



SIRIUS, COMPACT STARTER,  
DIRECT STARTER 690 V,  
110 ... 240 V AC/DC, 50 ... 60 HZ,  
3 ... 12 A, IP20,  
CONNECTION MAIN CIRCUIT: PLUGGABLE,  
WITHOUT TERMINALS,  
CONNECTION AUXILIARY CIRCUIT: SPRING-LOADED  
TERMINAL

### General technical data:

<b>Product brand name</b>		SIRIUS
<b>product designation</b>		compact starter
<b>Design of the product</b>		direct starter
<b>Trip class</b>		CLASS 10 and 20 adjustable
<b>Product function</b>		
• control circuit interface to parallel wiring		Yes
• bus-communication		No
• short circuit protection		Yes
• control circuit interface with IO link		No
<b>Type of assignment</b>		continuous operation according to IEC 60947-6-2
<b>Protection class IP</b>		IP20
<b>Degree of pollution</b>		3
<b>Built in orientation / recommended</b>		vertical, on horizontal standard mounting rail
<b>Installation altitude / at a height over sea level</b>		
• maximum	m	2,000
<b>Ambient temperature</b>		
• during storage	°C	-55 ... 80
• during operating	°C	-20 ... 60
• during transport	°C	-55 ... 80

<b>Relative humidity</b> • during operating phase	%	10 ... 90
<b>Resistance against shock</b>		a=60 m/s <sup>2</sup> (6g) with 10 ms per 3 shocks in all axes
<b>Resistance against vibration</b>		f= 4 ... 5.8 Hz, d= 15 mm; f= 5.8 ... 500 Hz, a= 20 m/s <sup>2</sup> ; 10 cycles
<b>Impulse voltage resistance / rated value</b>	V	6,000
<b>Field-bound parasitic coupling</b> • according to IEC 61000-4-3		10 V/m
<b>Insulation voltage / rated value</b>	V	690
<b>Conductor-bound parasitic coupling conductor-earth SURGE</b> • according to IEC 61000-4-5		4 kV main contacts, 2 kV auxiliary contacts
<b>Conductor-bound parasitic coupling conductor-conductor SURGE</b> • according to IEC 61000-4-5		2 kV main contacts, 1 kV auxiliary contacts
<b>Conductor-bound parasitic coupling BURST</b> • according to IEC 61000-4-4		4 kV main contacts, 2 kV auxiliary contacts
<b>Maximum permissible voltage for safe disconnection</b> • between main circuit and auxiliary circuit • between control and auxiliary circuit • between auxiliary circuit and auxiliary circuit	V V V	400 300 250
<b>Item designation</b> • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 • according to DIN EN 61346-2		Q Q

#### Main circuit:

<b>Operating voltage / at AC-3 / rated value</b> • maximum	V	690
<b>Number of poles / for main current circuit</b>		3
<b>Adjustable response current</b> • of the current-dependent overload release	A	3 ... 12
<b>Formula for making capacity limit current</b>		12 x I <sub>e</sub>
<b>Formula for interruption capacity limit current</b>		10 x I <sub>e</sub>
<b>Emitted mechanical power / for 4-pole three-phase motor</b> • at 400 V / rated value • at 500 V / rated value • at 690 V / rated value	kW kW kW	5.5 5.5 7.5
<b>Service power / at AC-3 / at 400 V / rated value</b>	kW	5.5
<b>Frequency of operation / at AC-41 / according to IEC 60947-6-2 / maximum</b>	1/h	750
<b>Frequency of operation / at AC-43 / according to IEC 60947-6-2 / maximum</b>	1/h	250

<b>Off-load operating frequency</b>	1/h	3,600
<b>Mechanical operating cycles as operating time</b>		
• of the main contacts / typical		10,000,000
• of the auxiliary contacts / typical		10,000,000
• of the signal contacts / typical		10,000,000

#### Control circuit:

<b>type of voltage</b>		AC
<b>Control supply voltage / 1</b>		
• for DC		
• initial rated value	V	110
• final rated value	V	240
• at 50 Hz / for AC		
• initial rated value	V	110
• final rated value	V	240
• at 60 Hz / for AC		
• initial rated value	V	110
• final rated value	V	240
<b>Holding power</b>		
• for AC / maximum	W	6
• for DC / maximum	W	5.1
<b>Switch-off delay time</b>	ms	50
<b>Start-up delay time</b>	ms	70

