

Siemens  
EcoTech



SIRIUS soft starter S12 230 A, 132 kW/400 V, 40 °C 200-460 V AC, 230 V AC  
Screw terminals !!! Phased-out product !!! Successor is SIRIUS 3RW5, Preferred  
successor type is >>3RW5073-6AB14<<

| 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 |
| 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                                                                                         | 230 A                    |
| • at 50 °C rated value                                                                                         | 205 A                    |
| • at 60 °C rated value                                                                                         | 180 A                    |
| yielded mechanical performance for 3-phase motors                                                              |                          |
| • at 230 V                                                                                                     |                          |
| — at standard circuit at 40 °C rated value                                                                     | 75 kW                    |
| • at 400 V                                                                                                     |                          |
| — at standard circuit at 40 °C rated value                                                                     | 132 kW                   |
| yielded mechanical performance [hp] for 3-phase AC motor at 200/208 V at standard circuit at 50 °C rated value | 60 hp                    |
| 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                                                              | 200 ... 460 V            |
| 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                                                                                                                                                                                                       | 80 A                                                                                                                                                                                                                                                            |
| continuous operating current [% of I <sub>e</sub> ] at 40 °C                                                                                                                                                                                                                     | 115 %                                                                                                                                                                                                                                                           |
| power loss [W] at operational current at 40 °C during operation typical                                                                                                                                                                                                          | 90 W                                                                                                                                                                                                                                                            |
| <b>Control circuit/ Control</b>                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                 |
| type of voltage of the control supply voltage                                                                                                                                                                                                                                    | AC                                                                                                                                                                                                                                                              |
| control supply voltage frequency 1 rated value                                                                                                                                                                                                                                   | 50 Hz                                                                                                                                                                                                                                                           |
| control supply voltage frequency 2 rated value                                                                                                                                                                                                                                   | 60 Hz                                                                                                                                                                                                                                                           |
| 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 <ul style="list-style-type: none"> <li>at 50 Hz rated value</li> <li>at 60 Hz rated value</li> </ul>                                                                                                                                              | 230 V<br>230 V                                                                                                                                                                                                                                                  |
| 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 %                                                                                                                                                                                                                                                            |
| display version for fault signal                                                                                                                                                                                                                                                 | red                                                                                                                                                                                                                                                             |
| <b>Mechanical data</b>                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                 |
| size of engine control device                                                                                                                                                                                                                                                    | S12                                                                                                                                                                                                                                                             |
| width                                                                                                                                                                                                                                                                            | 160 mm                                                                                                                                                                                                                                                          |
| height                                                                                                                                                                                                                                                                           | 230 mm                                                                                                                                                                                                                                                          |
| depth                                                                                                                                                                                                                                                                            | 278 mm                                                                                                                                                                                                                                                          |
| fastening method                                                                                                                                                                                                                                                                 | screw fixing                                                                                                                                                                                                                                                    |
| 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 <ul style="list-style-type: none"> <li>upwards</li> <li>at the side</li> <li>downwards</li> </ul>                                                                                                                                    | 100 mm<br>5 mm<br>75 mm                                                                                                                                                                                                                                         |
| wire length maximum                                                                                                                                                                                                                                                              | 300 m                                                                                                                                                                                                                                                           |
| number of poles for main current circuit                                                                                                                                                                                                                                         | 3                                                                                                                                                                                                                                                               |
