



Power contactor, AC-3 150 A, 75 kW / 400 V Coil AC 50/60 Hz and DC 96-127 V x (0.8-1.1) F-SPS input 24 V DC 3-pole size S6 Auxiliary contacts 2 NO + 2 NC permanently mounted Main circuit: Busbar Control and auxiliary circuit: Screw terminal

|   |   |
|---|---|
| <b>product brand name</b>   | SIRIUS  |
| <b>product designation</b>  | Power contactor   |
| <b>product type designation</b>   | 3RT1  |
| <b>General technical data</b>   |   |
| <b>size of contactor</b>  | S6  |
| <b>product extension</b>  |   |
| <ul style="list-style-type: none"> <li>function module for communication</li> <li>auxiliary switch</li> </ul>   | <p>No</p> <p>Yes</p>  |
| <b>power loss [W] for rated value of the current</b>  |   |
| <ul style="list-style-type: none"> <li>at AC in hot operating state</li> <li>at AC in hot operating state per pole</li> <li>without load current share typical</li> </ul>   | <p>27 W</p> <p>9 W</p> <p>2.8 W</p>                                 |
| <b>insulation voltage</b>   |   |
| <ul style="list-style-type: none"> <li>of main circuit with degree of pollution 3 rated value</li> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>   | <p>1 000 V</p> <p>500 V</p>   |
| <b>surge voltage resistance</b>   |   |
| <ul style="list-style-type: none"> <li>of main circuit rated value</li> <li>of auxiliary circuit rated value</li> </ul>   | <p>8 kV</p> <p>6 kV</p>   |
| maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1   | 690 V   |
| <b>shock resistance at rectangular impulse</b>  |   |
| <ul style="list-style-type: none"> <li>at AC</li> <li>at DC</li> </ul>  | <p>8,5g / 5 ms, 4,2g / 10 ms</p> <p>8,5g / 5 ms, 4,2g / 10 ms</p>   |
| <b>shock resistance with sine pulse</b>   |   |
| <ul style="list-style-type: none"> <li>at AC</li> <li>at DC</li> </ul>  | <p>13,4g / 5 ms, 6,5g / 10 ms</p> <p>13,4g / 5 ms, 6,5g / 10 ms</p> |
| <b>mechanical service life (switching cycles)</b>   |   |
| <ul style="list-style-type: none"> <li>of contactor typical</li> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> <li>of the contactor with added auxiliary switch block typical</li> </ul> | <p>10 000 000</p> <p>5 000 000</p> <p>10 000 000</p>                |
| <b>reference code according to IEC 81346-2</b>  | Q   |
| <b>Substance Prohibitance (Date)</b>  | 03/01/2017  |
| <b>Ambient conditions</b>   |   |
| installation altitude at height above sea level maximum   | 2 000 m   |
| <b>ambient temperature</b>  |   |
| <ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> </ul>  | <p>-25 ... +60 °C</p> <p>-55 ... +80 °C</p>                         |

|  |                    |
|--|--------------------|
| relative humidity minimum  | 10 %               |
| relative humidity at 55 °C according to IEC 60068-2-30 maximum         | 95 %               |
| <b>Main circuit</b>  |                    |
| number of poles for main current circuit                               | 3                  |
| number of NO contacts for main contacts                                | 3                  |
| <b>operating voltage</b>   |                    |
| • at AC-3 rated value maximum  | 1 000 V            |
| • at AC-3e rated value maximum   | 1 000 V            |
| <b>operational current</b>   |                    |
| • at AC-1 at 400 V at ambient temperature 40 °C rated value            | 185 A              |
| • at AC-1  |                    |
| — up to 690 V at ambient temperature 40 °C rated value                 | 185 A              |
| — up to 690 V at ambient temperature 60 °C rated value                 | 160 A              |
| — up to 1000 V at ambient temperature 40 °C rated value                | 90 A               |
| — up to 1000 V at ambient temperature 60 °C rated value                | 90 A               |
| • at AC-3  |                    |
| — at 400 V rated value   | 150 A              |
| — at 500 V rated value   | 150 A              |
| — at 690 V rated value   | 150 A              |
| — at 1000 V rated value  | 65 A               |
| • at AC-3e   |                    |
| — at 400 V rated value   | 150 A              |
| — at 500 V rated value   | 150 A              |
| — at 690 V rated value   | 150 A              |
| — at 1000 V rated value  | 65 A               |
| • at AC-4 at 400 V rated value   | 132 A              |
| • at AC-5a up to 690 V rated value                                     | 162 A              |
| • at AC-5b up to 400 V rated value                                     | 124 A              |
| • at AC-6a   |                    |
| — up to 230 V for current peak value n=20 rated value                  | 150 A              |
| — up to 400 V for current peak value n=20 rated value                  | 150 A              |
| — up to 500 V for current peak value n=20 rated value                  | 150 A              |
| — up to 690 V for current peak value n=20 rated value                  | 150 A              |
| — up to 1000 V for current peak value n=20 rated value                 | 65 A               |
| • at AC-6a   |                    |
| — up to 230 V for current peak value n=30 rated value                  | 105 A              |
| — up to 400 V for current peak value n=30 rated value                  | 105 A              |
| — up to 500 V for current peak value n=30 rated value                  | 105 A              |
| — up to 690 V for current peak value n=30 rated value                  | 105 A              |
| — up to 1000 V for current peak value n=30 rated value                 | 65 A               |
| minimum cross-section in main circuit at maximum AC-1 rated value      | 95 mm <sup>2</sup> |
| <b>operational current for approx. 200000 operating cycles at AC-4</b> |                    |
| • at 400 V rated value   | 68 A               |
| • at 690 V rated value   | 57 A               |
| <b>operational current</b>   |                    |
| • at 1 current path at DC-1  |                    |

