



SIRIUS SOFT STARTER, VALUES WITH 690 V,  
40 DEG., STANDARD: 93A, 90KW,  
INSIDE-DELTA CIRCUIT 3: ONLY UP TO 600V,  
400-690 V AC, 230 V AC,  
CAGE CLAMP TERMINALS

### General details:

|                                                                            |  |        |
|----------------------------------------------------------------------------|--|--------|
| <b>product brand name</b>                                                  |  | SIRIUS |
| <b>Product equipment</b>                                                   |  |        |
| • integrated bridging contact system                                       |  | Yes    |
| • thyristors                                                               |  | Yes    |
| <b>Product function</b>                                                    |  |        |
| • intrinsic device protection                                              |  | Yes    |
| • motor overload protection                                                |  | Yes    |
| • evaluation of thermal resistor motor protection                          |  | Yes    |
| • reset external                                                           |  | Yes    |
| • adjustable current limitation                                            |  | Yes    |
| • inside-delta circuit                                                     |  | Yes    |
| <b>Product component / outlet for enine brake</b>                          |  | Yes    |
| <b>Item designation</b>                                                    |  |        |
| • according to DIN EN 61346-2                                              |  | Q      |
| • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 |  | G      |

### Power Electronics:

|                            |  |                                             |
|----------------------------|--|---------------------------------------------|
| <b>product designation</b> |  | soft starters for high feature applications |
| Operating current          |  |                                             |

|                                                                                              |    |             |
|----------------------------------------------------------------------------------------------|----|-------------|
| • at 40 °C / rated value                                                                     | A  | 93          |
| • at 50 °C / rated value                                                                     | A  | 82          |
| • at 60 °C / rated value                                                                     | A  | 72          |
| • for three-phase servomotors / at 3-phase root switching                                    |    |             |
| • at 40 °C / rated value                                                                     | A  | 161         |
| • at 50 °C / rated value                                                                     | A  | 142         |
| • at 60 °C / rated value                                                                     | A  | 125         |
| <b>Emitted mechanical power / for three-phase servomotors</b>                                |    |             |
| • at 400 V / at standard switching / at 40 °C                                                |    |             |
| • rated value                                                                                | W  | 45,000      |
| • at 500 V / at standard switching / at 40 °C                                                |    |             |
| • rated value                                                                                | W  | 55,000      |
| • at 690 V / at standard switching / at 40 °C                                                |    |             |
| • rated value                                                                                | W  | 90,000      |
| • at 400 V / at 3-phase root switching / at 40 °C                                            |    |             |
| • rated value                                                                                | W  | 90,000      |
| • at 500 V / at 3-phase root switching / at 40 °C                                            |    |             |
| • rated value                                                                                | W  | 110,000     |
| <b>Operating frequency</b>                                                                   |    |             |
| • 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 / with standard circuit / rated value</b>                               |    |             |
|                                                                                              | V  | 400 ... 690 |
| <b>Relative negative tolerance / of the operating voltage / with standard circuit</b>        |    |             |
|                                                                                              | %  | -15         |
| <b>Relative positive tolerance / of the operating voltage / with standard circuit</b>        |    |             |
|                                                                                              | %  | 10          |
| <b>Operating voltage / at 3-phase root switching / rated value</b>                           |    |             |
|                                                                                              | V  | 400 ... 600 |
| <b>Relative negative tolerance / of the operating voltage / with inside-delta circuit</b>    |    |             |
|                                                                                              | %  | -15         |
| <b>Relative positive tolerance / of the operating voltage / with inside-delta circuit</b>    |    |             |
|                                                                                              | %  | 10          |
| <b>Minimum load in % of I<sub>M</sub></b>                                                    |    |             |
|                                                                                              | %  | 8           |
| <b>Adjustable rated current / of the motor / for motor overload protection / minimum</b>     |    |             |
|                                                                                              | A  | 18          |
| <b>Continuous operating current in % of I<sub>e</sub> / at 40°C</b>                          |    |             |
|                                                                                              | %  | 115         |
| <b>Active power loss / at operating current / at 40°C / during operating phase / typical</b> |    |             |
|                                                                                              | W  | 55          |
| <b>Control electronics:</b>                                                                  |    |             |
| <b>Type of voltage / of the controlled 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         |
| <b>Relative negative tolerance / of the control supply voltage frequency</b>           | %      | -10        |
| <b>Relative positive tolerance / of the control supply voltage frequency</b>           | %      | 10         |
| <b>Control supply voltage / 1</b><br>• at 50 Hz / for AC<br>• at 60 Hz / for AC        | V<br>V | 230<br>230 |
| <b>Relative negative tolerance / of the control supply voltage / at 60 Hz / for AC</b> | %      | -15        |
| <b>Relative positive tolerance / of the control supply voltage / at 60 Hz / for AC</b> | %      | 10         |
| <b>Type of display / for fault signal</b>                                              |        | Display    |

