



power contactor, AC-3 32 A, 15 kW / 400 V 1 NO + 1 NC, 24 V DC with integrated varistor 3-pole, size S0 spring-type terminal suitable for PLC outputs not expandable with auxiliary switch

|   |                          |
|---|--------------------------|
| <b>product brand name</b>   | SIRIUS                   |
| <b>product designation</b>  | Coupling contactor       |
| <b>product type designation</b>   | 3RT2                     |
| <b>General technical data</b>   |                          |
| <b>size of contactor</b>  | S0                       |
| <b>product extension</b>  |                          |
| • function module for communication   | No                       |
| • auxiliary switch  | No                       |
| <b>power loss [W] for rated value of the current</b>  |                          |
| • at AC in hot operating state  | 6.3 W                    |
| • at AC in hot operating state per pole   | 2.3 W                    |
| • without load current share typical  | 4.5 W                    |
| <b>insulation voltage</b>   |                          |
| • of main circuit with degree of pollution 3 rated value  | 690 V                    |
| • of auxiliary circuit with degree of pollution 3 rated value   | 690 V                    |
| <b>surge voltage resistance</b>   |                          |
| • of main circuit rated value   | 6 kV                     |
| • of auxiliary circuit rated value  | 6 kV                     |
| maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 | 400 V                    |
| <b>shock resistance at rectangular impulse</b>  |                          |
| • at DC   | 10g / 5 ms, 7,5g / 10 ms |
| <b>shock resistance with sine pulse</b>   |                          |
| • at DC   | 15g / 5 ms, 10g / 10 ms  |
| <b>mechanical service life (switching cycles)</b>   |                          |
| • of contactor typical  | 10 000 000               |
| • of the contactor with added electronically optimized auxiliary switch block typical                 | 5 000 000                |
| • of the contactor with added auxiliary switch block typical  | 10 000 000               |
| <b>reference code according to IEC 81346-2</b>  | Q                        |
| <b>Substance Prohibitance (Date)</b>  | 10/01/2009               |
| <b>Ambient conditions</b>   |                          |
| installation altitude at height above sea level maximum   | 2 000 m                  |
| <b>ambient temperature</b>  |                          |
| • during operation  | -25 ... +60 °C           |
| • during storage  | -55 ... +80 °C           |
| <b>relative humidity minimum</b>  | 10 %                     |
| <b>relative humidity at 55 °C according to IEC 60068-2-30 maximum</b>                                 | 95 %                     |

