



SIRIUS Compact load feeder DOL starter 690 V 24 V AC/DC 50...60 Hz 1...4 A  
IP20 Connection main circuit: screw terminal Connection auxiliary circuit: plug-in, without terminals

product brand name	SIRIUS
product designation	compact starter
design of the product	direct starter
product type designation	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	1 W
• at AC in hot operating state per pole	0.33 W
• without load current share typical	2.9 W
insulation voltage rated value	690 V
degree of pollution	3
surge voltage resistance rated value	6 000 V
maximum permissible voltage for protective separation	
• between main and auxiliary circuit	400 V
• between auxiliary and auxiliary circuit	250 V
• between control and auxiliary circuit	300 V
degree of protection NEMA rating	other
shock resistance	a=60 m/s <sup>2</sup> (6g) with 10 ms per 3 shocks in all axes
vibration resistance	f= 4 ... 5.8 Hz, d= 15 mm; f= 5.8 ... 500 Hz, a= 20 m/s <sup>2</sup> ; 10 cycles
mechanical service life (operating cycles)	
• of the main contacts typical	10 000 000
• of auxiliary contacts typical	10 000 000
• of the signaling contacts typical	10 000 000
electrical endurance (operating cycles) of auxiliary contacts	
• at DC-13 at 6 A at 24 V typical	30 000
• at AC-15 at 6 A at 230 V typical	200 000
type of coordination	continuous operation according to IEC 60947-6-2
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	05/01/2012
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 Lead titanium zirconium oxide - 12626-81-2
Weight	1.461 kg
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• 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>	
number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	1 ... 4 A
formula for making capacity limit current	12 x I <sub>e</sub>
formula for limit current breaking capacity	10 x I <sub>e</sub>
yielded mechanical performance for 4-pole AC motor <ul style="list-style-type: none"> <li>• at 400 V rated value</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>	1.5 kW 2.2 kW 3 kW
operating voltage at AC-3 rated value maximum	690 V
operational current <ul style="list-style-type: none"> <li>• at AC at 400 V rated value</li> <li>• at AC-3 at 400 V rated value</li> <li>• at AC-43 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	4 A 4 A 3.6 A 3.9 A 3.8 A
operating power <ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> <li>• at AC-43 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	1.5 kW 1 500 W 2 200 W 3 000 W
no-load switching frequency	3 600 1/h
operating frequency <ul style="list-style-type: none"> <li>• at AC-41 according to IEC 60947-6-2 maximum</li> <li>• at AC-43 according to IEC 60947-6-2 maximum</li> </ul>	750 1/h 250 1/h
<b>Control circuit/ Control</b>	
type of voltage	AC/DC
control supply voltage 1 at AC <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 50 Hz</li> <li>• at 60 Hz rated value</li> <li>• at 60 Hz</li> </ul>	24 V 24 ... 24 V 24 V 24 V
control supply voltage frequency <ul style="list-style-type: none"> <li>• 1 rated value</li> <li>• 2 rated value</li> </ul>	50 Hz 60 Hz
control supply voltage 1 at DC rated value	24 V
control supply voltage 1 at DC	24 ... 24 V
holding power <ul style="list-style-type: none"> <li>• at AC maximum</li> <li>• at DC maximum</li> </ul>	2.8 W 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> ) <ul style="list-style-type: none"> <li>• at 400 V rated value</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>	53 kA 3 kA 3 kA



UL/CSA ratings	
<b>full-load current (FLA) for 3-phase AC motor</b>	
• at 480 V rated value	4 A
• at 600 V rated value	4 A
<b>yielded mechanical performance [hp] for 3-phase AC motor</b>	
• at 200/208 V rated value	0.75 hp
• at 220/230 V rated value	0.75 hp
• at 460/480 V rated value	2 hp
• at 575/600 V rated value	3 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>	
• for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A
• for short-circuit protection of the signaling switch of the short-circuit release required	6A gL/gG/400V
• for short-circuit protection of the signaling switch of the overload release required	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>	170 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>	
• for main current circuit	screw-type terminals
• for auxiliary and control circuit	plug-in without terminals
<b>type of connectable conductor cross-sections for main contacts</b>	
• 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> )
<b>type of connectable conductor cross-sections</b>	
• for auxiliary contacts	
— solid	0.5 ... 4 mm <sup>2</sup> , 2x (0.5 ... 2.5 mm <sup>2</sup> )
— finely stranded with core end processing	0.5 ... 2.5 mm <sup>2</sup> , 2x (0.5 ... 1.5 mm <sup>2</sup> )
• for AWG cables for auxiliary contacts	2x (20 ... 14)
Safety related data	
<b>proportion of dangerous failures</b>	
• with low demand rate according to SN 31920	40 %
• with high demand rate according to SN 31920	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>	
• AS-Interface protocol	No
• IO-Link protocol	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

