

Power contactor, AC-3 185 A, 90 kW / 400 V AC (50-60 Hz) / DC operation 110-127 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S6 Busbar connections Drive: conventional screw terminal



Figure similar

|   |   |
|---|---|
| <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>                              |   |
| • function module for communication                   | No  |
| • Auxiliary switch                                    | Yes   |
| <b>Surge voltage resistance</b>                       |   |
| • of main circuit rated value                         | 8 kV  |
| • of auxiliary circuit rated value                    | 6 kV  |
| <b>maximum permissible voltage for safe isolation</b> |   |
| • between coil and main contacts acc. to EN 60947-1   | 690 V   |
| <b>Protection class IP</b>                            |   |
| • on the front  | IP00; IP20 on the front with cover / box terminal |
| • of the terminal                                     | IP00  |

|   |  |
|---|--|
| <b>Shock resistance at rectangular impulse</b>  |  |
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>  | 8,5g / 5 ms, 4,2g / 10 ms<br>8,5g / 5 ms, 4,2g / 10 ms   |
| <b>Shock resistance with sine pulse</b>   |  |
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>  | 13,4g / 5 ms, 6,5g / 10 ms<br>13,4g / 5 ms, 6,5g / 10 ms |
| <b>Mechanical service life (switching cycles)</b>   |  |
| <ul style="list-style-type: none"> <li>• of contactor typical</li> <li>• of the contactor with added electronics-compatible auxiliary switch block typical</li> <li>• of the contactor with added auxiliary switch block typical</li> </ul> | 10 000 000<br>5 000 000<br>10 000 000                    |
| <b>Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750</b>   | K  |

### Ambient conditions

|  |                                  |
|--|----------------------------------|
| <b>Installation altitude at height above sea level</b>   |                                  |
| <ul style="list-style-type: none"> <li>• maximum</li> </ul>                                    | 2 000 m                          |
| <b>Ambient temperature</b>   |                                  |
| <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> </ul> | -25 ... +60 °C<br>-55 ... +80 °C |

### 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>  | 1 000 V   |
| <b>Operating current</b>   |   |
| <ul style="list-style-type: none"> <li>• at AC-1 at 400 V <ul style="list-style-type: none"> <li>— at ambient temperature 40 °C rated value</li> </ul> </li> <li>• at AC-1 <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 40 °C rated value</li> <li>— up to 690 V at ambient temperature 60 °C rated value</li> <li>— up to 1000 V at ambient temperature 40 °C rated value</li> <li>— up to 1000 V at ambient temperature 60 °C rated value</li> </ul> </li> <li>• at AC-2 at 400 V rated value</li> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul> | 215 A<br>215 A<br>185 A<br>100 A<br>100 A<br>185 A<br>185 A<br>185 A<br>170 A |

|  |                    |
|--|--------------------|
| — at 1000 V rated value  | 65 A               |
| <b>Connectable conductor cross-section in main circuit at AC-1</b>   |                    |
| • at 60 °C minimum permissible                                       | 95 mm <sup>2</sup> |
| • at 40 °C minimum permissible                                       | 95 mm <sup>2</sup> |
| <b>Operating current for approx. 200000 operating cycles at AC-4</b> |                    |
| • at 400 V rated value   | 81 A               |
| • at 690 V rated value   | 65 A               |
| <b>Operating 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              |
| • with 2 current paths in series at DC-1                             |                    |
| — 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              |
| • with 3 current paths in series at DC-1                             |                    |
| — 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>Operating current</b>   |                    |
| • at 1 current path at DC-3 at DC-5                                  |                    |
| — 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             |
| • with 2 current paths in series at DC-3 at DC-5                     |                    |
| — 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             |
| • with 3 current paths in series at DC-3 at DC-5                     |                    |