## Main circuit

|  |                    |
|--|--------------------|
| <b>number of poles for main current circuit</b>  | 3                  |
| <b>number of NO contacts for main contacts</b>   | 3                  |
| <b>operating voltage</b>   |                    |
| <ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>  | 690 V              |
| <ul style="list-style-type: none"> <li>• at AC-3e rated value maximum</li> </ul>   | 690 V              |
| <b>operational current</b>   |                    |
| <ul style="list-style-type: none"> <li>• at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>  | 50 A               |
| <ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 40 °C rated value</li> </ul> </li> </ul>      | 50 A               |
| <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul>   | 42 A               |
| <ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>                                      | 32 A               |
| <ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>   | 32 A               |
| <ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>   | 21 A               |
| <ul style="list-style-type: none"> <li>• at AC-3e <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>                                     | 32 A               |
| <ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>   | 32 A               |
| <ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>   | 21 A               |
| <ul style="list-style-type: none"> <li>• at AC-4 at 400 V rated value</li> </ul>   | 22 A               |
| <ul style="list-style-type: none"> <li>• at AC-5a up to 690 V rated value</li> </ul>   | 44 A               |
| <ul style="list-style-type: none"> <li>• at AC-5b up to 400 V rated value</li> </ul>   | 26.5 A             |
| <ul style="list-style-type: none"> <li>• at AC-6a <ul style="list-style-type: none"> <li>— up to 230 V for current peak value n=20 rated value</li> </ul> </li> </ul>      | 30.8 A             |
| <ul style="list-style-type: none"> <li>— up to 400 V for current peak value n=20 rated value</li> </ul>  | 30.8 A             |
| <ul style="list-style-type: none"> <li>— up to 500 V for current peak value n=20 rated value</li> </ul>  | 27 A               |
| <ul style="list-style-type: none"> <li>— up to 690 V for current peak value n=20 rated value</li> </ul>  | 21 A               |
| <ul style="list-style-type: none"> <li>• at AC-6a <ul style="list-style-type: none"> <li>— up to 230 V for current peak value n=30 rated value</li> </ul> </li> </ul>      | 20.5 A             |
| <ul style="list-style-type: none"> <li>— up to 400 V for current peak value n=30 rated value</li> </ul>  | 20.5 A             |
| <ul style="list-style-type: none"> <li>— up to 500 V for current peak value n=30 rated value</li> </ul>  | 18 A               |
| <ul style="list-style-type: none"> <li>— up to 690 V for current peak value n=30 rated value</li> </ul>  | 18 A               |
| minimum cross-section in main circuit at maximum AC-1 rated value  | 10 mm <sup>2</sup> |
| <b>operational current for approx. 200000 operating cycles at AC-4</b>   |                    |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>   | 12 A               |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>   | 12 A               |
| <b>operational current</b>   |                    |
| <ul style="list-style-type: none"> <li>• <b>at 1 current path at DC-1</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul>              | 35 A               |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>   | 4.5 A              |
| <ul style="list-style-type: none"> <li>— at 220 V rated value</li> </ul>   | 1 A                |
| <ul style="list-style-type: none"> <li>— at 440 V rated value</li> </ul>   | 0.4 A              |
| <ul style="list-style-type: none"> <li>— at 600 V rated value</li> </ul>   | 0.25 A             |
| <ul style="list-style-type: none"> <li>• <b>with 2 current paths in series at DC-1</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul> | 35 A               |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>   | 35 A               |
| <ul style="list-style-type: none"> <li>— at 220 V rated value</li> </ul>   | 5 A                |
| <ul style="list-style-type: none"> <li>— at 440 V rated value</li> </ul>   | 1 A                |
| <ul style="list-style-type: none"> <li>— at 600 V rated value</li> </ul>   | 0.8 A              |
| <ul style="list-style-type: none"> <li>• <b>with 3 current paths in series at DC-1</b></li> </ul>  |                    |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul>  | 35 A<br>35 A<br>35 A<br>2.9 A<br>1.4 A  |
| <ul style="list-style-type: none"> <li>● <b>at 1 current path at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>  | 20 A<br>2.5 A<br>1 A<br>0.09 A<br>0.06 A  |
| <ul style="list-style-type: none"> <li>● <b>with 2 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>   | 35 A<br>15 A<br>3 A<br>0.27 A<br>0.16 A   |
| <ul style="list-style-type: none"> <li>● <b>with 3 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>   | 35 A<br>35 A<br>10 A<br>0.6 A<br>0.6 A  |
| <b>operating power</b> <ul style="list-style-type: none"> <li>● at AC-3           <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> <li>● at AC-3e           <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul> | 7.5 kW<br>15 kW<br>15 kW<br>18.5 kW<br><br>7.5 kW<br>15 kW<br>15 kW<br>18.5 kW  |
| <b>operating power for approx. 200000 operating cycles at AC-4</b> <ul style="list-style-type: none"> <li>● at 400 V rated value</li> <li>● at 690 V rated value</li> </ul>  | 6 kW<br>10.3 kW   |
| <b>operating apparent power at AC-6a</b> <ul style="list-style-type: none"> <li>● up to 230 V for current peak value n=20 rated value</li> <li>● up to 400 V for current peak value n=20 rated value</li> <li>● up to 500 V for current peak value n=20 rated value</li> <li>● up to 690 V for current peak value n=20 rated value</li> </ul>  | 12.2 kVA<br>21.3 kVA<br>23.3 kVA<br>25 kVA  |
| <b>operating apparent power at AC-6a</b> <ul style="list-style-type: none"> <li>● up to 230 V for current peak value n=30 rated value</li> <li>● up to 400 V for current peak value n=30 rated value</li> <li>● up to 500 V for current peak value n=30 rated value</li> <li>● up to 690 V for current peak value n=30 rated value</li> </ul>  | 8.1 kVA<br>14.2 kVA<br>15.5 kVA<br>21.5 kVA   |
| <b>short-time withstand current in cold operating state up to 40 °C</b> <ul style="list-style-type: none"> <li>● limited to 1 s switching at zero current maximum</li> <li>● limited to 5 s switching at zero current maximum</li> <li>● limited to 10 s switching at zero current maximum</li> <li>● limited to 30 s switching at zero current maximum</li> <li>● limited to 60 s switching at zero current maximum</li> </ul>  | 499 A; Use minimum cross-section acc. to AC-1 rated value<br>395 A; Use minimum cross-section acc. to AC-1 rated value<br>260 A; Use minimum cross-section acc. to AC-1 rated value<br>186 A; Use minimum cross-section acc. to AC-1 rated value<br>152 A; Use minimum cross-section acc. to AC-1 rated value |
| <b>no-load switching frequency</b> <ul style="list-style-type: none"> <li>● at DC</li> </ul>   | 1 500 1/h   |
| <b>operating frequency</b> <ul style="list-style-type: none"> <li>● at AC-1 maximum</li> <li>● at AC-2 maximum</li> <li>● at AC-3 maximum</li> </ul>   | 1 000 1/h<br>750 1/h<br>750 1/h   |

