

CONTACTOR, AC-3, 18.5KW/400V, 2NO+2NC, DC 24V, 3-POLE,  
SZ S0 SPRING-LOADED TERMINAL REMOVABLE AUX. SWITCH  
PACKAGE = 40 UNIT(S)



|                                                     |                |
|-----------------------------------------------------|----------------|
| product brandname                                   | SIRIUS         |
| Product designation                                 | 3RT2 contactor |
| General technical data                              |                |
| Size of contactor                                   | S0             |
| Product extension                                   |                |
| • function module for communication                 | No             |
| • Auxiliary switch                                  | No             |
| Insulation voltage                                  |                |
| • rated value                                       | 690 V          |
| Degree of pollution                                 | 3              |
| Surge voltage resistance rated value                | 6 kV           |
| maximum permissible voltage for safe isolation      |                |
| • between coil and main contacts acc. to EN 60947-1 | 400 V          |
| Protection class IP                                 |                |
| • on the front                                      | IP20           |
| • of the terminal                                   | IP20           |
| Shock resistance                                    |                |
| • at rectangular impulse                            |                |

|                                                                                     |                          |
|-------------------------------------------------------------------------------------|--------------------------|
| — at DC                                                                             | 10g / 5 ms, 7,5g / 10 ms |
| • with sine pulse                                                                   |                          |
| — at DC                                                                             | 15g / 5 ms, 10g / 10 ms  |
| <b>Mechanical service life (switching cycles)</b>                                   |                          |
| • of contactor typical                                                              | 10 000 000               |
| • of the contactor with added electronics-compatible auxiliary switch block typical | 5 000 000                |
| • of the contactor with added auxiliary switch block typical                        | 10 000 000               |

|                                                                |                |
|----------------------------------------------------------------|----------------|
| <b>Ambient conditions</b>                                      |                |
| <b>Installation altitude at height above sea level maximum</b> | 2 000 m        |
| <b>Ambient temperature</b>                                     |                |
| • during operation                                             | -25 ... +60 °C |
| • during storage                                               | -55 ... +80 °C |

|                                                                      |                    |
|----------------------------------------------------------------------|--------------------|
| <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>Operating voltage</b>                                             |                    |
| • at AC-3 rated value maximum                                        | 690 V              |
| <b>Operating current</b>                                             |                    |
| • at AC-1 at 400 V                                                   |                    |
| — at ambient temperature 40 °C rated value                           | 50 A               |
| • at AC-1                                                            |                    |
| — up to 690 V at ambient temperature 40 °C rated value               | 50 A               |
| — up to 690 V at ambient temperature 60 °C rated value               | 42 A               |
| • at AC-2 at 400 V rated value                                       | 38 A               |
| • at AC-3                                                            |                    |
| — at 400 V rated value                                               | 38 A               |
| — at 500 V rated value                                               | 32 A               |
| — at 690 V rated value                                               | 21 A               |
| <b>Connectable conductor cross-section in main circuit at AC-1</b>   |                    |
| • at 60 °C minimum permissible                                       | 10 mm <sup>2</sup> |
| • at 40 °C minimum permissible                                       | 10 mm <sup>2</sup> |
| <b>Operating current for approx. 200000 operating cycles at AC-4</b> |                    |
| • at 400 V rated value                                               | 12 A               |
| • at 690 V rated value                                               | 12 A               |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                       |
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| <b>Operating current</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                       |
| <ul style="list-style-type: none"> <li>• at 1 current path at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>• with 2 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>• with 3 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>                         | 35 A<br>4.5 A<br>1 A<br>0.4 A<br>0.25 A<br><br>35 A<br>35 A<br>5 A<br>1 A<br>0.8 A<br><br>35 A<br>35 A<br>35 A<br>2.9 A<br>1.4 A      |
| <b>Operating current</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                       |
| <ul style="list-style-type: none"> <li>• at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>• with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 24 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>• with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 24 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul> | 20 A<br>2.5 A<br>1 A<br>0.09 A<br>0.06 A<br><br>15 A<br>3 A<br>35 A<br>0.27 A<br>0.16 A<br><br>35 A<br>10 A<br>35 A<br>0.6 A<br>0.6 A |
| <b>Operating power</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                       |
| <ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— at 230 V rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 16 kW                                                                                                                                 |