Supply voltage required Auxiliary voltage	No
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#### Display

number of LEDs	2
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#### Approvals Certificates

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



[Confirmation](#)

[Transport Information](#)

#### Environment

[Environmental Conformations](#)

#### 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=3RA6120-1CB34>

##### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1CB34>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1CB34>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6120-1CB34&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1CB34&lang=en)

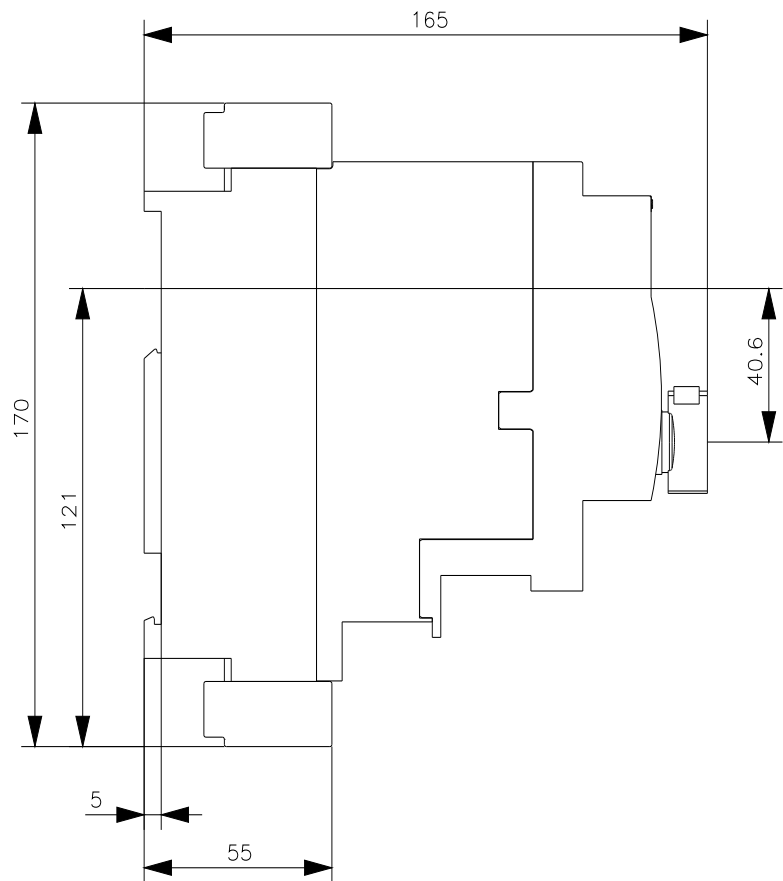
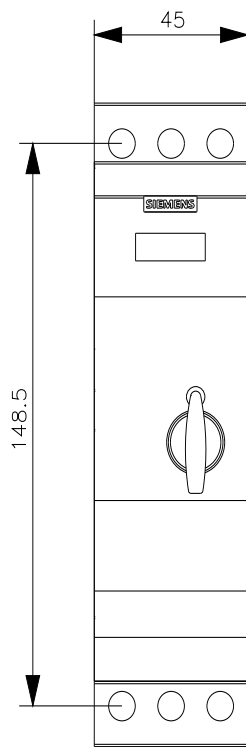
##### Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1CB34/char>

