



power contactor, AC-3e/AC-3, 7 A, 3 kW / 400 V, 1 NO, 110 V DC 3-pole, frame size S00 spring-loaded terminal

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

### General technical data

|   |                            |
|---|----------------------------|
| size of contactor   | S00                        |
| product extension   |                            |
| • function module for communication   | No                         |
| • auxiliary switch  | Yes                        |
| power loss [W] for rated value of the current   |                            |
| • at AC in hot operating state  | 0.6 W                      |
| • at AC in hot operating state per pole   | 0.2 W                      |
| • without load current share typical  | 4 W                        |
| insulation voltage  |                            |
| • of main circuit with degree of pollution 3 rated value  | 690 V                      |
| • of auxiliary circuit with degree of pollution 3 rated value   | 690 V                      |
| surge voltage resistance  |                            |
| • of main circuit rated value   | 6 kV                       |
| • of auxiliary circuit rated value  | 6 kV                       |
| maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 | 400 V                      |
| shock resistance at rectangular impulse   |                            |
| • at DC   | 6,7g / 5 ms, 4,2g / 10 ms  |
| shock resistance with sine pulse  |                            |
| • at DC   | 10,5g / 5 ms, 6,6g / 10 ms |
| mechanical service life (operating cycles)  |                            |
| • of contactor typical  | 30 000 000                 |
| • of the contactor with added electronically optimized auxiliary switch block typical                 | 5 000 000                  |
| • of the contactor with added auxiliary switch block typical  | 10 000 000                 |
| reference code according to IEC 81346-2   | Q                          |
| Substance Prohibitance (Date)   | 10/01/2009                 |

### 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 |
| relative humidity minimum                                      | 10 %           |
| relative humidity at 55 °C according to IEC 60068-2-30 maximum | 95 %           |

### Main circuit

|  |         |
|--|---------|
| <b>number of poles for main current circuit</b>                        | 3       |
| <b>number of NO contacts for main contacts</b>                         | 3       |
| <b>operating voltage</b>   |         |
| • at AC-3 rated value maximum  | 690 V   |
| • at AC-3e 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-3e   |         |
| — 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   |
| minimum cross-section in main circuit at maximum AC-1 rated value      | 2.5 mm² |
| <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>   |         |
| • <b>at 1 current path at DC-1</b>                                     |         |
| — 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  |
| • <b>with 2 current paths in series at DC-1</b>                        |         |
| — 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   |
| • <b>with 3 current paths in series at DC-1</b>                        |         |
| — 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   |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>— at 600 V rated value</li> <li>• <b>at 1 current path at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> <li>• <b>with 2 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> </ul> </li> <li>• <b>with 3 current paths in series at DC-3 at DC-5</b> <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> | 0.7 A<br><br>15 A<br><br>15 A<br>0.25 A<br><br>15 A<br>15 A<br>1.2 A<br>0.14 A<br>0.14 A  |
| <b>operating power</b>  |   |
| <ul style="list-style-type: none"> <li>• at AC-3 <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> </li> <li>• at AC-3e <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> </li> </ul>   | 1.5 kW<br>3 kW<br>3 kW<br>4 kW<br><br>1.5 kW<br>3 kW<br>3 kW<br>4 kW  |
| <b>operating power for approx. 200000 operating cycles at AC-4</b>  |   |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> <li>• at 690 V rated value</li> </ul>  | 1.15 kW<br>1.15 kW  |
| <b>operating apparent power at AC-6a</b>  |   |
| <ul style="list-style-type: none"> <li>• up to 230 V for current peak value n=20 rated value</li> <li>• up to 400 V for current peak value n=20 rated value</li> <li>• up to 500 V for current peak value n=20 rated value</li> <li>• up to 690 V for current peak value n=20 rated value</li> </ul>  | 1.5 kVA<br>2.7 kVA<br>3.3 kVA<br>4.3 kVA  |
| <b>operating apparent power at AC-6a</b>  |   |
| <ul style="list-style-type: none"> <li>• up to 230 V for current peak value n=30 rated value</li> <li>• up to 400 V for current peak value n=30 rated value</li> <li>• up to 500 V for current peak value n=30 rated value</li> <li>• up to 690 V for current peak value n=30 rated value</li> </ul>  | 1 kVA<br>1.8 kVA<br>2.2 kVA<br>2.9 kVA  |
| <b>short-time withstand current in cold operating state up to 40 °C</b>   |   |
| <ul style="list-style-type: none"> <li>• limited to 1 s switching at zero current maximum</li> <li>• limited to 5 s switching at zero current maximum</li> <li>• limited to 10 s switching at zero current maximum</li> <li>• limited to 30 s switching at zero current maximum</li> <li>• limited to 60 s switching at zero current maximum</li> </ul>   | 120 A; Use minimum cross-section acc. to AC-1 rated value<br>86 A; Use minimum cross-section acc. to AC-1 rated value<br>67 A; Use minimum cross-section acc. to AC-1 rated value<br>52 A; Use minimum cross-section acc. to AC-1 rated value<br>43 A; Use minimum cross-section acc. to AC-1 rated value |
| <b>no-load switching frequency</b>  |   |
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>   | 10 000 1/h  |
| <b>operating frequency</b>  |   |
| <ul style="list-style-type: none"> <li>• at AC-1 maximum</li> <li>• at AC-2 maximum</li> <li>• at AC-3 maximum</li> <li>• at AC-3e maximum</li> <li>• at AC-4 maximum</li> </ul>  | 1 000 1/h<br>750 1/h<br>750 1/h<br>750 1/h<br>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>   |   |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>   | 110 V   |
| <b>operating range factor control supply voltage rated value of magnet coil at DC</b>   |   |
| <ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>   | 0.8<br>1.1  |
| <b>closing power of magnet coil at DC</b>   | 4 W   |
| <b>holding power of magnet coil at DC</b>   | 4 W   |
| <b>closing delay</b>  |   |
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>   | 30 ... 100 ms   |

