

Power contactor, AC-3 95 A, 45 kW / 400 V 125 V DC, 3-pole, Size S3 Screw terminal !!! Phased-out product !!! Successor is SIRIUS 3RT2 Preferred successor type is >>3RT2046-1NF30<<



|                                                     |                                                   |
|-----------------------------------------------------|---------------------------------------------------|
| Product brand name                                  | SIRIUS                                            |
| Product designation                                 | power contactor                                   |
| <b>General technical data</b>                       |                                                   |
| Size of contactor                                   | S3                                                |
| Insulation voltage                                  |                                                   |
| • rated value                                       | 1 000 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 | 690 V                                             |
| Protection class IP                                 |                                                   |
| • on the front                                      | IP20; IP20 on the front with cover / box terminal |
| • of the terminal                                   | IP00                                              |
| Shock resistance at rectangular impulse             |                                                   |
| • at DC                                             | 6,8g / 5 ms, 4g / 10 ms                           |
| Shock resistance with sine pulse                    |                                                   |
| • at DC                                             | 10,6g / 5 ms, 6,2g / 10 ms                        |
| Mechanical service life (switching cycles)          |                                                   |

|                                                                                     |            |
|-------------------------------------------------------------------------------------|------------|
| • 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>Reference code acc. to DIN EN 81346-2</b>                                        | Q          |

#### Ambient conditions

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

#### Main circuit

|                                                                      |                    |
|----------------------------------------------------------------------|--------------------|
| <b>Number of poles for main current circuit</b>                      | 3                  |
| <b>Number of NO contacts for main contacts</b>                       | 3                  |
| <b>Number of NC contacts for main contacts</b>                       | 0                  |
| <b>Operating current</b>                                             |                    |
| • at AC-1 at 400 V                                                   |                    |
| — at ambient temperature 40 °C rated value                           | 120 A              |
| • at AC-1                                                            |                    |
| — up to 690 V at ambient temperature 40 °C rated value               | 120 A              |
| — up to 690 V at ambient temperature 60 °C rated value               | 100 A              |
| — up to 1000 V at ambient temperature 40 °C rated value              | 70 A               |
| — up to 1000 V at ambient temperature 60 °C rated value              | 60 A               |
| • at AC-3                                                            |                    |
| — at 400 V rated value                                               | 95 A               |
| — at 690 V rated value                                               | 58 A               |
| — at 1000 V rated value                                              | 30 A               |
| • at AC-4 at 400 V rated value                                       | 80 A               |
| <b>Connectable conductor cross-section in main circuit at AC-1</b>   |                    |
| • at 60 °C minimum permissible                                       | 35 mm <sup>2</sup> |
| • at 40 °C minimum permissible                                       | 50 mm <sup>2</sup> |
| <b>Operating current for approx. 200000 operating cycles at AC-4</b> |                    |
| • at 400 V rated value                                               | 42 A               |
| • at 690 V rated value                                               | 27 A               |
| <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> </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> </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> </ul> </li> </ul>                                                                                   | 100 A<br>9 A<br><br>100 A<br>100 A<br><br>100 A<br>100 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> </ul> </li> <li>• with 2 current paths in series 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> </ul> </li> <li>• with 3 current paths in series 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> </ul> </li> </ul>                                  | <br>40 A<br>2.5 A<br><br>100 A<br>100 A<br><br>100 A<br>100 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 at 60 °C rated value</li> <li>— at 400 V rated value</li> <li>— at 690 V rated value</li> <li>— at 690 V at 60 °C rated value</li> <li>— at 1000 V at 60 °C rated value</li> </ul> </li> <li>• at AC-2 at 400 V rated value</li> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 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> <li>— at 1000 V rated value</li> </ul> </li> </ul> | <br>38 kW<br>66 kW<br>114 kW<br>114 kW<br>98 W<br>45 kW<br><br>22 kW<br>45 kW<br>55 kW<br>55 kW<br>37 W |
| <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>                                                                                                                                                                                                                                                                                                                                                                                                                    | <br>22 kW<br>25.4 kW                                                                                    |
| <b>Thermal short-time current limited to 10 s</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 760 A                                                                                                   |
| <b>No-load switching frequency</b> <ul style="list-style-type: none"> <li>• at DC</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1 000 1/h                                                                                               |
| <b>Operating frequency</b> <ul style="list-style-type: none"> <li>• at AC-1 maximum</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 900 1/h                                                                                                 |

|                   |         |
|-------------------|---------|
| • at AC-2 maximum | 350 1/h |
| • at AC-3 maximum | 850 1/h |
| • at AC-4 maximum | 250 1/h |

