



SIRIUS, COMPACT STARTER,
DIRECT STARTER 690 V,
110 ... 240 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:

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

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

Main circuit:

Operating voltage / at AC-3 / rated value • maximum	V	690
Number of poles / for main current circuit		3
Adjustable response current • of the current-dependent overload release	A	0.1 ... 0.4
Formula for making capacity limit current		120 x I _e
Formula for interruption capacity limit current		100 x I _e
Emitted mechanical power / for 4-pole three-phase motor • at 400 V / rated value • at 500 V / rated value • at 690 V / rated value	kW kW kW	0.09 0.12 0.18
Service power / at AC-3 / at 400 V / rated value	W	90
Frequency of operation / at AC-41 / according to IEC 60947-6-2 / maximum	1/h	750
Frequency of operation / at AC-43 / according to IEC 60947-6-2 / maximum	1/h	250

Off-load operating frequency	1/h	3,600
Mechanical operating cycles as operating time		
• 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:

Type of voltage		AC
Control supply voltage / 1		
• 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
Holding power		
• for AC / maximum	W	6
• for DC / maximum	W	5.1
Switch-off delay time	ms	50
Start-up delay time	ms	70

Auxiliary circuit:

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

Electrical switching cycle as operating time / of the signal contacts		
• 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:		
Mounting type		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		Yes
• removable terminal for auxiliary and control circuit		Yes
Design of the electrical connection		
• for main current circuit		plug-in without terminals
• for auxiliary and control current circuit		screw-type terminals
Type of the connectable conductor cross-section		
• for main contacts		
• solid		2x (1.5 ... 6 mm ²), 1x 10 mm ²
• finely stranded		
• with conductor end processing		2x (1.5 ... 6 mm ²)
• for auxiliary contacts		
• solid		0.5 ... 4 mm ² , 2x (0.5 ... 2.5 mm ²)
• finely stranded		
• with conductor end processing		0.5 ... 2.5 mm ² , 2x (0.5 ... 1.5 mm ²)
• for AWG conductors		
• for main contacts		2x (16 ... 10), 1x 8
• for auxiliary contacts		2x (20 ... 14)
Certificates/approvals:		
Verification of suitability		IEC / EN 60947-6-2

General Product Approval

EMC

Functional Safety / Safety of Machinery



CCC



CSA



UL



C-TICK



VDE

Test Certificates

[Type Test
Certificates/Test
Report](#)

Shipping Approval



DNV



LRS



PRS



RINA



RMRS

other

[Declaration of
Conformity](#)

[other](#)

[Environmental
Confirmations](#)

UL/CSA ratings:

Full-load current (FLA) / for 3-phase motor

- 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] / 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:

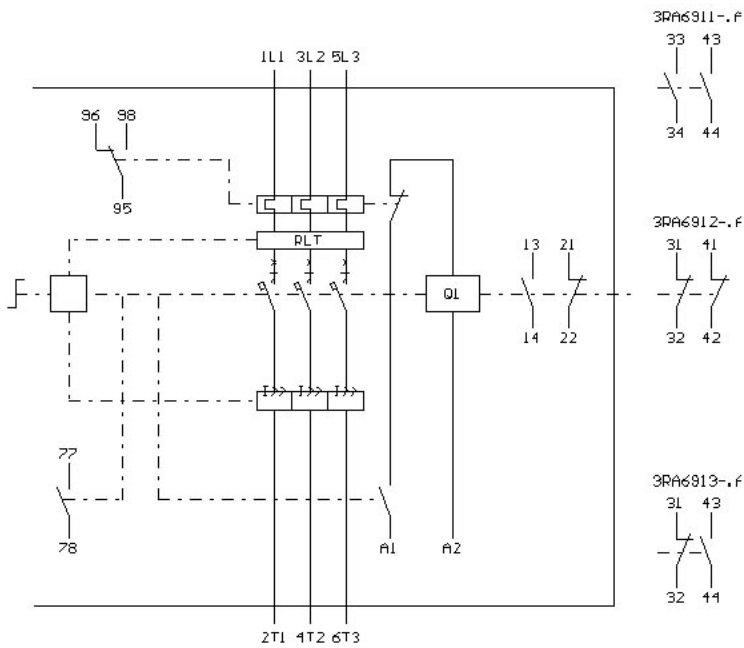
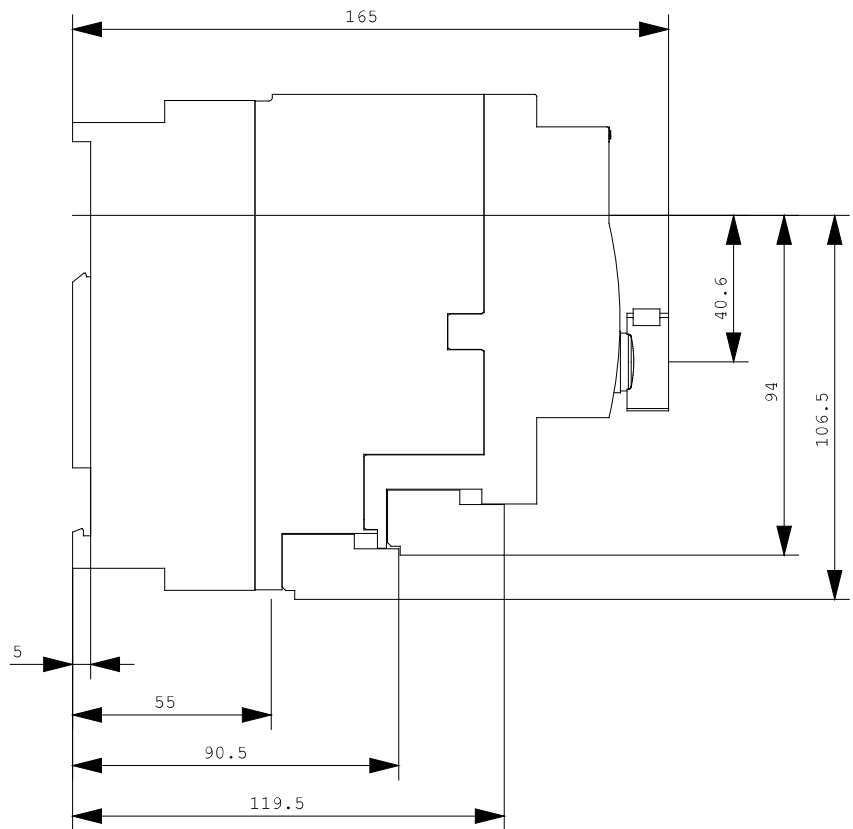
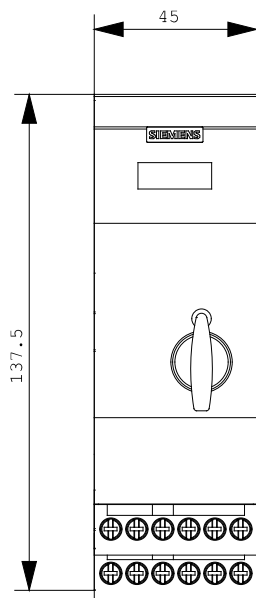
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3RA6120-1AP33/all>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RA6120-1AP33



last change:

Jun 16, 2014