| <b>Connections/ Terminals</b>                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                 |
| type of electrical connection <ul style="list-style-type: none"> <li>for main current circuit</li> <li>for auxiliary and control circuit</li> </ul>                                                                                                                              | busbar connection<br>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 <ul style="list-style-type: none"> <li>finely stranded with core end processing</li> <li>finely stranded without core end processing</li> <li>stranded</li> </ul> | 70 ... 240 mm²<br>70 ... 240 mm²<br>95 ... 300 mm²                                                                                                                                                                                                              |
| type of connectable conductor cross-sections for main contacts for box terminal using the back clamping point <ul style="list-style-type: none"> <li>finely stranded with core end processing</li> <li>finely stranded without core end processing</li> <li>stranded</li> </ul>  | 120 ... 185 mm²<br>120 ... 185 mm²<br>120 ... 240 mm²                                                                                                                                                                                                           |
| type of connectable conductor cross-sections for main contacts for box terminal using both clamping points                                                                                                                                                                       |                                                                                                                                                                                                                                                                 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>finely stranded with core end processing</li><li>finely stranded without core end processing</li><li>stranded</li></ul>                                                                                                                                                                                                                                                                                                                                                                                               | min. 2x 50 mm², max. 2x 185 mm²<br>min. 2x 50 mm², max. 2x 185 mm²<br>max. 2x 70 mm², max. 2x 240 mm²                                                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                |
| <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>                                                                                                                                                                                                                                                                                               | 250 ... 500 kcmil<br>3/0 ... 600 kcmil<br>min. 2x 2/0, max. 2x 500 kcmil                                                                                                                                                                                                |                                                                                     |                                                                                                                                                                                                                                                                |
| <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>                                                                                                                                                                                                                                                                                                                                                                                    | 50 ... 240 mm²<br>70 ... 240 mm²                                                                                                                                                                                                                                        |                                                                                     |                                                                                                                                                                                                                                                                |
| <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 mm²)<br>2x (0.5 ... 1.5 mm²)                                                                                                                                                                                                                            |                                                                                     |                                                                                                                                                                                                                                                                |
| <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><li>for auxiliary contacts finely stranded with core end processing</li></ul>                                                                                                                                                                                                                                                                                                                 | 2/0 ... 500 kcmil<br>2x (20 ... 14)<br>2x (20 ... 16)                                                                                                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                |
| <b>Ambient conditions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                                                                                                                |
| <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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IP00; IP20 with cover                                                                                                                                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                |
| <b>touch protection on the front according to IEC 60529</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | finger-safe, for vertical contact from the front with cover                                                                                                                                                                                                             |                                                                                     |                                                                                                                                                                                                                                                                |
| <b>UL/CSA ratings</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                                                                                                                |
| <b>yielded mechanical performance [hp] for 3-phase AC motor</b> <ul style="list-style-type: none"><li>at 220/230 V<br/>— at standard circuit at 50 °C rated value</li><li>at 460/480 V<br/>— at standard circuit at 50 °C rated value</li></ul>                                                                                                                                                                                                                                                                                                             | 75 hp<br>150 hp                                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                                                                                                                |
| <b>contact rating of auxiliary contacts according to UL</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | B300 / R300                                                                                                                                                                                                                                                             |                                                                                     |                                                                                                                                                                                                                                                                |
| <b>Approvals Certificates</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                                                                                                                |
| <b>Environment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>General Product Approval</b>                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                                                                                                                |
| <div><div><a href="#">Environmental Conformations</a></div><div></div><div></div><div></div><div></div><div></div></div> |                                                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                                                                                                                |
| <b>EMV</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>For use in hazardous locations</b>                                                                                                                                                                                                                                   | <b>Test Certificates</b>                                                            | <b>Maritime application</b>                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                      |  | <div><div><a href="#">Special Test Certificate</a></div><div></div><div></div></div> |
| <b>other</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                                                                                                                |



