

SIRIUS SOFT STARTER, VALUES AT 400V, 40DEG.,  
STANDARD: 780A, 450KW, INSIDE-DELTA CIRCUIT  
3: 1351A, 800KW, 200-460V AC, 230V AC, SCREW  
TERMINALS

## General technical data

|  |  |        |
|--|--|--------|
| <b>product brandname</b>   |  | SIRIUS |
| <ul style="list-style-type: none"> <li>• Product equipment Integrated bypass contact system</li> </ul> |  | Yes    |
| <ul style="list-style-type: none"> <li>• Product feature Thyristors</li> </ul>                         |  | Yes    |
| <b>Product function</b>  |  |        |
| <ul style="list-style-type: none"> <li>• Intrinsic device protection</li> </ul>                        |  | Yes    |
| <ul style="list-style-type: none"> <li>• motor overload protection</li> </ul>                          |  | Yes    |
| <ul style="list-style-type: none"> <li>• Evaluation of thermistor motor protection</li> </ul>          |  | Yes    |
| <ul style="list-style-type: none"> <li>• External reset</li> </ul>                                     |  | Yes    |
| <ul style="list-style-type: none"> <li>• Adjustable current limitation</li> </ul>                      |  | Yes    |
| <ul style="list-style-type: none"> <li>• Inside-delta circuit</li> </ul>                               |  | Yes    |
| <b>Product component Motor brake output</b>  |  | Yes    |
| <b>Equipment marking acc. to DIN EN 61346-2</b>  |  | Q      |
| <b>Equipment marking acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750</b>             |  | G      |

## Power Electronics

|                          |  |  |
|--------------------------|--|--|
| <b>Operating current</b> |  |  |
|--------------------------|--|--|

|   |    |             |
|---|----|-------------|
| • at 40 °C rated value  | A  | 780         |
| • at 50 °C rated value  | A  | 693         |
| • at 60 °C rated value  | A  | 615         |
| <b>Operating current for three-phase motors at inside-delta circuit</b>   |    |             |
| • at 40 °C rated value  | A  | 1 351       |
| • at 50 °C rated value  | A  | 1 200       |
| • at 60 °C rated value  | A  | 1 065       |
| <b>Mechanical power output for three-phase motors</b>   |    |             |
| • at 230 V  |    |             |
| — at standard circuit at 40 °C rated value  | W  | 250 000     |
| — at inside-delta circuit at 40 °C rated value  | W  | 450 000     |
| • at 400 V  |    |             |
| — at standard circuit at 40 °C rated value  | W  | 450 000     |
| — at inside-delta circuit at 40 °C rated value  | W  | 800 000     |
| <b>Yielded mechanical performance [hp] for three-phase AC motor at 200/208 V at standard circuit at 50 °C rated value</b> | hp | 200         |
| Operating frequency rated value   | Hz | 50 ... 60   |
| Relative negative tolerance of the operating frequency  | %  | -10         |
| Relative positive tolerance of the operating frequency  | %  | 10          |
| Operating voltage at standard circuit rated value   | V  | 200 ... 460 |
| Relative negative tolerance of the operating voltage at standard circuit  | %  | -15         |
| Relative positive tolerance of the operating voltage at standard circuit  | %  | 10          |
| Operating voltage at inside-delta circuit rated value   | V  | 200 ... 460 |
| Relative negative tolerance of the operating voltage at inside-delta circuit  | %  | -15         |
| Relative positive tolerance of the operating voltage at inside-delta circuit  | %  | 10          |
| Minimum load [% of IM]  | %  | 8           |
| Adjustable motor current for motor overload protection minimum rated value  | A  | 156         |
| Continuous operating current [% of I <sub>e</sub> ] at 40 °C  | %  | 115         |
| Power loss [W] at operating current at 40 °C during operation typical   | W  | 214         |
| <b>Control electronics</b>  |    |             |
| Type of voltage of the control supply voltage   |    | AC          |
| Control supply voltage frequency 1 rated value  | Hz | 50          |
| Control supply voltage frequency 2 rated value  | Hz | 60          |
| Relative negative tolerance of the control supply voltage frequency   | %  | -10         |

|   |   |         |
|---|---|---------|
| <b>Relative positive tolerance of the control supply voltage frequency</b>      | % | 10      |
| Control supply voltage 1 at AC  |   |         |
| • at 50 Hz rated value  | V | 230     |
| • at 60 Hz rated value  | V | 230     |
| <b>Relative negative tolerance of the control supply voltage at AC at 60 Hz</b> | % | -15     |
| <b>Relative positive tolerance of the control supply voltage at AC at 60 Hz</b> | % | 10      |
| <b>Display version for fault signal</b>   |   | Display |

#### Mechanical data

|  |    |  |
|--|----|--|
| <b>Width</b>   | mm | 510  |
| <b>Height</b>  | mm | 640  |
| <b>Depth</b>   | mm | 290  |
| <b>Mounting type</b>                                   |    | screw fixing   |
| <b>Mounting position</b>                               |    | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| <b>Required spacing with side-by-side mounting</b>     |    |  |
| • upwards  | mm | 100  |
| • at the side  | mm | 5  |
| • downwards  | mm | 75   |
| <b>Installation altitude at height above sea level</b> | m  | 5 000  |
| <b>Wire length maximum</b>                             | m  | 500  |
| <b>Number of poles for main current circuit</b>        |    | 3  |

