



CONTACTOR, AC-3, 18.5KW/400V,  
2NO+2NC AC110V 50HZ/120V 60HZ 3-POLE,  
SZ S0 SCREW TERMINAL PERMANENT AUX. SWITCH  
FOR SUVA APPLICATIONS

**General technical data:**

|   |    |                            |
|---|----|----------------------------|
| <b>product brand name</b>   |    | SIRIUS                     |
| <b>Size of the contactor</b>  |    | S0                         |
| <b>Product extension / auxiliary switch</b>                         |    | No                         |
| <b>Protection class IP / on the front</b>                           |    | IP20                       |
| <b>Protection against electrical shock</b>                          |    | finger-safe                |
| <b>Degree of pollution</b>  |    | 3                          |
| <b>Installation altitude / at a height over sea level / maximum</b> | m  | 2,000                      |
| <b>Ambient temperature</b>  |    |                            |
| • during storage  | °C | -55 ... +80                |
| • during operating  | °C | -25 ... +60                |
| <b>Shock resistance</b>   |    |                            |
| • at rectangular impulse  |    |                            |
| • at AC   |    | 8,3g / 5 ms, 5,3g / 10 ms  |
| • at sine pulse   |    |                            |
| • at AC   |    | 13,5g / 5 ms, 8,3g / 10 ms |
| <b>Impulse voltage resistance / rated value</b>                     | kV | 6                          |
| <b>Insulation voltage / rated value</b>                             | V  | 690                        |
| <b>Mechanical operating cycles as operating time</b>                |    |                            |
| • of the contactor / typical  |    | 10,000,000                 |

- of the contactor with added auxiliary switch block / typical
- of the contactor with added electronics-compatible auxiliary switch block / typical

10,000,000

5,000,000

**Main circuit:****Number of NC contacts / for main contacts**

0

**Number of NO contacts / for main contacts**

3

**Operating current**

- at AC-1 / at 400 V
  - at 40 °C ambient temperature / rated value
  - at 60 °C ambient temperature / rated value
- at AC-2 / at 400 V / rated value
- at AC-3 / at 400 V / rated value
- at AC-4 / at 400 V / rated value

|   |    |
|---|----|
| A | 50 |
| A | 42 |
| A | 38 |
| A | 38 |
| A | 22 |

**Operating current**

- with 1 current path / at DC-1
  - at 24 V / rated value
  - at 110 V / rated value
- with 2 current paths in series / at DC-1
  - at 24 V / rated value
  - at 110 V / rated value
- with 3 current paths in series / at DC-1
  - at 24 V / rated value
  - at 110 V / rated value
- with 1 current path / at DC-3 / at DC-5
  - at 24 V / rated value
  - at 110 V / rated value
- with 2 current paths in series / at DC-3 / at DC-5
  - at 24 V / rated value
  - at 110 V / rated value
- with 3 current paths in series / at DC-3 / at DC-5
  - at 24 V / rated value
  - at 110 V / rated value

|   |     |
|---|-----|
| A | 35  |
| A | 4.5 |
| A | 35  |
| A | 35  |
| A | 35  |
| A | 35  |
| A | 20  |
| A | 2.5 |
| A | 35  |
| A | 15  |
| A | 35  |
| A | 35  |

**Service power**

- at AC-2 / at 400 V / rated value
- at AC-3 / at 400 V / rated value
- at AC-4 / at 400 V / rated value

|    |      |
|----|------|
| kW | 18.5 |
| kW | 18.5 |
| kW | 11   |

**Active power loss / per conductor / typical**

|   |     |
|---|-----|
| W | 3.8 |
|---|-----|

**Off-load operating frequency**

- at AC

|     |       |
|-----|-------|
| 1/h | 5,000 |
|-----|-------|

|  |     |       |
|--|-----|-------|
| • at DC  | 1/h | 1,500 |
| <b>Frequency of operation / at AC-1 / according to IEC 60947-6-2</b> | 1/h | 1,000 |
| <b>Frequency of operation / at AC-2 / according to IEC 60947-6-2</b> | 1/h | 750   |
| <b>Frequency of operation / at AC-3 / according to IEC 60947-6-2</b> | 1/h | 750   |
| <b>Frequency of operation / at AC-4 / according to IEC 60947-6-2</b> | 1/h | 250   |

