

2NO+2NC CONTACTOR, AC3: 4KW 24 V DC 4-POLE, 2NO+2NC,  
SIZE: S00, SCREW TERMINALS SPECIAL MOUNTING POS.  
ROTATING LIMITED OPERATING RANGE 0.9...1.25 US

|                     |                |
|---------------------|----------------|
| product brand name  | SIRIUS         |
| Product designation | 3RT2 contactor |

### General technical data

|                                                                                     |                            |
|-------------------------------------------------------------------------------------|----------------------------|
| Size of contactor                                                                   | S00                        |
| 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                       |
| Shock resistance                                                                    |                            |
| • at rectangular impulse                                                            |                            |
| — at DC                                                                             | 6,7g / 5 ms, 4,2g / 10 ms  |
| • with sine pulse                                                                   |                            |
| — at DC                                                                             | 10,5g / 5 ms, 6,6g / 10 ms |
| Mechanical service life (switching cycles)                                          |                            |
| • of contactor typical                                                              | 30 000 000                 |
| • 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                 |

### Ambient conditions

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

### Main circuit

|                                          |   |
|------------------------------------------|---|
| Number of poles for main current circuit | 4 |
|------------------------------------------|---|

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Number of NO contacts for main contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2                                                                                           |
| <b>Number of NC contacts for main contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2                                                                                           |
| <b>Operating current</b> <ul style="list-style-type: none"> <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> </ul> </li> <li>• at AC-2 at AC-3 at 400 V <ul style="list-style-type: none"> <li>— per NO contact rated value</li> <li>— per NC contact rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                       | 18 A<br>16 A<br>9 A<br>9 A                                                                  |
| <b>Connectable conductor cross-section in main circuit at AC-1</b> <ul style="list-style-type: none"> <li>• at 60 °C minimum permissible</li> <li>• at 40 °C minimum permissible</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2.5 mm <sup>2</sup><br>2.5 mm <sup>2</sup>                                                  |
| <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> </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> </ul> </li> </ul>                                                                                                                                                                                                                                     | 20 A<br>2.1 A<br>0.8 A<br>0.6 A<br>20 A<br>12 A<br>1.6 A<br>0.8 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 per NC contact rated value</li> <li>— at 24 V per NO contact rated value</li> <li>— at 110 V per NC contact rated value</li> <li>— at 110 V per NO contact rated value</li> <li>— at 220 V per NC contact rated value</li> <li>— at 220 V per NO contact 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 per NC contact rated value</li> <li>— at 110 V per NO contact rated value</li> <li>— at 24 V per NC contact rated value</li> <li>— at 24 V per NO contact rated value</li> </ul> </li> </ul> | 16 A<br>16 A<br>0.075 A<br>0.15 A<br>0.375 A<br>0.75 A<br>0.175 A<br>0.35 A<br>16 A<br>16 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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 6.5 kW                                                                                      |

|                                                                                               |            |
|-----------------------------------------------------------------------------------------------|------------|
| — at 400 V rated value                                                                        | 11 kW      |
| • at AC-2 at AC-3                                                                             |            |
| — at 230 V per NC contact rated value                                                         | 2.2 kW     |
| — at 230 V per NO contact rated value                                                         | 2.2 kW     |
| — at 400 V per NC contact rated value                                                         | 4 kW       |
| — at 400 V per NO contact rated value                                                         | 4 kW       |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 0.7 W      |
| <b>No-load switching frequency</b>                                                            |            |
| • at AC                                                                                       | 10 000 1/h |
| • at DC                                                                                       | 10 000 1/h |
| <b>Operating frequency</b>                                                                    |            |
| • at AC-1 maximum                                                                             | 1 000 1/h  |

#### Control circuit/ Control

|                                                                                       |               |
|---------------------------------------------------------------------------------------|---------------|
| <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> | 0.9 ... 1.25  |
| <b>Closing power of magnet coil at DC</b>                                             | 4 W           |
| <b>Holding power of magnet coil at DC</b>                                             | 2.8 W         |
| <b>Closing delay</b>                                                                  |               |
| • at DC                                                                               | 30 ... 100 ms |
| <b>Opening delay</b>                                                                  |               |
| • at DC                                                                               | 7 ... 13 ms   |
| <b>Arcing time</b>                                                                    | 10 ... 15 ms  |
| <b>Residual current of the electronics for control with signal &lt;0&gt;</b>          |               |
| • at DC at 24 V maximum permissible                                                   | 0.01 A        |