|  |            |
|--|------------|
| — at 24 V rated value  | 160 A      |
| — at 110 V rated value   | 18 A       |
| — at 220 V rated value   | 3.4 A      |
| — at 440 V rated value   | 0.8 A      |
| — at 600 V rated value   | 0.5 A      |
| ● <b>with 2 current paths in series at DC-1</b>                    |            |
| — at 24 V rated value  | 160 A      |
| — at 110 V rated value   | 160 A      |
| — at 220 V rated value   | 20 A       |
| — at 440 V rated value   | 3.2 A      |
| — at 600 V rated value   | 1.6 A      |
| ● <b>with 3 current paths in series at DC-1</b>                    |            |
| — at 24 V rated value  | 160 A      |
| — at 110 V rated value   | 160 A      |
| — at 220 V rated value   | 160 A      |
| — at 440 V rated value   | 11.5 A     |
| — at 600 V rated value   | 4 A        |
| ● <b>at 1 current path at DC-3 at DC-5</b>                         |            |
| — at 24 V rated value  | 160 A      |
| — at 110 V rated value   | 2.5 A      |
| — at 220 V rated value   | 0.6 A      |
| — at 440 V rated value   | 0.17 A     |
| — at 600 V rated value   | 0.12 A     |
| ● <b>with 2 current paths in series at DC-3 at DC-5</b>            |            |
| — at 24 V rated value  | 160 A      |
| — at 110 V rated value   | 160 A      |
| — at 220 V rated value   | 2.5 A      |
| — at 440 V rated value   | 0.65 A     |
| — at 600 V rated value   | 0.37 A     |
| ● <b>with 3 current paths in series at DC-3 at DC-5</b>            |            |
| — at 24 V rated value  | 160 A      |
| — at 110 V rated value   | 160 A      |
| — at 220 V rated value   | 160 A      |
| — at 440 V rated value   | 1.4 A      |
| — at 600 V rated value   | 0.75 A     |
| <b>operating power</b>   |            |
| ● at AC-2 at 400 V rated value                                     | 75 kW      |
| ● at AC-3  |            |
| — at 230 V rated value   | 45 kW      |
| — at 400 V rated value   | 75 kW      |
| — at 500 V rated value   | 90 kW      |
| — at 690 V rated value   | 132 kW     |
| — at 1000 V rated value  | 90 kW      |
| ● at AC-3e   |            |
| — at 230 V rated value   | 45 kW      |
| — at 400 V rated value   | 75 kW      |
| — at 500 V rated value   | 90 kW      |
| — at 690 V rated value   | 132 kW     |
| — at 1000 V rated value  | 90 kW      |
| <b>operating power for approx. 200000 operating cycles at AC-4</b> |            |
| ● at 400 V rated value   | 38 kW      |
| ● at 690 V rated value   | 55 kW      |
| <b>operating apparent power at AC-6a</b>                           |            |
| ● up to 230 V for current peak value n=20 rated value              | 60 000 kVA |
| ● up to 400 V for current peak value n=20 rated value              | 100 000 VA |
| ● up to 500 V for current peak value n=20 rated value              | 130 000 VA |
| ● up to 690 V for current peak value n=20 rated value              | 170 000 VA |
| ● up to 1000 V for current peak value n=20 rated value             | 110 000 VA |
| <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> <li>• up to 1000 V for current peak value n=30 rated value</li> </ul>  | <p>40 000 VA<br/>70 000 VA<br/>90 000 VA<br/>120 000 VA<br/>110 000 VA</p>   |
| <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> | <p>2 727 A; Use minimum cross-section acc. to AC-1 rated value<br/>1 831 A; Use minimum cross-section acc. to AC-1 rated value<br/>1 300 A; Use minimum cross-section acc. to AC-1 rated value<br/>850 A; Use minimum cross-section acc. to AC-1 rated value<br/>703 A; Use minimum cross-section acc. to AC-1 rated value</p> |
| <b>no-load switching frequency</b> <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>   | <p>1 000 1/h<br/>1 000 1/h</p>   |
| <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> <li>• at AC-3e maximum</li> <li>• at AC-4 maximum</li> </ul>   | <p>800 1/h<br/>300 1/h<br/>750 1/h<br/>750 1/h<br/>130 1/h</p>   |
| <b>Control circuit/ Control</b>   |  |
| <b>type of voltage of the control supply voltage</b>  | AC/DC  |
| <b>control supply voltage at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>  | <p>96 ... 127 V<br/>96 ... 127 V</p>   |
| <b>control supply voltage at DC</b> <ul style="list-style-type: none"> <li>• rated value</li> </ul>   | 96 ... 127 V   |
| <b>type of PLC-control input according to IEC 60947-1</b>   | Type 1   |
| <b>consumed current at PLC-control input according to IEC 60947-1 maximum</b>   | 14 mA  |
| <b>voltage at PLC-control input rated value</b>   | 24 V   |
| <b>operating range factor of the voltage at PLC-control input</b>   | 0.8 ... 1.1  |
| <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>   | <p>0.8<br/>1.1</p>   |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>  | <p>0.8 ... 1.1<br/>0.8 ... 1.1</p>   |
| <b>design of the surge suppressor</b>   | with varistor  |
| <b>apparent pick-up power of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>   | <p>280 VA<br/>280 VA</p>   |
| <b>inductive power factor with closing power of the coil</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>   | <p>0.8<br/>0.8</p>   |
| <b>apparent holding power of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>   | <p>4.4 VA<br/>4.4 VA</p>   |
| <b>inductive power factor with the holding power of the coil</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>   | <p>0.5<br/>0.5</p>   |
| <b>closing power of magnet coil at DC</b>   | 320 W  |
| <b>holding power of magnet coil at DC</b>   | 2.8 W  |
| <b>closing delay</b> <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>   | <p>60 ... 75 ms<br/>60 ... 75 ms</p>   |

