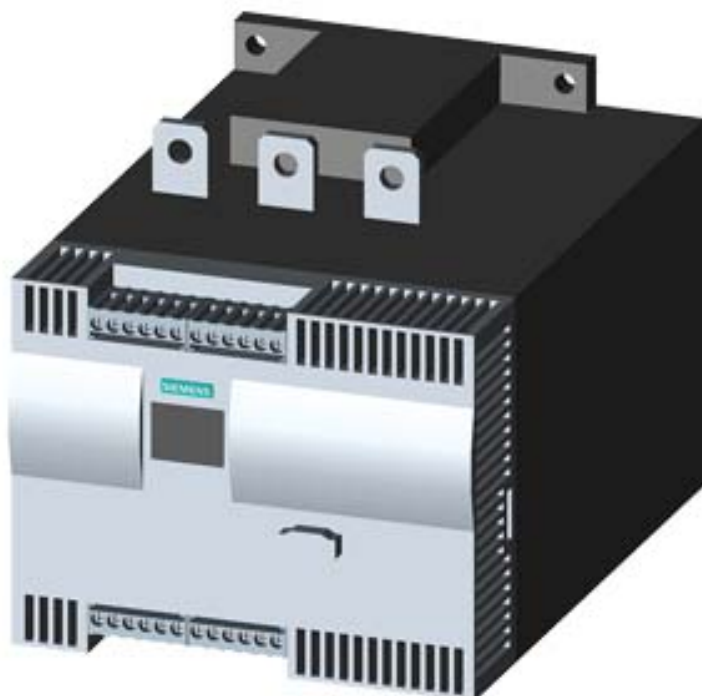




SIRIUS SOFT STARTER, VALUES WITH 400 V, 40 DEG., STANDARD: 313A, 160KW, INSIDE-DELTA  
CIRCUIT 3: 542A, 315KW, 200-460 V AC, 230 V AC,  
SCREW TERMINALS

### General technical data:

|                                                                                            |  |        |
|--------------------------------------------------------------------------------------------|--|--------|
| <b>product brand name</b>                                                                  |  | SIRIUS |
| • Product equipment Integrated bypass contact system                                       |  | Yes    |
| • Product feature Thyristors                                                               |  | Yes    |
| <b>Product function</b>                                                                    |  |        |
| • Intrinsic device protection                                                              |  | Yes    |
| • motor overload protection                                                                |  | Yes    |
| • Evaluation of thermistor motor protection                                                |  | Yes    |
| • External reset                                                                           |  | Yes    |
| • Adjustable current limitation                                                            |  | Yes    |
| • Inside-delta circuit                                                                     |  | 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>Product designation</b> | soft starters for high feature applications |
|----------------------------|---------------------------------------------|

|                                                                                                                           |    |             |
|---------------------------------------------------------------------------------------------------------------------------|----|-------------|
| <b>Operating current</b>                                                                                                  |    |             |
| • at 40 °C rated value                                                                                                    | A  | 313         |
| • at 50 °C rated value                                                                                                    | A  | 280         |
| • at 60 °C rated value                                                                                                    | A  | 250         |
| <b>Operating current for three-phase motors at inside-delta circuit</b>                                                   |    |             |
| • at 40 °C rated value                                                                                                    | A  | 542         |
| • at 50 °C rated value                                                                                                    | A  | 485         |
| • at 60 °C rated value                                                                                                    | A  | 433         |
| <b>Mechanical power output for three-phase motors</b>                                                                     |    |             |
| • at 230 V                                                                                                                |    |             |
| — at standard circuit at 40 °C rated value                                                                                | W  | 90 000      |
| — at inside-delta circuit at 40 °C rated value                                                                            | W  | 160 000     |
| • at 400 V                                                                                                                |    |             |
| — at standard circuit at 40 °C rated value                                                                                | W  | 160 000     |
| — at inside-delta circuit at 40 °C rated value                                                                            | W  | 315 000     |
| <b>Yielded mechanical performance [hp] for three-phase AC motor at 200/208 V at standard circuit at 50 °C rated value</b> | hp | 75          |
| Operating frequency rated value                                                                                           | Hz | 50 ... 60   |
| <b>Relative negative tolerance of the operating frequency</b>                                                             | %  | -10         |
| <b>Relative positive tolerance of the operating frequency</b>                                                             | %  | 10          |
| <b>Operating voltage at standard circuit rated value</b>                                                                  | V  | 200 ... 460 |
| <b>Relative negative tolerance of the operating voltage at standard circuit</b>                                           | %  | -15         |
| <b>Relative positive tolerance of the operating voltage at standard circuit</b>                                           | %  | 10          |
| <b>Operating voltage at inside-delta circuit rated value</b>                                                              | V  | 200 ... 460 |
| <b>Relative negative tolerance of the operating voltage at inside-delta circuit</b>                                       | %  | -15         |
| <b>Relative positive tolerance of the operating voltage at inside-delta circuit</b>                                       | %  | 10          |
| <b>Minimum load [% of IM]</b>                                                                                             | %  | 8           |
| <b>Adjustable motor current for motor overload protection minimum rated value</b>                                         | A  | 62          |
| <b>Continuous operating current [% of I<sub>e</sub>] at 40 °C</b>                                                         | %  | 115         |
| <b>Power loss [W] at operating current at 40 °C during operation typical</b>                                              | W  | 145         |
| <b>Control electronics:</b>                                                                                               |    |             |
| <b>Type of voltage of the control supply voltage</b>                                                                      |    | AC          |
| <b>Control supply voltage frequency 1 rated value</b>                                                                     | Hz | 50          |
| <b>Control supply voltage frequency 2 rated value</b>                                                                     | Hz | 60          |