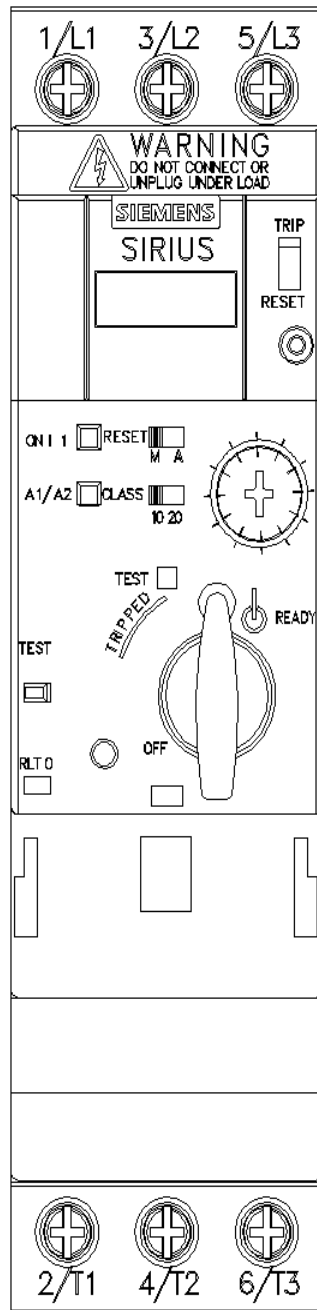
##### Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-1CB34&objecttype=14&gridview=view1>

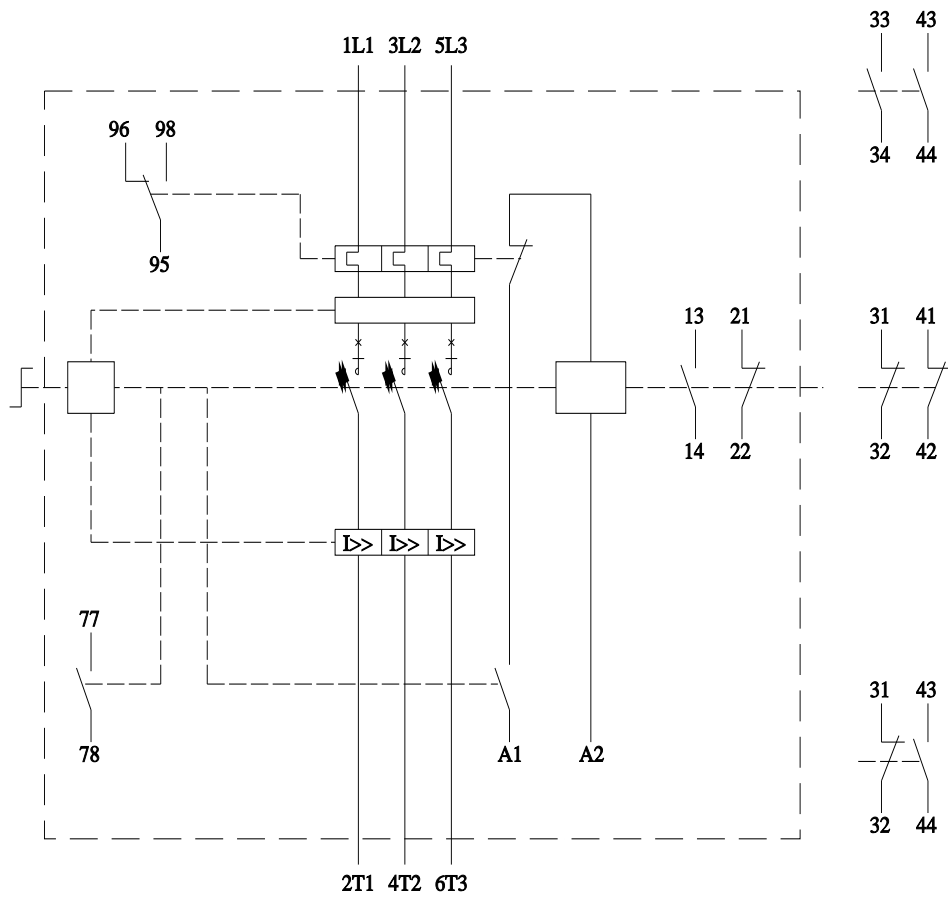












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