|  |  |
|--|--|
| <b>opening delay</b>   |  |
| • at AC  | 115 ... 130 ms   |
| • at DC  | 115 ... 130 ms   |
| <b>recovery time after power failure typical</b>   | 2 s  |
| <b>arcing time</b>   | 10 ... 15 ms   |
| <b>control version of the switch operating mechanism</b>                                     | Fail-safe PLC input (F-PLC-IN)   |
| <b>Auxiliary circuit</b>   |  |
| number of NC contacts for auxiliary contacts<br>instantaneous contact                        | 2  |
| number of NO contacts for auxiliary contacts<br>instantaneous contact                        | 2  |
| operational current at AC-12 maximum   | 10 A   |
| <b>operational current at AC-15</b>  |  |
| • at 230 V rated value   | 6 A  |
| • at 400 V rated value   | 3 A  |
| • at 500 V rated value   | 2 A  |
| • at 690 V rated value   | 1 A  |
| <b>operational current at DC-12</b>  |  |
| • at 24 V rated value  | 10 A   |
| • at 48 V rated value  | 6 A  |
| • at 60 V rated value  | 6 A  |
| • at 110 V rated value   | 3 A  |
| • at 125 V rated value   | 2 A  |
| • at 220 V rated value   | 1 A  |
| • at 600 V rated value   | 0.15 A   |
| <b>operational current at DC-13</b>  |  |
| • at 24 V rated value  | 10 A   |
| • at 48 V rated value  | 2 A  |
| • at 60 V rated value  | 2 A  |
| • at 110 V rated value   | 1 A  |
| • at 125 V rated value   | 0.9 A  |
| • at 220 V rated value   | 0.3 A  |
| • at 600 V rated value   | 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>  |  |
| • at 480 V rated value   | 156 A  |
| • at 600 V rated value   | 144 A  |
| <b>yielded mechanical performance [hp]</b>   |  |
| • for single-phase AC motor<br>— at 230 V rated value  | 30 hp  |
| • for 3-phase AC motor<br>— at 200/208 V rated value   | 50 hp  |
| — at 220/230 V rated value   | 60 hp  |
| — at 460/480 V rated value   | 125 hp   |
| — at 575/600 V rated value   | 150 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>   |  |
| • for short-circuit protection of the main circuit<br>— with type of coordination 1 required | gG: 355 A (690 V, 100 kA)  |
| — with type of assignment 2 required   | gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 315 A (415 V, 50 kA)  |
| • for short-circuit protection of the auxiliary switch required                              | gG: 10 A (500 V, 1 kA)   |
| <b>Installation/ mounting/ dimensions</b>  |  |
| <b>mounting position</b>   | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| <b>fastening method</b>  | screw fixing   |
| • side-by-side mounting  | Yes  |
| <b>height</b>  | 172 mm   |

