



SIRIUS soft starter S3 80 A, 45 kW/400 V, 40 °C 200-480 V AC, 110-230 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 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

|                                                                                                                |    |              |
|----------------------------------------------------------------------------------------------------------------|----|--------------|
| 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 230 V                                                                                                     |    |              |
| — at standard circuit at 40 °C rated value                                                                     | kW | 22           |
| • at 400 V                                                                                                     |    |              |
| — at standard circuit at 40 °C rated value                                                                     | kW | 45           |
| yielded mechanical performance [hp] for 3-phase AC motor at 200/208 V at standard circuit at 50 °C rated value | hp | 20           |
| 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  | 200 ... 480  |
| 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                                                                        | V  | 110 ... 230                                                                                                                                                                                                                                                     |
| control supply voltage 1 at AC at 60 Hz                                                                        | V  | 110 ... 230                                                                                                                                                                                                                                                     |
| relative negative tolerance of the control supply voltage at AC at 50 Hz                                       | %  | -15                                                                                                                                                                                                                                                             |
| relative positive tolerance of the control supply voltage at AC at 50 Hz                                       | %  | 10                                                                                                                                                                                                                                                              |
| 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                                                                                                                                                                                                                                                              |
| control supply voltage 1 at DC                                                                                 | V  | 110 ... 230                                                                                                                                                                                                                                                     |
| relative negative tolerance of the control supply voltage at DC                                                | %  | -15                                                                                                                                                                                                                                                             |
| relative positive tolerance of the control supply voltage at DC                                                | %  | 10                                                                                                                                                                                                                                                              |
| 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 mm²)                                                                                                                                                                                                                                             |
| • finely stranded with core end processing                                                                     |    | 2.5 ... 35 mm²                                                                                                                                                                                                                                                  |
| • stranded                                                                                                     |    | 4 ... 70 mm²                                                                                                                                                                                                                                                    |
| type of connectable conductor cross-sections for main contacts for box terminal using the back clamping point  |    |                                                                                                                                                                                                                                                                 |
| • solid                                                                                                        |    | 2x (2.5 ... 16 mm²)                                                                                                                                                                                                                                             |
| • finely stranded with core end processing                                                                     |    | 2.5 ... 50 mm²                                                                                                                                                                                                                                                  |
| • stranded                                                                                                     |    | 10 ... 70 mm²                                                                                                                                                                                                                                                   |
| type of connectable conductor cross-sections for main contacts for box terminal using both clamping points     |    |                                                                                                                                                                                                                                                                 |
| • solid                                                                                                        |    | 2x (2.5 ... 16 mm²)                                                                                                                                                                                                                                             |

|                                                                                                                                                                                                                                                                  |                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>finely stranded with core end processing</li> <li>stranded</li> </ul>                                                                                                                                                     | 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><br><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> | m  | 5 000                                            |
| <b>ambient temperature</b> <ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> </ul>                                                                                                                                                             | °C | -25 ... +60                                      |
| <b>derating temperature</b>                                                                                                                                                                                                                                                       | °C | -40 ... +80                                      |
| <b>protection class IP on the front according to IEC 60529</b>                                                                                                                                                                                                                    | °C | 40                                               |
| <b>touch protection on the front according to IEC 60529</b>                                                                                                                                                                                                                       |    | IP20                                             |
|                                                                                                                                                                                                                                                                                   |    | finger-safe, for vertical contact from the front |

#### Certificates/ approvals

|                          |     |
|--------------------------|-----|
| General Product Approval | EMC |
|--------------------------|-----|



[Confirmation](#)



|                           |                   |                   |
|---------------------------|-------------------|-------------------|
| Declaration of Conformity | Test Certificates | Marine / Shipping |
|---------------------------|-------------------|-------------------|



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



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

[Confirmation](#)

[Confirmation](#)

[Vibration and Shock](#)

#### UL/CSA ratings

yielded mechanical performance [hp] for 3-phase AC

motor

- at 220/230 V
  - at standard circuit at 50 °C rated value
- at 460/480 V
  - at standard circuit at 50 °C rated value

contact rating of auxiliary contacts according to UL

|    |             |
|----|-------------|
| hp | 25          |
| hp | 50          |
|    | 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=3RW4046-1BB14>