#### Auxiliary circuit

|                                           |      |
|-------------------------------------------|------|
| <b>Number of NC contacts</b>              |      |
| • for auxiliary contacts                  |      |
| — instantaneous contact                   | 1    |
| <b>Number of NO contacts</b>              |      |
| • for auxiliary contacts                  |      |
| — instantaneous contact                   | 1    |
| <b>Operating current at AC-12 maximum</b> | 10 A |
| <b>Operating current at AC-15</b>         |      |
| • at 230 V rated value                    | 10 A |
| • at 400 V rated value                    | 3 A  |
| <b>Operating current at DC-12</b>         |      |
| • at 48 V rated value                     | 6 A  |

|                                                                                                                                                                                                                                       |                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| <ul style="list-style-type: none"> <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>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 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>0.3 A<br>0.1 A     |
| <b>Contact reliability of auxiliary contacts</b>                                                                                                                                                                                      | 1 faulty switching per 100 million (17 V, 1 mA) |

#### UL/CSA ratings

|                                                                                                                                                                                                           |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <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> </ul> | 0.33 hp<br>1 hp |
| <b>Contact rating of auxiliary contacts according to UL</b>                                                                                                                                               | A600 / Q600     |

#### 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> | gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 A<br>gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 20 A<br>fuse gL/gG: 10 A |

#### Installation/ mounting/ dimensions

|                                                                                                                                                                                                    |                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <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>                                                                                                                                                                               | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022                                               |
| <ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>                                                                                                                          | Yes                                                                                                                                  |
| <b>Height</b>                                                                                                                                                                                      | 57.5 mm                                                                                                                              |
| <b>Width</b>                                                                                                                                                                                       | 45 mm                                                                                                                                |
| <b>Depth</b>                                                                                                                                                                                       | 73 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> </ul> </li> </ul> | 0 mm<br>0 mm<br>0 mm                                                                                                                 |

|                      |      |
|----------------------|------|
| — downwards          | 0 mm |
| — at the side        | 0 mm |
| • for grounded parts |      |
| — forwards           | 0 mm |
| — Backwards          | 0 mm |
| — upwards            | 0 mm |
| — at the side        | 6 mm |
| — downwards          | 0 mm |
| • for live parts     |      |
| — forwards           | 0 mm |
| — Backwards          | 0 mm |
| — upwards            | 0 mm |
| — downwards          | 0 mm |
| — at the side        | 6 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> |                                                                                             |
| • for main contacts                                 |                                                                                             |
| — solid                                             | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), 2x 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> ), 2x 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 main contacts               | 2x (20 ... 16), 2x (18 ... 14), 2x 12                                                       |
| <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> ), 2x 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> ), 2x 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), 2x 12                                                       |

## Safety related data

|                                          |                 |
|------------------------------------------|-----------------|
| <b>B10 value</b>                         |                 |
| • with high demand rate acc. to SN 31920 | 1 000 000       |
| <b>Proportion of dangerous failures</b>  |                 |
| • with low demand rate acc. to SN 31920  | 40 %            |
| • with high demand rate acc. to SN 31920 | 73 %            |
| <b>Failure rate [FIT]</b>                |                 |
| • with low demand rate acc. to SN 31920  | 100 FIT         |
| <b>Product function</b>                  |                 |
| • Mirror contact acc. to IEC 60947-4-1   | Yes; with 3RH29 |

- positively driven operation acc. to IEC 60947-5-1

No

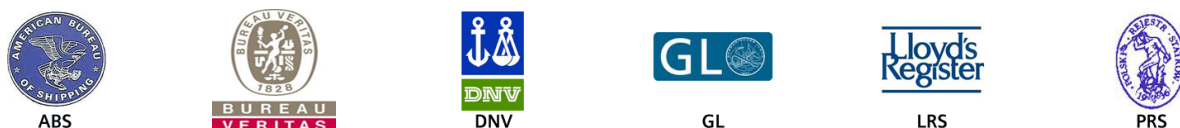
T1 value for proof test interval or service life acc. to IEC 61508

20 y

## Certificates/approvals

| General Product Approval                                                                 | Functional Safety/Safety of Machinery                                             | Declaration of Conformity                                                                                                               | Test Certificates                                                                                  |
|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <br>CCC |  | <a href="#">Baumusterbescheinigung</a><br><br>EG-Konf. | <a href="#">spezielle Prüfbescheinigungen</a><br><a href="#">Typprüfbescheinigung/Werkszeugnis</a> |

## Shipping Approval



## Shipping Approval

other



## 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=3RT2516-1HB40-5LA0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2516-1HB40-5LA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2516-1HB40-5LA0>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2516-1HB40-5LA0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2516-1HB40-5LA0&lang=en)

last modified:

10/07/2016