

Siemens  
EcoTech



SIRIUS soft starter 200-480 V 18 A, 110-250 V AC Screw terminals Analog output



|   |   |
|---|---|
| <b>product brand name</b>   | SIRIUS  |
| <b>product category</b>   | Hybrid switching devices  |
| <b>product designation</b>  | Soft starter  |
| <b>product type designation</b>   | 3RW52   |
| <b>manufacturer's article number</b>  |   |
| <ul style="list-style-type: none"> <li>• of standard HMI module usable</li> <li>• of high feature HMI module usable</li> <li>• of communication module PROFINET standard usable</li> <li>• of communication module PROFIBUS usable</li> <li>• of communication module Modbus TCP usable</li> <li>• of communication module Modbus RTU usable</li> <li>• of communication module Ethernet/IP</li> <li>• of circuit breaker usable at 400 V</li> <li>• of circuit breaker usable at 500 V</li> <li>• of circuit breaker usable at 400 V at inside-delta circuit</li> <li>• of circuit breaker usable at 500 V at inside-delta circuit</li> <li>• of the gG fuse usable up to 690 V</li> <li>• of the gG fuse usable at inside-delta circuit up to 500 V</li> <li>• of full range R fuse link for semiconductor protection usable up to 690 V</li> <li>• of back-up R fuse link for semiconductor protection usable up to 690 V</li> </ul> | <ul style="list-style-type: none"> <li><a href="#">3RW5980-0HS00</a></li> <li><a href="#">3RW5980-0HF00</a></li> <li><a href="#">3RW5980-0CS00</a></li> <li><a href="#">3RW5980-0CP00</a></li> <li><a href="#">3RW5980-0CT00</a></li> <li><a href="#">3RW5980-0CR00</a></li> <li><a href="#">3RW5980-0CE00</a></li> <li><a href="#">3RV2032-4DA10; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li><a href="#">3RV2032-4DA10; Type of coordination 1, Iq = 15 kA, CLASS 10</a></li> <li><a href="#">3RV2032-4EA10; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li><a href="#">3RV2032-4EA10; Type of coordination 1, Iq = 15 kA, CLASS 10</a></li> <li><a href="#">3NA3820-6; Type of coordination 1, Iq = 65 kA</a></li> <li><a href="#">3NA3820-6; Type of coordination 1, Iq = 65 kA</a></li> <li><a href="#">3NE1802-0; Type of coordination 2, Iq = 65 kA</a></li> <li><a href="#">3NE8020-1; Type of coordination 2, Iq = 65 kA</a></li> </ul> |
| <b>General technical data</b>   |   |
| <b>starting voltage [%]</b>   | 30 ... 100 %  |
| <b>stopping voltage [%]</b>   | 50 %; non-adjustable  |
| <b>start-up ramp time of soft starter</b>   | 0 ... 20 s  |
| <b>current limiting value [%] adjustable</b>  | 130 ... 700 %   |
| <b>certificate of suitability</b>   |   |
| <ul style="list-style-type: none"> <li>• CE marking</li> <li>• UL approval</li> <li>• CSA approval</li> </ul>   | <ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>   |
| <b>product component</b>  |   |
| <ul style="list-style-type: none"> <li>• HMI-High Feature</li> <li>• is supported HMI-Standard</li> <li>• is supported HMI-High Feature</li> </ul>  | <ul style="list-style-type: none"> <li>No</li> <li>Yes</li> <li>Yes</li> </ul>  |
| <b>product feature integrated bypass contact system</b>   | Yes   |
| <b>number of controlled phases</b>  | 3   |
| <b>buffering time in the event of power failure</b>   |   |

