



SIRIUS Compact load feeder DOL starter 690 V 24 V AC/DC 50...60 Hz 0.32...1.25 A IP20 Connection main circuit: plug-in, without terminals Connection auxiliary circuit: Spring-type terminal

<b>product brand name</b>	SIRIUS
<b>product designation</b>	compact starter
<b>design of the product</b>	direct starter
<b>product type designation</b>	3RA61
<b>General technical data</b>	
product function control circuit interface to parallel wiring	Yes
product extension auxiliary switch	Yes
<b>power loss [W] for rated value of the current</b>	
• at AC in hot operating state	0.1 W
• at AC in hot operating state per pole	0.03 W
• without load current share typical	2.9 W
<b>insulation voltage rated value</b>	690 V
<b>degree of pollution</b>	3
<b>surge voltage resistance rated value</b>	6 000 V
<b>maximum permissible voltage for protective separation</b>	
• between main and auxiliary circuit	400 V
• between auxiliary and auxiliary circuit	250 V
• between control and auxiliary circuit	300 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 (operating 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 (operating 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 coordination</b>	continuous operation according to IEC 60947-6-2
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	05/01/2012
<b>SVHC substance name</b>	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 Lead titanium zirconium oxide - 12626-81-2 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1
<b>Weight</b>	1.422 kg
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
• during operation	-20 ... +60 °C

<ul style="list-style-type: none"> <li>• during storage</li> </ul>	-55 ... +80 °C
<ul style="list-style-type: none"> <li>• during transport</li> </ul>	-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 current-dependent overload release</b>	0.32 ... 1.25 A
<b>formula for making capacity limit current</b>	38.4 x I <sub>e</sub>
<b>formula for limit current breaking capacity</b>	32 x I <sub>e</sub>
<b>yielded mechanical performance for 4-pole AC motor</b>	
<ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>	0.37 kW
<ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>	0.55 kW
<ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>	0.75 kW
operating voltage at AC-3 rated value maximum	690 V
<b>operational current</b>	
<ul style="list-style-type: none"> <li>• at AC at 400 V rated value</li> </ul>	1.25 A
<ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> </ul>	1.25 A
<ul style="list-style-type: none"> <li>• at AC-43 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>	1.1 A
<ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>	1.2 A
<ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>	1.1 A
<b>operating power</b>	
<ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> </ul>	0.37 kW
<ul style="list-style-type: none"> <li>• at AC-43 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>	370 W
<ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>	550 W
<ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>	750 W
<b>no-load switching frequency</b>	3 600 1/h
<b>operating frequency</b>	
<ul style="list-style-type: none"> <li>• at AC-41 according to IEC 60947-6-2 maximum</li> </ul>	750 1/h
<ul style="list-style-type: none"> <li>• at AC-43 according to IEC 60947-6-2 maximum</li> </ul>	250 1/h
<b>Control circuit/ Control</b>	
<b>type of voltage</b>	AC/DC
<b>control supply voltage 1 at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> </ul>	24 V
<ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	24 ... 24 V
<ul style="list-style-type: none"> <li>• at 60 Hz rated value</li> </ul>	24 V
<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	24 V
<b>control supply voltage frequency</b>	
<ul style="list-style-type: none"> <li>• 1 rated value</li> </ul>	50 Hz
<ul style="list-style-type: none"> <li>• 2 rated value</li> </ul>	60 Hz
<b>control supply voltage 1 at DC rated value</b>	24 V
<b>control supply voltage 1 at DC</b>	24 ... 24 V
<b>holding power</b>	
<ul style="list-style-type: none"> <li>• at AC maximum</li> </ul>	2.8 W
<ul style="list-style-type: none"> <li>• at DC maximum</li> </ul>	2.9 W
<b>Auxiliary circuit</b>	
<b>number of NC contacts for auxiliary contacts</b>	1
<b>number of NO contacts for auxiliary contacts</b>	1
number of NO contacts of instantaneous short-circuit trip unit for signaling contact	1
number of CO contacts of the current-dependent overload release for signaling contact	1
<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>operating short-circuit current breaking capacity (I<sub>cs</sub>)</b>	
<ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>	53 kA
<ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>	3 kA
<ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>	3 kA

