



SIRIUS soft starter S3 80 A, 55 kW/500 V, 40 °C 400-600 V AC, 110-230 V AC/DC spring-type terminals

| General technical data   |                          |
|--|--------------------------|
| product brand name   | SIRIUS                   |
| product designation  | Soft starter             |
| 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   | 600 V                    |
| degree of pollution  | 3, acc. to IEC 60947-4-2 |
| blocking voltage of the thyristor maximum  | 1 600 V                  |
| reference code according to EN 61346-2   | Q                        |
| reference code according to DIN 40719 extended according to IEC 204-2 according to IEC 750 | G                        |
| Power Electronics  |                          |
| operational current  |                          |
| • at 40 °C rated value   | 80 A                     |
| • at 50 °C rated value   | 73 A                     |
| • at 60 °C rated value   | 66 A                     |
| yielded mechanical performance for 3-phase motors  |                          |
| • at 400 V   |                          |
| — at standard circuit at 40 °C rated value   | 45 kW                    |
| • at 500 V   |                          |
| — at standard circuit at 40 °C rated value   | 55 kW                    |
| operating frequency rated value  | 50 ... 60 Hz             |
| relative negative tolerance of the operating frequency                                     | -10 %                    |
| relative positive tolerance of the operating frequency                                     | 10 %                     |
| operating voltage at standard circuit rated value  | 400 ... 600 V            |
| relative negative tolerance of the operating voltage at standard circuit                   | -15 %                    |
| relative positive tolerance of the operating voltage at                                    | 10 %                     |

|   |   |
|---|---|
| <b>standard circuit</b>   |   |
| <b>minimum load [%]</b>   | 20 %  |
| <b>adjustable motor current for motor overload protection minimum rated value</b>                                     | 43 A  |
| <b>continuous operating current [% of I<sub>e</sub>] at 40 °C</b>   | 115 %   |
| <b>power loss [W] at operational current at 40 °C during operation typical</b>  | 12 W  |
| <b>Control circuit/ Control</b>   |   |
| <b>type of voltage of the control supply voltage</b>  | AC/DC   |
| <b>control supply voltage frequency 1 rated value</b>   | 50 Hz   |
| <b>control supply voltage frequency 2 rated value</b>   | 60 Hz   |
| <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 at AC at 50 Hz</b>  | 110 ... 230 V   |
| <b>control supply voltage 1 at AC at 60 Hz</b>  | 110 ... 230 V   |
| <b>relative negative tolerance of the control supply voltage at AC at 50 Hz</b>                                       | -15 %   |
| <b>relative positive tolerance of the control supply voltage at AC at 50 Hz</b>                                       | 10 %  |
| <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>control supply voltage 1 at DC</b>   | 110 ... 230 V   |
| <b>relative negative tolerance of the control supply voltage at DC</b>  | -15 %   |
| <b>relative positive tolerance of the control supply voltage at DC</b>  | 10 %  |
| <b>display version for fault signal</b>   | red   |
| <b>Mechanical data</b>  |   |
| <b>size of engine control device</b>  | S3  |
| <b>width</b>  | 70 mm   |
| <b>height</b>   | 170 mm  |
| <b>depth</b>  | 190 mm  |
| <b>fastening method</b>   | screw and snap-on mounting  |
| <b>mounting position</b>  | 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 |
| <b>required spacing with side-by-side mounting</b>  |   |
| • upwards   | 60 mm   |
| • at the side   | 30 mm   |
| • downwards   | 40 mm   |
| <b>wire length maximum</b>  | 300 m   |
| <b>number of poles for main current circuit</b>   | 3   |
| <b>Connections/ Terminals</b>   |   |
| <b>type of electrical connection</b>  |   |
| • for main current circuit  | screw-type terminals  |
| • for auxiliary and control circuit   | spring-loaded terminals   |
| <b>number of NC contacts for auxiliary contacts</b>   | 0   |
| <b>number of NO contacts for auxiliary contacts</b>   | 2   |
| <b>number of CO contacts for auxiliary contacts</b>   | 1   |
| <b>type of connectable conductor cross-sections for main contacts for box terminal using the front clamping point</b> |   |
| • 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>  |
| <b>type of connectable conductor cross-sections for main contacts for box terminal using the back clamping point</b>  |   |
| • solid   | 2x (2.5 ... 16 mm <sup>2</sup> )  |
| • finely stranded with core end processing  | 2.5 ... 50 mm <sup>2</sup>  |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• stranded</li> </ul>  | 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 for 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 (0.25 ... 2.5 mm <sup>2</sup> )<br>2x (0.25 ... 1.5 mm <sup>2</sup> )                                |
| <b>type of connectable conductor cross-sections for AWG cables</b> <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary contacts</li> </ul>  | 2x (7 ... 1/0)<br>2x (24 ... 14)  |