|   |               |
|---|---------------|
| — 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-1   |               |
| — at 230 V at 60 °C rated value   | 70 kW         |
| — at 400 V rated value  | 121 kW        |
| — at 400 V at 60 °C rated value   | 121 kW        |
| — at 690 V rated value  | 210 kW        |
| — at 690 V at 60 °C rated value   | 210 kW        |
| — at 1000 V at 60 °C rated value  | 165 kW        |
| • at AC-2 at 400 V rated value  | 90 kW         |
| • at AC-3   |               |
| — at 230 V rated value  | 61 kW         |
| — at 400 V rated value  | 90 kW         |
| — at 500 V rated value  | 132 kW        |
| — at 690 V rated value  | 160 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  | 45 kW         |
| • at 690 V rated value  | 65 kW         |
| <b>Thermal short-time current limited to 10 s</b>   | 1 480 A       |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 13 W          |
| <b>No-load switching frequency</b>  |               |
| • at AC   | 2 000 1/h     |
| • at DC   | 2 000 1/h     |
| <b>Operating frequency</b>  |               |
| • at AC-1 maximum   | 800 1/h       |
| • at AC-2 maximum   | 300 1/h       |
| • at AC-3 maximum   | 750 1/h       |
| • at AC-4 maximum   | 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>   |               |
| • at 50 Hz rated value  | 110 ... 127 V |
| • at 60 Hz rated value  | 110 ... 127 V |
| <b>Control supply voltage at DC</b>   |               |
| • rated value   | 110 ... 127 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 V·A          |
| <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 V·A          |
| <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 |

#### Auxiliary circuit

|   |      |
|---|------|
| <b>Number of NC contacts</b>              |      |
| • for auxiliary contacts                  |      |
| — instantaneous contact                   | 2    |
| <b>Number of NO contacts</b>              |      |
| • for auxiliary contacts                  |      |
| — instantaneous contact                   | 2    |
| <b>Operating current at AC-12 maximum</b> | 10 A |
| <b>Operating 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>Operating 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>                                   | <p>10 A</p> <p>6 A</p> <p>6 A</p> <p>3 A</p> <p>2 A</p> <p>1 A</p> <p>0.15 A</p>    |
| <b>Operating 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> | <p>10 A</p> <p>2 A</p> <p>2 A</p> <p>1 A</p> <p>0.9 A</p> <p>0.3 A</p> <p>0.1 A</p> |
| <b>Contact reliability of auxiliary contacts</b>  | <p>1 faulty switching per 100 million (17 V, 1 mA)</p>                              |

#### UL/CSA ratings

|  |  |
|--|--|
| <b>Full-load current (FLA) for three-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>   | <p>180 A</p> <p>192 A</p>  |
| <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 230 V rated value</li> </ul> </li> <li>• for three-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> | <p>30 hp</p> <p>60 hp</p> <p>75 hp</p> <p>150 hp</p> <p>200 hp</p> |
| <b>Contact rating of auxiliary contacts according to UL</b>  | <p>A600 / Q600</p>   |

#### Short-circuit protection

|  |   |
|--|---|
| <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> | <p>gG: 355 A (690 V, 100 kA)</p> <p>gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 100 kA), BS88: 315 A (415 V, 50 kA)</p> <p>fuse gG: 10 A</p> |
|--|---|

#### Installation/ mounting/ dimensions

|                          |   |
|--------------------------|---|
| <b>Mounting position</b> | <p>+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface</p> |
|--------------------------|---|

|                         |              |
|-------------------------|--------------|
| <b>Mounting type</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> |              |
| • for grounded parts    |              |
| — at the side           | 10 mm        |

### Connections/Terminals

|  |  |
|--|--|
| <b>Type of electrical connection</b>                         |  |
| • for main current circuit                                   | screw-type terminals   |
| • for auxiliary and control current circuit                  | screw-type terminals   |
| <b>Type of connectable conductor cross-sections</b>          |  |
| • at AWG conductors for main contacts                        | 4 ... 250 kcmil  |
| <b>Connectable conductor cross-section for main contacts</b> |  |
| • stranded   | 25 ... 120 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> ) |
| — single or multi-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 conductors for auxiliary contacts                   | 2x (20 ... 16), 2x (18 ... 14), 1x 12  |

### Safety related data

|   |  |
|---|--|
| <b>Product function</b>                             |  |
| • Mirror contact acc. to IEC 60947-4-1              | Yes  |
| • positively driven operation acc. to IEC 60947-5-1 | No   |
| <b>Protection against electrical shock</b>          | finger-safe when touched vertically from front acc. to IEC 60529 |

### Certificates/approvals

|                          |                                       |                           |
|--------------------------|---------------------------------------|---------------------------|
| General Product Approval | Functional Safety/Safety of Machinery | Declaration of Conformity |
|--------------------------|---------------------------------------|---------------------------|