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

#### Mechanical data:

|                                                 |    |                                                                                                                          |
|-------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------|
| Width                                           | mm | 210                                                                                                                      |
| Height                                          | mm | 230                                                                                                                      |
| Depth                                           | mm | 298                                                                                                                      |
| Mounting type                                   |    | screw fixing                                                                                                             |
| Mounting position                               |    | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| Required spacing with side-by-side mounting     |    |                                                                                                                          |
| • upwards                                       | mm | 100                                                                                                                      |
| • at the side                                   | mm | 5                                                                                                                        |
| • downwards                                     | mm | 75                                                                                                                       |
| Installation altitude at height above sea level | m  | 5 000                                                                                                                    |
| Wire length maximum                             | m  | 500                                                                                                                      |
| Number of poles for main current circuit        |    | 3                                                                                                                        |

#### Connections/ Terminals:

|                                                                                                                |  |                            |
|----------------------------------------------------------------------------------------------------------------|--|----------------------------|
| Type of electrical connection                                                                                  |  |                            |
| • for main current circuit                                                                                     |  | busbar connection          |
| • for auxiliary and control current circuit                                                                    |  | screw-type terminals       |
| Number of NC contacts for auxiliary contacts                                                                   |  | 0                          |
| Number of NO contacts for auxiliary contacts                                                                   |  | 3                          |
| Number of CO contacts for auxiliary contacts                                                                   |  | 1                          |
| Type of connectable conductor cross-sections for main contacts for box terminal using the front clamping point |  |                            |
| • finely stranded with core end processing                                                                     |  | 70 ... 240 mm <sup>2</sup> |
| • finely stranded without core end processing                                                                  |  | 70 ... 240 mm <sup>2</sup> |
| • stranded                                                                                                     |  | 95 ... 300 mm <sup>2</sup> |
| Type of connectable conductor cross-sections for main contacts for box terminal using the back clamping point  |  |                            |

|                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• finely stranded with core end processing</li> <li>• finely stranded without core end processing</li> <li>• stranded</li> </ul>                                                                                                            |  | 120 ... 185 mm <sup>2</sup><br>120 ... 185 mm <sup>2</sup><br>120 ... 240 mm <sup>2</sup>                                                                                        |
| Type of connectable conductor cross-sections for main contacts for box terminal using both clamping points <ul style="list-style-type: none"> <li>• finely stranded with core end processing</li> <li>• finely stranded without core end processing</li> <li>• stranded</li> </ul> |  | min. 2x 50 mm <sup>2</sup> , max. 2x 185 mm <sup>2</sup><br>min. 2x 50 mm <sup>2</sup> , max. 2x 185 mm <sup>2</sup><br>max. 2x 70 mm <sup>2</sup> , max. 2x 240 mm <sup>2</sup> |
| Type of connectable conductor cross-sections at AWG conductors for main contacts for box terminal <ul style="list-style-type: none"> <li>• using the back clamping point</li> <li>• using the front clamping point</li> <li>• using both clamping points</li> </ul>                |  | 250 ... 500 kcmil<br>3/0 ... 600 kcmil<br>min. 2x 2/0, max. 2x 500 kcmil                                                                                                         |
| Type of connectable conductor cross-sections for DIN cable lug for main contacts <ul style="list-style-type: none"> <li>• finely stranded</li> <li>• stranded</li> </ul>                                                                                                           |  | 50 ... 240 mm <sup>2</sup><br>70 ... 240 mm <sup>2</sup>                                                                                                                         |
| <b>Type of connectable conductor cross-sections for auxiliary contacts</b> <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> </ul>                                                                                           |  | 2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> )                                                                                                           |
| <b>Type of connectable conductor cross-sections at AWG conductors</b> <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary contacts</li> <li>• for auxiliary contacts finely stranded with core end processing</li> </ul>                           |  | 2/0 ... 500 kcmil<br>2x (20 ... 14)<br>2x (20 ... 16)                                                                                                                            |