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• at AC-3e maximum</li> <li>• at AC-4 maximum</li> </ul>   | 750 1/h<br>250 1/h                                   |
| <b>Control circuit/ Control</b>   |  |
| <b>type of voltage of the control supply voltage</b>  | DC   |
| <b>control supply voltage at DC</b>   |  |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>   | 24 V   |
| <b>operating range factor control supply voltage rated value of magnet coil at DC</b>   |  |
| <ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>   | 0.7<br>1.25  |
| <b>design of the surge suppressor</b>   | with varistor  |
| <b>closing power of magnet coil at DC</b>   | 4.5 W  |
| <b>holding power of magnet coil at DC</b>   | 4.5 W  |
| <b>closing delay</b>  |  |
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>   | 52 ... 270 ms  |
| <b>opening delay</b>  |  |
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>   | 19 ... 21 ms   |
| <b>arcing time</b>  | 10 ... 10 ms   |
| <b>control version of the switch operating mechanism</b>  | Standard A1 - A2                                     |
| <b>Auxiliary circuit</b>  |  |
| number of NC contacts for auxiliary contacts instantaneous contact  | 1  |
| number of NO contacts for auxiliary contacts instantaneous contact  | 1  |
| operational current at AC-12 maximum  | 10 A   |
| <b>operational current at AC-15</b>   |  |
| <ul style="list-style-type: none"> <li>• at 230 V rated value</li> <li>• at 400 V rated value</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>  | 10 A<br>3 A<br>2 A<br>1 A                            |
| <b>operational current at DC-12</b>   |  |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>   | 10 A<br>6 A<br>6 A<br>3 A<br>2 A<br>1 A<br>0.15 A    |
| <b>operational current at DC-13</b>   |  |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>   | 10 A<br>2 A<br>2 A<br>1 A<br>0.9 A<br>0.3 A<br>0.1 A |
| <b>contact reliability of auxiliary contacts</b>  | 1 faulty switching per 100 million (17 V, 1 mA)      |
| <b>UL/CSA ratings</b>   |  |
| <b>full-load current (FLA) for 3-phase AC motor</b>   |  |
| <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>  | 27 A<br>27 A   |
| <b>yielded mechanical performance [hp]</b>  |  |
| <ul style="list-style-type: none"> <li>• for single-phase AC motor <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> </ul> </li> <li>• for 3-phase AC motor <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> | 2 hp<br>5 hp<br>10 hp<br>10 hp<br>20 hp<br>25 hp     |

