



SIRIUS Compact load feeder DOL starter 690 V 24 V AC/DC 50...60 Hz 0.1...0.4 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	0.01 W
• at AC in hot operating state per pole	0.01 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 assignment</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 Lead titanium zirconium oxide - 12626-81-2
<b>Weight</b>	1.382 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
• during storage	-55 ... +80 °C
• 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	0.1 ... 0.4 A
formula for making capacity limit current	120 x I <sub>e</sub>
formula for limit current breaking capacity	100 x I <sub>e</sub>
yielded mechanical performance for 4-pole AC motor	
• at 400 V rated value	0.09 kW
• at 500 V rated value	0.12 kW
• at 690 V rated value	0.18 kW
operating voltage at AC-3 rated value maximum	690 V
operational current	
• at AC at 400 V rated value	0.4 A
• at AC-3 at 400 V rated value	0.4 A
• at AC-43	
— at 400 V rated value	0.3 A
— at 500 V rated value	0.32 A
— at 690 V rated value	0.35 A
operating power	
• at AC-3 at 400 V rated value	0.09 kW
• at AC-43	
— at 400 V rated value	90 W
— at 500 V rated value	120 W
— at 690 V rated value	180 W
no-load switching frequency	3 600 1/h
operating frequency	
• at AC-41 according to IEC 60947-6-2 maximum	750 1/h
• at AC-43 according 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 rated value	24 V
• at 50 Hz	24 ... 24 V
• at 60 Hz rated value	24 V
• at 60 Hz	24 V
control supply voltage frequency	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
control supply voltage 1 at DC rated value	24 V
control supply voltage 1 at DC	24 ... 24 V
holding power	
• at AC maximum	2.8 W
• at DC maximum	2.9 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
operating short-circuit current breaking capacity (I <sub>cs</sub> )	
• at 400 V rated value	53 kA
• at 500 V rated value	3 kA
• at 690 V rated value	3 kA
<b>UL/CSA ratings</b>	
full-load current (FLA) for 3-phase AC motor	

<ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>	0.4 A 0.4 A
<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>	
<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
<b>Installation/ mounting/ dimensions</b>	
<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
<b>Connections/ Terminals</b>	
<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)
<b>Safety related data</b>	
<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
<b>IEC 61508</b>	
T1 value for proof test interval or service life according to IEC 61508	20 a
<b>Electrical Safety</b>	
<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
<b>Communication/ Protocol</b>	
<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
<b>Electromagnetic compatibility</b>	
<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> </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

• due to high-frequency radiation according to IEC 61000-4-6	0.15-80Mhz at 10V
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	8 kV
conducted HF interference emissions according to CISPR11	150 kHz ... 30 MHz Class A
field-bound HF interference emission according to CISPR11	30 ... 1000 MHz Class A

#### Supply voltage

Supply voltage required Auxiliary voltage	No
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#### Display

number of LEDs	2
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#### Approvals Certificates

##### General Product Approval



[Confirmation](#)



EMV	Functional Safety	Test Certificates	Marine / Shipping
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[Type Test Certificates/Test Report](#)



other	Dangerous goods	Environment
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[Confirmation](#)

[Transport Information](#)

[Environmental Confirmations](#)

#### Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3RA6120-2AB33>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-2AB33>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-2AB33>

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

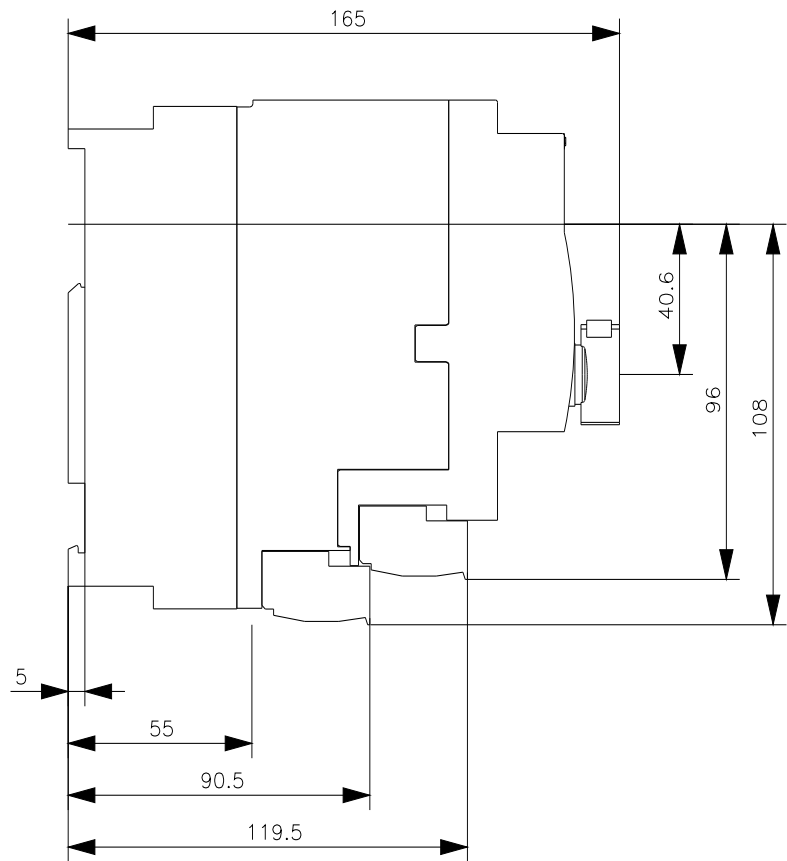
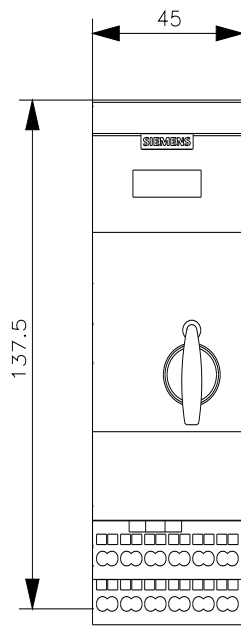
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6120-2AB33&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-2AB33&lang=en)