[Type Examination Certificate](#)



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

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Miscellaneous](#)



|       |
|-------|
| other |
|-------|

[Confirmation](#)

[Miscellaneous](#)

## Further information

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

<http://www.siemens.com/industrial-controls/catalogs>

### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1056-6AF36>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1056-6AF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6AF36>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1056-6AF36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1056-6AF36&lang=en)

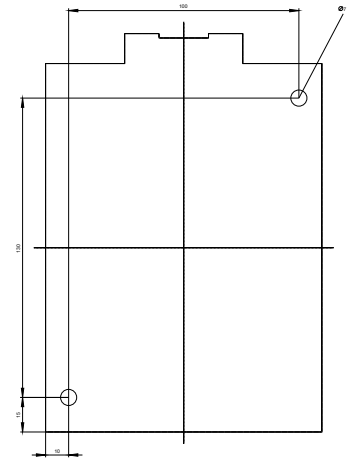
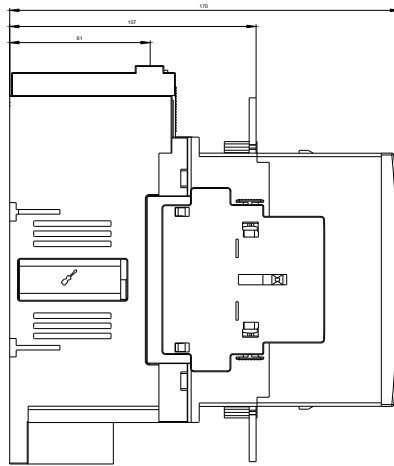
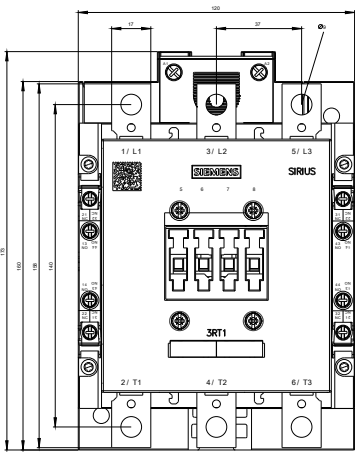
### Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

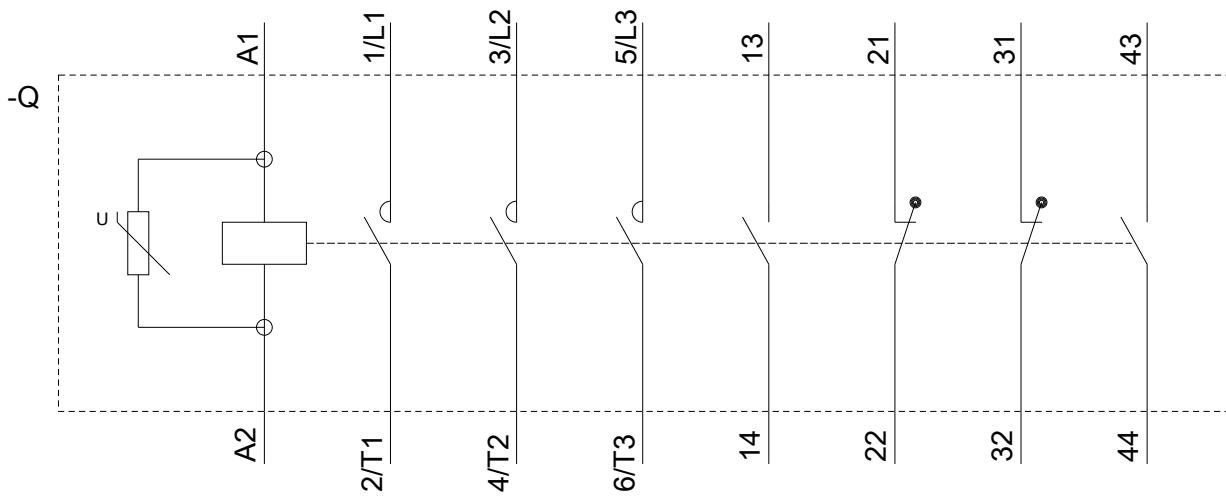
<https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6AF36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1056-6AF36&objecttype=14&gridview=view1>







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