



power contactor, AC-3 300 A, 160 kW / 400 V, AC (50-60 Hz) / DC operation 96-127 V AC/DC auxiliary contacts 2 NO + 2 NC 3-pole, frame size S10 busbar connections drive: electronic with PLC interface 24 V DC 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>  | S10   |
| <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>66 W</p> <p>22 W</p> <p>3.4 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>  | 05/01/2012  |
| <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>                         |

|  |                     |
|--|---------------------|
| <b>relative humidity minimum</b>                                       | 10 %                |
| <b>relative humidity at 55 °C according to IEC 60068-2-30 maximum</b>  | 95 %                |
| <b>Main circuit</b>  |                     |
| <b>number of poles for main current circuit</b>                        | 3                   |
| <b>number of NO contacts for main contacts</b>                         | 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            | 330 A               |
| • at AC-1  |                     |
| — up to 690 V at ambient temperature 40 °C rated value                 | 330 A               |
| — up to 690 V at ambient temperature 60 °C rated value                 | 300 A               |
| — up to 1000 V at ambient temperature 40 °C rated value                | 150 A               |
| — up to 1000 V at ambient temperature 60 °C rated value                | 150 A               |
| • at AC-3  |                     |
| — at 400 V rated value   | 300 A               |
| — at 500 V rated value   | 300 A               |
| — at 690 V rated value   | 280 A               |
| — at 1000 V rated value  | 95 A                |
| • at AC-3e   |                     |
| — at 400 V rated value   | 300 A               |
| — at 500 V rated value   | 300 A               |
| — at 1000 V rated value  | 95 A                |
| • at AC-4 at 400 V rated value   | 280 A               |
| • at AC-5a up to 690 V rated value                                     | 290 A               |
| • at AC-5b up to 400 V rated value                                     | 249 A               |
| • at AC-6a   |                     |
| — up to 230 V for current peak value n=20 rated value                  | 292 A               |
| — up to 400 V for current peak value n=20 rated value                  | 292 A               |
| — up to 500 V for current peak value n=20 rated value                  | 292 A               |
| — up to 690 V for current peak value n=20 rated value                  | 280 A               |
| — up to 1000 V for current peak value n=20 rated value                 | 95 A                |
| • at AC-6a   |                     |
| — up to 230 V for current peak value n=30 rated value                  | 195 A               |
| — up to 400 V for current peak value n=30 rated value                  | 195 A               |
| — up to 500 V for current peak value n=30 rated value                  | 195 A               |
| — up to 690 V for current peak value n=30 rated value                  | 195 A               |
| — up to 1000 V for current peak value n=30 rated value                 | 95 A                |
| minimum cross-section in main circuit at maximum AC-1 rated value      | 185 mm <sup>2</sup> |
| <b>operational current for approx. 200000 operating cycles at AC-4</b> |                     |
| • at 400 V rated value   | 125 A               |
| • at 690 V rated value   | 115 A               |
| <b>operational current</b>   |                     |
| • at 1 current path at DC-1  |                     |
| — at 24 V rated value  | 300 A               |

