

Power contactor, AC-3 7 A, 3 kW / 400 V 1 NO, 230 V AC, 50 / 60 Hz  
3-pole, Size S00 screw terminal

|                          |                 |
|--------------------------|-----------------|
| product brand name       | SIRIUS          |
| product designation      | Power contactor |
| product type designation | 3RT2            |

### General technical data

|                                                                                                                                                                                                                                         |                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| size of contactor                                                                                                                                                                                                                       | S00                                   |
| product extension                                                                                                                                                                                                                       |                                       |
| <ul style="list-style-type: none"> <li>function module for communication</li> <li>auxiliary switch</li> </ul>                                                                                                                           | No<br>Yes                             |
| power loss [W] for rated value of the current                                                                                                                                                                                           |                                       |
| <ul style="list-style-type: none"> <li>at AC in hot operating state</li> <li>at AC in hot operating state per pole</li> </ul>                                                                                                           | 1.2 W<br>0.4 W                        |
| power loss [W] for rated value of the current without load current share typical                                                                                                                                                        | 4.2 W                                 |
| surge voltage resistance                                                                                                                                                                                                                |                                       |
| <ul style="list-style-type: none"> <li>of main circuit rated value</li> <li>of auxiliary circuit rated value</li> </ul>                                                                                                                 | 6 kV<br>6 kV                          |
| maximum permissible voltage for safe isolation                                                                                                                                                                                          |                                       |
| <ul style="list-style-type: none"> <li>between coil and main contacts acc. to EN 60947-1</li> </ul>                                                                                                                                     | 400 V                                 |
| protection class IP                                                                                                                                                                                                                     |                                       |
| <ul style="list-style-type: none"> <li>on the front</li> <li>of the terminal</li> </ul>                                                                                                                                                 | IP20<br>IP20                          |
| shock resistance at rectangular impulse                                                                                                                                                                                                 |                                       |
| <ul style="list-style-type: none"> <li>at AC</li> </ul>                                                                                                                                                                                 | 6,7g / 5 ms, 4,2g / 10 ms             |
| shock resistance with sine pulse                                                                                                                                                                                                        |                                       |
| <ul style="list-style-type: none"> <li>at AC</li> </ul>                                                                                                                                                                                 | 10,5g / 5 ms, 6,6g / 10 ms            |
| mechanical service life (switching cycles)                                                                                                                                                                                              |                                       |
| <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> | 30 000 000<br>5 000 000<br>10 000 000 |
| reference code acc. to IEC 81346-2                                                                                                                                                                                                      | Q                                     |

### Ambient conditions

|                                                                                                           |         |
|-----------------------------------------------------------------------------------------------------------|---------|
| <ul style="list-style-type: none"> <li>installation altitude at height above sea level maximum</li> </ul> | 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>operating voltage</b>                               |                     |
| • at AC-3 rated value maximum                          | 690 V               |
| <b>operational current</b>                             |                     |
| • at AC-1 at 400 V                                     |                     |
| — at ambient temperature 40 °C rated value             | 18 A                |
| • at AC-1                                              |                     |
| — up to 690 V at ambient temperature 40 °C rated value | 18 A                |
| — up to 690 V at ambient temperature 60 °C rated value | 16 A                |
| • at AC-3                                              |                     |
| — at 400 V rated value                                 | 7 A                 |
| — at 500 V rated value                                 | 6 A                 |
| — at 690 V rated value                                 | 4.9 A               |
| • at AC-4 at 400 V rated value                         | 6.5 A               |
| • at AC-5a up to 690 V rated value                     | 15.8 A              |
| • at AC-5b up to 400 V rated value                     | 5.8 A               |
| • at AC-6a                                             |                     |
| — up to 230 V for current peak value n=20 rated value  | 4 A                 |
| — up to 400 V for current peak value n=20 rated value  | 4 A                 |
| — up to 500 V for current peak value n=20 rated value  | 3.8 A               |
| — up to 690 V for current peak value n=20 rated value  | 3.6 A               |
| • at AC-6a                                             |                     |
| — up to 230 V for current peak value n=30 rated value  | 2.7 A               |
| — up to 400 V for current peak value n=30 rated value  | 2.7 A               |
| — up to 500 V for current peak value n=30 rated value  | 2.5 A               |
| — up to 690 V for current peak value n=30 rated value  | 2.4 A               |
| <b>minimum cross-section in main circuit</b>           |                     |
| • at maximum AC-1 rated value                          | 2.5 mm <sup>2</sup> |

