



SIRIUS, COMPACT STARTER,  
 DIRECT STARTER 690 V, 24 V AC/DC,  
 50 ... 60 HZ, 0.1 ... 0.4 A, IP20,  
 CONNECTION MAIN CIRCUIT: PLUGGABLE,  
 WITHOUT TERMINALS,  
 CONNECTION AUXILIARY CIRCUIT: SCREW 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>		continous operation according to IEC 60947-6-2
<b>Protection class IP</b>		IP20
<b>Degree of pollution</b>		3
<b>mounting position / 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	0.1 ... 0.4
<b>Formula for making capacity limit current</b>		120 x I <sub>e</sub>
<b>Formula for interruption capacity limit current</b>		100 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	0.09 0.12 0.18
<b>Service power / at AC-3 / at 400 V / rated value</b>	W	90
<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		
• rated value	V	24
• at 50 Hz / for AC		
• rated value	V	24
• at 60 Hz / for AC		
• rated value	V	24
<b>Holding power</b>		
• for AC / maximum	W	2.8
• for DC / maximum	W	2.9
<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>		
• at AC-15 / at 6 A / at 230 V / typical		500,000
• at DC-13 / at 6 A / at 24 V / typical		100,000

**Short-circuit:****Design of the fuse link / for short-circuit protection of the auxiliary switch**

- required

fuse gL/gG: 10 A

**Installation/mounting/dimensions:****Type of mounting**

screw and snap-on mounting

**Width**

mm

45

**Height**

mm

170

**Depth**

mm

165

**mounting position**

any

**Connections:****Product function**

- removable terminal for main circuit
- removable terminal for auxiliary and control circuit

Yes

Yes

**Design of the electrical connection**

- for main current circuit
- for auxiliary and control current circuit

plug-in without terminals

screw-type terminals

**Type of the connectable conductor cross-section**

- for main contacts
  - solid
  - finely stranded
    - with conductor end processing
- for auxiliary contacts
  - solid
  - finely stranded
    - with conductor end processing
- for AWG conductors
  - for main contacts
  - for auxiliary contacts

2x (1.5 ... 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup>2x (1.5 ... 6 mm<sup>2</sup>)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 (16 ... 10), 1x 8

2x (20 ... 14)

**Certificates/approvals:****Verification of suitability**

IEC / EN 60947-6-2

**General Product Approval**

**EMC**

**Functional Safety /  
Safety of  
Machinery**



CCC



CSA



GOST



UL



C-TICK

[other](#)

**Test Certificates**

**Shipping Approval**

[Type Test  
Certificates/Test  
Report](#)



BUREAU  
VERITAS



DNV



PRS



RINA

**other**

[Declaration of  
Conformity](#)

[other](#)

[Environmental  
Confirmations](#)

**UL/CSA ratings:**

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

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

A

0.4

A

0.4

**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

**Proportion of dangerous failures / with low demand rate /  
according to SN 31920**

%

40

**Protection against electrical shock**

finger-safe

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

FIT

100

**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:**

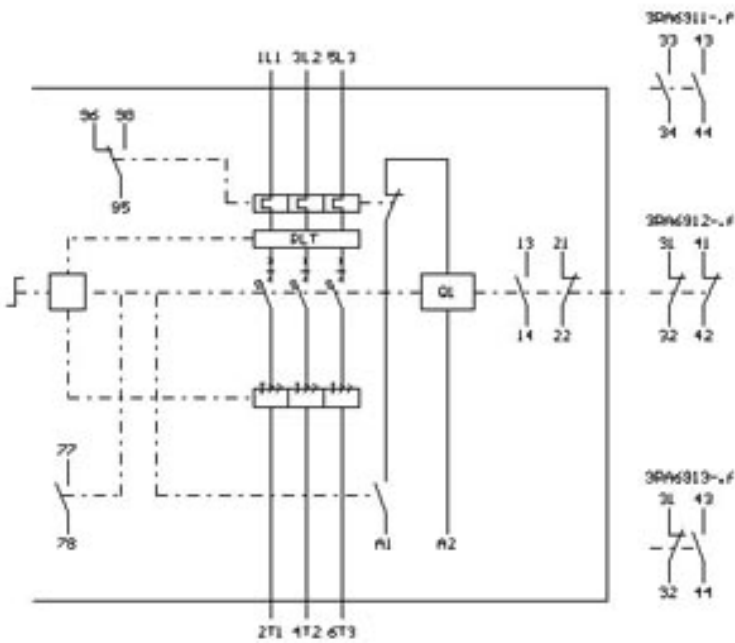
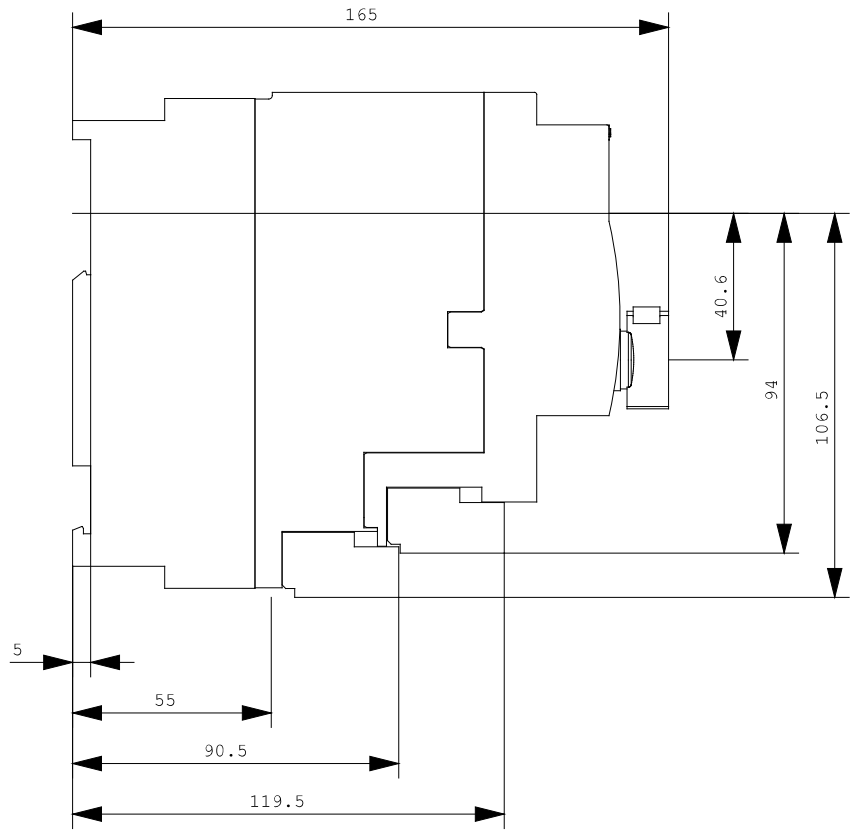
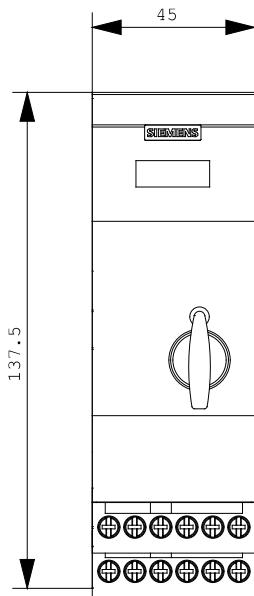
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3RA6120-1AB33/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RA6120-1AB33](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RA6120-1AB33)



last change:

Dec 3, 2012