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|--|---|
| <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for control circuit</li> </ul>  | 100 ms<br>100 ms  |
| <b>insulation voltage rated value</b>  | 600 V   |
| <b>degree of pollution</b>   | 3, acc. to IEC 60947-4-2  |
| <b>impulse voltage rated value</b>   | 6 kV  |
| <b>blocking voltage of the thyristor maximum</b>   | 1 600 V   |
| <b>service factor</b>  | 1   |
| <b>surge voltage resistance rated value</b>  | 6 kV  |
| <b>maximum permissible voltage for protective separation</b> <ul style="list-style-type: none"> <li>• between main and auxiliary circuit</li> </ul>  | 600 V   |
| <b>shock resistance</b>  | 15 g / 11 ms, from 12 g / 11 ms with potential contact lifting  |
| <b>vibration resistance</b>  | 15 mm to 6 Hz; 2g to 500 Hz   |
| utilization category according to IEC 60947-4-2  | AC 53a  |
| <b>reference code according to IEC 81346-2</b>   | Q   |
| <b>Substance Prohibitance (Date)</b>   | 02/15/2018  |
| <b>SVHC substance name</b>   | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8<br>2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7<br>6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1<br>2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5<br>Dibutylbis(pentane-2,4-dionato-O,O')tin - 22673-19-4  |
| <b>Weight</b>  | 3.06 kg   |
| <b>product function</b> <ul style="list-style-type: none"> <li>• ramp-up (soft starting)</li> <li>• ramp-down (soft stop)</li> <li>• Soft Torque</li> <li>• adjustable current limitation</li> <li>• pump ramp down</li> <li>• intrinsic device protection</li> <li>• motor overload protection</li> <li>• evaluation of thermistor motor protection</li> <li>• inside-delta circuit</li> <li>• auto-RESET</li> <li>• manual RESET</li> <li>• remote reset</li> <li>• communication function</li> <li>• operating measured value display</li> <li>• error logbook</li> <li>• via software parameterizable</li> <li>• via software configurable</li> <li>• <b>PROFInergy</b></li> <li>• <b>firmware update</b></li> <li>• <b>removable terminal for control circuit</b></li> <li>• torque control</li> <li>• analog output</li> </ul> | Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes; Electronic motor overload protection<br>No<br>Yes<br>Yes<br>Yes<br>Yes; By turning off the control supply voltage<br>Yes<br>Yes; Only in conjunction with special accessories<br>Yes; Only in conjunction with special accessories<br>No<br>Yes<br>Yes; in connection with the PROFINET Standard communication module<br>Yes<br>Yes<br>No<br>Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI) |
| <b>Power Electronics</b>   |   |
| <b>operational current</b> <ul style="list-style-type: none"> <li>• at 40 °C rated value</li> <li>• at 50 °C rated value</li> <li>• at 60 °C rated value</li> </ul>  | 18 A<br>15.9 A<br>13.8 A  |
| <b>operational current at inside-delta circuit</b> <ul style="list-style-type: none"> <li>• at 40 °C rated value</li> <li>• at 50 °C rated value</li> <li>• at 60 °C rated value</li> </ul>  | 31.5 A<br>28 A<br>23.9 A  |
| <b>operating voltage</b> <ul style="list-style-type: none"> <li>• rated value</li> <li>• at inside-delta circuit rated value</li> </ul>  | 200 ... 480 V<br>200 ... 480 V  |
| <b>relative negative tolerance of the operating voltage</b>  | -15 %   |
| <b>relative positive tolerance of the operating voltage</b>  | 10 %  |
| <b>relative negative tolerance of the operating voltage at inside-delta circuit</b>  | -15 %   |
| <b>relative positive tolerance of the operating voltage at inside-delta circuit</b>  | 10 %  |

