



SIRIUS Compact load feeder DOL starter for IO-Link 690 V 24 V DC 3...12 A IP20 Connection main circuit: plug-in, without terminals Connection control circuit: screw terminal

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Compact starter for IO-Link
<b>design of the product</b>	direct starter
<b>product type designation</b>	3RA64
<b>General technical data</b>	
product function control circuit interface to parallel wiring	No
product extension auxiliary switch	Yes
power loss [W] for rated value of the current at AC in hot operating state	1.8 W
• per pole	0.6 W
<b>power loss [W] for rated value of the current without load current share typical</b>	2.9 W
insulation voltage rated value	690 V
<b>degree of pollution</b>	3
<b>surge voltage resistance rated value</b>	6 000 V
<b>degree of protection NEMA rating</b>	other
<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 IEC 81346-2</b>	Q
Substance Prohibitance (Date)	01.05.2012 00:00:00
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
• ambient temperature during operation	-20 ... +60 °C
• ambient temperature during storage	-55 ... +80 °C
• ambient temperature during transport	-55 ... +80 °C
relative humidity during operation	10 ... 90 %
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3
<b>adjustable current response value current of the</b>	3 ... 12 A

<b>current-dependent overload release</b>	
<b>formula for making capacity limit current</b>	12 x I <sub>e</sub>
<b>formula for breaking capacity limit current</b>	10 x I <sub>e</sub>
<b>yielded mechanical performance 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
• operating voltage at AC-3 rated value maximum	690 V
<b>operational 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
<b>Control circuit/ Control</b>	
<b>type of voltage</b>	DC
<b>holding power</b>	
• at DC maximum	2.9 W
<b>Auxiliary circuit</b>	
<b>number of NC contacts for auxiliary contacts</b>	0
<b>number of NO contacts for auxiliary contacts</b>	0
number of NO contacts of instantaneous short-circuit trip unit for signaling contact	0
number of CO contacts of the current-dependent overload release for signaling contact	0
<b>operational current of auxiliary contacts at AC-12 maximum</b>	10 A
operational current of auxiliary contacts at DC-13 at 250 V	0.27 A
<b>Protective and monitoring functions</b>	
<b>trip class</b>	CLASS 10 and 20 adjustable
<b>breaking capacity operating short-circuit current (I<sub>cs</sub>)</b>	
• at 400 V	53 kA
• at 500 V rated value	3 kA
• at 690 V rated value	3 kA
<b>UL/CSA ratings</b>	
<b>full-load current (FLA) for 3-phase AC motor</b>	
• at 480 V rated value	12 A
• at 600 V rated value	12 A
yielded mechanical performance [hp] for 3-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
<b>Short-circuit protection</b>	
<b>product function short circuit protection</b>	Yes
<b>design of short-circuit protection</b>	electromagnetic
<b>design of the fuse link</b>	

<ul style="list-style-type: none"> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	fuse gL/gG: 10 A
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	any
<ul style="list-style-type: none"> <li>recommended</li> </ul>	vertical, on horizontal standard mounting rail
<b>fastening method</b>	screw and snap-on mounting
<b>height</b>	170 mm
<b>width</b>	45 mm
<b>depth</b>	165 mm
<b>Connections/ Terminals</b>	
<b>product function</b>	
<ul style="list-style-type: none"> <li>removable terminal for main circuit</li> </ul>	Yes
<ul style="list-style-type: none"> <li>removable terminal for auxiliary and control circuit</li> </ul>	Yes
<b>type of electrical connection</b>	
<ul style="list-style-type: none"> <li>for main current circuit</li> </ul>	plug-in without terminals
<ul style="list-style-type: none"> <li>for auxiliary and control circuit</li> </ul>	screw-type terminals
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>for main contacts <ul style="list-style-type: none"> <li>— solid</li> </ul> </li> </ul>	2x (1.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>— finely stranded with core end processing</li> </ul>	2x (1.5 ... 6 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>at AWG cables for main contacts</li> </ul>	2x (16 ... 10), 1x 8
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>for auxiliary contacts <ul style="list-style-type: none"> <li>— solid</li> </ul> </li> </ul>	0.5 ... 4 mm <sup>2</sup> , 2x (0.5 ... 2.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>— finely stranded with core end processing</li> </ul>	0.5 ... 2.5 mm <sup>2</sup> , 2x (0.5 ... 1.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>at AWG cables for auxiliary contacts</li> </ul>	2x (20 ... 14)
<b>Safety related data</b>	
B10 value with high demand rate acc. to SN 31920	3 000 000
<b>proportion of dangerous failures</b>	
<ul style="list-style-type: none"> <li>with high demand rate acc. to SN 31920</li> </ul>	50 %
<b>Communication/ Protocol</b>	
<b>product function bus communication</b>	Yes
<b>protocol is supported</b>	
<ul style="list-style-type: none"> <li>IO-Link protocol</li> </ul>	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>data volume</b>	
<ul style="list-style-type: none"> <li>of the address range of the inputs with cyclical transfer total</li> </ul>	2 byte
<ul style="list-style-type: none"> <li>of the address range of the outputs with cyclical transfer total</li> </ul>	2 byte
<b>Electromagnetic compatibility</b>	
<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-based interference 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
<b>Supply voltage</b>	

