

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: SCREW TERMINAL



Product brand name	SIRIUS
Product designation	compact starter
Design of the product	direct starter

General technical data	
Product function	
• Control circuit interface to parallel wiring	Yes
Product extension	
• Auxiliary switch	Yes
Insulation voltage	
• rated value	690 V
Degree of pollution	3
Surge voltage resistance rated value	6 000 V
maximum permissible voltage for safe isolation	
• between auxiliary and auxiliary circuit	250 V
• between control and auxiliary circuit	300 V
• between main and auxiliary circuit	400 V
Protection class IP	IP20
Vibration resistance	f= 4 ... 5.8 Hz, d= 15 mm; f= 5.8 ... 500 Hz, a= 20 m/s ² ; 10 cycles
Mechanical service life (switching 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 (switching 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 assignment	continuous operation according to IEC 60947-6-2
Equipment marking	
• acc. to DIN EN 61346-2	Q
• acc. to DIN EN 81346-2	Q

Ambient conditions	
Ambient temperature	
• during operation	-20 ... +60 °C
• during storage	-55 ... +80 °C
• during transport	-55 ... +80 °C

Main circuit	
Number of poles for main current circuit	3
Adjustable pick-up value current of the current-dependent overload release	3 ... 12 A
Formula for making capacity limit current	12 x I _e
Formula for interruption capacity limit current	10 x I _e
Mechanical power output for 4-pole AC motor	
• at 400 V rated value	5.5 kW
• at 500 V rated value	5.5 kW
• at 690 V rated value	7.5 kW
Operating voltage	
• at AC-3 rated value maximum	690 V
Operating current	
• at AC at 400 V rated value	12 A
• at AC-43	
— at 400 V rated value	11.5 A
— at 500 V rated value	12.4 A
— at 690 V rated value	8.9 A
No-load switching frequency	3 600 1/h
Operating frequency	
• at AC-41 acc. to IEC 60947-6-2 maximum	750 1/h
• at AC-43 acc. to IEC 60947-6-2 maximum	250 1/h

Control circuit/ Control	
Type of voltage	AC/DC
Control supply voltage 1 at AC	

<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	110 ... 240 V
Control supply voltage 1	
<ul style="list-style-type: none"> • at DC 	110 ... 240 V
Holding power	
<ul style="list-style-type: none"> • at AC maximum • at DC maximum 	6 W 5.1 W
Auxiliary circuit	
Number of NC contacts	
<ul style="list-style-type: none"> • for auxiliary contacts 	1
Number of NO contacts	
<ul style="list-style-type: none"> • for auxiliary contacts • of instantaneous short-circuit trip unit for signaling contact 	1 1
Number of CO contacts	
<ul style="list-style-type: none"> • of the current-dependent overload release for signaling contact 	1
Operating current of auxiliary contacts at AC-12 maximum	10 A
Operating current of auxiliary contacts at DC-13	
<ul style="list-style-type: none"> • at 250 V 	0.27 A
Protective and monitoring functions	
Trip class	CLASS 10 and 20 adjustable
Off-delay time	50 ms
Operational short-circuit current breaking capacity (Ics)	
<ul style="list-style-type: none"> • at 400 V • at 500 V rated value • at 690 V rated value 	53 kA 3 kA 3 kA
UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
<ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	12 A 12 A
Yielded mechanical performance [hp]	
<ul style="list-style-type: none"> • for three-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value 	3 hp 3 hp 7.5 hp 10 hp
Contact rating of 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

Short-circuit protection	
Product function Short circuit protection	Yes
Design of the fuse link	
<ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required 	fuse gL/gG: 10 A
<ul style="list-style-type: none"> • for short-circuit protection of the signaling switch of the short-circuit release required 	6A gL/gG/400V
<ul style="list-style-type: none"> • for short-circuit protection of the signaling switch of the overload release required 	4A gL/gG/400V
Installation/ mounting/ dimensions	
Mounting position	any
<ul style="list-style-type: none"> • recommended 	vertical, on horizontal standard mounting rail
Mounting type	screw and snap-on mounting
Height	170 mm
Width	45 mm
Depth	165 mm
Connections/Terminals	
Product function	
<ul style="list-style-type: none"> • removable terminal for main circuit 	Yes
<ul style="list-style-type: none"> • removable terminal for auxiliary and control circuit 	Yes
Type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit 	plug-in without terminals
<ul style="list-style-type: none"> • for auxiliary and control current circuit 	screw-type terminals
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid 	2x (1.5 ... 6 mm ²), 1x 10 mm ²
<ul style="list-style-type: none"> — finely stranded with core end processing 	2x (1.5 ... 6 mm ²)
<ul style="list-style-type: none"> • at AWG conductors for main contacts 	2x (16 ... 10), 1x 8
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid 	0.5 ... 4 mm ² , 2x (0.5 ... 2.5 mm ²)
<ul style="list-style-type: none"> — finely stranded with core end processing 	0.5 ... 2.5 mm ² , 2x (0.5 ... 1.5 mm ²)
<ul style="list-style-type: none"> • at AWG conductors for auxiliary contacts 	2x (20 ... 14)
Safety related data	
B10 value	
<ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 	3 000 000
Proportion of dangerous failures	
<ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 	40 %
<ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 	50 %
Failure rate [FIT]	

