

SIRIUS Compact load feeder Reversing starter for IO-Link 690 V 24 V DC 3...12 A IP20 Connection main circuit: Spring-type terminal Connection control circuit: Spring-type terminal



Product brand name	SIRIUS
Product designation	Compact starter for IO-Link
Design of the product	reversing starter
Product type designation	3RA65

General technical data	
<b>Product function</b>	
• Control circuit interface to parallel wiring	No
<b>Product extension</b>	
• Auxiliary switch	Yes
<b>Power loss [W] for rated value of the current</b>	
• at AC in hot operating state	1.8 W
• at AC in hot operating state per pole	0.6 W
<b>Insulation voltage</b>	
• rated value	690 V
<b>Degree of pollution</b>	3
<b>Surge voltage resistance rated value</b>	6 000 V
<b>Protection class IP</b>	IP20
<b>Shock resistance</b>	a=60 m/s <sup>2</sup> (6g) with 10 ms per 3 shocks in all axes
<b>Vibration resistance</b>	f= 4 ... 5.8 Hz, d= 15 mm; f= 5.8 ... 500 Hz, a= 20 m/s <sup>2</sup> ; 10 cycles

<b>Mechanical service life (switching cycles)</b>	
• of the main contacts typical	10 000 000
• of auxiliary contacts typical	10 000 000
• of the signaling contacts typical	10 000 000
<b>Electrical endurance (switching cycles) of auxiliary contacts</b>	
• at DC-13 at 6 A at 24 V typical	30 000
• at AC-15 at 6 A at 230 V typical	200 000
<b>Type of assignment</b>	continuous operation according to IEC 60947-6-2
<b>Reference code acc. to DIN EN 81346-2</b>	Q
<b>Reference code acc. to DIN EN 61346-2</b>	Q

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
• maximum	2 000 m
<b>Ambient temperature</b>	
• during operation	-20 ... +60 °C
• during storage	-55 ... +80 °C
• during transport	-55 ... +80 °C
Relative humidity during operation	10 ... 90 %

### Main circuit

<b>Number of poles for main current circuit</b>	3
<b>Adjustable pick-up value current of the current-dependent overload release</b>	3 ... 12 A
<b>Formula for making capacity limit current</b>	12 x I <sub>e</sub>
<b>Formula for interruption capacity limit current</b>	10 x I <sub>e</sub>
<b>Mechanical power output for 4-pole AC motor</b>	
• at 400 V rated value	5.5 kW
• at 500 V rated value	5.5 kW
• at 690 V rated value	7.5 kW
<b>Operating voltage</b>	
• at AC-3 rated value maximum	690 V
<b>Operating current</b>	
• at AC at 400 V rated value	12 A
• at AC-43	
— at 400 V rated value	11.5 A
— at 500 V rated value	12.4 A
— at 690 V rated value	8.9 A
<b>Operating power</b>	
• at AC-3	
— at 400 V rated value	5.5 kW
• at AC-43	
— at 400 V rated value	5 500 W

— at 500 V rated value	5 500 W
— at 690 V rated value	7 500 W
<b>No-load switching frequency</b>	3 600 1/h
<b>Operating frequency</b>	
• at AC-41 acc. to IEC 60947-6-2 maximum	750 1/h
• at AC-43 acc. to IEC 60947-6-2 maximum	250 1/h

#### Control circuit/ Control

<b>Type of voltage</b>	DC
<b>Holding power</b>	
• at DC maximum	2.9 W

#### Auxiliary circuit

<b>Number of NC contacts for auxiliary contacts</b>	0
<b>Number of NO contacts for auxiliary contacts</b>	0
<b>Operating current of auxiliary contacts at AC-12 maximum</b>	10 A
<b>Operating current of auxiliary contacts at DC-13</b>	
• at 250 V	0.27 A

#### Protective and monitoring functions

<b>Trip class</b>	CLASS 10 and 20 adjustable
<b>Operational short-circuit current breaking capacity (Ics)</b>	
• at 400 V	53 kA
• at 500 V rated value	3 kA
• at 690 V rated value	3 kA

#### UL/CSA ratings

<b>Full-load current (FLA) for three-phase AC motor</b>	
• at 480 V rated value	12 A
• at 600 V rated value	12 A
<b>Yielded mechanical performance [hp]</b>	
• for three-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	7.5 hp
— at 575/600 V rated value	10 hp

#### Short-circuit protection

<b>Product function Short circuit protection</b>	Yes
<b>Design of short-circuit protection</b>	electromagnetic
<b>Design of the fuse link</b>	
• for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A

Installation/ mounting/ dimensions	
<b>Mounting position</b>	any
• recommended	vertical, on horizontal standard mounting rail
<b>Mounting type</b>	screw and snap-on mounting
<b>Height</b>	191 mm
<b>Width</b>	90 mm
<b>Depth</b>	165 mm

