



SIRIUS soft starter S3 80 A, 55 kW/500 V, 40 °C 400-600 V AC, 24 V AC/DC Screw terminals

| General technical data   |    |                          |
|--|----|--------------------------|
| product brand name   |    | SIRIUS                   |
| product feature  |    |                          |
| • integrated bypass contact system   |    | Yes                      |
| • thyristors   |    | Yes                      |
| product function   |    |                          |
| • intrinsic device protection  |    | Yes                      |
| • motor overload protection  |    | Yes                      |
| • evaluation of thermistor motor protection                                      |    | No                       |
| • external reset   |    | Yes                      |
| • adjustable current limitation  |    | Yes                      |
| • inside-delta circuit   |    | No                       |
| product component motor brake output   |    | No                       |
| insulation voltage rated value   | V  | 600                      |
| degree of pollution  |    | 3, acc. to IEC 60947-4-2 |
| reference code acc. to DIN EN 61346-2  |    | Q                        |
| reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750 |    | G                        |
| Power Electronics  |    |                          |
| product designation  |    | Soft starter             |
| operational current  |    |                          |
| • at 40 °C rated value   | A  | 80                       |
| • at 50 °C rated value   | A  | 73                       |
| • at 60 °C rated value   | A  | 66                       |
| yielded mechanical performance for 3-phase motors                                |    |                          |
| • at 400 V   |    |                          |
| — at standard circuit at 40 °C rated value                                       | W  | 45 000                   |
| • at 500 V   |    |                          |
| — at standard circuit at 40 °C rated value                                       | W  | 55 000                   |
| 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  | 400 ... 600              |
| relative negative tolerance of the operating voltage at standard circuit         | %  | -15                      |
| relative positive tolerance of the operating voltage at standard circuit         | %  | 10                       |
| minimum load [%]   | %  | 20                       |

|  |    |   |
|--|----|---|
| adjustable motor current for motor overload protection minimum rated value                                     | A  | 43  |
| continuous operating current [% of I <sub>e</sub> ] at 40 °C   | %  | 115   |
| power loss [W] at operational current at 40 °C during operation typical  | W  | 12  |
| <b>Control circuit/ Control</b>  |    |   |
| type of voltage of the control supply voltage  |    | AC/DC   |
| 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   |
| relative positive tolerance of the control supply voltage frequency  | %  | 10  |
| control supply voltage 1 at AC   |    |   |
| • at 50 Hz rated value   | V  | 24  |
| • at 60 Hz rated value   | V  | 24  |
| relative negative tolerance of the control supply voltage at AC at 50 Hz                                       | %  | -20   |
| relative positive tolerance of the control supply voltage at AC at 50 Hz                                       | %  | 20  |
| relative negative tolerance of the control supply voltage at AC at 60 Hz                                       | %  | -20   |
| relative positive tolerance of the control supply voltage at AC at 60 Hz                                       | %  | 20  |
| control supply voltage 1 at DC rated value   | V  | 24  |
| relative negative tolerance of the control supply voltage at DC  | %  | -20   |
| relative positive tolerance of the control supply voltage at DC  | %  | 20  |
| display version for fault signal   |    | red   |
| <b>Mechanical data</b>   |    |   |
| size of engine control device  |    | S3  |
| width  | mm | 70  |
| height   | mm | 170   |
| depth  | mm | 190   |
| fastening method   |    | screw and snap-on mounting  |
| mounting position  |    | With additional fan: With vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back Without additional fan: With vertical mounting surface +/-10° rotatable, with vertical mounting surface +/- 10° t |
| required spacing with side-by-side mounting  |    |   |
| • upwards  | mm | 60  |
| • at the side  | mm | 30  |
| • downwards  | mm | 40  |
| wire length maximum  | m  | 300   |
| number of poles for main current circuit   |    | 3   |
| <b>Connections/ Terminals</b>  |    |   |
| type of electrical connection  |    |   |
| • for main current circuit   |    | screw-type terminals  |
| • for auxiliary and control circuit  |    | screw-type terminals  |
| number of NC contacts for auxiliary contacts   |    | 0   |
| number of NO contacts for auxiliary contacts   |    | 2   |
| 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 |    |   |
| • solid  |    | 2x (2.5 ... 16 mm <sup>2</sup> )  |
| • finely stranded with core end processing   |    | 2.5 ... 35 mm <sup>2</sup>  |
| • stranded   |    | 4 ... 70 mm <sup>2</sup>  |
| type of connectable conductor cross-sections for main contacts for box terminal using the back                 |    |   |

|  |  |   |
|--|--|---|
| <b>clamping point</b>  |  |   |
| <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• stranded</li> </ul>  |  | 2x (2.5 ... 16 mm <sup>2</sup> )<br>2.5 ... 50 mm <sup>2</sup><br>10 ... 70 mm <sup>2</sup>             |
| <b>type of connectable conductor cross-sections for main contacts for box terminal using both clamping points</b>  |  |   |
| <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core 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 (10 ... 50 mm <sup>2</sup> ) |
| <b>type of connectable conductor cross-sections at AWG cables for main contacts for box terminal</b>   |  |   |
| <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>                  |  | 2x (10 ... 1/0)<br>2x (10 ... 1/0)<br>10 ... 2/0  |
| <b>type of connectable conductor cross-sections for DIN cable lug for main contacts</b>  |  |   |
| <ul style="list-style-type: none"> <li>• finely stranded</li> <li>• stranded</li> </ul>  |  | 2 x (10 ... 50 mm <sup>2</sup> )<br>2x (10 ... 70 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 cables</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> |  | 2x (7 ... 1/0)<br>2x (20 ... 14)<br>2x (20 ... 16)  |

