

SIRIUS soft starter S2 72 A, 37 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals



## General technical data

|   |   |                          |
|---|---|--------------------------|
| <b>Product brand name</b>   |   | SIRIUS                   |
| <b>Product feature</b>  |   |                          |
| <ul style="list-style-type: none"> <li>integrated bypass contact system</li> </ul>          |   | Yes                      |
| <ul style="list-style-type: none"> <li>Thyristors</li> </ul>                                |   | Yes                      |
| <b>Product function</b>   |   |                          |
| <ul style="list-style-type: none"> <li>Intrinsic device protection</li> </ul>               |   | Yes                      |
| <ul style="list-style-type: none"> <li>motor overload protection</li> </ul>                 |   | Yes                      |
| <ul style="list-style-type: none"> <li>Evaluation of thermistor motor protection</li> </ul> |   | No                       |
| <ul style="list-style-type: none"> <li>External reset</li> </ul>                            |   | Yes                      |
| <ul style="list-style-type: none"> <li>Adjustable current limitation</li> </ul>             |   | Yes                      |
| <ul style="list-style-type: none"> <li>Inside-delta circuit</li> </ul>                      |   | No                       |
| <b>Product component Motor brake output</b>   |   | No                       |
| <b>Insulation voltage rated value</b>   | V | 600                      |
| <b>Degree of pollution</b>  |   | 3, acc. to IEC 60947-4-2 |
| <b>Reference code acc. to DIN EN 61346-2</b>  |   | Q                        |
| <b>Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750</b>     |   | G                        |

## Power Electronics

|   |    |              |
|---|----|--------------|
| <b>Product designation</b>  |    | Soft starter |
| <b>Operating current</b>  |    |              |
| • at 40 °C rated value  | A  | 72           |
| • at 50 °C rated value  | A  | 62           |
| • at 60 °C rated value  | A  | 60           |
| <b>Mechanical power output for three-phase motors</b>   |    |              |
| • at 230 V<br>— at standard circuit at 40 °C rated value  | W  | 22 000       |
| • at 400 V<br>— at standard circuit at 40 °C rated value  | W  | 37 000       |
| <b>Yielded mechanical performance [hp] for three-phase AC motor at 200/208 V at standard circuit at 50 °C rated value</b> | hp | 20           |
| <b>Operating frequency rated value</b>  | 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 at standard circuit rated value</b>  | V  | 200 ... 480  |
| <b>Relative negative tolerance of the operating voltage at standard circuit</b>   | %  | -15          |
| <b>Relative positive tolerance of the operating voltage at standard circuit</b>   | %  | 10           |
| <b>Minimum load [%]</b>   | %  | 20           |
| <b>Adjustable motor current for motor overload protection minimum rated value</b>   | A  | 35           |
| <b>Continuous operating current [% of I<sub>e</sub>] at 40 °C</b>   | %  | 115          |
| <b>Power loss [W] at operating current at 40 °C during operation typical</b>  | W  | 15           |

## Control circuit/ Control

|   |    |             |
|---|----|-------------|
| <b>Type of voltage of the control supply voltage</b>                            |    | AC/DC       |
| <b>Control supply voltage frequency 1 rated value</b>                           | Hz | 50          |
| <b>Control supply voltage frequency 2 rated value</b>                           | Hz | 60          |
| <b>Relative negative tolerance of the control supply voltage frequency</b>      | %  | -10         |
| <b>Relative positive tolerance of the control supply voltage frequency</b>      | %  | 10          |
| <b>Control supply voltage 1 at AC at 50 Hz</b>                                  | V  | 110 ... 230 |
| <b>Control supply voltage 1 at AC at 60 Hz</b>                                  | V  | 110 ... 230 |
| <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          |

|  |   |             |
|--|---|-------------|
| 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         |

### Mechanical data

|   |    |  |
|---|----|--|
| Size of engine control device               |    | S2   |
| Width                                       | mm | 55   |
| Height                                      | mm | 160  |
| Depth                                       | mm | 170  |
| Mounting type                               |    | 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<br>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  |

