



SIRIUS SOFT STARTER, VALUES WITH 690 V,  
40 DEG., STANDARD: 47A, 45KW,  
INSIDE-DELTA CIRCUIT 3: ONLY UP TO 600V,  
400-690 V AC, 230 V AC, SCREW 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          |  |                                             |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------|
| <ul style="list-style-type: none"> <li>• at 40 °C / rated value</li> <li>• at 50 °C / rated value</li> <li>• at 60 °C / rated value</li> <li>• for three-phase servomotors / at 3-phase root switching <ul style="list-style-type: none"> <li>• at 40 °C / rated value</li> <li>• at 50 °C / rated value</li> <li>• at 60 °C / rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                        | A  | 47          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A  | 42          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A  | 37          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A  | 81          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A  | 73          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A  | 64          |
| <b>Emitted mechanical power / for three-phase servomotors</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |             |
| <ul style="list-style-type: none"> <li>• at 400 V / at standard switching / at 40 °C <ul style="list-style-type: none"> <li>• rated value</li> </ul> </li> <li>• at 500 V / at standard switching / at 40 °C <ul style="list-style-type: none"> <li>• rated value</li> </ul> </li> <li>• at 690 V / at standard switching / at 40 °C <ul style="list-style-type: none"> <li>• rated value</li> </ul> </li> <li>• at 400 V / at 3-phase root switching / at 40 °C <ul style="list-style-type: none"> <li>• rated value</li> </ul> </li> <li>• at 500 V / at 3-phase root switching / at 40 °C <ul style="list-style-type: none"> <li>• rated value</li> </ul> </li> </ul> | W  | 22,000      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | W  | 30,000      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | W  | 45,000      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | W  | 45,000      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | W  | 45,000      |
| <b>Operating frequency</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |             |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 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  | 9           |
| <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  | 32          |
| <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          |

|                                                                                 |    |         |
|---------------------------------------------------------------------------------|----|---------|
| Control supply voltage frequency / 2 / rated value                              | 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 50 Hz / for AC                                                             | V  | 230     |
| • at 60 Hz / for AC                                                             | V  | 230     |
| Relative negative tolerance / of the control supply voltage / at 60 Hz / for AC | %  | -15     |
| Relative positive tolerance / of the control supply voltage / at 60 Hz / for AC | %  | 10      |
| Type of display / for fault signal                                              |    | Display |

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

|                                                                                                                              |  |                            |
|------------------------------------------------------------------------------------------------------------------------------|--|----------------------------|
| <b>Electrical connections:</b>                                                                                               |  |                            |
| Design of the electrical connection                                                                                          |  |                            |
| • for main current circuit                                                                                                   |  | box terminals              |
| • 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 change-over switches / for auxiliary contacts                                                                      |  | 1                          |
| Type of the connectable conductor cross-section / for main contacts / for box terminal / when using the front clamping point |  |                            |
| • solid                                                                                                                      |  | 2.5 ... 16 mm <sup>2</sup> |
| • finely stranded / with conductor end processing                                                                            |  | 2.5 ... 35 mm <sup>2</sup> |
| • finely stranded / without conductor end processing                                                                         |  | 4 ... 50 mm <sup>2</sup>   |
| • stranded                                                                                                                   |  | 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 <ul style="list-style-type: none"> <li>• finely stranded / with wire end proc</li> </ul> </li> </ul> |  | 2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> )<br>2x (20 ... 14)<br>2x (20 ... 16)                               |

#### Ambient conditions:

|                                                                                                                           |            |                   |
|---------------------------------------------------------------------------------------------------------------------------|------------|-------------------|
| <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              |

#### Certificates/approvals:

| General Product Approval                                                                            |                                                                                           |                                                                                         | EMC                                                                                         | Test Certificates                                                                          |                                                    |
|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------|
| <br>CSA            | <br>GOST | <br>UL | <br>C-TICK | <a href="#">Special Test Certificate</a>                                                   | <a href="#">Type Test Certificates/Test Report</a> |
| Shipping Approval                                                                                   |                                                                                           |                                                                                         |                                                                                             |                                                                                            |                                                    |
| <br>BUREAU VERITAS | <br>DNV  | <br>GL | <br>LRS    | <br>PRS |                                                    |
| other                                                                                               |                                                                                           |                                                                                         |                                                                                             |                                                                                            |                                                    |
| <a href="#">Declaration of Conformity</a>                                                           |                                                                                           | <a href="#">Environmental Confirmations</a>                                             |                                                                                             |                                                                                            |                                                    |

#### 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 | 25 |
| hp | 30 |
| hp | 50 |
| hp | 60 |

##### 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

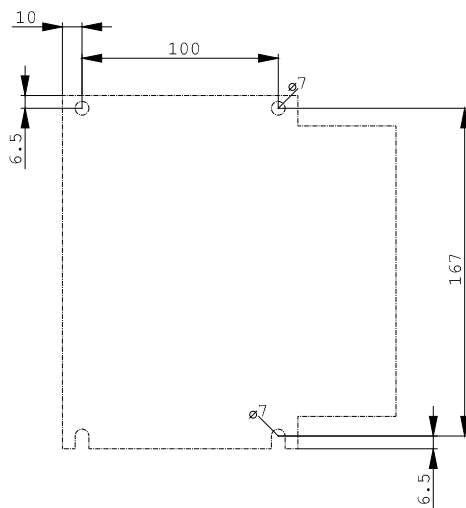
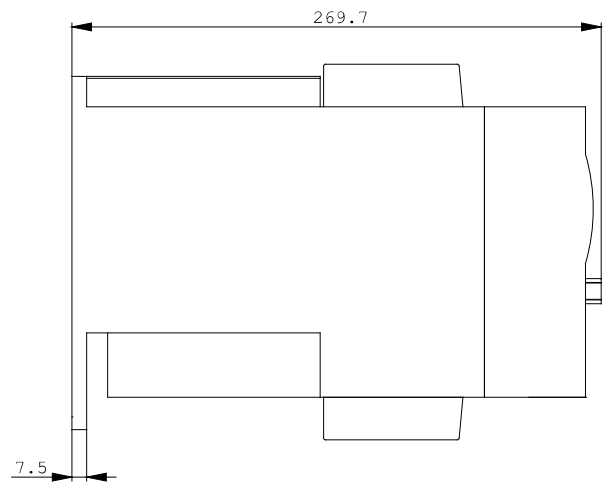
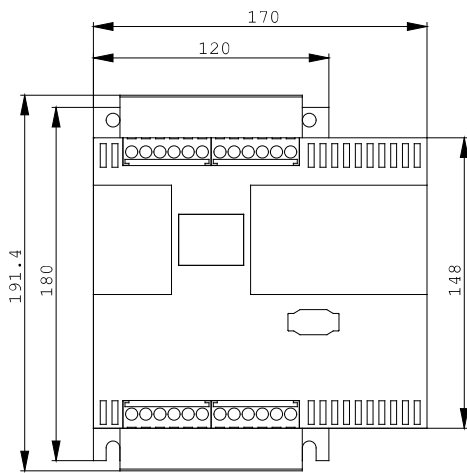
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3RW4424-1BC46/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RW4424-1BC46](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RW4424-1BC46)



last change:

Feb 7, 2013