|  |             |
|--|-------------|
| — at 110 V rated value   | 33 A        |
| — at 220 V rated value   | 3.8 A       |
| — at 440 V rated value   | 0.9 A       |
| — at 600 V rated value   | 0.6 A       |
| ● <b>with 2 current paths in series at DC-1</b>                    |             |
| — at 24 V rated value  | 300 A       |
| — at 110 V rated value   | 300 A       |
| — at 220 V rated value   | 300 A       |
| — at 440 V rated value   | 4 A         |
| — at 600 V rated value   | 2 A         |
| ● <b>with 3 current paths in series at DC-1</b>                    |             |
| — at 24 V rated value  | 300 A       |
| — at 110 V rated value   | 300 A       |
| — at 220 V rated value   | 300 A       |
| — at 440 V rated value   | 11 A        |
| — at 600 V rated value   | 5.2 A       |
| ● <b>at 1 current path at DC-3 at DC-5</b>                         |             |
| — at 24 V rated value  | 300 A       |
| — at 110 V rated value   | 3 A         |
| — at 220 V rated value   | 0.6 A       |
| — at 440 V rated value   | 0.18 A      |
| — at 600 V rated value   | 0.125 A     |
| ● <b>with 2 current paths in series at DC-3 at DC-5</b>            |             |
| — at 24 V rated value  | 300 A       |
| — at 110 V rated value   | 300 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  | 300 A       |
| — at 110 V rated value   | 300 A       |
| — at 220 V rated value   | 300 A       |
| — at 440 V rated value   | 1.4 A       |
| — at 600 V rated value   | 0.75 A      |
| <b>operating power</b>   |             |
| ● at AC-3  |             |
| — at 230 V rated value   | 90 kW       |
| — at 400 V rated value   | 160 kW      |
| — at 500 V rated value   | 200 kW      |
| — at 690 V rated value   | 250 kW      |
| — at 1000 V rated value  | 132 kW      |
| ● at AC-3e   |             |
| — at 230 V rated value   | 90 kW       |
| — at 400 V rated value   | 160 kW      |
| — at 500 V rated value   | 200 kW      |
| — at 1000 V rated value  | 132 kW      |
| <b>operating power for approx. 200000 operating cycles at AC-4</b> |             |
| ● at 400 V rated value   | 71 kW       |
| ● at 690 V rated value   | 112 kW      |
| <b>operating apparent power at AC-6a</b>                           |             |
| ● up to 230 V for current peak value n=20 rated value              | 110 000 kVA |
| ● up to 400 V for current peak value n=20 rated value              | 200 000 VA  |
| ● up to 500 V for current peak value n=20 rated value              | 250 000 VA  |
| ● up to 690 V for current peak value n=20 rated value              | 330 000 VA  |
| ● up to 1000 V for current peak value n=20 rated value             | 160 000 VA  |
| <b>operating apparent power at AC-6a</b>                           |             |
| ● up to 230 V for current peak value n=30 rated value              | 70 000 VA   |
| ● up to 400 V for current peak value n=30 rated value              | 130 000 VA  |
| ● up to 500 V for current peak value n=30 rated value              | 160 000 VA  |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <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>   | 230 000 VA<br>160 000 VA  |
| <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> | 5 524 A; Use minimum cross-section acc. to AC-1 rated value<br>4 579 A; Use minimum cross-section acc. to AC-1 rated value<br>3 153 A; Use minimum cross-section acc. to AC-1 rated value<br>1 883 A; Use minimum cross-section acc. to AC-1 rated value<br>1 445 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 AC</li> <li>• at DC</li> </ul>  | 1 000 1/h<br>1 000 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> <li>• at AC-3e maximum</li> <li>• at AC-4 maximum</li> </ul>  | 750 1/h<br>250 1/h<br>500 1/h<br>500 1/h<br>130 1/h   |
| <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>  | 96 ... 127 V<br>96 ... 127 V  |
| <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 2  |
| <b>consumed current at PLC-control input according to IEC 60947-1 maximum</b>   | 20 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>   | 0.8<br>1.1  |
| <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>  | 0.8 ... 1.1<br>0.8 ... 1.1  |
| <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>  | 530 VA<br>530 VA  |
| <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>  | 0.8<br>0.8  |
| <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>  | 5 VA<br>5 VA  |
| <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>  | 0.5<br>0.5  |
| <b>closing power of magnet coil at DC</b>   | 580 W   |
| <b>holding power of magnet coil at DC</b>   | 3.4 W   |
| <b>closing delay</b>  |   |
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>  | 45 ... 80 ms<br>45 ... 80 ms  |
| <b>opening delay</b>  |   |
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>  | 80 ... 100 ms<br>80 ... 100 ms  |

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| <b>arcing time</b>   | 10 ... 15 ms   |
| <b>control version of the switch operating mechanism</b>           | PLC-IN or Standard A1 - A2 (adjustable)  |
| <b>Auxiliary circuit</b>   |  |
| number of NC contacts for auxiliary contacts instantaneous contact | 2  |
| number of NO contacts for auxiliary contacts 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   | 302 A  |
| • at 600 V rated value   | 289 A  |
| <b>yielded mechanical performance [hp]</b>                         |  |
| • for 3-phase AC motor   |  |
| — at 200/208 V rated value   | 100 hp   |
| — at 220/230 V rated value   | 125 hp   |
| — at 460/480 V rated value   | 250 hp   |
| — at 575/600 V rated value   | 300 hp   |
| <b>contact rating of auxiliary contacts according to UL</b>        | A600 / Q600  |
| <b>Short-circuit protection</b>                                    |  |
| <b>design of the fuse link</b>                                     |  |
| • for short-circuit protection of the main circuit                 |  |
| — with type of coordination 1 required                             | gG: 500 A (690 V, 100 kA)  |
| — with type of assignment 2 required                               | gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 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>  | 210 mm   |
| <b>width</b>   | 145 mm   |
| <b>depth</b>   | 202 mm   |
| <b>required spacing</b>  |  |
| • with side-by-side mounting                                       |  |
| — forwards   | 20 mm  |
| — upwards  | 10 mm  |