#### Ambient conditions

|   |   |
|---|---|
| <b>installation altitude at height above sea level</b>  | 5 000 m   |
| <b>environmental category</b> <ul style="list-style-type: none"> <li>• during transport according to IEC 60721</li> <li>• during storage according to IEC 60721</li> <li>• during operation according to IEC 60721</li> </ul> | 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)<br>1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4<br>3K6 (no formation of ice, no condensation), 3C3 (no salt mist), 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>   | -25 ... +60 °C<br>-40 ... +80 °C  |
| <b>derating temperature</b>   | 40 °C   |
| <b>protection class IP on the front according to IEC 60529</b>  | IP20  |
| <b>touch protection on the front according to IEC 60529</b>   | finger-safe, for vertical contact from the front  |

#### UL/CSA ratings

|  |                |
|--|----------------|
| <b>yielded mechanical performance [hp] for 3-phase AC motor</b> <ul style="list-style-type: none"> <li>• at 460/480 V               <ul style="list-style-type: none"> <li>— at standard circuit at 50 °C rated value</li> </ul> </li> <li>• at 575/600 V               <ul style="list-style-type: none"> <li>— at standard circuit at 50 °C rated value</li> </ul> </li> </ul> | 50 hp<br>60 hp |
| <b>contact rating of auxiliary contacts according to UL</b>  | B300 / R300    |

#### Approvals Certificates

|  |   |
|--|---|
| <b>Environmental Product Declaration</b>   |   |
| <ul style="list-style-type: none"> <li>• global warming potential [CO2 eq] / during manufacturing</li> <li>• global warming potential [CO2 eq] / during sales</li> <li>• global warming potential [CO2 eq] / during operation</li> <li>• global warming potential [CO2 eq] / after end of life</li> <li>• global warming potential [CO2 eq] / total</li> </ul> | 23.7 kg<br>0.471 kg<br>158 kg<br>-6.65 kg<br>175 kg |

#### Environment General Product Approval

[Environmental Confirmations](#)



Siemens EcoTech



|                          |     |                                |
|--------------------------|-----|--------------------------------|
| General Product Approval | EMV | For use in hazardous locations |
|--------------------------|-----|--------------------------------|



|                   |                      |       |
|-------------------|----------------------|-------|
| Test Certificates | Maritime application | other |
|-------------------|----------------------|-------|

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



[Confirmation](#)

|       |         |
|-------|---------|
| other | Railway |
|-------|---------|

[Confirmation](#)

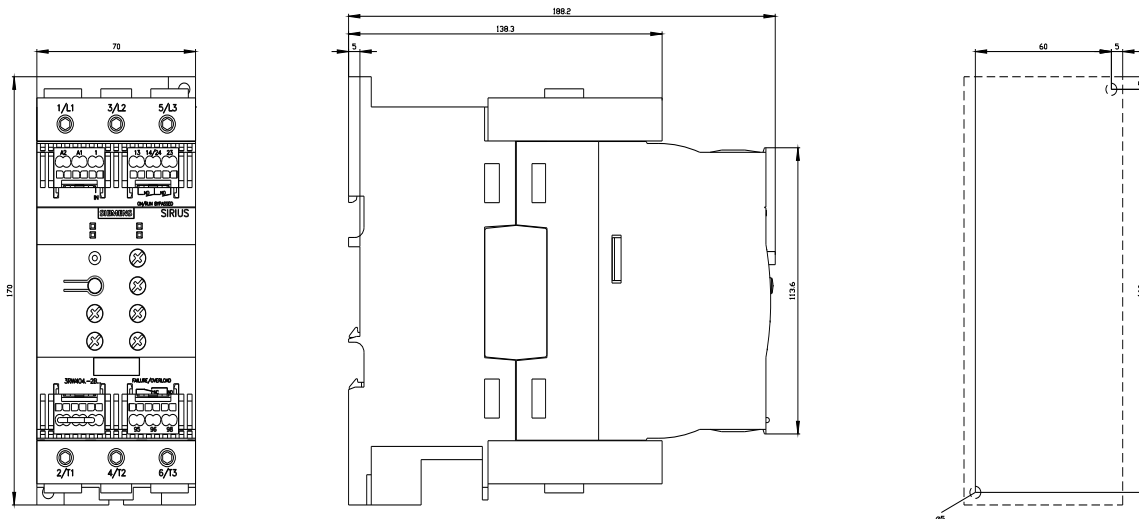


[Special Test Certificate](#)

[Confirmation](#)

**Further information**

- Simulation Tool for Soft Starters (STS)  
<https://support.industry.siemens.com/cs/ww/en/view/101494917>
- Information on the packaging  
<https://support.industry.siemens.com/cs/ww/en/view/109813875>
- Information for data generation and storage  
<https://support.industry.siemens.com/cs/ww/en/view/109995012>
- 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=3RW4046-2BB15>
- Cax online generator  
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4046-2BB15>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)  
<https://support.industry.siemens.com/cs/ww/en/ps/3RW4046-2BB15>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)  
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4046-2BB15&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4046-2BB15&lang=en)



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