#### Control circuit/ Control

|                                                                                |               |
|--------------------------------------------------------------------------------|---------------|
| Type of voltage of the control supply voltage                                  | DC            |
| Control supply voltage at DC                                                   |               |
| • rated value                                                                  | 125 V         |
| Operating range factor control supply voltage rated value of magnet coil at DC |               |
| • initial value                                                                | 0.8           |
| • Full-scale value                                                             | 1.1           |
| Closing power of magnet coil at DC                                             | 15 W          |
| Holding power of magnet coil at DC                                             | 15 W          |
| Closing delay                                                                  |               |
| • at DC                                                                        | 90 ... 230 ms |
| Opening delay                                                                  |               |
| • at DC                                                                        | 14 ... 20 ms  |
| Arcing time                                                                    | 10 ... 15 ms  |

#### Auxiliary circuit

|                                              |                                                 |
|----------------------------------------------|-------------------------------------------------|
| Number of NC contacts for auxiliary contacts |                                                 |
| • instantaneous contact                      | 0                                               |
| Number of NO contacts for auxiliary contacts |                                                 |
| • instantaneous contact                      | 0                                               |
| Operating current at AC-12 maximum           | 10 A                                            |
| Operating current at AC-15                   |                                                 |
| • at 230 V rated value                       | 6 A                                             |
| • at 400 V rated value                       | 3 A                                             |
| Operating current at DC-12                   |                                                 |
| • at 60 V rated value                        | 6 A                                             |
| • at 110 V rated value                       | 3 A                                             |
| • at 220 V rated value                       | 1 A                                             |
| Operating current at DC-13                   |                                                 |
| • at 24 V rated value                        | 10 A                                            |
| • at 60 V rated value                        | 2 A                                             |
| • at 110 V rated value                       | 1 A                                             |
| • at 220 V rated value                       | 0.3 A                                           |
| Contact reliability of auxiliary contacts    | 1 faulty switching per 100 million (17 V, 1 mA) |

#### UL/CSA ratings

|                                                      |             |
|------------------------------------------------------|-------------|
| Contact rating of auxiliary contacts according to UL | A600 / Q600 |
|------------------------------------------------------|-------------|

#### Short-circuit protection

|                         |  |
|-------------------------|--|
| Design of the fuse link |  |
|-------------------------|--|

- for short-circuit protection of the main circuit
  - with type of coordination 1 required
  - with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

fuse gL/gG: 250 A  
 fuse gL/gG: 160 A  
 fuse gL/gG: 10 A

## Installation/ mounting/ dimensions

|                                                                                      |                                                                        |
|--------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>Mounting type</b>                                                                 | screw and snap-on mounting onto 35 mm and 75 mm standard mounting rail |
| • Side-by-side mounting                                                              | Yes                                                                    |
| <b>Height</b>                                                                        | 146 mm                                                                 |
| <b>Width</b>                                                                         | 70 mm                                                                  |
| <b>Depth</b>                                                                         | 152 mm                                                                 |
| <b>Required spacing</b>                                                              |                                                                        |
| • for grounded parts <ul style="list-style-type: none"> <li>— at the side</li> </ul> | 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 <ul style="list-style-type: none"> <li>— solid</li> <li>— stranded</li> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> | 2x (2.5 ... 16 mm <sup>2</sup> )<br>2x (10 ... 50 mm <sup>2</sup> )<br>2x (2,5 ... 16 mm <sup>2</sup> )<br>2x (2.5 ... 35 mm <sup>2</sup> )<br>2x (10 ... 35 mm <sup>2</sup> )        |
| • at AWG conductors for main contacts                                                                                                                                                                                                            | 2x (10 ... 1/0)                                                                                                                                                                       |
| <b>Type of connectable conductor cross-sections</b>                                                                                                                                                                                              |                                                                                                                                                                                       |
| • for auxiliary contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded with core end processing</li> </ul>                                                                                                           | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), max. 2x (0.75 ... 4 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) |
| • at AWG conductors for auxiliary contacts                                                                                                                                                                                                       | 2x (20 ... 16), 2x (18 ... 14), 1x 12                                                                                                                                                 |

## Certificates/ approvals

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



CCC



CSA



UL



RCM

[Type Examination Certificate](#)

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



EG-Konf.

