



Contactor, AC-1, 275 A/690 V/40 °C, S6, 3-pole, 440-480 V AC/DC, with varistor, 2 NO+2 NC, Connection rail/ screw terminal

|   |   |
|---|---|
| <b>product brand name</b>   | SIRIUS  |
| <b>product designation</b>  | Contactor   |
| <b>product type designation</b>   | 3RT14   |
| <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>86.4 W</p> <p>28.8 W</p> <p>5.2 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>   |
| <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 Prohibition (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</b>   | 95 %  |

|   |                     |
|---|---------------------|
| <b>maximum</b>  |                     |
| <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>number of NC contacts for main contacts</b>  | 0                   |
| <b>type of voltage for main current circuit</b>                                       | AC                  |
| <b>operational current</b>  |                     |
| • at AC-1   |                     |
| — up to 690 V at ambient temperature 40 °C rated value                                | 275 A               |
| — up to 690 V at ambient temperature 55 °C rated value                                | 250 A               |
| — up to 690 V at ambient temperature 60 °C rated value                                | 250 A               |
| • at AC-3   |                     |
| — at 400 V rated value  | 97 A                |
| — at 690 V rated value  | 97 A                |
| minimum cross-section in main circuit at maximum AC-1 rated value                     | 140 mm <sup>2</sup> |
| <b>no-load switching frequency</b>  |                     |
| • at AC   | 2 000 1/h           |
| • at DC   | 2 000 1/h           |
| operating frequency at AC-1 maximum   | 600 1/h             |
| <b>Control circuit/ Control</b>   |                     |
| <b>type of voltage</b>  | AC/DC               |
| <b>type of voltage of the control supply voltage</b>                                  | AC/DC               |
| <b>control supply voltage at AC</b>   |                     |
| • at 50 Hz rated value  | 440 ... 480 V       |
| • at 60 Hz rated value  | 440 ... 480 V       |
| <b>control supply voltage at DC</b>   |                     |
| • rated value   | 440 ... 480 V       |
| <b>operating range factor control supply voltage rated value of magnet coil at DC</b> |                     |
| • initial value   | 0.8                 |
| • full-scale value  | 1.1                 |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b> |                     |
| • at 50 Hz  | 0.8 ... 1.1         |
| • at 60 Hz  | 0.8 ... 1.1         |
| <b>design of the surge suppressor</b>   | with varistor       |
| <b>apparent pick-up power of magnet coil at AC</b>                                    |                     |
| • at 50 Hz  | 300 VA              |
| <b>inductive power factor with closing power of the coil</b>                          |                     |
| • at 50 Hz  | 0.9                 |
| <b>apparent holding power of magnet coil at AC</b>                                    |                     |
| • at 50 Hz  | 5.8 VA              |
| <b>inductive power factor with the holding power of the coil</b>                      |                     |
| • at 50 Hz  | 0.8                 |
| <b>closing power of magnet coil at DC</b>   | 360 W               |
| <b>holding power of magnet coil at DC</b>   | 5.2 W               |
| <b>closing delay</b>  |                     |
| • at AC   | 20 ... 95 ms        |
| • at DC   | 20 ... 95 ms        |
| <b>opening delay</b>  |                     |
| • at AC   | 40 ... 60 ms        |
| • at DC   | 40 ... 60 ms        |
| <b>arcing time</b>  | 10 ... 15 ms        |
| <b>control version of the switch operating mechanism</b>                              | Standard A1 - A2    |
| <b>Auxiliary circuit</b>  |                     |
| <b>number of NC contacts for auxiliary contacts</b>                                   | 2                   |