#### Ambient conditions

|  |    |   |
|--|----|---|
| <b>installation altitude at height above sea level</b>   | m  | 5 000   |
| <b>environmental category</b>  |    |   |
| <ul style="list-style-type: none"> <li>• during transport acc. to IEC 60721</li> <li>• during storage acc. to IEC 60721</li> <li>• during operation acc. to IEC 60721</li> </ul> |    | 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)<br>1K6 (only occasional condensation), 1C2 (no salt mist),<br>1S2 (sand must not get inside the devices), 1M4<br>3K6 (no formation of ice, no condensation), 3C3 (no salt mist),<br>3S2 (sand must not get into the devices), 3M6 |
| <b>ambient temperature</b>   |    |   |
| <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> </ul>   | °C | -25 ... +60<br>-40 ... +80  |
| <b>derating temperature</b>  | °C | 40  |
| <b>protection class IP</b>   |    | IP00  |

#### Certificates/ approvals

|                                 |            |
|---------------------------------|------------|
| <b>General Product Approval</b> | <b>EMC</b> |
|---------------------------------|------------|



|                                       |                                  |                          |                          |
|---------------------------------------|----------------------------------|--------------------------|--------------------------|
| <b>For use in hazardous locations</b> | <b>Declaration of Conformity</b> | <b>Test Certificates</b> | <b>Marine / Shipping</b> |
|---------------------------------------|----------------------------------|--------------------------|--------------------------|



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)




[Confirmation](#)
[Vibration and Shock](#)

#### UL/CSA ratings

|  |    |             |
|--|----|-------------|
| yielded mechanical performance [hp] for 3-phase AC motor<br>• at 460/480 V<br>— at standard circuit at 50 °C rated value<br>• at 575/600 V<br>— at standard circuit at 50 °C rated value | hp | 50          |
|  | hp | 60          |
| 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,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW4046-1BB05>

Cax online generator

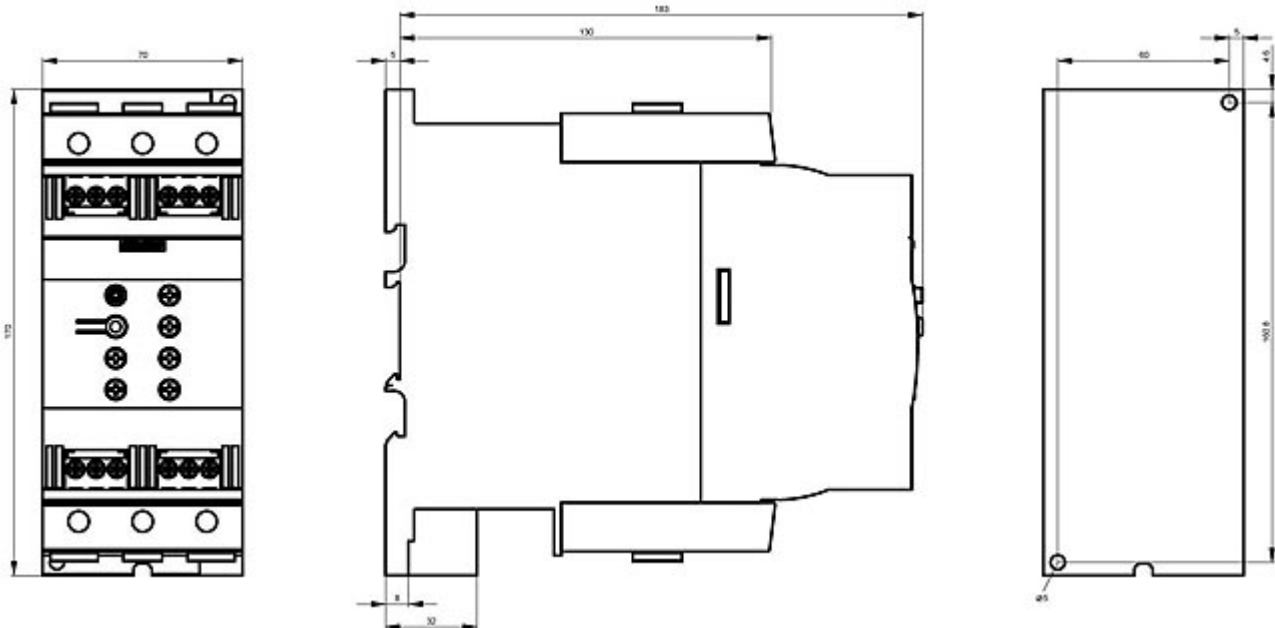
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4046-1BB05>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4046-1BB05>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4046-1BB05&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4046-1BB05&lang=en)





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