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| <b>operating power for 3-phase motors</b>                                |  |
| • at 230 V at 40 °C rated value  | 4 kW                                   |
| • at 230 V at inside-delta circuit at 40 °C rated value                  | 7.5 kW                                 |
| • at 400 V at 40 °C rated value  | 7.5 kW                                 |
| • at 400 V at inside-delta circuit at 40 °C rated value                  | 15 kW                                  |
| <b>Operating frequency 1 rated value</b>                                 | 50 Hz                                  |
| <b>Operating frequency 2 rated value</b>                                 | 60 Hz                                  |
| <b>relative negative tolerance of the operating frequency</b>            | -10 %                                  |
| <b>relative positive tolerance of the operating frequency</b>            | 10 %                                   |
| <b>adjustable motor current</b>  |  |
| • at rotary coding switch on switch position 1                           | 7.5 A                                  |
| • at rotary coding switch on switch position 2                           | 8.2 A                                  |
| • at rotary coding switch on switch position 3                           | 8.9 A                                  |
| • at rotary coding switch on switch position 4                           | 9.6 A                                  |
| • at rotary coding switch on switch position 5                           | 10.3 A                                 |
| • at rotary coding switch on switch position 6                           | 11 A                                   |
| • at rotary coding switch on switch position 7                           | 11.7 A                                 |
| • at rotary coding switch on switch position 8                           | 12.4 A                                 |
| • at rotary coding switch on switch position 9                           | 13.1 A                                 |
| • at rotary coding switch on switch position 10                          | 13.8 A                                 |
| • at rotary coding switch on switch position 11                          | 14.5 A                                 |
| • at rotary coding switch on switch position 12                          | 15.2 A                                 |
| • at rotary coding switch on switch position 13                          | 15.9 A                                 |
| • at rotary coding switch on switch position 14                          | 16.6 A                                 |
| • at rotary coding switch on switch position 15                          | 17.3 A                                 |
| • at rotary coding switch on switch position 16                          | 18 A                                   |
| • minimum  | 7.5 A                                  |
| <b>adjustable motor current</b>  |  |
| • for inside-delta circuit at rotary coding switch on switch position 1  | 13 A                                   |
| • for inside-delta circuit at rotary coding switch on switch position 2  | 14.2 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 3  | 15.4 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 4  | 16.6 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 5  | 17.8 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 6  | 19.1 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 7  | 20.3 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 8  | 21.5 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 9  | 22.7 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 10 | 23.9 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 11 | 25.1 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 12 | 26.3 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 13 | 27.5 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 14 | 28.8 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 15 | 30 A                                   |
| • for inside-delta circuit at rotary coding switch on switch position 16 | 31.2 A                                 |
| • at inside-delta circuit minimum  | 13 A                                   |
| <b>minimum load [%]</b>  | 15 %; Relative to smallest settable Ie |
| <b>power loss [W] for rated value of the current at AC</b>               |  |
| • at 40 °C after startup   | 17 W                                   |
| • at 50 °C after startup   | 17 W                                   |
| • at 60 °C after startup   | 16 W                                   |

|   |       |
|---|-------|
| <b>power loss [W] at AC at current limitation 350 %</b> |       |
| • at 40 °C during startup                               | 276 W |
| • at 50 °C during startup                               | 241 W |
| • at 60 °C during startup                               | 200 W |

#### Control circuit/ Control

|   |  |
|---|--|
| <b>type of voltage of the control supply voltage</b>                            | AC   |
| <b>control supply voltage at AC</b>   |  |
| • at 50 Hz  | 110 ... 250 V  |
| • at 60 Hz  | 110 ... 250 V  |
| <b>relative negative tolerance of the control supply voltage at AC at 50 Hz</b> | -15 %  |
| <b>relative positive tolerance of the control supply voltage at AC at 50 Hz</b> | 10 %   |
| <b>relative negative tolerance of the control supply voltage at AC at 60 Hz</b> | -15 %  |
| <b>relative positive tolerance of the control supply voltage at AC at 60 Hz</b> | 10 %   |
| <b>control supply voltage frequency</b>   | 50 ... 60 Hz   |
| <b>relative negative tolerance of the control supply voltage frequency</b>      | -10 %  |
| <b>relative positive tolerance of the control supply voltage frequency</b>      | 10 %   |
| <b>control supply current in standby mode rated value</b>                       | 30 mA  |
| <b>holding current in bypass operation rated value</b>                          | 75 mA  |
| <b>inrush current by closing the bypass contacts maximum</b>                    | 0.17 A   |
| inrush current peak at application of control supply voltage maximum            | 12.2 A   |
| duration of inrush current peak at application of control supply voltage        | 2.2 ms   |
| <b>design of the overvoltage protection</b>                                     | Varistor   |
| <b>design of short-circuit protection for control circuit</b>                   | 4 A gG fuse (I <sub>cu</sub> =1 kA), 6 A quick-acting fuse (I <sub>cu</sub> =1 kA), C1 miniature circuit breaker (I <sub>cu</sub> = 600 A), C6 miniature circuit breaker (I <sub>cu</sub> = 300 A); Is not part of scope of supply |