|                                                                                               |                |
|-----------------------------------------------------------------------------------------------|----------------|
| — at 230 V at 60 °C rated value                                                               | 15.5 kW        |
| — at 400 V rated value                                                                        | 28 kW          |
| — at 400 V at 60 °C rated value                                                               | 27.5 kW        |
| — at 690 V rated value                                                                        | 48 kW          |
| — at 690 V at 60 °C rated value                                                               | 47.5 kW        |
| • at AC-2 at 400 V rated value                                                                | 18.5 kW        |
| • at AC-3                                                                                     |                |
| — at 230 V rated value                                                                        | 11 kW          |
| — at 400 V rated value                                                                        | 18.5 kW        |
| — at 690 V rated value                                                                        | 18.5 kW        |
| <b>Operating power for approx. 200000 operating cycles at AC-4</b>                            |                |
| • at 400 V rated value                                                                        | 6 kW           |
| • at 690 V rated value                                                                        | 10.3 kW        |
| <b>Thermal short-time current limited to 10 s</b>                                             | 304 A          |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 3.8 W          |
| <b>No-load switching frequency</b>                                                            |                |
| • at DC                                                                                       | 1 500 1/h      |
| <b>Operating frequency</b>                                                                    |                |
| • at AC-1 maximum                                                                             | 1 000 1/h      |
| • at AC-2 maximum                                                                             | 750 1/h        |
| • at AC-3 maximum                                                                             | 750 1/h        |
| • at AC-4 maximum                                                                             | 250 1/h        |
| <b>Control circuit/ Control</b>                                                               |                |
| <b>Type of voltage of the control supply voltage</b>                                          | DC             |
| <b>Control supply voltage at DC</b>                                                           |                |
| • rated value                                                                                 | 24 V           |
| <b>Operating range factor control supply voltage rated value of magnet coil at DC</b>         | 0.8 ... 1.1    |
| <b>Closing power of magnet coil at DC</b>                                                     | 5.9 W          |
| <b>Holding power of magnet coil at DC</b>                                                     | 5.9 W          |
| <b>Closing delay</b>                                                                          |                |
| • at DC                                                                                       | 50 ... 170 ms  |
| <b>Opening delay</b>                                                                          |                |
| • at DC                                                                                       | 15 ... 17.5 ms |
| <b>Arcing time</b>                                                                            | 10 ... 10 ms   |
| <b>Residual current of the electronics for control with signal &lt;0&gt;</b>                  |                |
| • at AC at 230 V maximum permissible                                                          | 7 mA           |
| • at DC at 24 V maximum permissible                                                           | 16 mA          |
| <b>Auxiliary circuit</b>                                                                      |                |

|                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |
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| <b>Number of NC contacts</b> <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— instantaneous contact</li> </ul> </li> </ul>                                                                                                                                                                                                                                               | 2                                                   |
| <b>Number of NO contacts</b> <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— instantaneous contact</li> </ul> </li> </ul>                                                                                                                                                                                                                                               | 2                                                   |
| Operating current at AC-12 maximum                                                                                                                                                                                                                                                                                                                                                                                               | 10 A                                                |
| <b>Operating 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>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>                                                                                                                          | 10 A<br>6 A<br>6 A<br>3 A<br>2 A<br>1 A<br>0.15 A   |
| <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>                                                                                                                          | 6 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 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>                                                                                                                                                                                                                                                                 | 34 A<br>27 A                                        |
| <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 110/120 V rated value</li> <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> </ul> </li> </ul> | 3 hp<br>5 hp<br><br>10 hp<br>10 hp<br>25 hp         |

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| — at 575/600 V rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 25 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> <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>                                                                                                                                                                                                                                                               | gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 125 A<br>gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 50 A<br>fuse gL/gG: 10 A                        |
| <b>Installation/ mounting/ dimensions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                      |
| <b>Mounting position</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| <b>Mounting type</b> <ul style="list-style-type: none"> <li>Side-by-side mounting</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022<br>Yes                                        |
| <b>Height</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 102 mm                                                                                                                               |
| <b>Width</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 45 mm                                                                                                                                |
| <b>Depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 154 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>— Backwards</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>— Backwards</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>— Backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul> | 0 mm<br>0 mm<br>0 mm<br>0 mm<br>0 mm<br><br>0 mm<br>0 mm<br>0 mm<br>6 mm<br>0 mm<br><br>0 mm<br>0 mm<br>0 mm<br>0 mm<br>6 mm         |
| <b>Connections/Terminals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                      |
| <b>Type of electrical connection</b> <ul style="list-style-type: none"> <li>for main current circuit</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | spring-loaded terminals                                                                                                              |

