



SIRIUS Compact load feeder DOL starter 690 V 110...240 V AC/DC 50...60 Hz 8...32 A IP20 Connection main circuit: plug-in, without terminals  
Connection auxiliary circuit: screw 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
power loss [W] for rated value of the current at AC in hot operating state	5.4 W
• per pole	1.8 W
<b>power loss [W] for rated value of the current without load current share typical</b>	5.8 W
insulation voltage rated value	690 V
<b>degree of pollution</b>	3
<b>surge voltage resistance rated value</b>	6 000 V
<b>maximum permissible voltage for safe isolation</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 (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>	
number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	8 ... 32 A
formula for making capacity limit current	12 x I <sub>e</sub>
formula for breaking capacity limit current	10 x I <sub>e</sub>
yielded mechanical performance for 4-pole AC motor	
• at 400 V rated value	15 kW
• at 500 V rated value	11 kW
• at 690 V rated value	11 kW
• operating voltage at AC-3 rated value maximum	690 V
operational current	
• at AC at 400 V rated value	32 A
• at AC-43	
— at 400 V rated value	29 A
— at 500 V rated value	17.6 A
— at 690 V rated value	12.8 A
operating power	
• at AC-3 at 400 V rated value	15 kW
• at AC-43	
— at 400 V rated value	15 000 W
— at 500 V rated value	11 000 W
— at 690 V rated value	11 000 W
no-load switching frequency	3 600 1/h
operating frequency	
• 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>	
type of voltage	AC/DC
control supply voltage 1 at AC	
• at 50 Hz	110 ... 240 V
• at 60 Hz	110 ... 240 V
control supply voltage frequency	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
control supply voltage 1	
• at DC	110 ... 240 V
holding power	
• at AC maximum	5.2 W
• at DC maximum	5.8 W
<b>Auxiliary circuit</b>	
number of NC contacts for auxiliary contacts	1
number of NO contacts for auxiliary contacts	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
operational current of auxiliary contacts at AC-12 maximum	10 A
operational current of auxiliary contacts at DC-13 at 250 V	0.27 A
<b>Protective and monitoring functions</b>	
trip class	CLASS 10 and 20 adjustable
breaking capacity operating short-circuit current (I <sub>cs</sub> )	
• at 400 V	53 kA
• at 500 V rated value	1 kA
• at 690 V rated value	1 kA
<b>UL/CSA ratings</b>	

<b>full-load current (FLA) for 3-phase AC motor</b> ● at 480 V rated value	32 A
yielded mechanical performance [hp] for 3-phase AC motor ● at 200/208 V rated value ● at 220/230 V rated value ● at 460/480 V rated value	7.5 hp 10 hp 20 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
<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> ● for short-circuit protection of the auxiliary switch required ● for short-circuit protection of the signaling switch of the short-circuit release required ● for short-circuit protection of the signaling switch of the overload release required	fuse gL/gG: 10 A  6A gL/gG/400V  4A gL/gG/400V
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b> ● recommended	any 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> ● removable terminal for main circuit ● removable terminal for auxiliary and control circuit	Yes Yes
<b>type of electrical connection</b> ● for main current circuit ● for auxiliary and control circuit	plug-in without terminals screw-type terminals
<b>type of connectable conductor cross-sections</b> ● for main contacts — solid — finely stranded with core end processing ● at AWG cables for main contacts	2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup> 2x (2.5 ... 6 mm <sup>2</sup> ) 2x (14 ... 10), 1x 8
<b>type of connectable conductor cross-sections</b> ● for auxiliary contacts — solid — finely stranded with core end processing ● at AWG cables for auxiliary contacts	0.5 ... 4 mm <sup>2</sup> , 2x (0.5 ... 2.5 mm <sup>2</sup> ) 0.5 ... 2.5 mm <sup>2</sup> , 2x (0.5 ... 1.5 mm <sup>2</sup> ) 2x (20 ... 14)
<b>Safety related data</b>	
B10 value with high demand rate acc. to SN 31920	2 000 000
<b>proportion of dangerous failures</b> ● with low demand rate acc. to SN 31920 ● with high demand rate acc. to SN 31920	40 % 50 %
failure rate [FIT] with low demand rate acc. to SN 31920	100 FIT
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	20 y
<b>protection class IP on the front acc. to IEC 60529</b>	IP20
<b>touch protection on the front acc. to IEC 60529</b>	finger-safe
<b>Communication/ Protocol</b>	
<b>product function bus communication</b>	No
<b>protocol is supported</b> ● AS-Interface protocol ● IO-Link protocol	No No
product function control circuit interface with IO link	No

Electromagnetic compatibility	
<b>conducted interference</b>	
<ul style="list-style-type: none"> <li>due to burst acc. to IEC 61000-4-4</li> <li>due to conductor-earth surge acc. to IEC 61000-4-5</li> <li>due to conductor-conductor surge acc. to IEC 61000-4-5</li> <li>due to high-frequency radiation acc. 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 acc. to IEC 61000-4-3</b>	10 V/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