Connections/ Terminals	
<b>Product function</b>	
• removable terminal for main circuit	Yes
• removable terminal for auxiliary and control circuit	Yes
<b>Type of electrical connection</b>	
• for main current circuit	spring-loaded terminals
• for auxiliary and control current circuit	spring-loaded terminals
<b>Type of connectable conductor cross-sections</b>	
• for main contacts	
— solid	2x (1.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup>
— finely stranded with core end processing	2x (1.5 ... 6 mm <sup>2</sup> )
— finely stranded without core end processing	2x (1.5 ... 6 mm <sup>2</sup> )
• at AWG conductors for main contacts	2x (16 ... 10), 1x 8
<b>Type of connectable conductor cross-sections</b>	
• for auxiliary contacts	
— solid	2x (0.25 ... 1.5 mm <sup>2</sup> )
— finely stranded with core end processing	2x (0.25 ... 1.5 mm <sup>2</sup> )
— finely stranded without core end processing	2x (0.25 ... 1.5 mm <sup>2</sup> )
• at AWG conductors for auxiliary contacts	2x (24 ... 16)

Safety related data	
<b>B10 value</b>	
• with high demand rate acc. to SN 31920	1 500 000
<b>Proportion of dangerous failures</b>	
• with high demand rate acc. to SN 31920	50 %

Communication/ Protocol	
<b>Product function Bus communication</b>	Yes
<b>Protocol is supported</b>	
• IO-Link protocol	Yes
Product function Control circuit interface with IO link	Yes
<b>IO-Link transfer rate</b>	COM2 (38,4 kBaud)
<b>Point-to-point cycle time between master and IO-Link device minimum</b>	2.5 ms

<b>Type of voltage supply via input/output link master</b>	No
<b>Amount of data</b>	
<ul style="list-style-type: none"> <li>• of the address area of the inputs with cyclical transfer total</li> </ul>	2 byte
<ul style="list-style-type: none"> <li>• of the address area of the outputs with cyclical transfer total</li> </ul>	2 byte

### Electromagnetic compatibility

<b>Conducted interference</b>	
<ul style="list-style-type: none"> <li>• due to burst acc. to IEC 61000-4-4</li> </ul>	4 kV main circuits, 2 kV auxiliary circuits, 2 kV IO-Link, 2 kV limit switches, 2 kV line hand-held device
<ul style="list-style-type: none"> <li>• due to conductor-earth surge acc. to IEC 61000-4-5</li> </ul>	4 kV main circuits, 0.5 kV auxiliary voltage with upstream overvoltage protection
<ul style="list-style-type: none"> <li>• due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul>	2 kV main circuits, 0.5 kV auxiliary voltage with upstream overvoltage protection
<ul style="list-style-type: none"> <li>• due to high-frequency radiation acc. to IEC 61000-4-6</li> </ul>	0.15-80Mhz at 10V
<b>Field-bound parasitic coupling acc. to IEC 61000-4-3</b>	80 ... 3000 MHz at 10V/m
<b>Electrostatic discharge acc. to IEC 61000-4-2</b>	8 kV
<b>Conducted HF-interference emissions acc. to CISPR11</b>	150 kHz ... 30 MHz Class A
<b>Field-bound HF-interference emission acc. to CISPR11</b>	30 ... 1000 MHz Class A

### Display

<b>Display version</b>	
<ul style="list-style-type: none"> <li>• as status display of the input/output link device</li> </ul>	green/red dual LED

### Certificates/ approvals

General Product Approval	EMC	Functional Safety/Safety of Machinery
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Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[Confirmation](#)

#### Further information

**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=3RA6500-2DB42>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6500-2DB42>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6500-2DB42>