#### Auxiliary circuit:

<b>Product extension</b>		
• auxiliary switch		Yes
<b>Number of NC contacts</b>		
• for auxiliary contacts		1
<b>Number of NO contacts</b>		
• for auxiliary contacts		1
• of the non-delayed short-circuit release / for alarm contact		1
<b>Number of changeover contacts / of the current-dependent overload release / for alarm contact</b>		1
<b>Operating current / of the auxiliary contacts / at AC-12</b>		
• maximum	A	10
<b>Electrical switching cycle as operating time / of the auxiliary contacts</b>		
• at AC-15 / at 6 A / at 230 V / typical		500,000
• at DC-13 / at 6 A / at 24 V / typical		100,000

<b>Electrical switching cycle as operating time / of the signal contacts</b>		
<ul style="list-style-type: none"> <li>• at AC-15 / at 6 A / at 230 V / typical</li> </ul>		500,000
<ul style="list-style-type: none"> <li>• at DC-13 / at 6 A / at 24 V / typical</li> </ul>		100,000
<b>Short-circuit:</b>		
<b>Design of the fuse link / for short-circuit protection of the auxiliary switch</b>		
<ul style="list-style-type: none"> <li>• required</li> </ul>		fuse gL/gG: 10 A
<b>Installation/mounting/dimensions:</b>		
<b>Type of mounting</b>		screw and snap-on mounting
<b>Width</b>	mm	45
<b>Height</b>	mm	191
<b>Depth</b>	mm	165
<b>Built in orientation</b>		any
<b>Connections:</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>Design of the 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 current circuit</li> </ul>		spring-loaded terminals
<b>Type of the connectable conductor cross-section</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 <ul style="list-style-type: none"> <li>• with conductor end processing</li> </ul> </li> </ul>		2x (1.5 ... 6 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>• without conductor final cutting</li> </ul>		2x (1.5 ... 6 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>• solid</li> </ul> </li> </ul>		2x (0.25 ... 1.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>• finely stranded <ul style="list-style-type: none"> <li>• with conductor end processing</li> </ul> </li> </ul>		2x (0.25 ... 1.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>• without conductor final cutting</li> </ul>		2x (0.25 ... 1.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>• for AWG conductors <ul style="list-style-type: none"> <li>• for main contacts</li> </ul> </li> </ul>		2x (16 ... 10), 1x 8
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>		2x (24 ... 16)
<b>Certificates/approvals:</b>		
<b>Verification of suitability</b>		IEC / EN 60947-6-2

General Product Approval	Functional Safety / Safety of Machinery	Test Certificates
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CQC



CSA

[ROSTEST](#)


UL

[other](#)
[Manufacturer](#)

#### Shipping Approval

[other](#)


DNV



PRS



RINA

[Manufacturer](#)
[other](#)

#### UL/CSA ratings:

##### yielded mechanical performance (hp) / for three-phase squirrel cage motors

- at 200/208 V / rated value
- at 220/230 V / rated value
- at 460/480 V / rated value
- at 575/600 V / rated value

hp	3
hp	3
hp	7.5
hp	10

##### Operating current (FLA) / for three-phase squirrel cage motors

- at 480 V / rated value
- at 600 V / rated value

A	12
A	12

##### Contact rating designation / for auxiliary contacts / according to UL

contacts 21-22, 13-14, 43-44 Q600 / A600, contacts 77-78 R300 / B300, contacts 95-96-98 R300 / D300

#### Reliability figures:

##### B10 value

3,000,000

##### Proportion of dangerous failures

%	50
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##### Proportion of dangerous failures / with low demand rate / according to SN 31920

%	40
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##### Protection against electrical shock

finger-safe

##### Failure rate (FIT value) / with low demand rate / according to SN 31920

FIT	100
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#### Further information:

##### Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

##### Industry Mall (Online ordering system)

<http://www.siemens.com/industrial-controls/mall>

##### Cax online generator:

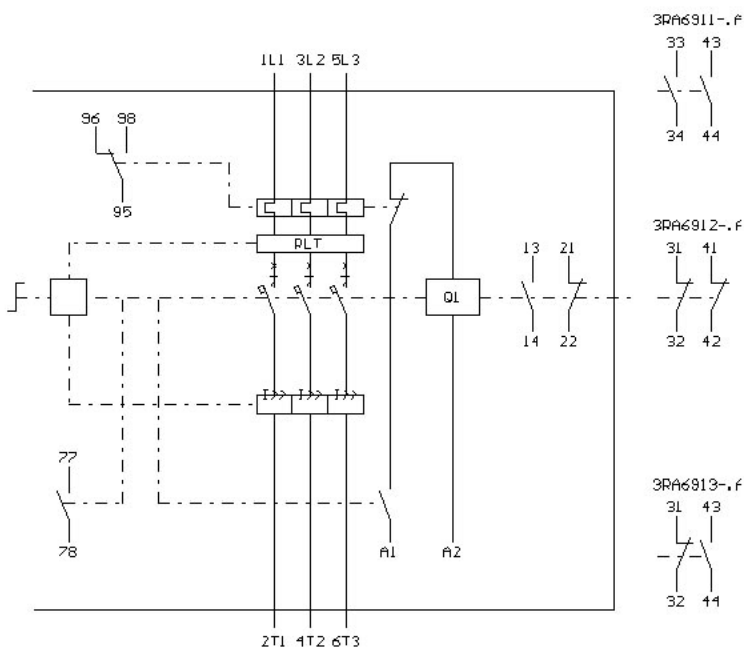
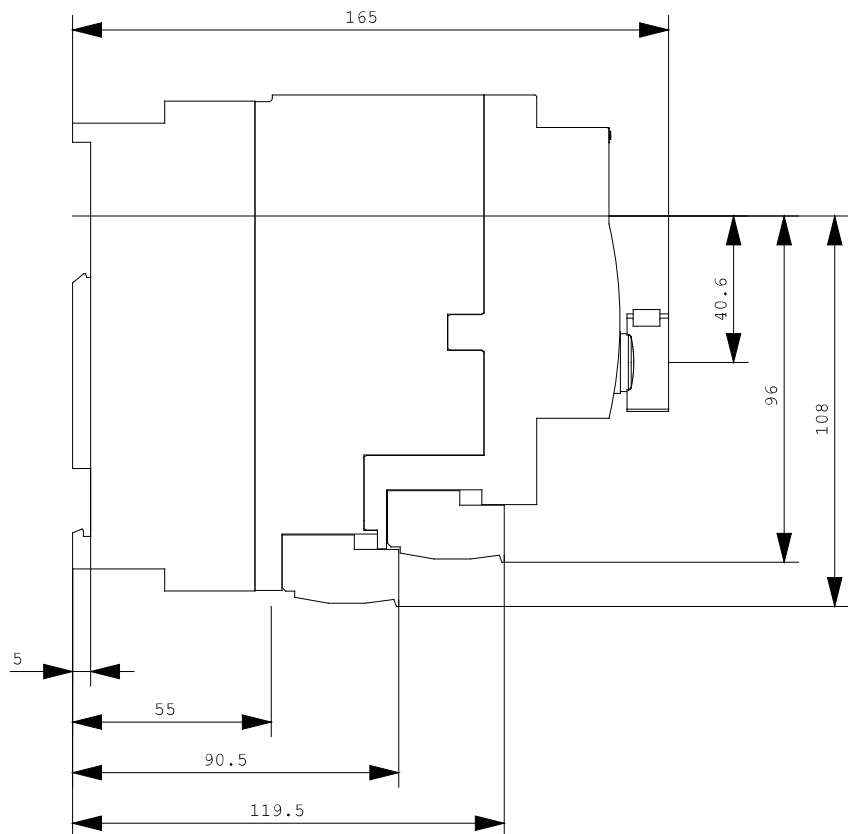
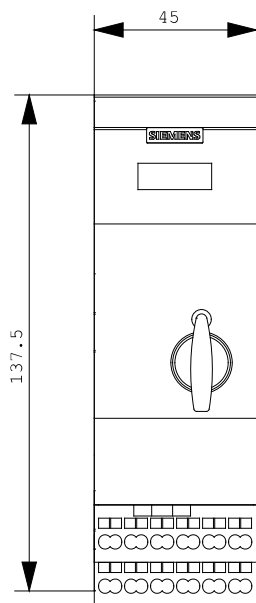
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3RA6120-2DP33/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RA6120-2DP33](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RA6120-2DP33)



last change:

Oct 24, 2011