Supply voltage	
Supply voltage required Auxiliary voltage	No

Display	
number of LEDs	2

Certificates/ approvals		
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=3RA6120-1EP33>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1EP33>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1EP33>

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

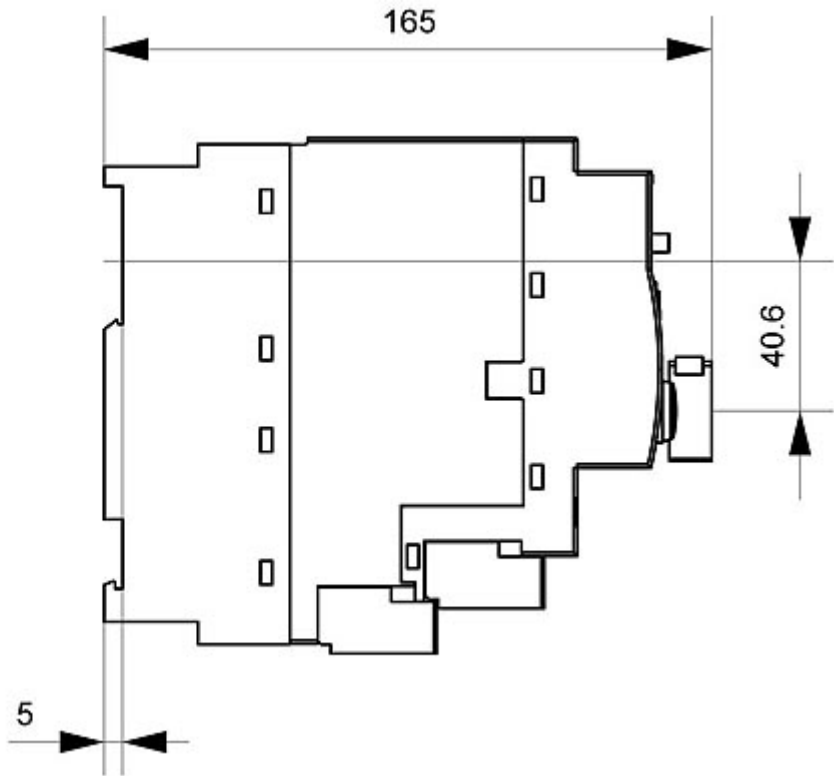
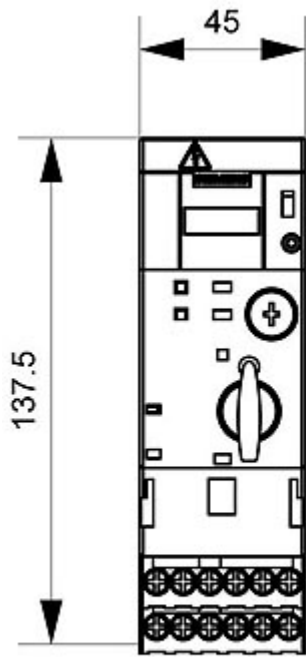
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6120-1EP33&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1EP33&lang=en)

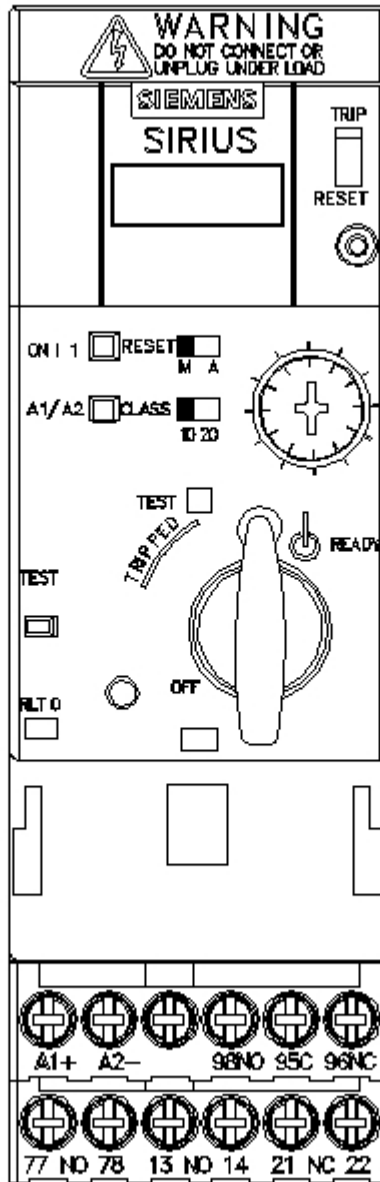
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1EP33/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-1EP33&objecttype=14&gridview=view1>







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1/20/2021