#### 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=3RW4073-6BB44>

##### Cax online generator

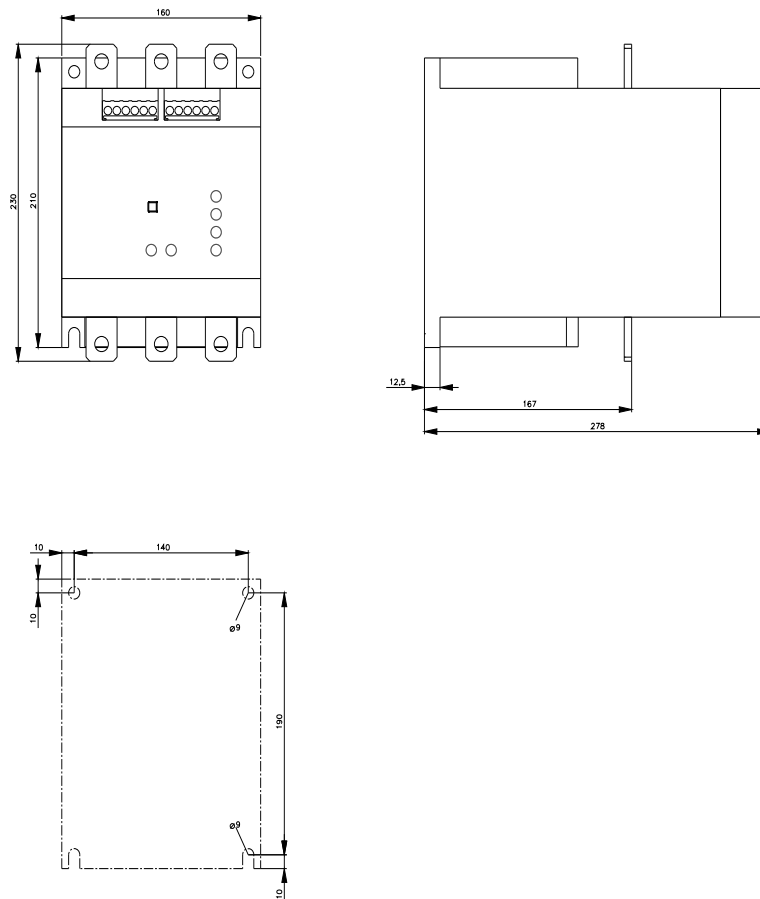
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4073-6BB44>

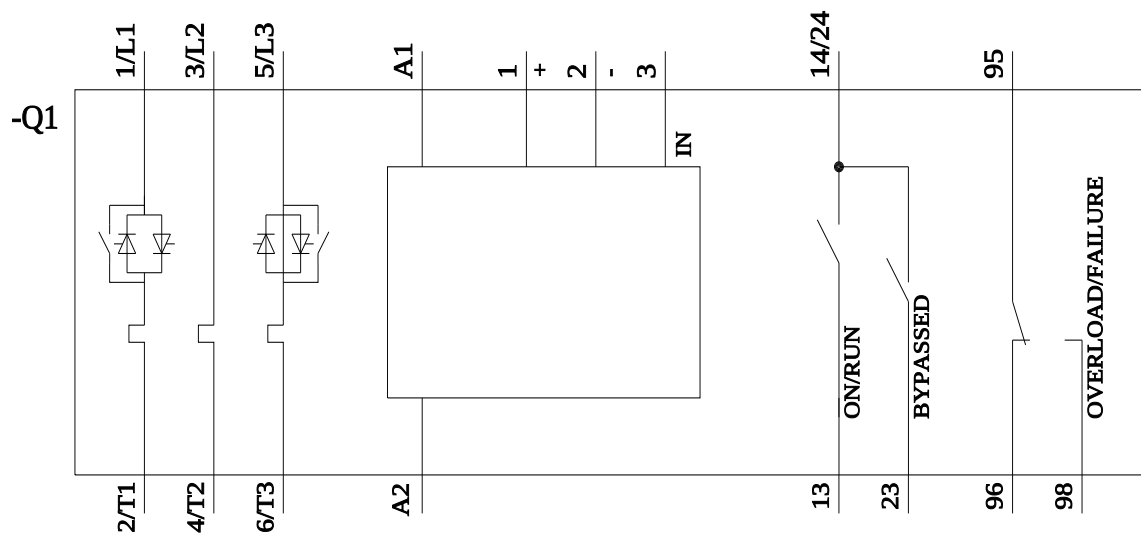
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4073-6BB44>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4073-6BB44&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4073-6BB44&lang=en)





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