



vacuum contactor, AC-3 225 A, 110 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

|   |   |
|---|---|
| <b>product brand name</b>   | SIRIUS  |
| <b>product designation</b>  | Vacuum contactor  |
| <b>product type designation</b>   | 3RT12   |
| <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>27 W</p> <p>9 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>                         |

|  |                     |
|--|---------------------|
| 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            | 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                | 330 A               |
| — up to 1000 V at ambient temperature 60 °C rated value                | 300 A               |
| • at AC-3  |                     |
| — at 400 V rated value   | 225 A               |
| — at 500 V rated value   | 225 A               |
| — at 690 V rated value   | 225 A               |
| — at 1000 V rated value  | 225 A               |
| • at AC-3e   |                     |
| — at 400 V rated value   | 225 A               |
| — at 500 V rated value   | 225 A               |
| — at 690 V rated value   | 225 A               |
| — at 1000 V rated value  | 225 A               |
| • at AC-4 at 400 V rated value   | 195 A               |
| • at AC-6a   |                     |
| — up to 230 V for current peak value n=20 rated value                  | 225 A               |
| — up to 400 V for current peak value n=20 rated value                  | 225 A               |
| — up to 500 V for current peak value n=20 rated value                  | 225 A               |
| — up to 690 V for current peak value n=20 rated value                  | 225 A               |
| — up to 1000 V for current peak value n=20 rated value                 | 225 A               |
| • at AC-6a   |                     |
| — up to 230 V for current peak value n=30 rated value                  | 209 A               |
| — up to 400 V for current peak value n=30 rated value                  | 209 A               |
| — up to 500 V for current peak value n=30 rated value                  | 209 A               |
| — up to 690 V for current peak value n=30 rated value                  | 209 A               |
| — up to 1000 V for current peak value n=30 rated value                 | 209 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   | 97 A                |
| • at 690 V rated value   | 97 A                |
| <b>operating power</b>   |                     |
| • at AC-3  |                     |
| — at 230 V rated value   | 55 kW               |
| — at 400 V rated value   | 110 kW              |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> <li>— at 1000 V rated value</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> <li>— at 1000 V rated value</li> </ul> </li> </ul>                                      | 160 kW<br>200 kW<br>315 kW<br><br>55 kW<br>110 kW<br>160 kW<br>200 kW<br>315 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>   | 55 kW<br>94 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> <li>● up to 1000 V for current peak value n=20 rated value</li> </ul> | 90 000 kVA<br>150 000 VA<br>190 000 VA<br>260 000 VA<br>390 000 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> | 80 000 VA<br>140 000 VA<br>180 000 VA<br>250 000 VA<br>360 000 VA               |
| <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>   | 800 1/h<br>300 1/h<br>750 1/h<br>750 1/h<br>250 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>   | 570 VA<br>570 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>  | 5.6 VA<br>5.6 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>  | 0.8<br>0.8   |
| <b>closing power of magnet coil at DC</b>   | 630 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                       |
| <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<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>   |  |
| <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>  | 6 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>  | 180 A<br>192 A                                       |
| <b>yielded mechanical performance [hp]</b>  |  |
| <ul style="list-style-type: none"> <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>    | 60 hp<br>75 hp<br>150 hp<br>200 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
  - with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gG: 500 A (690 V, 100 kA)  
 gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 kA)  
 gG: 10 A (500 V, 1 kA)

### Installation/ mounting/ dimensions

|                              |   |
|------------------------------|---|
| <b>mounting position</b>     | +/-22,5° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface; standing, on horizontal mounting surface |
| <b>fastening method</b>      | screw fixing  |
| • side-by-side mounting      | Yes   |
| <b>height</b>                | 210 mm  |
| <b>width</b>                 | 145 mm  |
| <b>depth</b>                 | 206 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>                              |  |
| • for main current circuit  | Connection bar   |
| • for auxiliary and control circuit                               | screw-type terminals   |
| • at contactor for auxiliary contacts                             | Screw-type terminals   |
| • of magnet coil  | 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>               |  |
| • at AWG cables for main contacts                                 | 2/0 ... 500 kcmil  |
| <b>connectable conductor cross-section for main contacts</b>      |  |
| • stranded  | 70 ... 240 mm <sup>2</sup>   |
| <b>connectable conductor cross-section for auxiliary contacts</b> |  |
| • solid or stranded   | 0.5 ... 4 mm <sup>2</sup>  |
| • finely stranded with core end processing                        | 0.5 ... 2.5 mm <sup>2</sup>  |
| <b>type of connectable conductor cross-sections</b>               |  |
| • for auxiliary contacts  |  |
| — solid   | 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> ) |
| — solid or stranded   | 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> ) |
| — finely stranded with core end processing                        | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )  |
| • at AWG cables for auxiliary contacts                            | 2x (20 ... 16), 2x (18 ... 14), 1x 12  |
| <b>AWG number as coded connectable conductor cross section</b>    |  |
| • for auxiliary contacts  | 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> | <p>Yes</p> <p>No</p>   |
| <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](#)



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



[Type Examination Certificate](#)



EG-Konf.



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

**Marine / Shipping**

**other**



LRS



PRS



RMRS



[Confirmation](#)

**other**

**Railway**

[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=3RT1264-6NF36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1264-6NF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1264-6NF36>

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

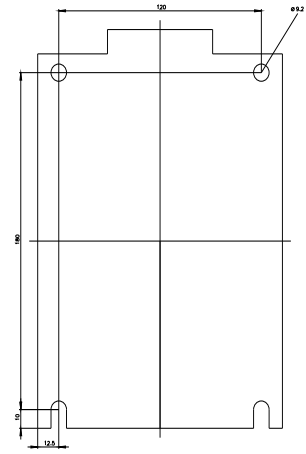
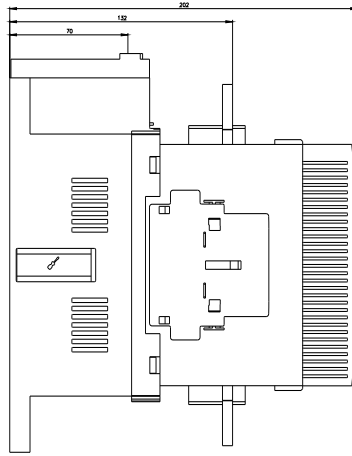
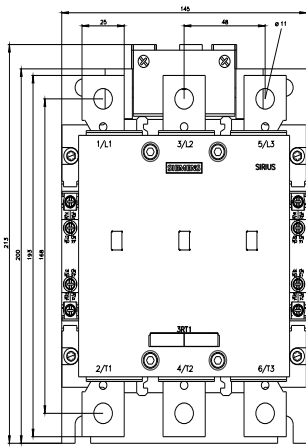
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1264-6NF36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1264-6NF36&lang=en)

Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1264-6NF36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1264-6NF36&objecttype=14&gridview=view1>



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