|   |  |
|---|--|
| <b>opening delay</b>  |  |
| • at DC   | 7 ... 13 ms  |
| <b>arcing time</b>  | 10 ... 15 ms   |
| <b>control version of the switch operating mechanism</b>        | Standard A1 - A2   |
| <b>Auxiliary circuit</b>  |  |
| number of NO contacts for auxiliary contacts                    | 1  |
| instantaneous contact   |  |
| operational current at AC-12 maximum                            | 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)  |
| <b>UL/CSA ratings</b>   |  |
| <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  |
| <b>Short-circuit protection</b>                                 |  |
| <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)   |
| <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>fastening method</b>   | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715   |
| • side-by-side mounting   | Yes  |
| <b>height</b>   | 70 mm  |
| <b>width</b>  | 45 mm  |
| <b>depth</b>  | 73 mm  |
| <b>required spacing</b>   |  |
| • with side-by-side mounting                                    |  |
| — forwards  | 10 mm  |

|                      |       |
|----------------------|-------|
| — upwards            | 10 mm |
| — downwards          | 10 mm |
| — at the side        | 0 mm  |
| • for grounded parts |       |
| — forwards           | 10 mm |
| — upwards            | 10 mm |
| — at the side        | 6 mm  |
| — downwards          | 10 mm |
| • for live parts     |       |
| — forwards           | 10 mm |
| — upwards            | 10 mm |
| — downwards          | 10 mm |
| — at the side        | 6 mm  |

## Connections/ Terminals

### type of electrical connection

- for main current circuit
- for auxiliary and control circuit
- at contactor for auxiliary contacts
- of magnet coil

spring-loaded terminals  
spring-loaded terminals  
Spring-type terminals  
Spring-type terminals

### type of connectable conductor cross-sections

- for main contacts
  - solid
  - solid or stranded
  - finely stranded with core end processing
  - finely stranded without core end processing
- at AWG cables for main contacts

2x (0.5 ... 4 mm<sup>2</sup>)  
2x (0.5 ... 4 mm<sup>2</sup>)  
2x (0.5 ... 2.5 mm<sup>2</sup>)  
2x (0.5 ... 2.5 mm<sup>2</sup>)  
2x (20 ... 12)

### connectable conductor cross-section for main contacts

- solid
- stranded
- finely stranded with core end processing
- finely stranded without core end processing