| <b>Control circuit:</b>   |     |              |
|---|-----|--------------|
| <b>Type of voltage / of the controlled supply voltage</b>                             |     | AC           |
| <b>Control supply voltage / 1</b>   |     |              |
| • at 50 Hz / for AC / rated value   | V   | 110          |
| • at 60 Hz / for AC / rated value   | V   | 120          |
| <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 | 81           |
| <b>Apparent holding power / of the solenoid / for AC</b>                              | V·A | 10.5         |
| <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  | 8 ... 40     |
| <b>Opening delay</b>  |     |              |
| • at AC   | ms  | 4 ... 16     |
| <b>Arcing time</b>  | ms  | 10 ... 10    |

| <b>Auxiliary circuit:</b>   |   |   |
|---|---|---|
| <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>                            |   |   |
| • at AC-12 / maximum  | A | 10  |
| • at AC-15  |   |   |
| • at 230 V  | A | 6   |
| • at 400 V  | A | 3   |
| • at DC-12  |   |   |
| • at 48 V   | A | 6   |
| • at 60 V   | A | 6   |
| • at 110 V  | A | 3   |

- at 220 V
- at DC-13
- at 24 V
- at 48 V
- at 60 V
- at 110 V
- at 220 V

|   |     |
|---|-----|
| A | 1   |
| A | 6   |
| A | 2   |
| A | 2   |
| A | 1   |
| A | 0.3 |

### 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:  
100 A

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

### Installation/mounting/dimensions:

|   |    |  |
|---|----|--|
| <b>mounting position</b>  |    | +/-180° rotation possible on vertical mounting surface;<br>can be tilted forward and backward by +/- 22.5° on<br>vertical mounting surface |
| <b>Type of mounting</b>   |    | screw and snap-on mounting onto 35 mm standard<br>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 | 85   |
| <b>Depth</b>  | mm | 141  |
| <b>Distance, to be maintained, to the ranks assembly / sideways</b> | mm | 0  |
| <b>Distance, to be maintained, to earthed part / sideways</b>       | mm | 6  |

### 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 (1 ... 2.5 mm<sup>2</sup>), 2x (2.5 ... 10 mm<sup>2</sup>)

2x (1 ... 2.5 mm<sup>2</sup>), 2x (2.5 ... 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup>

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

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

- 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)

### Certificates/approvals:

#### General Product Approval



#### Declaration of Conformity

#### Shipping Approval



#### Shipping Approval

#### other



### UL/CSA ratings:

#### yielded mechanical performance (hp)

- for single-phase squirrel cage motors
  - at 110/120 V / rated value
  - at 230 V / rated value
- for three-phase squirrel cage motors
  - at 200/208 V / rated value
  - at 220/230 V / rated value
  - at 460/480 V / rated value
  - at 575/600 V / rated value

|    |    |
|----|----|
| hp | 3  |
| hp | 5  |
| hp | 10 |
| hp | 10 |
| hp | 25 |
| hp | 25 |

