



SIRIUS soft starter S12 280 A, 200 kW/500 V, 40 °C 400-600 V AC, 230 V AC  
Screw terminals !!! Phased-out product !!! Successor is SIRIUS 3RW5, Preferred  
successor type is >>3RW5074-6AB15<<

### General technical data

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Soft starter
<b>product feature</b>	
• integrated bypass contact system	Yes
• thyristors	Yes
<b>product function</b>	
• 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
<b>product component motor brake output</b>	No
<b>insulation voltage rated value</b>	600 V
<b>degree of pollution</b>	3, acc. to IEC 60947-4-2
<b>reference code according to EN 61346-2</b>	Q
<b>reference code according to DIN 40719 extended according to IEC 204-2 according to IEC 750</b>	G

### Power Electronics

<b>operational current</b>	
• at 40 °C rated value	280 A
• at 50 °C rated value	248 A
• at 60 °C rated value	215 A
<b>yielded mechanical performance for 3-phase motors</b>	
• at 400 V	
— at standard circuit at 40 °C rated value	160 kW
• at 500 V	
— at standard circuit at 40 °C rated value	200 kW
<b>operating frequency rated value</b>	50 ... 60 Hz
<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>	400 ... 600 V
<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 %

minimum load [%]	20 %
adjustable motor current for motor overload protection minimum rated value	130 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	
• at 50 Hz rated value	230 V
• at 60 Hz rated value	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	
• upwards	100 mm
• at the side	5 mm
• downwards	75 mm
wire length maximum	300 m
number of poles for main current circuit	3
<b>Connections/ Terminals</b>	
type of electrical connection	
• for main current circuit	busbar connection
• 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	
• finely stranded with core end processing	70 ... 240 mm <sup>2</sup>
• finely stranded without core end processing	70 ... 240 mm <sup>2</sup>
• stranded	95 ... 300 mm <sup>2</sup>
type of connectable conductor cross-sections for main contacts for box terminal using the back clamping point	
• finely stranded with core end processing	120 ... 185 mm <sup>2</sup>
• finely stranded without core end processing	120 ... 185 mm <sup>2</sup>
• stranded	120 ... 240 mm <sup>2</sup>
type of connectable conductor cross-sections for main contacts for box terminal using both clamping points	
• finely stranded with core end processing	min. 2x 50 mm <sup>2</sup> , max. 2x 185 mm <sup>2</sup>
• finely stranded without core end processing	min. 2x 50 mm <sup>2</sup> , max. 2x 185 mm <sup>2</sup>

<ul style="list-style-type: none"> <li>• stranded</li> </ul>	max. 2x 70 mm <sup>2</sup> , max. 2x 240 mm <sup>2</sup>
<b>type of connectable conductor cross-sections for AWG cables for main contacts for box terminal</b> <ul style="list-style-type: none"> <li>• using the back clamping point</li> <li>• using the front clamping point</li> <li>• using both clamping points</li> </ul>	250 ... 500 kcmil 3/0 ... 600 kcmil 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 mm <sup>2</sup> 70 ... 240 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> ) 2x (0.5 ... 1.5 mm <sup>2</sup> )
<b>type of connectable conductor cross-sections for AWG cables</b> <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary contacts</li> <li>• for auxiliary contacts finely stranded with core end processing</li> </ul>	2/0 ... 500 kcmil 2x (20 ... 14) 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) 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4 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 -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 460/480 V               <ul style="list-style-type: none"> <li>— at standard circuit at 50 °C rated value</li> </ul> </li> <li>• at 575/600 V               <ul style="list-style-type: none"> <li>— at standard circuit at 50 °C rated value</li> </ul> </li> </ul>	200 hp 250 hp
<b>contact rating of auxiliary contacts according to UL</b>	B300 / R300

**Approvals Certificates**

<b>Environment</b>	<b>General Product Approval</b>
--------------------	---------------------------------

[Environmental Con-  
firmations](#)



<b>EMV</b>	<b>For use in hazard- ous locations</b>	<b>Test Certificates</b>	<b>Maritime application</b>
------------	---	--------------------------	-----------------------------



[Special Test Certi-  
cate](#)



other

**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=3RW4074-6BB45>

**Cax online generator**

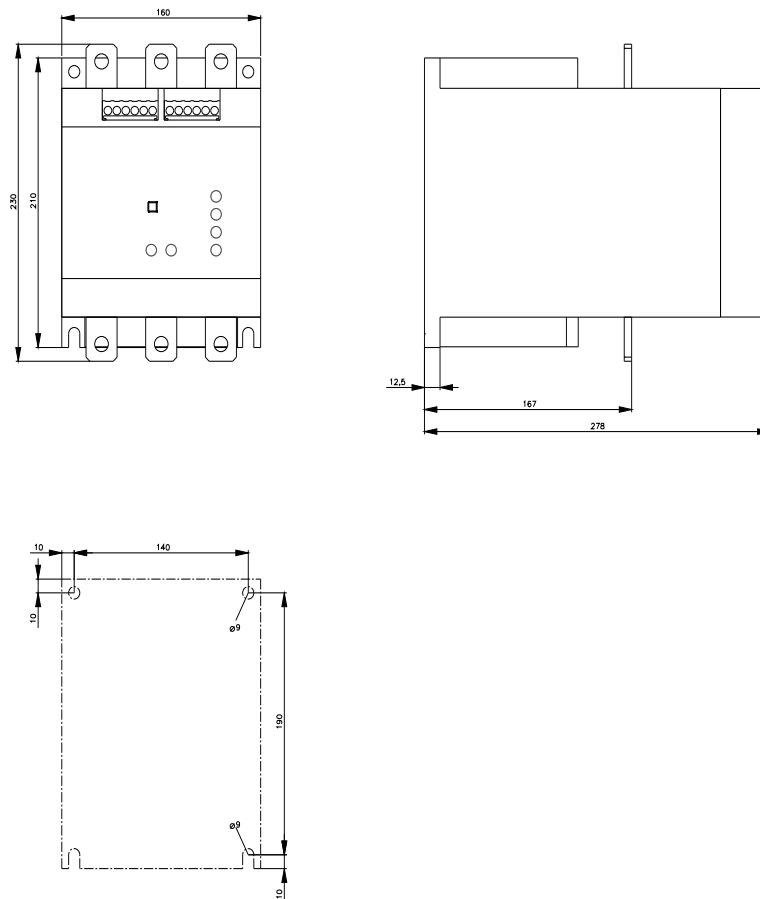
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4074-6BB45>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4074-6BB45>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4074-6BB45&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4074-6BB45&lang=en)





last modified:

4/1/2025 