#### Ambient conditions:

|                                                                                                |    |             |
|------------------------------------------------------------------------------------------------|----|-------------|
| <b>Ambient temperature</b>                                                                     |    |             |
| <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> </ul> | °C | 60          |
|                                                                                                | °C | -25 ... +80 |
| <b>Derating temperature</b>                                                                    | °C | 40          |
| <b>Protection class IP</b>                                                                     |    | IP00        |

#### Certificates/ approvals:

| General Product Approval | EMC | Declaration of Conformity |
|--------------------------|-----|---------------------------|
|--------------------------|-----|---------------------------|



CCC



CSA



UL



C-Tick



EG-Konf.

| Test Certificates | Shipping Approval |
|-------------------|-------------------|
|-------------------|-------------------|

[spezielle  
Prüfbescheinigung  
n](#)

[Typprüfbescheinigung/  
Werkszeugnis](#)



ABS



DNV



GL

| Shipping Approval | other |
|-------------------|-------|
|-------------------|-------|



LRS



PRS

[Umweltbestätigung](#)

[Bestätigungen](#)

#### UL/CSA ratings:

##### Yielded mechanical performance [hp] for three-phase AC motor

###### • at 200/208 V

— at inside-delta circuit at 50 °C rated value

hp

150

###### • at 220/230 V

— at standard circuit at 50 °C rated value

hp

100

— at inside-delta circuit at 50 °C rated value

hp

200

###### • at 460/480 V

— at standard circuit at 50 °C rated value

hp

200

— at inside-delta circuit at 50 °C rated value

hp

400

##### Contact rating of auxiliary contacts according to UL

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)

<http://www.siemens.com/industrymall>

##### Cax online generator

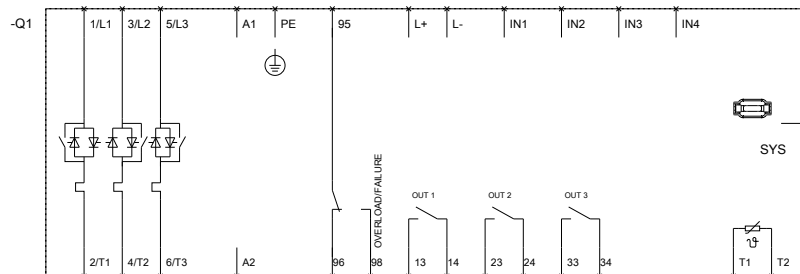
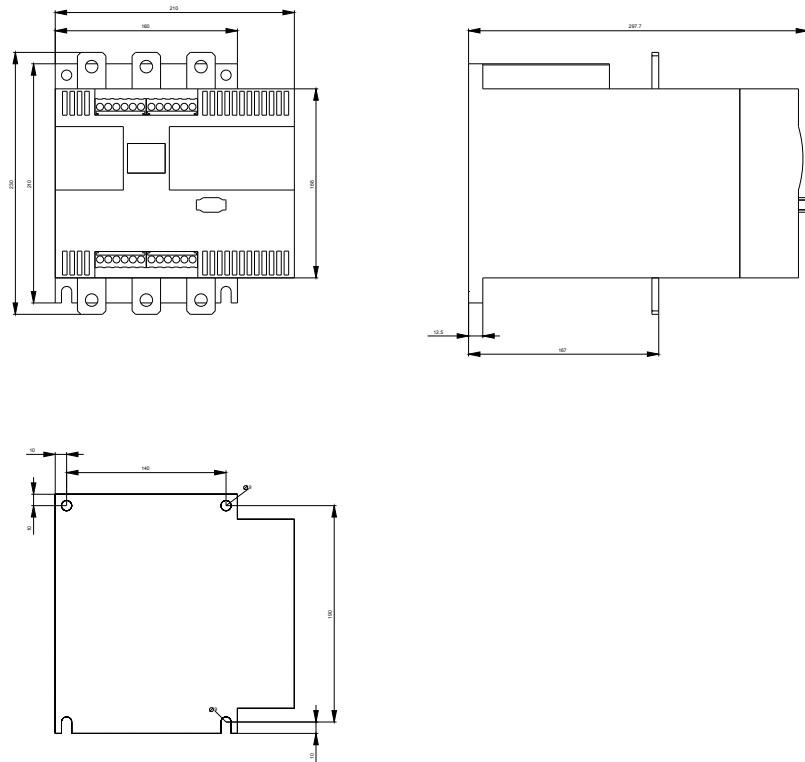
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4445-6BC44>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4445-6BC44>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4445-6BC44&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4445-6BC44&lang=en)



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