#### Operating current (FLA) / for three-phase squirrel cage motors

- at 480 V / rated value
- at 600 V / rated value

|   |    |
|---|----|
| A | 34 |
| A | 27 |

#### Contact rating designation / for auxiliary contacts / according to UL

A600 / Q600

### 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 |
|     | Yes |
|     | No  |

**Product function**

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

**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:**

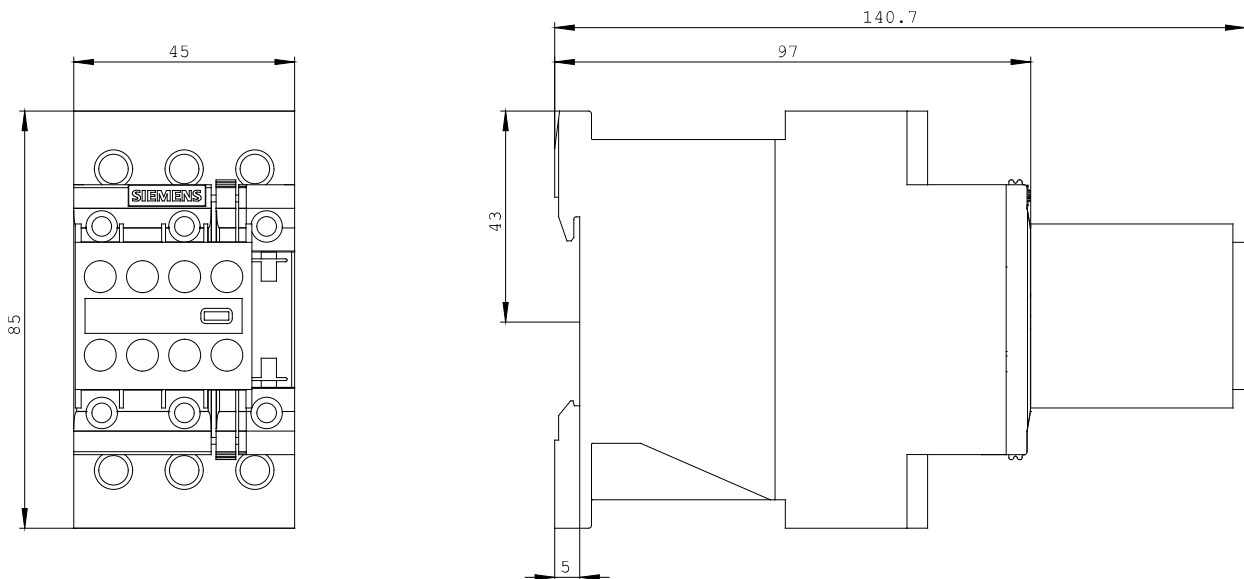
<http://www.siemens.com/cax>

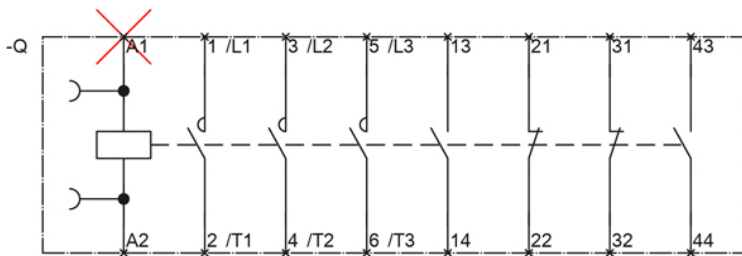
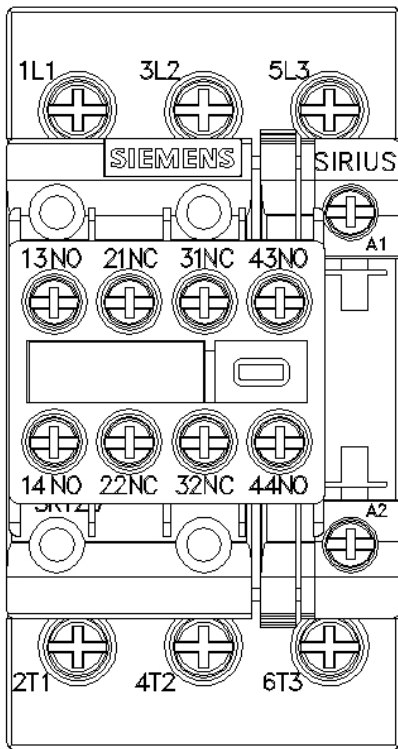
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<http://support.automation.siemens.com/WW/view/en/3RT2028-1AK64-3MA0/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RT2028-1AK64-3MA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT2028-1AK64-3MA0)





last change:

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