- with low demand rate acc. to SN 31920

100 FIT

T1 value for proof test interval or service life acc. to IEC 61508

20 y

Communication/ Protocol

Product function Bus communication

No

Protocol is supported

- IO-Link protocol

No

Electromagnetic compatibility

Field-bound parasitic coupling acc. to IEC 61000-4-3

10 V/m

Electrostatic discharge acc. to IEC 61000-4-2

8 kV

Conducted HF-interference emissions acc. to CISPR11

150 kHz ... 30 MHz Class A

Field-bound HF-interference emission acc. to CISPR11

30 ... 1000 MHz Class A

Supply voltage

Supply voltage required Auxiliary voltage

No

Certificates/approvals

General Product Approval

EMC

Functional Safety/Safety of Machinery



CCC



CSA



UL



C-Tick



VDE

Declaration of Conformity

Test Certificates

Marine / Shipping



EG-Konf.

[Type Test Certificates/Test Report](#)



BUREAU VERITAS



DNV



LRS



PRS

Marine / Shipping

other



RINA



RMRS

[Environmental Confirmations](#)

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Further information

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

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

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RA6120-1DP33>

Cax online generator

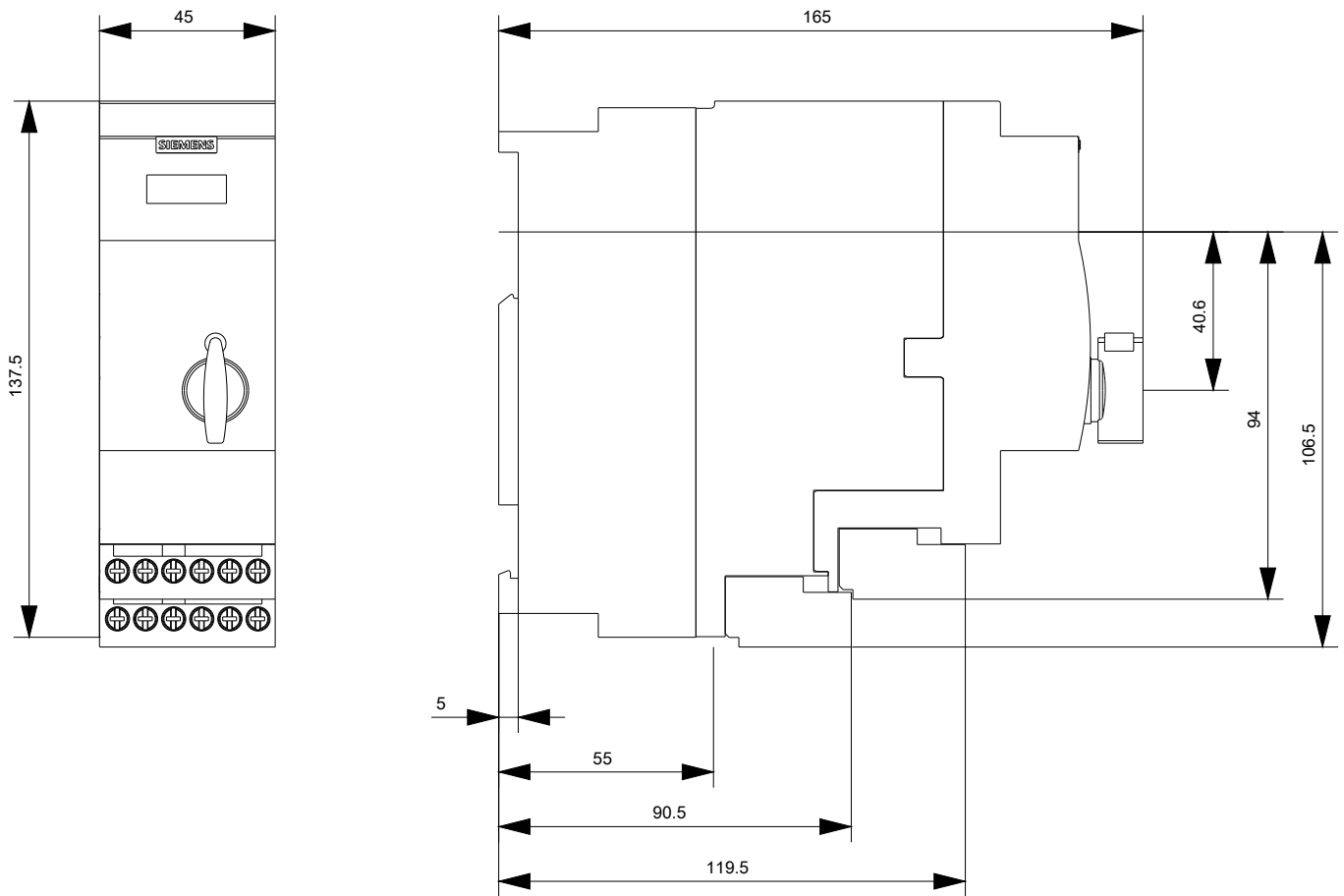
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1DP33>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1DP33>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1DP33&lang=en





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