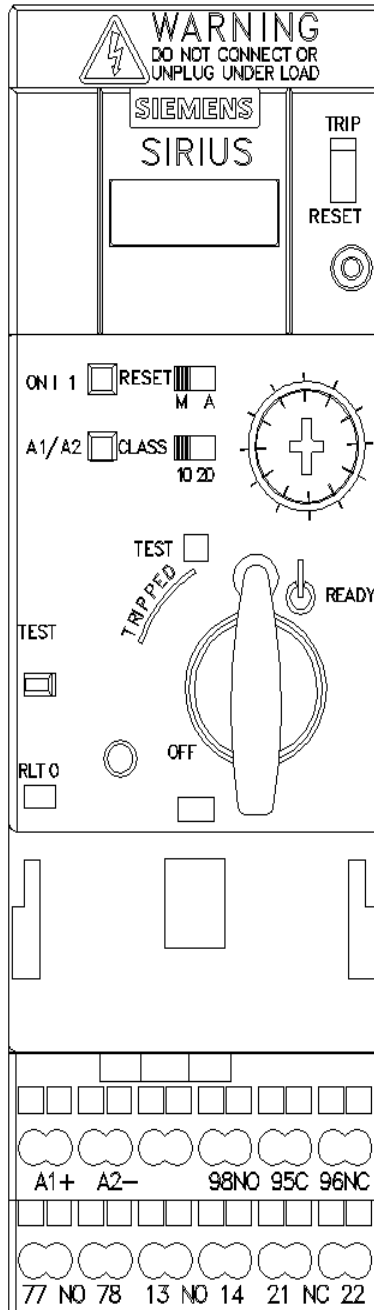
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

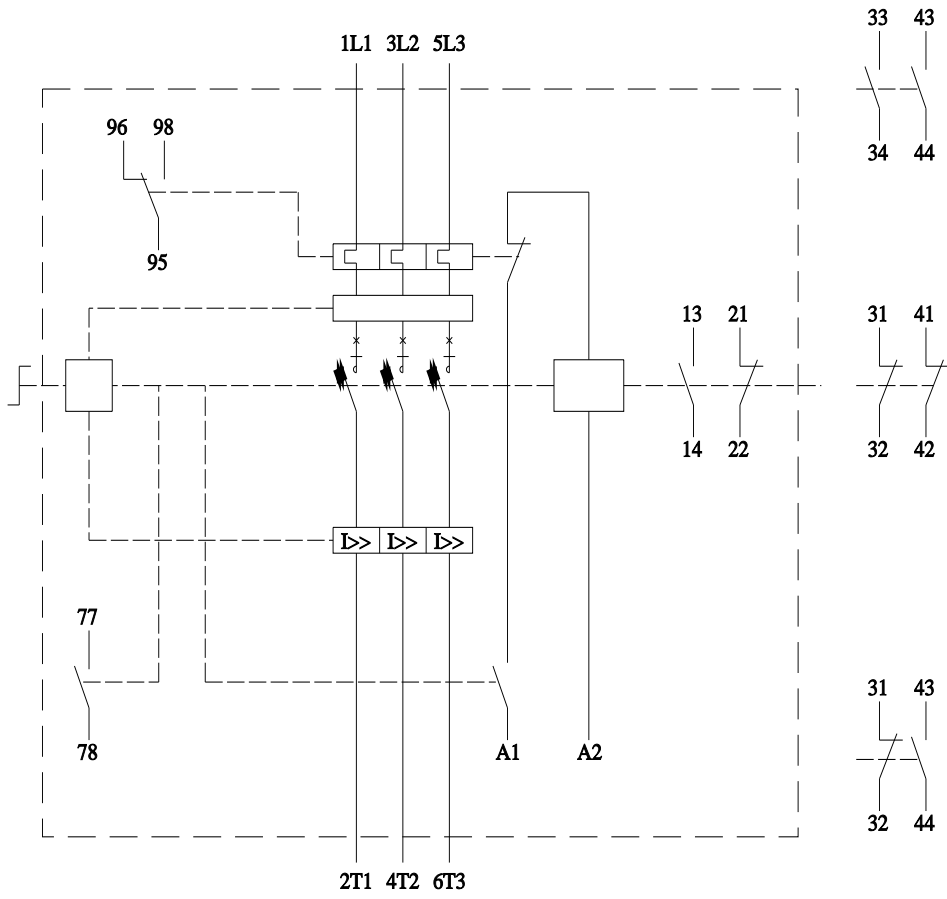
<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-2AB33/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-2AB33&objecttype=14&gridview=view1>







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