|                                                                                                    |                |                                                                                                                   |
|----------------------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Mechanical design:</b>                                                                          |                |                                                                                                                   |
| <b>Width</b>                                                                                       | mm             | 170                                                                                                               |
| <b>Height</b>                                                                                      | mm             | 192                                                                                                               |
| <b>Depth</b>                                                                                       | mm             | 270                                                                                                               |
| <b>Type of mounting</b>                                                                            |                | screw fixing                                                                                                      |
| <b>mounting position</b>                                                                           |                | bei senkrechter Montageebene +/-90° drehbar, bei senkrechter Montageebene +/- 22,5° nach vorne und hinten kippbar |
| <b>Distance, to be maintained, to the ranks assembly</b><br>• upwards<br>• sideways<br>• downwards | mm<br>mm<br>mm | 100<br>5<br>75                                                                                                    |
| <b>Installation altitude / at a height over sea level</b>                                          | m              | 5,000                                                                                                             |
| <b>Cable length / maximum</b>                                                                      | m              | 500                                                                                                               |
| <b>Number of poles / for main current circuit</b>                                                  |                | 3                                                                                                                 |

|                                                                                                                                                                                                                                                                           |  |                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------|
| <b>Electrical connections:</b>                                                                                                                                                                                                                                            |  |                                                                                                                  |
| <b>Design of the electrical connection</b><br>• for main current circuit<br>• for auxiliary and control current circuit                                                                                                                                                   |  | box terminals<br>spring-loaded terminals                                                                         |
| <b>Number of NC contacts / for auxiliary contacts</b>                                                                                                                                                                                                                     |  | 0                                                                                                                |
| <b>Number of NO contacts / for auxiliary contacts</b>                                                                                                                                                                                                                     |  | 3                                                                                                                |
| <b>Number of change-over switches / for auxiliary contacts</b>                                                                                                                                                                                                            |  | 1                                                                                                                |
| <b>Type of the connectable conductor cross-section / for main contacts / for box terminal / when using the front clamping point</b><br>• solid<br>• finely stranded / with conductor end processing<br>• finely stranded / without conductor end processing<br>• stranded |  | 2.5 ... 16 mm <sup>2</sup><br>2.5 ... 35 mm <sup>2</sup><br>4 ... 50 mm <sup>2</sup><br>4 ... 70 mm <sup>2</sup> |

|                                                                                                                                                                                                                                                                                                                                                           |            |                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Type of the connectable conductor cross-section / for main contacts / for box terminal / when using the back clamping point</b> <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded / with conductor end processing</li> <li>• without conductor final cutting / without conductor end processing</li> <li>• stranded</li> </ul> |            | 2,5 ... 16 mm <sup>2</sup><br>2.5 ... 50 mm <sup>2</sup><br>10 ... 50 mm <sup>2</sup><br>10 ... 70 mm <sup>2</sup>                       |
| <b>Type of the connectable conductor cross-section / for main contacts / for box terminal / when using both clamping points</b> <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded / with conductor end processing</li> <li>• without conductor final cutting / without conductor end processing</li> <li>• stranded</li> </ul>    |            | 2x (2.5 ... 16 mm <sup>2</sup> )<br>2x (2.5 ... 35 mm <sup>2</sup> )<br>2x (4 ... 35 mm <sup>2</sup> )<br>2x (4 ... 50 mm <sup>2</sup> ) |
| <b>Type of the connectable conductor cross-section / for AWG conductors / for main contacts / for box terminal</b> <ul style="list-style-type: none"> <li>• when using the back cl</li> <li>• when using the front c</li> <li>• when using both clampi</li> </ul>                                                                                         |            | 10 ... 2/0<br>10 ... 2/0<br>2x (10 ... 1/0)                                                                                              |
| <b>Type of the connectable conductor cross-section</b> <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded / with conductor end processing</li> </ul> </li> <li>• for AWG conductors / for auxiliary contacts</li> </ul>                                            |            | 2x (0.25 ... 1.5 mm <sup>2</sup> )<br>2x (0.25 ... 1.5 mm <sup>2</sup> )<br>2x (24 ... 16)                                               |
| <b>Ambient conditions:</b>                                                                                                                                                                                                                                                                                                                                |            |                                                                                                                                          |
| <b>Ambient temperature</b> <ul style="list-style-type: none"> <li>• during operating</li> <li>• during storage</li> </ul>                                                                                                                                                                                                                                 | / °C<br>°C | 60<br>-25 ... +80                                                                                                                        |
| <b>Derating temperature</b>                                                                                                                                                                                                                                                                                                                               | °C         | 40                                                                                                                                       |
| <b>Protection class IP</b>                                                                                                                                                                                                                                                                                                                                |            | IP00                                                                                                                                     |
| <b>Certificates/approvals:</b>                                                                                                                                                                                                                                                                                                                            |            |                                                                                                                                          |