|                                                                        |        |
|------------------------------------------------------------------------|--------|
| <b>operational current for approx. 200000 operating cycles at AC-4</b> |        |
| • at 400 V rated value                                                 | 2.6 A  |
| • at 690 V rated value                                                 | 1.8 A  |
| <b>operational current</b>                                             |        |
| • at 1 current path at DC-1                                            |        |
| — at 24 V rated value                                                  | 15 A   |
| — at 110 V rated value                                                 | 1.5 A  |
| — at 220 V rated value                                                 | 0.6 A  |
| — at 440 V rated value                                                 | 0.42 A |
| — at 600 V rated value                                                 | 0.42 A |
| • with 2 current paths in series at DC-1                               |        |
| — at 24 V rated value                                                  | 15 A   |
| — at 110 V rated value                                                 | 8.4 A  |
| — at 220 V rated value                                                 | 1.2 A  |
| — at 440 V rated value                                                 | 0.6 A  |
| — at 600 V rated value                                                 | 0.5 A  |
| • with 3 current paths in series at DC-1                               |        |
| — at 24 V rated value                                                  | 15 A   |
| — at 110 V rated value                                                 | 15 A   |
| — at 220 V rated value                                                 | 15 A   |
| — at 440 V rated value                                                 | 0.9 A  |
| — at 600 V rated value                                                 | 0.7 A  |
| <b>operational current</b>                                             |        |
| • at 1 current path at DC-3 at DC-5                                    |        |
| — at 24 V rated value                                                  | 15 A   |
| — at 110 V rated value                                                 | 0.1 A  |
| • with 2 current paths in series at DC-3 at DC-5                       |        |
| — at 24 V rated value                                                  | 15 A   |
| — at 110 V rated value                                                 | 0.25 A |
| • with 3 current paths in series at DC-3 at DC-5                       |        |
| — at 24 V rated value                                                  | 15 A   |
| — at 110 V rated value                                                 | 15 A   |
| — at 220 V rated value                                                 | 1.2 A  |
| — at 440 V rated value                                                 | 0.14 A |
| — at 600 V rated value                                                 | 0.14 A |
| <b>operating power</b>                                                 |        |
| • at AC-3                                                              |        |
| — at 230 V rated value                                                 | 1.5 kW |
| — at 400 V rated value                                                 | 3 kW   |
| — at 500 V rated value                                                 | 3 kW   |

|                                                                         |                                                           |
|-------------------------------------------------------------------------|-----------------------------------------------------------|
| — at 690 V rated value                                                  | 4 kW                                                      |
| <b>operating power for approx. 200000 operating cycles at AC-4</b>      |                                                           |
| • at 400 V rated value                                                  | 1.15 kW                                                   |
| • at 690 V rated value                                                  | 1.15 kW                                                   |
| <b>operating apparent power at AC-6a</b>                                |                                                           |
| • up to 230 V for current peak value n=20 rated value                   | 1.5 kV·A                                                  |
| • up to 400 V for current peak value n=20 rated value                   | 2.7 kV·A                                                  |
| • up to 500 V for current peak value n=20 rated value                   | 3.3 kV·A                                                  |
| • up to 690 V for current peak value n=20 rated value                   | 4.3 kV·A                                                  |
| <b>operating apparent power at AC-6a</b>                                |                                                           |
| • up to 230 V for current peak value n=30 rated value                   | 1 kV·A                                                    |
| • up to 400 V for current peak value n=30 rated value                   | 1.8 kV·A                                                  |
| • up to 500 V for current peak value n=30 rated value                   | 2.2 kV·A                                                  |
| • up to 690 V for current peak value n=30 rated value                   | 2.9 kV·A                                                  |
| <b>short-time withstand current in cold operating state up to 40 °C</b> |                                                           |
| • limited to 1 s switching at zero current maximum                      | 120 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 5 s switching at zero current maximum                      | 86 A; Use minimum cross-section acc. to AC-1 rated value  |
| • limited to 10 s switching at zero current maximum                     | 67 A; Use minimum cross-section acc. to AC-1 rated value  |
| • limited to 30 s switching at zero current maximum                     | 52 A; Use minimum cross-section acc. to AC-1 rated value  |
| • limited to 60 s switching at zero current maximum                     | 43 A; Use minimum cross-section acc. to AC-1 rated value  |
| <b>no-load switching frequency</b>                                      |                                                           |
| • at AC                                                                 | 10 000 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>                    | AC                                                        |