#### Connections/Terminals

|  |  |                                   |
|--|--|-----------------------------------|
| <b>Type of electrical connection</b>   |  |                                   |
| • for main current circuit   |  | busbar connection                 |
| • for auxiliary and control current circuit                                      |  | screw-type terminals              |
| <b>Number of NC contacts for auxiliary contacts</b>                              |  | 0                                 |
| <b>Number of NO contacts for auxiliary contacts</b>                              |  | 3                                 |
| <b>Number of CO contacts for auxiliary contacts</b>                              |  | 1                                 |
| Type of connectable conductor cross-sections for DIN cable lug for main contacts |  |                                   |
| • finely stranded  |  | 50 ... 240 mm <sup>2</sup>        |
| • stranded   |  | 70 ... 240 mm <sup>2</sup>        |
| <b>Type of connectable conductor cross-sections for auxiliary contacts</b>       |  |                                   |
| • solid  |  | 2x (0.5 ... 2.5 mm <sup>2</sup> ) |
| • finely stranded with core end processing                                       |  | 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| <b>Type of connectable conductor cross-sections at AWG conductors</b>            |  |                                   |
| • for main contacts  |  | 2/0 ... 500 kcmil                 |

- for auxiliary contacts
- for auxiliary contacts finely stranded with core end processing

|  |                |
|--|----------------|
|  | 2x (20 ... 14) |
|  | 2x (20 ... 16) |

### Ambient conditions

|                             |    |             |
|-----------------------------|----|-------------|
| <b>Ambient temperature</b>  |    |             |
| • during operation          | °C | 60          |
| • during storage            | °C | -25 ... +80 |
| <b>Derating temperature</b> | °C | 40          |
| <b>Protection class IP</b>  |    | IP00        |

### Certificates/approvals

|                                 |            |                                  |
|---------------------------------|------------|----------------------------------|
| <b>General Product Approval</b> | <b>EMC</b> | <b>Declaration of Conformity</b> |
|---------------------------------|------------|----------------------------------|



|                          |                          |              |
|--------------------------|--------------------------|--------------|
| <b>Test Certificates</b> | <b>Shipping Approval</b> | <b>other</b> |
|--------------------------|--------------------------|--------------|

[spezielle Prüfbescheinigungen](#)



[Umweltbestätigung](#)

[Bestätigungen](#)

### UL/CSA ratings

|   |    |             |
|---|----|-------------|
| <b>Yielded mechanical performance [hp] for three-phase AC motor</b> |    |             |
| • at 200/208 V  |    |             |
| — at inside-delta circuit at 50 °C rated value                      | hp | 450         |
| • at 220/230 V  |    |             |
| — at standard circuit at 50 °C rated value                          | hp | 250         |
| — at inside-delta circuit at 50 °C rated value                      | hp | 500         |
| • at 460/480 V  |    |             |
| — at standard circuit at 50 °C rated value                          | hp | 600         |
| — at inside-delta circuit at 50 °C rated value                      | hp | 1 050       |
| <b>Contact rating of auxiliary contacts according to UL</b>         |    | B300 / R300 |

### Further information

**Simulation Tool for Soft Starters (STS)**  
<https://support.industry.siemens.com/cs/ww/en/view/101494917>

**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=3RW4456-6BC44>

**Cax online generator**

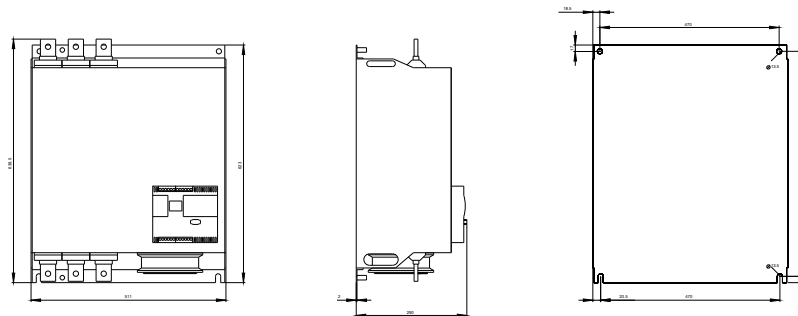
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4456-6BC44>

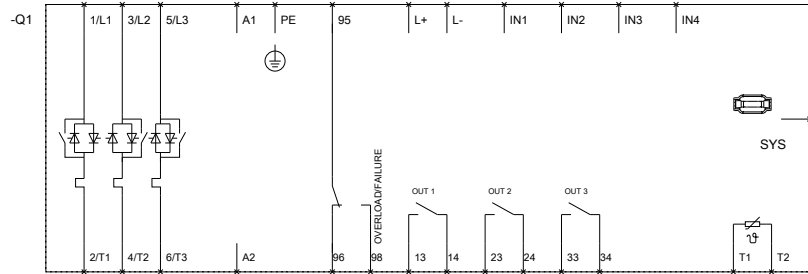
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4456-6BC44>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4456-6BC44&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4456-6BC44&lang=en)





last modified:

01/04/2017