[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS



LRS

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



RINA



RMRS

[Miscellaneous](#)

[Confirmation](#)

[Special Test Certificate](#)

## 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=3RT1046-1BG40>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1046-1BG40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1046-1BG40>

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

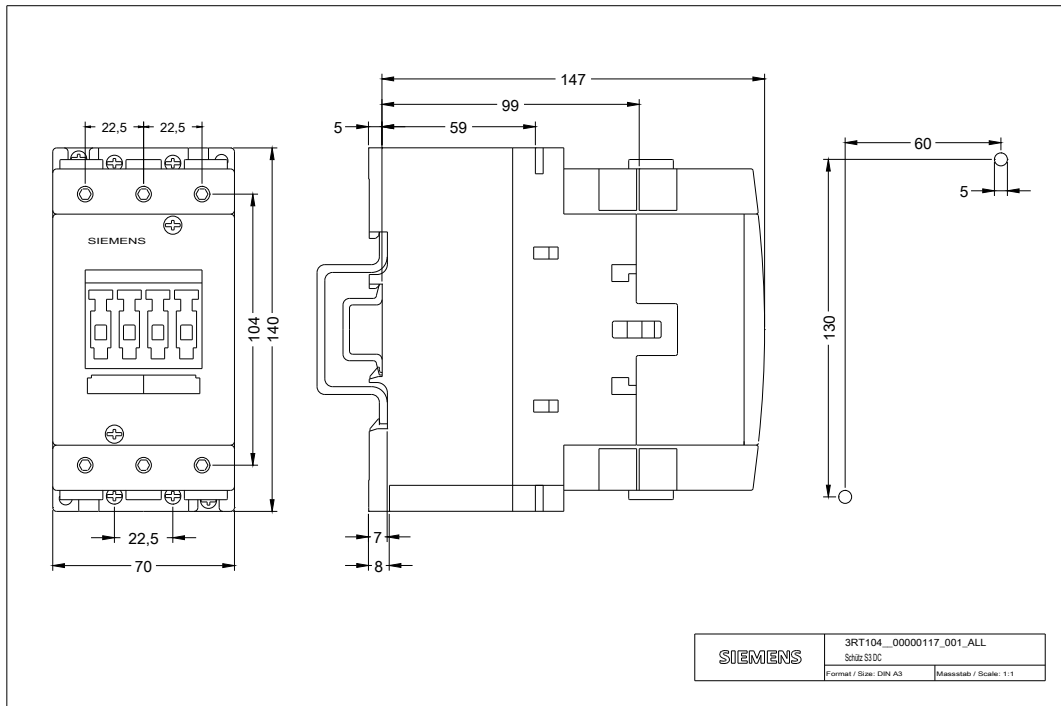
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1046-1BG40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1046-1BG40&lang=en)

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

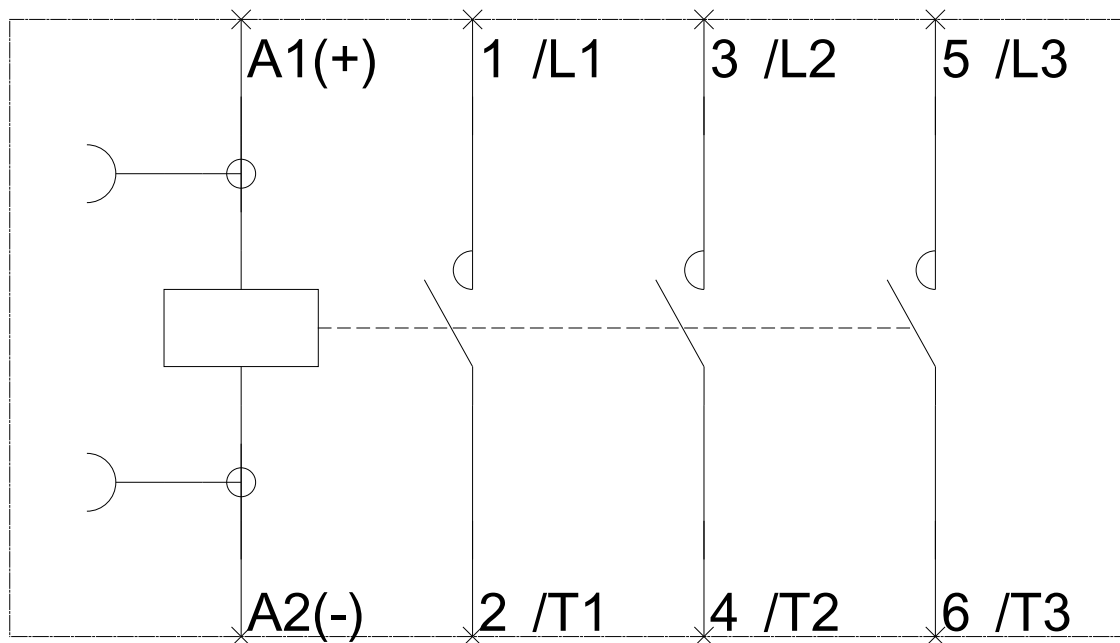
<https://support.industry.siemens.com/cs/ww/en/ps/3RT1046-1BG40/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1046-1BG40&objecttype=14&gridview=view1>



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