Cax online generator

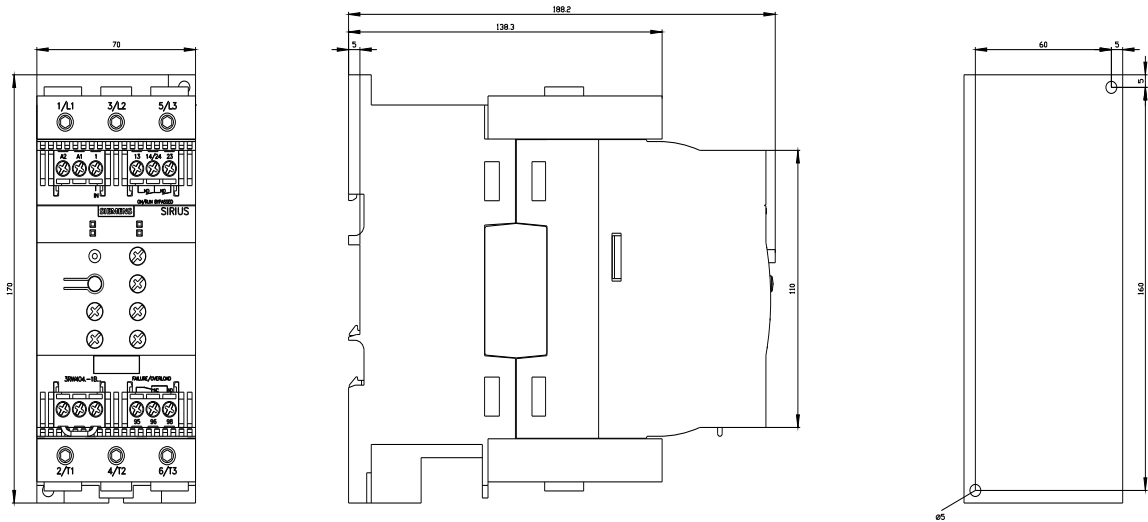
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4046-1BB14>

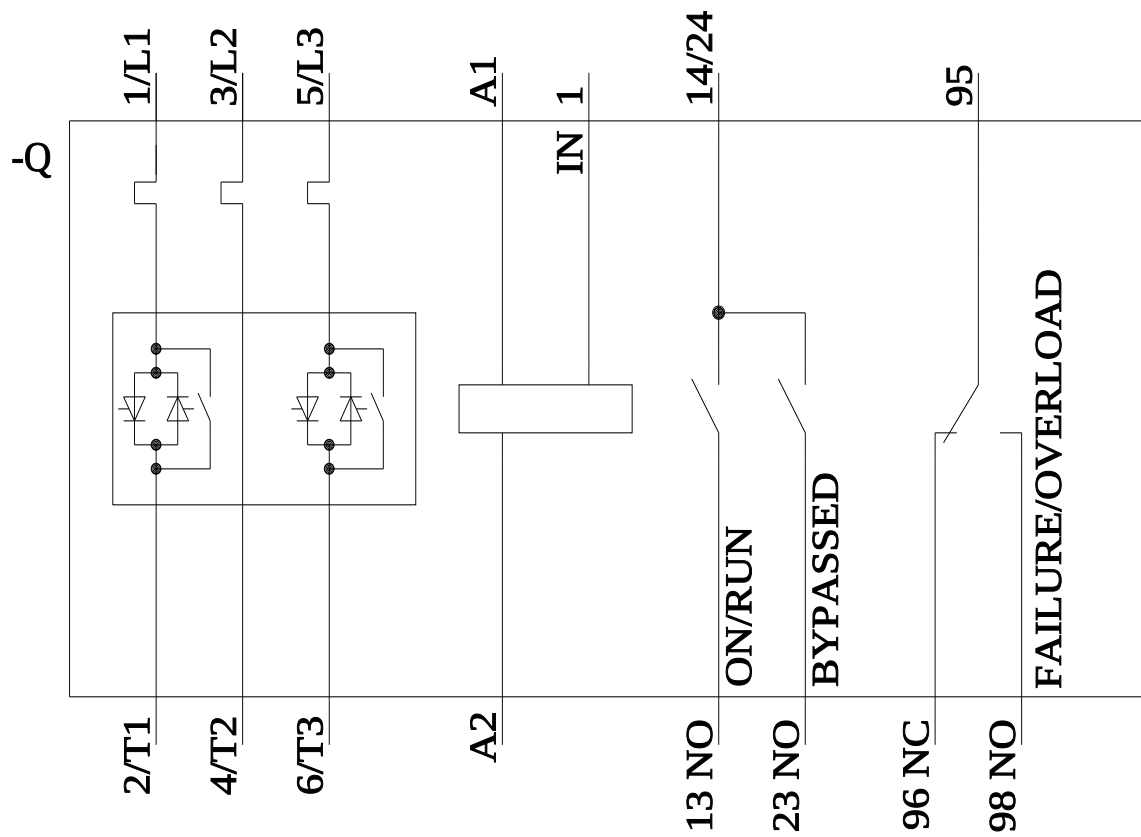
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4046-1BB14>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4046-1BB14&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4046-1BB14&lang=en)





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