0.5 ... 4 mm<sup>2</sup>  
0.5 ... 4 mm<sup>2</sup>  
0.5 ... 2.5 mm<sup>2</sup>  
0.5 ... 2.5 mm<sup>2</sup>

### connectable conductor cross-section for auxiliary contacts

- solid or stranded
- finely stranded with core end processing
- finely stranded without core end processing

0.5 ... 4 mm<sup>2</sup>  
0.5 ... 2.5 mm<sup>2</sup>  
0.5 ... 2.5 mm<sup>2</sup>

### type of connectable conductor cross-sections

- for auxiliary contacts
  - solid or stranded
  - finely stranded with core end processing
  - finely stranded without core end processing
- at AWG cables for auxiliary contacts

2x (0.5 ... 4 mm<sup>2</sup>)  
2x (0.5 ... 2.5 mm<sup>2</sup>)  
2x (0.5 ... 2.5 mm<sup>2</sup>)  
2x (20 ... 12)

### AWG number as coded connectable conductor cross section

- for main contacts
- for auxiliary contacts

20 ... 12  
20 ... 12

## Safety related data

### product function

- mirror contact according to IEC 60947-4-1

Yes; with 3RH29  
1 000 000

B10 value with high demand rate according to SN 31920

### proportion of dangerous failures

- with low demand rate according to SN 31920
- with high demand rate according to SN 31920

40 %  
73 %

failure rate [FIT] with low demand rate according to SN 31920

100 FIT

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

20 y

### protection class IP on the front according to IEC 60529

IP20

### touch protection on the front according to IEC 60529

finger-safe, for vertical contact from the front

### suitability for use

- safety-related switching OFF

Yes

## Certificates/ approvals

## General Product Approval



[Confirmation](#)



[KC](#)



EMC

Functional  
Safety/Safety of  
Machinery

Declaration of Conformity

Test Certificates



[Type Examination  
Certificate](#)



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

## Marine / Shipping



Marine / Shipping

other

Railway

Dangerous Good



[Confirmation](#)



[Vibration and Shock](#)

[Transport Information](#)

## 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=3RT2015-2BF41>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2015-2BF41>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-2BF41>

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

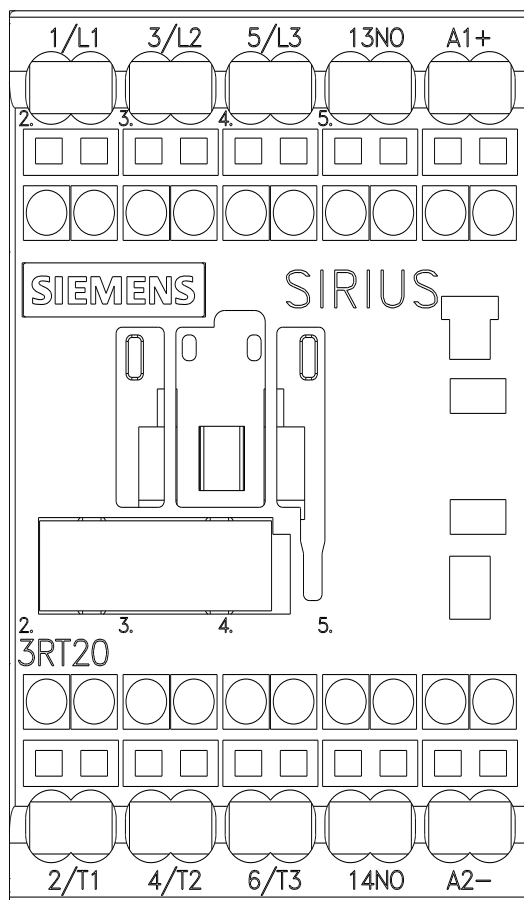
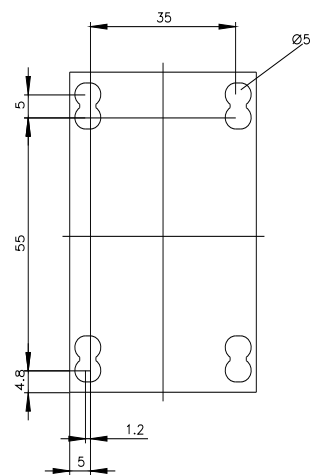
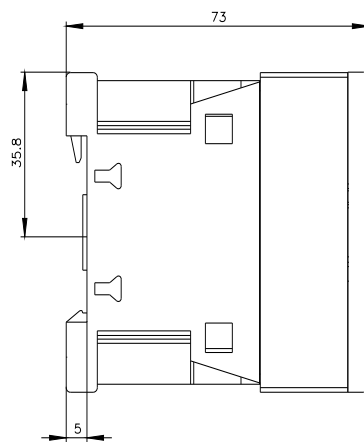
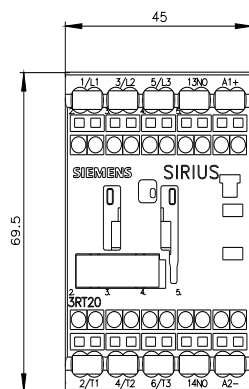
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2015-2BF41&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2015-2BF41&lang=en)