UL/CSA ratings	
<b>full-load current (FLA) for 3-phase AC motor</b>	
<ul style="list-style-type: none"> <li>at 480 V rated value</li> <li>at 600 V rated value</li> </ul>	1.25 A 1.25 A
<b>yielded mechanical performance [hp] for 3-phase AC motor</b>	
<ul style="list-style-type: none"> <li>at 460/480 V rated value</li> <li>at 575/600 V rated value</li> </ul>	0.5 hp 0.5 hp
<b>contact rating of auxiliary contacts according to UL</b>	contacts 21-22, 13-14, 43-44 Q600 / A600, contacts 77-78 R300 / B300, contacts 95-96-98 R300 / D300
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>	
<ul style="list-style-type: none"> <li>for short-circuit protection of the auxiliary switch required</li> <li>for short-circuit protection of the signaling switch of the short-circuit release required</li> <li>for short-circuit protection of the signaling switch of the overload release required</li> </ul>	fuse gL/gG: 10 A 6A gL/gG/400V 4A gL/gG/400V
Installation/ mounting/ dimensions	
<b>mounting position</b>	any
<b>mounting position recommended</b>	vertical, on horizontal standard DIN rail
<b>fastening method</b>	screw and snap-on mounting
<b>height</b>	191 mm
<b>width</b>	45 mm
<b>depth</b>	165 mm
Connections/ Terminals	
<b>product component removable terminal for main circuit</b>	Yes
<b>product component removable terminal for auxiliary and control circuit</b>	Yes
<b>type of electrical connection</b>	
<ul style="list-style-type: none"> <li>for main current circuit</li> <li>for auxiliary and control circuit</li> </ul>	plug-in without terminals spring-loaded terminals
<b>type of connectable conductor cross-sections for main contacts</b>	
<ul style="list-style-type: none"> <li>solid</li> <li>finely stranded with core end processing</li> <li>finely stranded without core end processing</li> </ul>	2x (1.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup> 2x (1.5 ... 6 mm <sup>2</sup> ) 2x (1.5 ... 6 mm <sup>2</sup> )
<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> <li>finely stranded with core end processing</li> <li>finely stranded without core end processing</li> </ul> </li> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (0.25 ... 1.5 mm <sup>2</sup> ) 2x (0.25 ... 1.5 mm <sup>2</sup> ) 2x (0.25 ... 1.5 mm <sup>2</sup> ) 2x (24 ... 16)
Safety related data	
<b>proportion of dangerous failures</b>	
<ul style="list-style-type: none"> <li>with low demand rate according to SN 31920</li> <li>with high demand rate according to SN 31920</li> </ul>	40 % 50 %
<b>B10 value with high demand rate according to SN 31920</b>	3 000 000
<b>failure rate [FIT] with low demand rate according to SN 31920</b>	100 FIT
IEC 61508	
T1 value for proof test interval or service life according to IEC 61508	20 a
Electrical Safety	
<b>protection class IP on the front according to IEC 60529</b>	IP20
<b>touch protection on the front according to IEC 60529</b>	finger-safe
Communication/ Protocol	
<b>product function bus communication</b>	No
<b>protocol is supported</b>	
<ul style="list-style-type: none"> <li>AS-Interface protocol</li> <li>IO-Link protocol</li> </ul>	No No
<b>product function control circuit interface with IO link</b>	No
Electromagnetic compatibility	

<b>conducted interference</b>	<ul style="list-style-type: none"> <li>• due to burst according to IEC 61000-4-4</li> <li>• due to conductor-earth surge according to IEC 61000-4-5</li> <li>• due to conductor-conductor surge according to IEC 61000-4-5</li> <li>• due to high-frequency radiation according to IEC 61000-4-6</li> </ul>	4 kV main contacts, 2 kV auxiliary contacts 4 kV main contacts, 2 kV auxiliary contacts 2 kV main contacts, 1 kV auxiliary contacts  0.15-80Mhz at 10V
<b>field-based interference according to IEC 61000-4-3</b>		10 V/m
<b>electrostatic discharge according to IEC 61000-4-2</b>		8 kV
<b>conducted HF interference emissions according to CISPR11</b>		150 kHz ... 30 MHz Class A
<b>field-bound HF interference emission according to CISPR11</b>		30 ... 1000 MHz Class A