|                                                                                       |                  |
|---------------------------------------------------------------------------------------|------------------|
| <b>control supply voltage at AC</b>                                                   |                  |
| • at 50 Hz rated value                                                                | 230 V            |
| • at 60 Hz rated value                                                                | 230 V            |
| <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                                                                            | 0.85 ... 1.1     |
| <b>apparent pick-up power of magnet coil at AC</b>                                    |                  |
| • at 50 Hz                                                                            | 27 V·A           |
| • at 60 Hz                                                                            | 24.3 V·A         |
| <b>inductive power factor with closing power of the coil</b>                          |                  |
| • at 50 Hz                                                                            | 0.8              |
| • at 60 Hz                                                                            | 0.75             |
| <b>apparent holding power of magnet coil at AC</b>                                    |                  |
| • at 50 Hz                                                                            | 4.2 V·A          |
| • at 60 Hz                                                                            | 3.3 V·A          |
| <b>inductive power factor with the holding power of the coil</b>                      |                  |
| • at 50 Hz                                                                            | 0.25             |
| • at 60 Hz                                                                            | 0.25             |
| <b>closing delay</b>                                                                  |                  |
| • at AC                                                                               | 9 ... 35 ms      |
| <b>opening delay</b>                                                                  |                  |
| • at AC                                                                               | 3.5 ... 14 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 NO contacts for auxiliary contacts</b> |      |
| • instantaneous contact                             | 1    |
| <b>operational current at AC-12 maximum</b>         | 10 A |
| <b>operational current at AC-15</b>                 |      |
| • at 230 V rated value                              | 10 A |
| • at 400 V rated value                              | 3 A  |
| • at 500 V rated value                              | 2 A  |
| • at 690 V rated value                              | 1 A  |
| <b>operational current at DC-12</b>                 |      |
| • at 24 V rated value                               | 10 A |
| • at 48 V rated value                               | 6 A  |
| • at 60 V rated value                               | 6 A  |
| • at 110 V rated value                              | 3 A  |
| • at 125 V rated value                              | 2 A  |
| • at 220 V rated value                              | 1 A  |

|                                                  |                                                 |
|--------------------------------------------------|-------------------------------------------------|
| • at 600 V rated value                           | 0.15 A                                          |
| <b>operational current at DC-13</b>              |                                                 |
| • at 24 V rated value                            | 10 A                                            |
| • at 48 V rated value                            | 2 A                                             |
| • at 60 V rated value                            | 2 A                                             |
| • at 110 V rated value                           | 1 A                                             |
| • at 125 V rated value                           | 0.9 A                                           |
| • at 220 V rated value                           | 0.3 A                                           |
| • at 600 V rated value                           | 0.1 A                                           |
| <b>contact reliability of auxiliary contacts</b> | 1 faulty switching per 100 million (17 V, 1 mA) |

#### UL/CSA ratings

|                                                             |             |
|-------------------------------------------------------------|-------------|
| <b>full-load current (FLA) for 3-phase AC motor</b>         |             |
| • at 480 V rated value                                      | 4.8 A       |
| • at 600 V rated value                                      | 6.1 A       |
| <b>yielded mechanical performance [hp]</b>                  |             |
| • for single-phase AC motor                                 |             |
| — at 110/120 V rated value                                  | 0.25 hp     |
| — at 230 V rated value                                      | 0.75 hp     |
| • for 3-phase AC motor                                      |             |
| — at 200/208 V rated value                                  | 1.5 hp      |
| — at 220/230 V rated value                                  | 2 hp        |
| — at 460/480 V rated value                                  | 3 hp        |
| — at 575/600 V rated value                                  | 5 hp        |
| <b>contact rating of auxiliary contacts according to UL</b> | A600 / Q600 |

