                                                                  |     |       |
| • at AC                                                                                              | 1/h | 5,000 |
| • at DC                                                                                              | 1/h | 1,500 |
| <b>Frequency of operation</b>                                                                        |     |       |

- at AC-1 / according to IEC 60947-6-2
- at AC-2 / according to IEC 60947-6-2
- at AC-3 / according to IEC 60947-6-2
- at AC-4 / according to IEC 60947-6-2

|     |       |
|-----|-------|
| 1/h | 1,000 |
| 1/h | 1,000 |
| 1/h | 1,000 |
| 1/h | 300   |

#### Control circuit:

|                                                                                       |     |              |
|---------------------------------------------------------------------------------------|-----|--------------|
| <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 | 68           |
| <b>Apparent holding power / of the solenoid / for AC</b>                              | V·A | 7.9          |
| <b>Inductive power factor</b>                                                         |     |              |
| • with the pull-in power of the coil                                                  |     | 0.82         |
| • with the pull-in power of the coil                                                  |     | 0.25         |
| <b>Closing delay</b>                                                                  |     |              |
| • at AC                                                                               | ms  | 9 ... 38     |
| <b>Opening delay</b>                                                                  |     |              |
| • at AC                                                                               | ms  | 4 ... 16     |
| <b>Arcing time</b>                                                                    | ms  | 10 ... 10    |
| <b>Residual current / of electronics / for control with signal &lt;0&gt;</b>          |     |              |
| • at 230 V / with AC / maximum permissible                                            | mA  | 6            |
| • at 24 V / with DC / maximum permissible                                             | mA  | 16           |

#### 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    |  |  |

|                                                                                                                                                                                                                                                                                                                                                                    |    |             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------|
| <ul style="list-style-type: none"> <li>• at 110/120 V / rated value</li> <li>• at 230 V / rated value</li> <li>• for three-phase squirrel cage motors <ul style="list-style-type: none"> <li>• at 200/208 V / rated value</li> <li>• at 220/230 V / rated value</li> <li>• at 460/480 V / rated value</li> <li>• at 575/600 V / rated value</li> </ul> </li> </ul> | hp | 1           |
|                                                                                                                                                                                                                                                                                                                                                                    | hp | 3           |
|                                                                                                                                                                                                                                                                                                                                                                    | hp | 3           |
|                                                                                                                                                                                                                                                                                                                                                                    | hp | 5           |
|                                                                                                                                                                                                                                                                                                                                                                    | hp | 10          |
|                                                                                                                                                                                                                                                                                                                                                                    | hp | 15          |
| <b>Operating current (FLA) / for three-phase squirrel cage motors</b>                                                                                                                                                                                                                                                                                              |    |             |
| <ul style="list-style-type: none"> <li>• at 480 V / rated value</li> <li>• at 600 V / rated value</li> </ul>                                                                                                                                                                                                                                                       | A  | 14          |
|                                                                                                                                                                                                                                                                                                                                                                    | A  | 17          |
| <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: 63 A

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25A

#### Installation/mounting/dimensions:

##### mounting position

+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface

##### Type of mounting

screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022

##### Type of fixing/fixation / series installation

Yes

##### Width

mm 45

##### Height

mm 85

##### Depth

mm 141

##### Distance, to be maintained, to the ranks assembly / sideways

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

2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²)

2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²

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

2x (16 ... 12), 2x (14 ... 8)

2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)

2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)

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

#### 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

##### EMC

##### Functional Safety / Safety of Machinery



[Type Examination](#)

##### Declaration of Conformity



##### 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

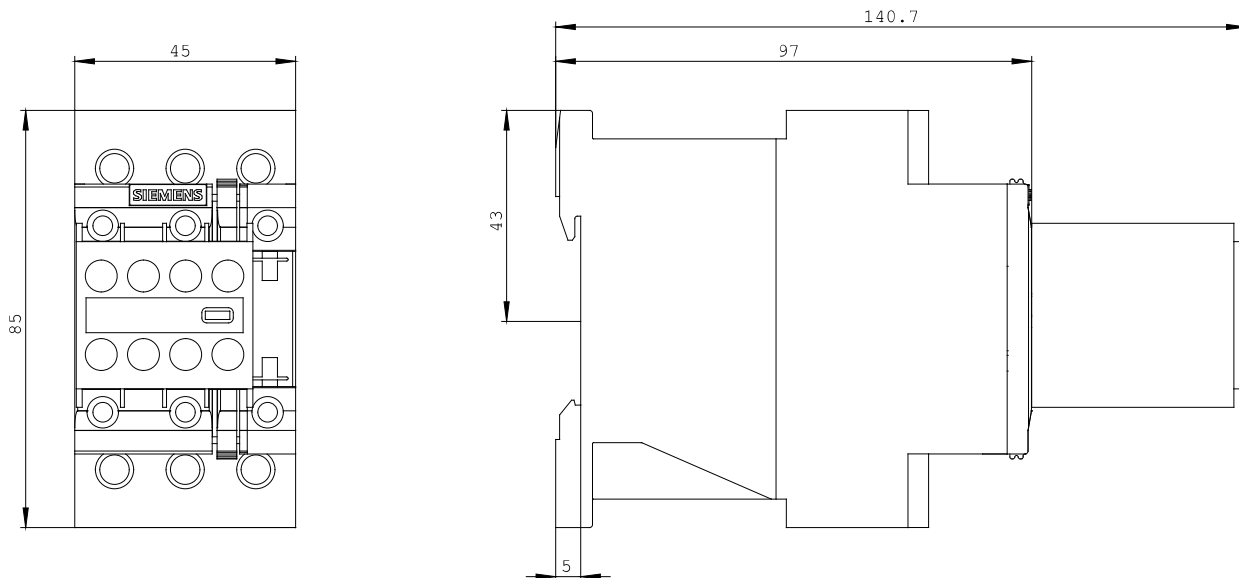
<http://www.siemens.com/cax>

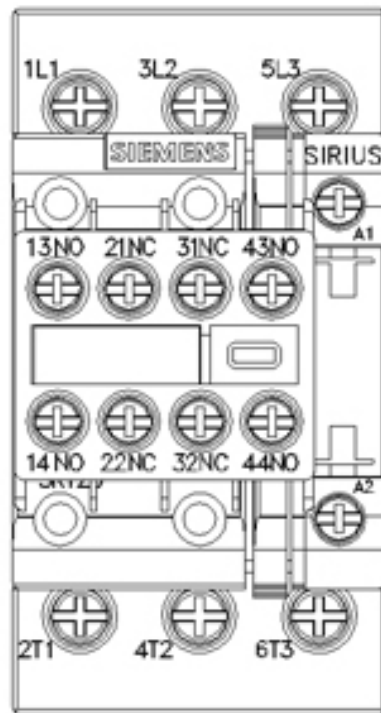
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RT2025-1AL24-3MA0/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RT2025-1AL24-3MA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT2025-1AL24-3MA0)





last change:

Feb 15, 2013