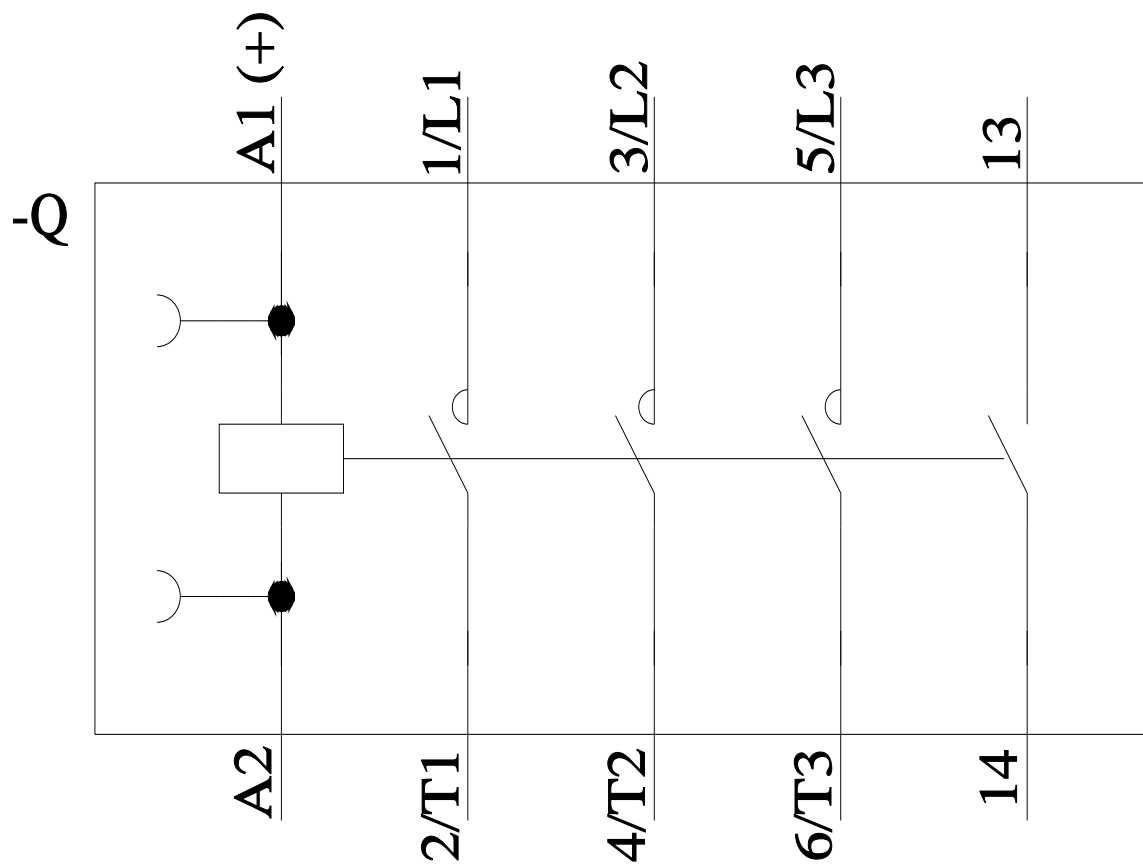
Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-2BF41/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2015-2BF41&objecttype=14&gridview=view1>





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