#### Short-circuit protection

|                                                                 |                                                                     |
|-----------------------------------------------------------------|---------------------------------------------------------------------|
| <b>design of the fuse link</b>                                  |                                                                     |
| • for short-circuit protection of the main circuit              |                                                                     |
| — with type of coordination 1 required                          | gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)   |
| — with type of assignment 2 required                            | gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) |
| • for short-circuit protection of the auxiliary switch required | gG: 10 A (500 V, 1 kA)                                              |

#### 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>fastening method</b>  | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715                                               |
| • side-by-side mounting  | Yes                                                                                                                                  |
| <b>height</b>            | 58 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 10 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards 10 mm</li> <li>— upwards 10 mm</li> <li>— at the side 6 mm</li> <li>— downwards 10 mm</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards 10 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 6 mm</li> </ul> </li> </ul> |       |

## Connections/ Terminals

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <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>                                                                                                                                                                                                                                                                                                                                                 | screw-type terminals<br>screw-type terminals<br>Screw-type terminals<br>Screw-type 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 2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>), 2x 4 mm<sup>2</sup></li> <li>— solid or 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></li> <li>— finely stranded with core end processing 2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)</li> </ul> </li> <li>• at AWG cables for main contacts 2x (20 ... 16), 2x (18 ... 14), 2x 12</li> </ul> |                                                                                              |
| <b>connectable conductor cross-section for main contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                              |
| <ul style="list-style-type: none"> <li>• solid 0.5 ... 4 mm<sup>2</sup></li> <li>• stranded 0.5 ... 4 mm<sup>2</sup></li> <li>• finely stranded with core end processing 0.5 ... 2.5 mm<sup>2</sup></li> </ul>                                                                                                                                                                                                                                                                                                                                     |                                                                                              |
| <b>connectable conductor cross-section for auxiliary contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                              |
| <ul style="list-style-type: none"> <li>• solid or stranded 0.5 ... 4 mm<sup>2</sup></li> <li>• finely stranded with core end processing 0.5 ... 2.5 mm<sup>2</sup></li> </ul>                                                                                                                                                                                                                                                                                                                                                                      |                                                                                              |
| <ul style="list-style-type: none"> <li>• type of connectable conductor cross-sections for auxiliary contacts <ul style="list-style-type: none"> <li>— solid or 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></li> <li>— finely stranded with core end processing 2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)</li> </ul> </li> </ul>                                                                                                                                        |                                                                                              |

|                                                                                                                                       |                                       |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| <ul style="list-style-type: none"> <li>• type of connectable conductor cross-sections at AWG cables for auxiliary contacts</li> </ul> | 2x (20 ... 16), 2x (18 ... 14), 2x 12 |
| <b>AWG number as coded connectable conductor cross section</b>                                                                        |                                       |
| <ul style="list-style-type: none"> <li>• for main contacts</li> </ul>                                                                 | 20 ... 12                             |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>                                                            | 20 ... 12                             |

#### Safety related data

|                                                                                            |                 |
|--------------------------------------------------------------------------------------------|-----------------|
| <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> </ul>  | 40 %            |
| <ul style="list-style-type: none"> <li>• with high demand rate acc. to SN 31920</li> </ul> | 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> </ul>   | Yes; with 3RH29 |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b>                  | 20 y            |
| <b>touch protection against electrical shock</b>                                           | finger-safe     |
| suitability for use safety-related switching OFF                                           | Yes             |

#### Certificates/ approvals

| General Product Approval | EMC |
|--------------------------|-----|
|--------------------------|-----|



[KC](#)



| Declaration of Conformity | Test Certificates | Marine / Shipping |
|---------------------------|-------------------|-------------------|
|---------------------------|-------------------|-------------------|



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



| Marine / Shipping | other |
|-------------------|-------|
|-------------------|-------|



[Confirmation](#)

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



| 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=3RT2015-1AP01>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2015-1AP01>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1AP01>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2015-1AP01&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2015-1AP01&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1AP01/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2015-1AP01&objecttype=14&gridview=view1>



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