|  |        |
|--|--------|
| <b>width</b>   | 120 mm |
| <b>depth</b>   | 170 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 20 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards 20 mm</li> <li>— upwards 10 mm</li> <li>— at the side 10 mm</li> <li>— downwards 10 mm</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards 20 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 10 mm</li> </ul> </li> </ul> |        |

### Connections/ Terminals

|  |  |
|--|--|
| <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>   | Connection bar<br>screw-type terminals<br>Screw-type terminals<br>Screw-type terminals   |
| <b>width of connection bar</b>   | 17 mm  |
| <b>thickness of connection bar</b>   | 3 mm   |
| <b>diameter of holes</b>   | 9 mm   |
| <b>number of holes</b>   | 1  |
| <b>type of connectable conductor cross-sections</b>  |  |
| <ul style="list-style-type: none"> <li>• at AWG cables for main contacts</li> </ul>  | 2x 1/0   |
| <b>connectable conductor cross-section for main contacts</b>   |  |
| <ul style="list-style-type: none"> <li>• stranded</li> </ul>   | 25 ... 120 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> </ul>  | 0.5 ... 4 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 <ul style="list-style-type: none"> <li>— solid</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG cables for auxiliary contacts</li> </ul> | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), max. 2x (0.75 ... 4 mm <sup>2</sup> )<br>2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), max. 2x (0,75 ... 4 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14), 1x 12 |
| <b>AWG number as coded connectable conductor cross section</b>   |  |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>   | 18 ... 14  |

### Safety related data

|   |           |
|---|-----------|
| <b>product function</b>   |           |
| <ul style="list-style-type: none"> <li>• mirror contact according to IEC 60947-4-1</li> <li>• positively driven operation according to IEC 60947-5-1</li> </ul> | Yes<br>No |
| <b>safety device type according to IEC 61508-2</b>  | Type B    |
| B10 value with high demand rate according to SN 31920   | 1 000 000 |
| Safety Integrity Level (SIL) according to IEC 61508   | 2         |
| <b>SIL Claim Limit (subsystem) according to EN 62061</b>  | 2         |
| performance level (PL) according to EN ISO 13849-1  | c         |
| category according to EN ISO 13849-1  | 2         |
| <b>stop category according to EN 60204-1</b>  | 0         |
| <b>Safe failure fraction (SFF)</b>  | 93 %      |
| failure rate [FIT] with low demand rate according to SN 31920   | 100 FIT   |

|   |  |
|---|--|
| PFHD with high demand rate according to EN 62061  | 0.00000045 1/h   |
| PFDAvg with low demand rate according to IEC 61508  | 0.007  |
| MTBF  | 75 y   |
| hardware fault tolerance according to IEC 61508   | 0  |
| T1 value for proof test interval or service life according to IEC 61508   | 20 y   |
| protection class IP on the front according to IEC 60529   | IP00; IP20 with box terminal/cover                                       |
| touch protection on the front according to IEC 60529  | finger-safe, for vertical contact from the front with box terminal/cover |
| suitability for use   |  |
| <ul style="list-style-type: none"> <li>• safety-related switching on</li> <li>• safety-related switching OFF</li> </ul> | No<br>Yes  |

**Certificates/ approvals**

**General Product Approval**



[Confirmation](#)



[KC](#)



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



[Type Examination Certificate](#)



EG-Konf.

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Confirmation](#)

|       |         |
|-------|---------|
| other | Railway |
|-------|---------|

[Miscellaneous](#)

[Miscellaneous](#)

[Special Test Certificate](#)

**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=3RT1055-6SF36-3PA0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1055-6SF36-3PA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6SF36-3PA0>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1055-6SF36-3PA0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1055-6SF36-3PA0&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6SF36-3PA0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1055-6SF36-3PA0&objecttype=14&gridview=view1>

last modified:

3/24/2022