|                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                         |
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| <ul style="list-style-type: none"> <li>• for auxiliary and control current circuit</li> </ul>                                                                                                                                                                                                                                                                                      | spring-loaded terminals                                                                                                                                 |
| <b>Type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> <li>• at AWG conductors for main contacts</li> </ul> | 2x (1 ... 10 mm <sup>2</sup> )<br>2x (1 ... 10 mm <sup>2</sup> )<br>2x (1 ... 6 mm <sup>2</sup> )<br>2x (1 ... 6 mm <sup>2</sup> )<br><br>2x (18 ... 8) |
| <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>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> <li>• at AWG conductors for auxiliary contacts</li> </ul>        | 2x (0,5 ... 2,5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br><br>2x (20 ... 14)                       |
| <b>Safety related data</b>                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                         |
| <b>B10 value</b> <ul style="list-style-type: none"> <li>• with high demand rate acc. to SN 31920</li> </ul>                                                                                                                                                                                                                                                                        | 1 000 000                                                                                                                                               |
| <b>Proportion of dangerous failures</b> <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> <li>• with high demand rate acc. to SN 31920</li> </ul>                                                                                                                                                                                                | 40 %<br>73 %                                                                                                                                            |
| <b>Failure rate [FIT]</b> <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> </ul>                                                                                                                                                                                                                                                                | 100 FIT                                                                                                                                                 |
| <b>Product function</b> <ul style="list-style-type: none"> <li>• Mirror contact acc. to IEC 60947-4-1</li> <li>• positively driven operation acc. to IEC 60947-5-1</li> </ul>                                                                                                                                                                                                      | Yes<br>No                                                                                                                                               |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b>                                                                                                                                                                                                                                                                                                          | 20 y                                                                                                                                                    |
| <b>Protection against electrical shock</b>                                                                                                                                                                                                                                                                                                                                         | finger-safe                                                                                                                                             |
| <b>Certificates/approvals</b>                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                         |

|                          |     |                                       |
|--------------------------|-----|---------------------------------------|
| General Product Approval | EMC | Functional Safety/Safety of Machinery |
|--------------------------|-----|---------------------------------------|



CSA



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|                           |                   |                   |
|---------------------------|-------------------|-------------------|
| Declaration of Conformity | Test Certificates | Shipping Approval |
|---------------------------|-------------------|-------------------|



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[n](#)



ABS



BUREAU VERITAS



DNV



GL

|                   |       |
|-------------------|-------|
| Shipping Approval | other |
|-------------------|-------|



LRS



PRS



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RMRS

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VDE

## 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=3RT2028-2BB44-Z X95>

Cax online generator

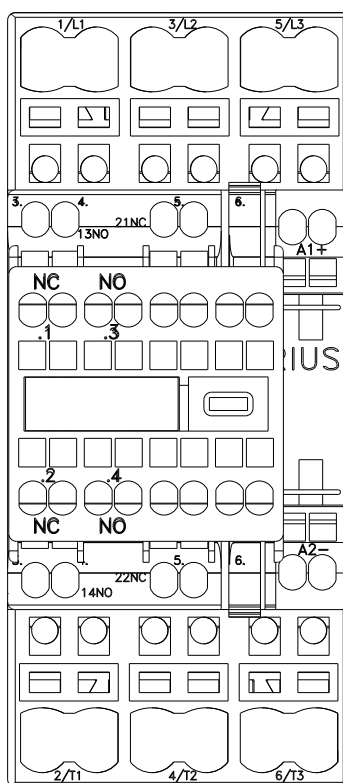
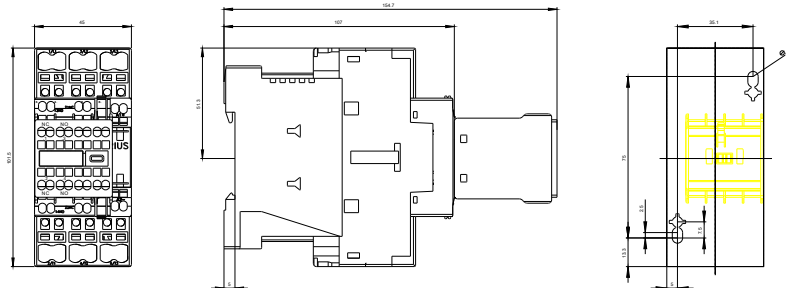
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2028-2BB44-Z X95>

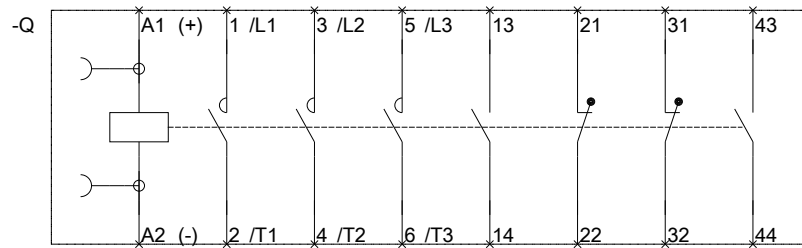
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-2BB44-Z X95>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2028-2BB44-Z X95&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2028-2BB44-Z X95&lang=en)





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