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

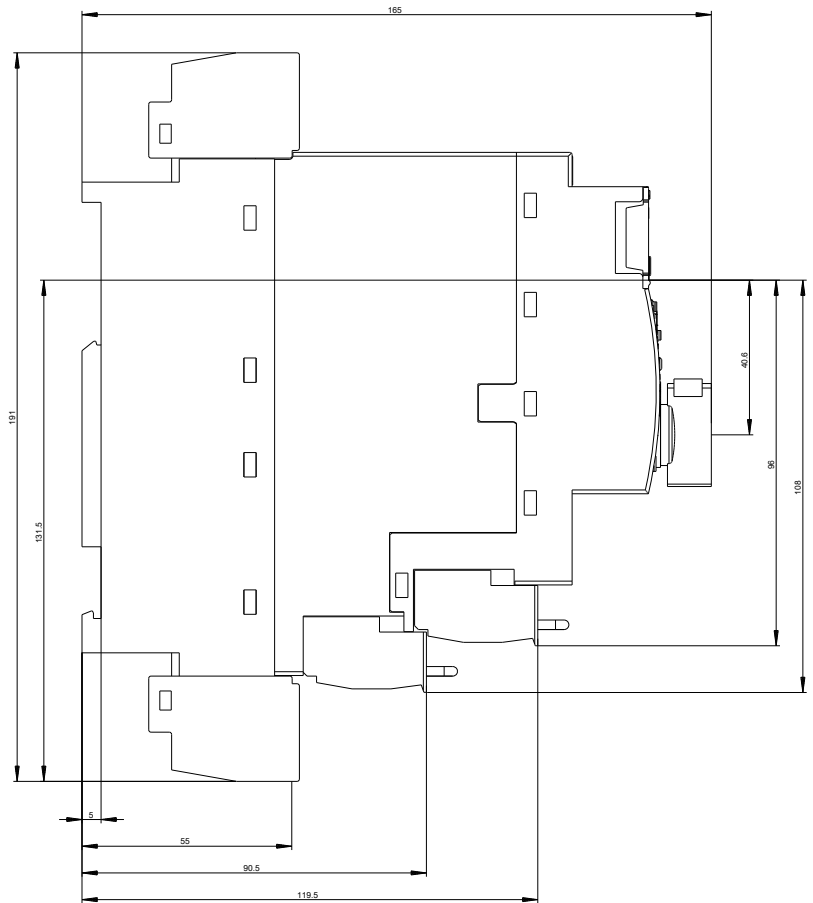
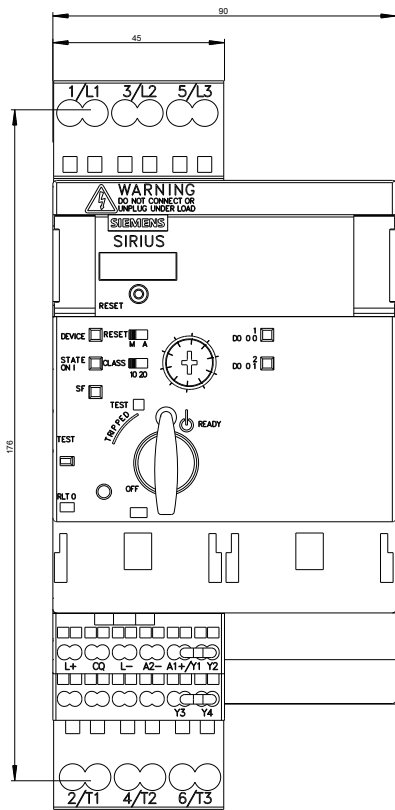
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6500-2DB42&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6500-2DB42&lang=en)

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

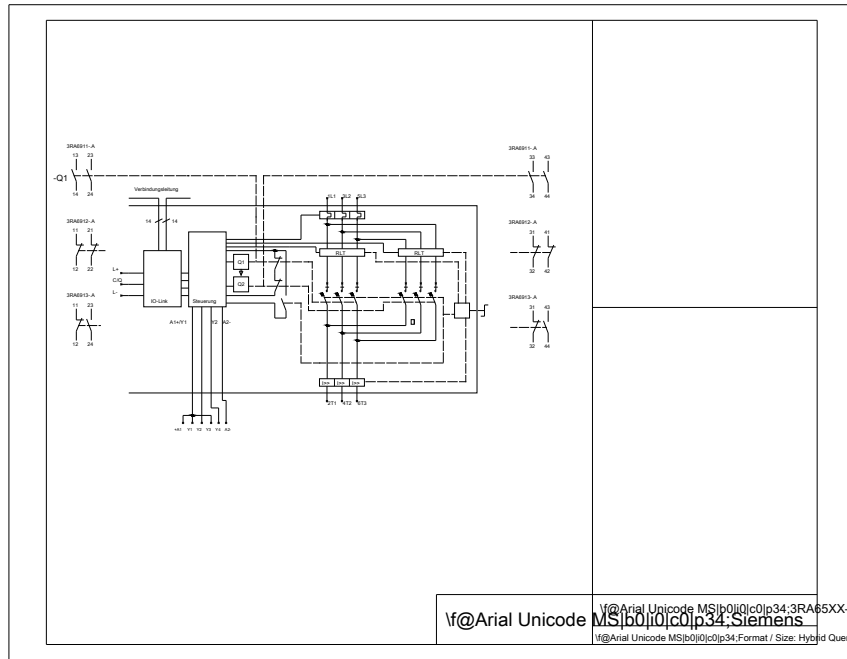
<https://support.industry.siemens.com/cs/ww/en/ps/3RA6500-2DB42/char>

**Further characteristics (e.g. electrical endurance, switching frequency)**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6500-2DB42&objecttype=14&gridview=view1>







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