#### Inputs/ Outputs

|  |   |
|--|---|
| <b>number of digital inputs</b>                        | 1   |
| <b>number of digital outputs</b>                       | 3   |
| • not parameterizable                                  | 2   |
| <b>digital output version</b>                          | 2 normally-open contacts (NO) / 1 changeover contact (CO) |
| <b>number of analog outputs</b>                        | 1   |
| <b>switching capacity current of the relay outputs</b> |   |
| • at AC-15 at 250 V rated value                        | 3 A   |
| • at DC-13 at 24 V rated value                         | 1 A   |

#### Installation/ mounting/ dimensions

|   |  |
|---|--|
| <b>mounting position</b>                    | +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface |
| <b>fastening method</b>                     | screw fixing   |
| <b>height</b>                               | 275 mm   |
| <b>width</b>                                | 170 mm   |
| <b>depth</b>                                | 152 mm   |
| required spacing with side-by-side mounting |  |
| • forwards                                  | 10 mm  |
| • backwards                                 | 0 mm   |
| • upwards                                   | 100 mm   |
| • downwards                                 | 75 mm  |
| • at the side                               | 5 mm   |
| <b>weight without packaging</b>             | 2.1 kg   |

#### Connections/ Terminals

|   |  |
|---|--|
| <b>type of electrical connection</b>                |  |
| • for main current circuit                          | screw-type terminals   |
| • for control circuit                               | screw-type terminals   |
| <b>type of connectable conductor cross-sections</b> |  |
| • for main contacts                                 |  |
| — solid   | 2x (1.0 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )  |
| — finely stranded with core end processing          | 2x (1.0 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6.0 mm <sup>2</sup> ) |