## General Product Approval

## EMC



CCC



CSA



GOST



UL



C-TICK

## Test Certificates

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

## Shipping Approval



DNV



GL



LRS



PRS

## other

[Declaration of Conformity](#)

[Environmental Confirmations](#)

## UL/CSA ratings

### yielded mechanical performance (hp) / for three-phase squirrel cage motors

- at 460/480 V / at standard circuit
  - at 50 °C / rated value
- at 575/600 V / at standard circuit
  - at 50 °C / rated value
- at 460/480 V / at inside-delta circuit / at 50 °C / rated value
- at 575/600 V / at inside-delta circuit / at 50 °C / rated value

|    |     |
|----|-----|
| hp | 60  |
| hp | 75  |
| hp | 100 |
| hp | 125 |

### Contact rating designation / for auxiliary contacts / according to UL

B300 / R300

## Further information:

### Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

### Industry Mall (Online ordering system)

<http://www.siemens.com/industrial-controls/mall>

### CAX-Online-Generator

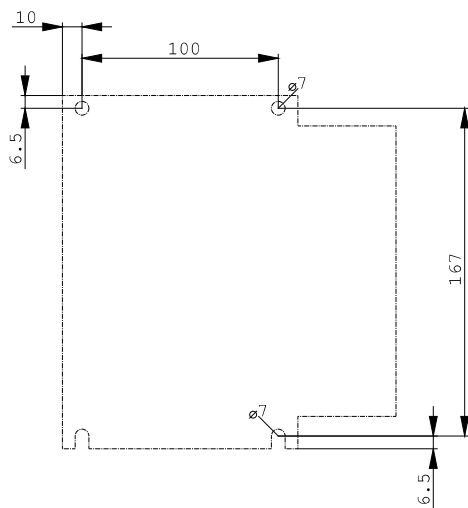
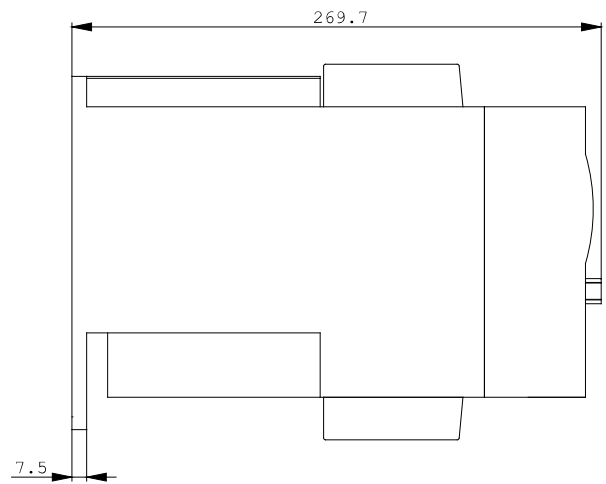
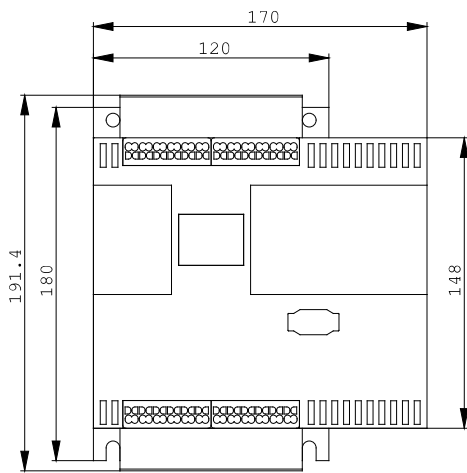
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3RW4427-3BC46/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RW4427-3BC46](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RW4427-3BC46)



last change:

Feb 7, 2013