|                      |       |
|----------------------|-------|
| — downwards          | 10 mm |
| — at the side        | 0 mm  |
| • for grounded parts |       |
| — forwards           | 20 mm |
| — upwards            | 10 mm |
| — at the side        | 10 mm |
| — downwards          | 10 mm |
| • for live parts     |       |
| — forwards           | 20 mm |
| — upwards            | 10 mm |
| — downwards          | 10 mm |
| — at the side        | 10 mm |

#### 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>   | 25 mm  |
| <b>thickness of connection bar</b>   | 6 mm   |
| <b>diameter of holes</b>   | 11 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>  | 2/0 ... 500 kcmil  |
| <b>connectable conductor cross-section for main contacts</b>   |  |
| <ul style="list-style-type: none"> <li>• stranded</li> </ul>   | 70 ... 240 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  |
| B10 value with high demand rate according to SN 31920   | 1 000 000  |
| <b>protection class IP on the front according to IEC 60529</b>  | IP00; IP20 with box terminal/cover                                       |
| <b>touch protection on the front according to IEC 60529</b>   | finger-safe, for vertical contact from the front with box terminal/cover |
| <b>suitability for use</b>  |  |
| <ul style="list-style-type: none"> <li>• safety-related switching OFF</li> </ul>  | Yes  |

#### Certificates/ approvals

##### General Product Approval



[Confirmation](#)



[KC](#)



EMC

Functional

Declaration of Conformity

Test Certificates

|  |                            |  |  |  |
|--|----------------------------|--|--|--|
|  | Safety/Safety of Machinery |  |  |  |
|--|----------------------------|--|--|--|



[Type Examination Certificate](#)



EG-Konf.



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

|                   |  |  |  |  |       |
|-------------------|--|--|--|--|-------|
| Marine / Shipping |  |  |  |  | other |
|-------------------|--|--|--|--|-------|



ABS



LRS



PRS



RMRS



DNV-GL

[Miscellaneous](#)

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

[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)

[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=3RT1066-6NF36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1066-6NF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6NF36>

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

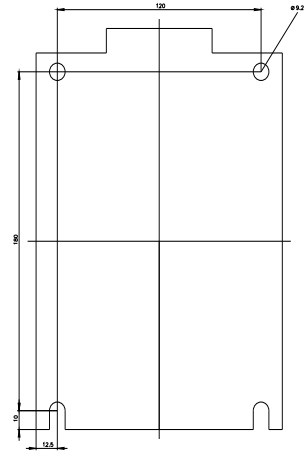
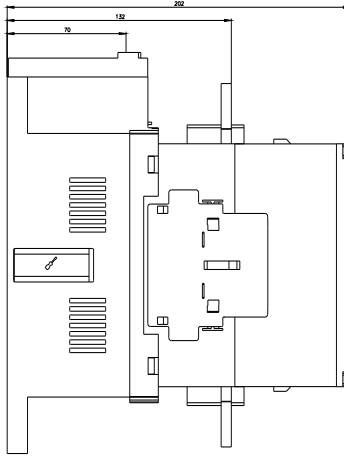
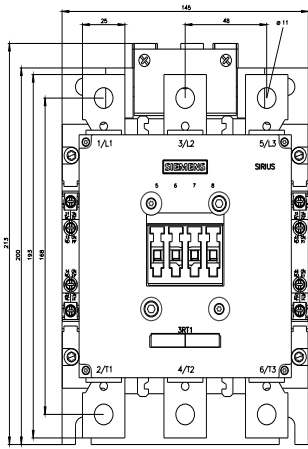
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1066-6NF36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1066-6NF36&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6NF36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1066-6NF36&objecttype=14&gridview=view1>



last modified:

3/24/2022 