### Connections/ Terminals

|  |  |                                  |
|--|--|----------------------------------|
| Type of electrical connection  |  |                                  |
| • for main current circuit   |  | screw-type 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   |  | 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 (1.5 ... 16 mm <sup>2</sup> ) |
| • finely stranded with core end processing   |  | 0.75 ... 25 mm <sup>2</sup>      |
| • stranded   |  | 0.75 ... 35 mm <sup>2</sup>      |
| Type of connectable conductor cross-sections for main contacts for box terminal using the back clamping point  |  |                                  |
| • solid  |  | 2x (1.5 ... 16 mm <sup>2</sup> ) |

|  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>finely stranded with core end processing</li> <li>stranded</li> </ul>   |  | 1.5 ... 25 mm <sup>2</sup><br>1.5 ... 35 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 (1.5 ... 16 mm <sup>2</sup> )<br>2x (1.5 ... 16 mm <sup>2</sup> )<br>2x (1.5 ... 25 mm <sup>2</sup> ) |
| <b>Type of connectable conductor cross-sections at AWG conductors 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> |  | 16 ... 2<br>18 ... 2<br>2x (16 ... 2)  |
| <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 conductors</b> <ul style="list-style-type: none"> <li>for auxiliary contacts</li> <li>for auxiliary contacts finely stranded with core end processing</li> </ul>  |  | 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), 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>  | °C | -25 ... +60<br>-40 ... +80  |
| <b>Derating temperature</b>  | °C | 40  |
| <b>Protection class IP</b>   |    | IP00  |

Certificates/ approvals

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



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



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



LRS



PRS

|                   |       |         |
|-------------------|-------|---------|
| Marine / Shipping | other | Railway |
|-------------------|-------|---------|



[Confirmation](#)

[Vibration and Shock](#)

### UL/CSA ratings

|  |    |             |
|--|----|-------------|
| Yielded mechanical performance [hp] for three-phase AC motor   |    |             |
| <ul style="list-style-type: none"> <li>at 220/230 V <ul style="list-style-type: none"> <li>at standard circuit at 50 °C rated value</li> </ul> </li> </ul> | hp | 20          |
| <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> </ul> | hp | 40          |
| 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,...)**

[www.siemens.com/sirius/catalogs](http://www.siemens.com/sirius/catalogs)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW4038-1BB14>

**Cax online generator**

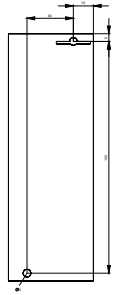
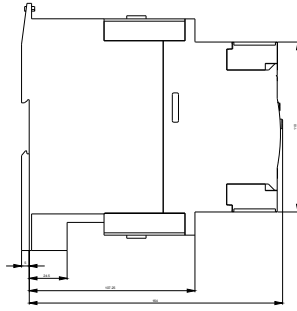
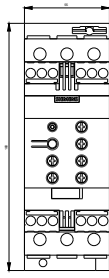
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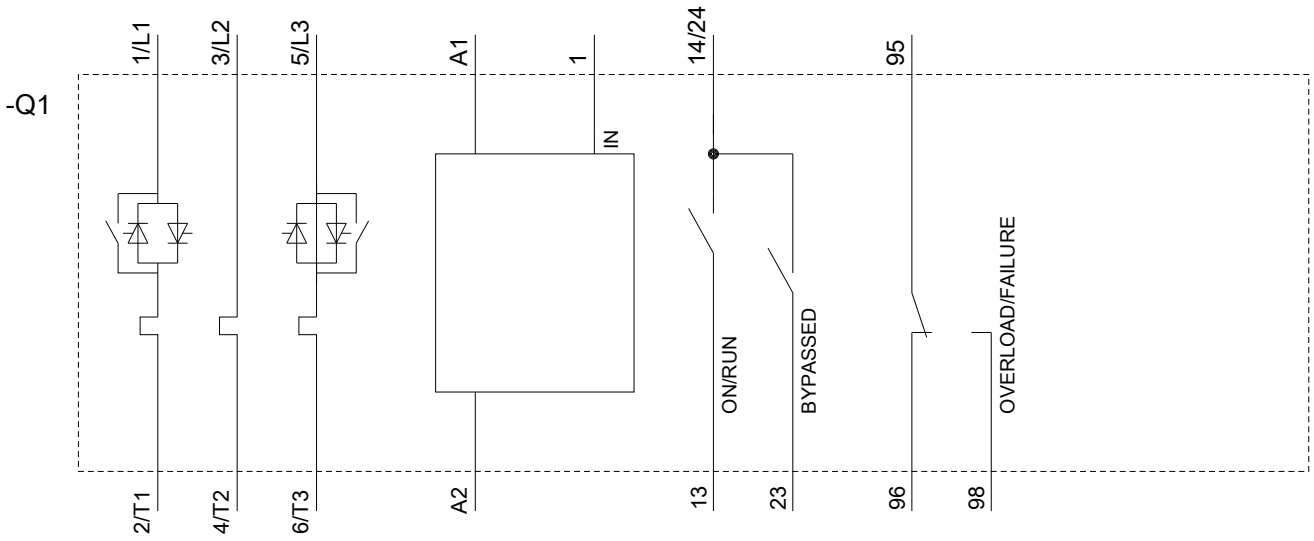
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4038-1BB14>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4038-1BB14&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4038-1BB14&lang=en)





last modified:

09/24/2019