|   |  |
|---|--|
| <b>contact rating of auxiliary contacts according to UL</b>   | A600 / P600  |
| <b>Short-circuit protection</b>   |  |
| <b>design of the fuse link</b>  |  |
| <ul style="list-style-type: none"> <li>● for short-circuit protection of the main circuit <ul style="list-style-type: none"> <li>— with type of coordination 1 required</li> <li>— with type of assignment 2 required</li> </ul> </li> <li>● for short-circuit protection of the auxiliary switch required</li> </ul>   | gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)<br>gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA)<br>gG: 10 A (500 V, 1 kA) |
| <b>Installation/ mounting/ dimensions</b>   |  |
| <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>fastening method</b>   | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715   |
| <ul style="list-style-type: none"> <li>● side-by-side mounting</li> </ul>   | Yes  |
| <b>height</b>   | 102 mm   |
| <b>width</b>  | 45 mm  |
| <b>depth</b>  | 107 mm   |
| <b>required spacing</b>   |  |
| <ul style="list-style-type: none"> <li>● with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>● for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>● for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul> | 10 mm<br>10 mm<br>10 mm<br>0 mm<br><br>10 mm<br>10 mm<br>6 mm<br>10 mm<br><br>10 mm<br>10 mm<br>10 mm<br>6 mm  |
| <b>Connections/ Terminals</b>   |  |
| <b>type of electrical connection</b>  |  |
| <ul style="list-style-type: none"> <li>● for main current circuit</li> <li>● for auxiliary and control circuit</li> <li>● at contactor for auxiliary contacts</li> <li>● of magnet coil</li> </ul>  | spring-loaded terminals<br>spring-loaded terminals<br>Spring-type terminals<br>Spring-type terminals   |
| <b>type of connectable conductor cross-sections</b>   |  |
| <ul style="list-style-type: none"> <li>● for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> <li>● at AWG cables for main contacts</li> </ul>   | 2x (1 ... 10 mm <sup>2</sup> )<br>2x (1 ... 10 mm <sup>2</sup> )<br>2x (1 ... 6 mm <sup>2</sup> )<br>2x (1 ... 6 mm <sup>2</sup> )<br>2x (18 ... 8)                  |
| <b>connectable conductor cross-section for main contacts</b>  |  |
| <ul style="list-style-type: none"> <li>● solid</li> <li>● stranded</li> <li>● finely stranded with core end processing</li> <li>● finely stranded without core end processing</li> </ul>  | 1 ... 10 mm <sup>2</sup><br>1 ... 10 mm <sup>2</sup><br>1 ... 6 mm <sup>2</sup><br>1 ... 6 mm <sup>2</sup>   |
| <b>connectable conductor cross-section for auxiliary contacts</b>   |  |
| <ul style="list-style-type: none"> <li>● solid or stranded</li> <li>● finely stranded with core end processing</li> <li>● finely stranded without core end processing</li> </ul>  | 0.5 ... 2.5 mm <sup>2</sup><br>0.5 ... 1.5 mm <sup>2</sup><br>0.5 ... 2.5 mm <sup>2</sup>  |
| <b>type of connectable conductor cross-sections</b>   |  |
| <ul style="list-style-type: none"> <li>● for auxiliary contacts</li> </ul>  |  |

|  |                                   |
|--|-----------------------------------|
| — solid or stranded  | 2x (0.5 ... 2.5 mm <sup>2</sup> ) |
| — finely stranded with core end processing                     | 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| — finely stranded without core end processing                  | 2x (0.5 ... 2.5 mm <sup>2</sup> ) |
| • at AWG cables for auxiliary contacts                         | 2x (20 ... 14)                    |
| <b>AWG number as coded connectable conductor cross section</b> |                                   |
| • for main contacts  | 18 ... 8                          |
| • for auxiliary contacts                                       | 20 ... 14                         |

| Safety related data   |  |
|---|--|
| <b>product function</b>   |  |
| • mirror contact according to IEC 60947-4-1                             | Yes  |
| B10 value with high demand rate according to SN 31920                   | 450 000  |
| <b>proportion of dangerous failures</b>                                 |  |
| • with low demand rate according to SN 31920                            | 40 %   |
| • with high demand rate according to SN 31920                           | 73 %   |
| failure rate [FIT] with low demand rate according to SN 31920           | 100 FIT  |
| T1 value for proof test interval or service life according to IEC 61508 | 20 y   |
| <b>protection class IP on the front according to IEC 60529</b>          | IP20   |
| <b>touch protection on the front according to IEC 60529</b>             | finger-safe, for vertical contact from the front |
| <b>suitability for use</b>  |  |
| • safety-related switching OFF  | Yes  |

**Certificates/ approvals**

**General Product Approval**



[Confirmation](#)



[KC](#)



| EMC | Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates |
|-----|---------------------------------------|---------------------------|-------------------|
|-----|---------------------------------------|---------------------------|-------------------|



[Type Examination Certificate](#)



EG-Konf.

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

| Test Certificates | Marine / Shipping |
|-------------------|-------------------|
|-------------------|-------------------|

[Miscellaneous](#)



| Marine / Shipping | other | Dangerous Good |
|-------------------|-------|----------------|
|-------------------|-------|----------------|



[Confirmation](#)



[Transport Information](#)

**Further information**

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

<https://www.siemens.com/ic10>

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2027-2KB40>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-2KB40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2KB40>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2027-2KB40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-2KB40&lang=en)

**Characteristic: Tripping characteristics, I<sup>t</sup>, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2KB40/char>

**Further characteristics (e.g. electrical endurance, switching frequency)**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2027-2KB40&objecttype=14&gridview=view1>

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