**Supply voltage**

<b>Supply voltage required Auxiliary voltage</b>	No
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**Display**

<b>number of LEDs</b>	2
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**Approvals Certificates**

<b>General Product Approval</b>	EMV
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<b>Functional Safety</b>	<b>Test Certificates</b>	<b>Maritime application</b>	<b>other</b>	<b>Dangerous goods</b>
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[Type Test Certificates/Test Report](#)



[Confirmation](#)

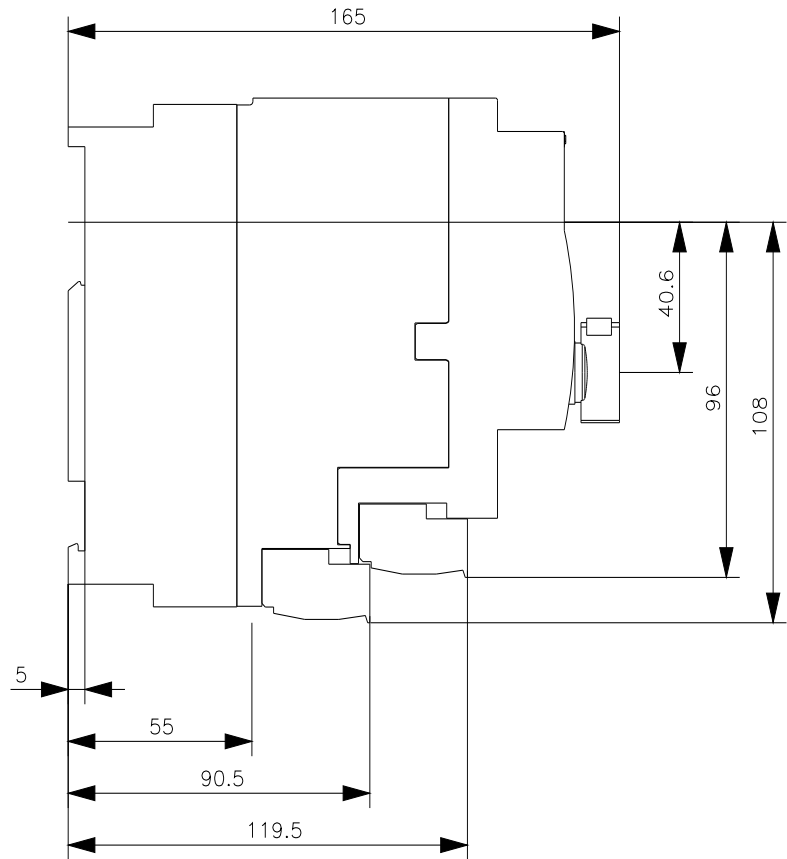
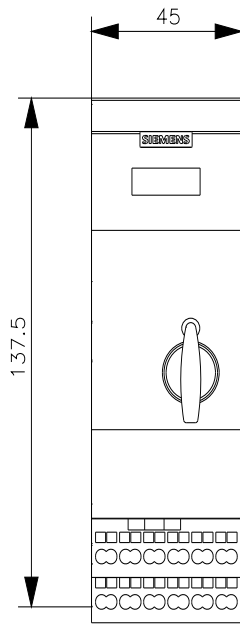
[Transport Information](#)

**Environment**

[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=3RA6120-2BB33>
- Cax online generator**  
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-2BB33>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-2BB33>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**  
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6120-2BB33&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-2BB33&lang=en)
- Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**  
<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-2BB33/char>
- Further characteristics (e.g. electrical endurance, switching frequency)**  
<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-2BB33&objectype=14&gridview=view1>







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