Supply voltage required Auxiliary voltage	Yes
<b>Display</b>	
number of LEDs	3
display version as status display of the input/output link device	green/red dual LED

<b>Certificates/ approvals</b>		
General Product Approval	EMC	Functional Safety/Safety of Machinery



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,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RA6400-1DB43>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6400-1DB43>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6400-1DB43>

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

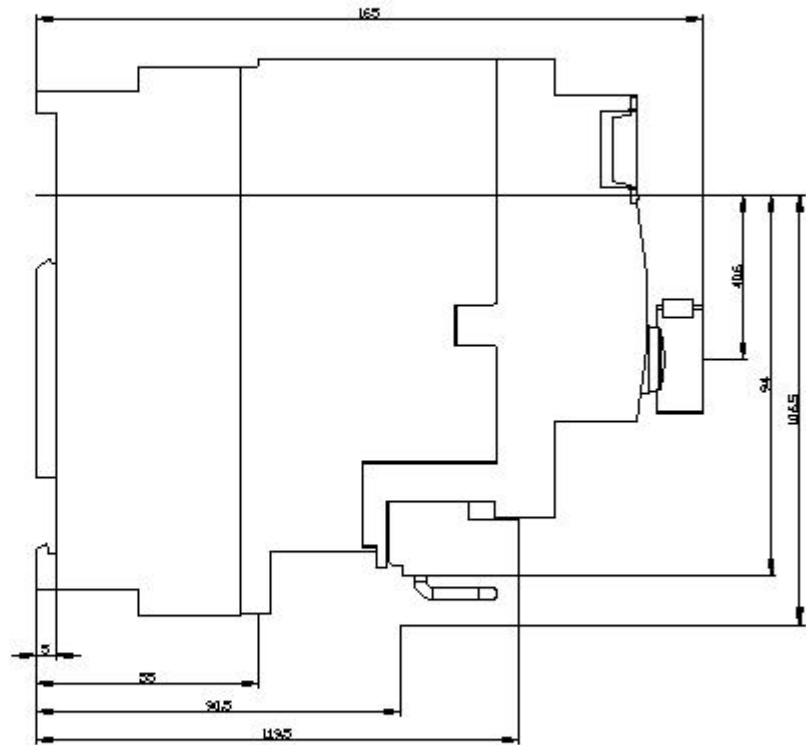
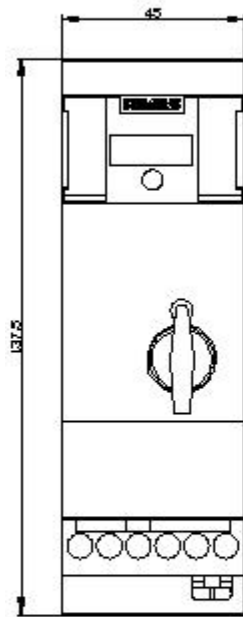
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6400-1DB43&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6400-1DB43&lang=en)

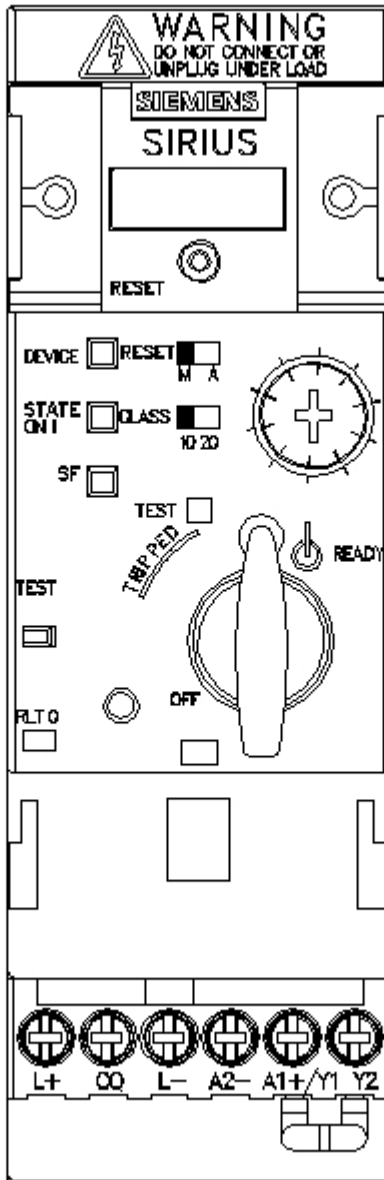
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6400-1DB43/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6400-1DB43&objecttype=14&gridview=view1>





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