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• attachable</li> <li>• instantaneous contact</li> </ul>   | 4  |
| <b>number of NO contacts for auxiliary contacts</b>   | 2  |
| <ul style="list-style-type: none"> <li>• attachable</li> <li>• instantaneous contact</li> </ul>   | 4  |
| operational current at AC-12 maximum  | 2  |
| <b>operational current at AC-15</b>   | 10 A   |
| <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  |
|   | 3 A  |
|   | 2 A  |
|   | 1 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   |
|   | 2 A  |
|   | 2 A  |
|   | 1 A  |
|   | 0.9 A  |
|   | 0.3 A  |
|   | 0.1 A  |
| design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required   | gG: 10 A (230 V, 400 A)  |
| <b>contact reliability of auxiliary contacts</b>  | 1 faulty switching per 100 million (17 V, 1 mA)  |
| <b>Short-circuit protection</b>   |  |
| <b>product function short circuit protection</b>  | No   |
| <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: 355 A (690 V, 100 kA)<br>gR: 350 A (690 V, 100 kA)<br>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   |
| <ul style="list-style-type: none"> <li>• side-by-side mounting</li> </ul>   | 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</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> | 20 mm  |
|   | 10 mm  |
|   | 10 mm  |
|   | 0 mm   |
|   | 20 mm  |
|   | 10 mm  |
|   | 10 mm  |
|   | 10 mm  |
|   | 20 mm  |
|   | 10 mm  |
|   | 10 mm  |
|   | 10 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>  | 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><br>• at AWG cables for main contacts  | 4 ... 250 kcmil  |
| <b>connectable conductor cross-section for main contacts</b><br>• solid or stranded<br>• stranded   | 25 ... 120 mm <sup>2</sup><br>25 ... 120 mm <sup>2</sup>   |
| <b>connectable conductor cross-section for auxiliary contacts</b><br>• solid or stranded<br>• finely stranded with core end processing  | 0.5 ... 4 mm <sup>2</sup><br>0.5 ... 2.5 mm <sup>2</sup>   |
| <b>type of connectable conductor cross-sections</b><br>• for auxiliary contacts<br>— solid<br>— solid or stranded<br>— finely stranded with core end processing<br>• at AWG cables for auxiliary contacts | 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 |

### Safety related data

|  |  |
|--|--|
| <b>product function</b><br>• mirror contact according to IEC 60947-4-1<br>• positively driven operation according to IEC 60947-5-1 | Yes<br>No  |
| <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 |

### 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](#)

|                          |              |
|--------------------------|--------------|
| <b>Marine / Shipping</b> | <b>other</b> |
|--------------------------|--------------|



[Confirmation](#)

|              |                |
|--------------|----------------|
| <b>other</b> | <b>Railway</b> |
|--------------|----------------|

[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=3RT1456-6AR36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1456-6AR36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1456-6AR36>

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

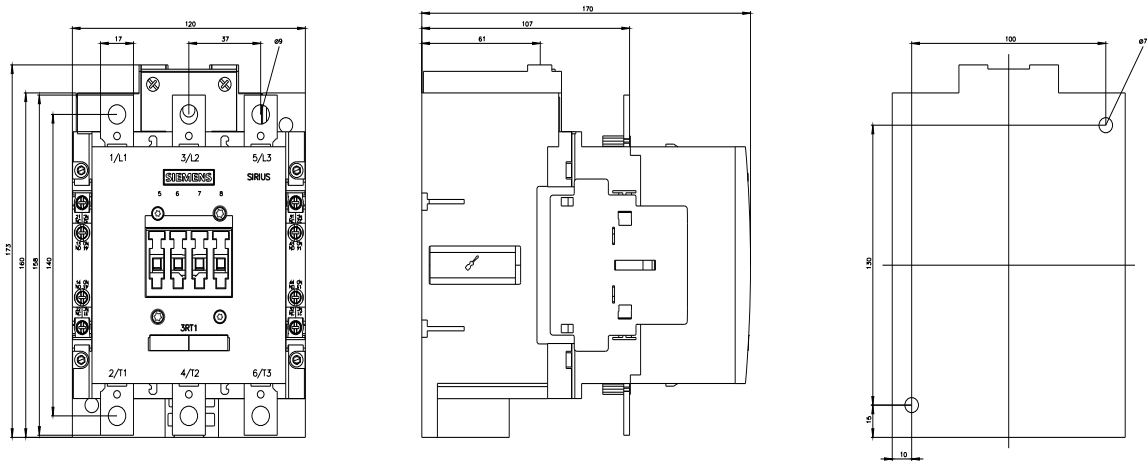
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1456-6AR36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1456-6AR36&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1456-6AR36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1456-6AR36&objecttype=14&gridview=view1>



last modified:

3/15/2022 