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>for AWG cables for main current circuit solid</li> </ul>   | 2x (16 ... 12), 2x (14 ... 8)  |
| <b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>for control circuit solid</li> <li>for control circuit finely stranded with core end processing</li> <li>for AWG cables for control circuit solid</li> </ul>   | 1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )<br>1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )<br>1x (20 ... 12), 2x (20 ... 14)   |
| <b>wire length</b> <ul style="list-style-type: none"> <li>between soft starter and motor maximum</li> <li>at the digital inputs at AC maximum</li> </ul>  | 800 m<br>100 m   |
| <b>tightening torque</b> <ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> <li>for auxiliary and control contacts with screw-type terminals</li> </ul>  | 2 ... 2.5 N·m<br>0.8 ... 1.2 N·m   |
| <b>tightening torque [lbf·in]</b> <ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> <li>for auxiliary and control contacts with screw-type terminals</li> </ul>   | 18 ... 22 lbf·in<br>7 ... 10.3 lbf·in  |
| <b>Ambient conditions</b>   |  |
| installation altitude at height above sea level maximum   | 5 000 m; Derating as of 1000 m, see catalog  |
| <b>ambient temperature</b> <ul style="list-style-type: none"> <li>during operation</li> <li>during storage and transport</li> </ul>   | -25 ... +60 °C; Please observe derating at temperatures of 40 °C or above<br>-40 ... +80 °C  |
| <b>environmental category</b> <ul style="list-style-type: none"> <li>during operation according to IEC 60721</li> <li>during storage according to IEC 60721</li> <li>during transport according to IEC 60721</li> </ul>   | 3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6<br>1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4<br>2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)  |
| <b>Environmental footprint</b>  |  |
| global warming potential [CO <sub>2</sub> eq] total   | 185 kg   |
| global warming potential [CO <sub>2</sub> eq] during manufacturing  | 37.2 kg  |
| global warming potential [CO <sub>2</sub> eq] during sales  | 0.66 kg  |
| global warming potential [CO <sub>2</sub> eq] during operation  | 152 kg   |
| global warming potential [CO <sub>2</sub> eq] after end of life   | -4.19 kg   |
| Siemens Eco Profile (SEP)   | Siemens EcoTech  |
| <b>Electromagnetic compatibility</b>  |  |
| <b>EMC emitted interference</b>   | acc. to IEC 60947-4-2: Class A   |
| <b>Communication/ Protocol</b>  |  |
| <b>communication module is supported</b> <ul style="list-style-type: none"> <li>PROFINET standard</li> <li>EtherNet/IP</li> <li>Modbus RTU</li> <li>Modbus TCP</li> <li>PROFIBUS</li> </ul>   | Yes<br>Yes<br>Yes<br>Yes<br>Yes  |
| <b>UL/CSA ratings</b>   |  |
| <b>manufacturer's article number</b> <ul style="list-style-type: none"> <li> <b>of circuit breaker usable for Standard Faults</b> <ul style="list-style-type: none"> <li>at 460/480 V according to UL</li> <li>60/480 V according to UL</li> <li>at 460/480 V at inside-delta circuit according to UL</li> <li>60/480 V at inside-delta circuit according to UL</li> <li>at 575/600 V according to UL</li> <li>at 575/600 V at inside-delta circuit according to UL</li> </ul> </li> <li> <b>of the fuse</b> <ul style="list-style-type: none"> <li>usable for Standard Faults up to 575/600 V according to UL</li> <li>usable for High Faults up to 575/600 V according to UL</li> <li>usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL</li> <li>usable for High Faults at inside-delta circuit up to 575/600 V according to UL</li> </ul> </li> </ul> | Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; I <sub>q</sub> = 5 kA<br>Siemens type: 3RV2742, max. 30 A or 3VA51, max. 35 A; I <sub>q</sub> max = 65 kA<br>Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; I <sub>q</sub> = 5 kA<br>Siemens type: 3VA51, max. 35 A; I <sub>q</sub> max = 65 kA<br>Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; I <sub>q</sub> = 5 kA<br>Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; I <sub>q</sub> = 5 kA<br>Type: Class RK5 / K5, max. 70 A; I <sub>q</sub> = 5 kA<br>Type: Class J / L, max. 70 A; I <sub>q</sub> = 100 kA<br>Type: Class RK5 / K5, max. 70 A; I <sub>q</sub> = 5 kA<br>Type: Class J / L, max. 70 A; I <sub>q</sub> = 100 kA |
| <b>operating power [hp] for 3-phase motors</b> <ul style="list-style-type: none"> <li>at 200/208 V at 50 °C rated value</li> </ul>  | 3 hp   |

- at 220/230 V at 50 °C rated value 5 hp
- at 460/480 V at 50 °C rated value 10 hp
- at 200/208 V at inside-delta circuit at 50 °C rated value 7.5 hp
- at 220/230 V at inside-delta circuit at 50 °C rated value 7.5 hp
- at 460/480 V at inside-delta circuit at 50 °C rated value 20 hp

**contact rating of auxiliary contacts according to UL** R300-B300

Electrical Safety

**protection class IP on the front according to IEC 60529** IP20

**touch protection on the front according to IEC 60529** finger-safe, for vertical contact from the front

#### Approvals Certificates

General Product Approval

EMV



EMV

Test Certificates

Maritime application

[KC](#)

[Type Test Certificates/Test Report](#)



other

Environment



[Confirmation](#)

Siemens EcoTech



[Environmental Confirmations](#)

#### Further information

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=3RW5214-1AC14>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5214-1AC14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5214-1AC14>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5214-1AC14&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5214-1AC14&lang=en)

Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5214-1AC14/char>

Characteristic: Installation altitude

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5214-1AC14&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

<https://support.industry.siemens.com/cs/ww/en/view/101494917>





