

SIRIUS, COMPACT STARTER, DIRECT STARTER 690 V, 110 ... 240 V AC/DC, 50 ... 60 HZ, 1 ... 4 A, IP20, CONNECTION MAIN CIRCUIT: SPRING-LOADED TERMINAL, CONNECTION AUXILIARY CIRCUIT: SPRING-LOADED TERMINAL



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

General technical data	
Product function	
<ul style="list-style-type: none"> Control circuit interface to parallel wiring 	Yes
Product extension	
<ul style="list-style-type: none"> Auxiliary switch 	Yes
Insulation voltage	
<ul style="list-style-type: none"> rated value 	690 V
Degree of pollution	3
Surge voltage resistance rated value	6 000 V
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> between auxiliary and auxiliary circuit between control and auxiliary circuit between main and auxiliary circuit 	250 V 300 V 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	1 ... 4 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	1.5 kW
• at 500 V rated value	2.2 kW
• at 690 V rated value	3 kW
Operating voltage	
• at AC-3 rated value maximum	690 V
Operating current	
• at AC at 400 V rated value	4 A
• at AC-43	
— at 400 V rated value	3.6 A
— at 500 V rated value	3.9 A
— at 690 V rated value	3.8 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 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 	4 A 4 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 	0.75 hp 0.75 hp 2 hp 3 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	191 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 	spring-loaded terminals
<ul style="list-style-type: none"> for auxiliary and control current circuit 	spring-loaded 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"> — finely stranded without 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 	2x (0.25 ... 1.5 mm ²)
<ul style="list-style-type: none"> — finely stranded with core end processing 	2x (0.25 ... 1.5 mm ²)
<ul style="list-style-type: none"> — finely stranded without core end processing 	2x (0.25 ... 1.5 mm ²)
<ul style="list-style-type: none"> at AWG conductors for auxiliary contacts 	2x (24 ... 16)

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 with high demand rate acc. to SN 31920 	40 %
Failure rate [FIT]	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> 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



Declaration of Conformity	Test Certificates	Marine / Shipping			
EG-Konf.	Type Test Certificates/Test Report				

Marine / Shipping	other
RINA	RMRS
	Environmental Confirmations
	Confirmation

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?mfb=3RA6120-2CP32>

Cax online generator

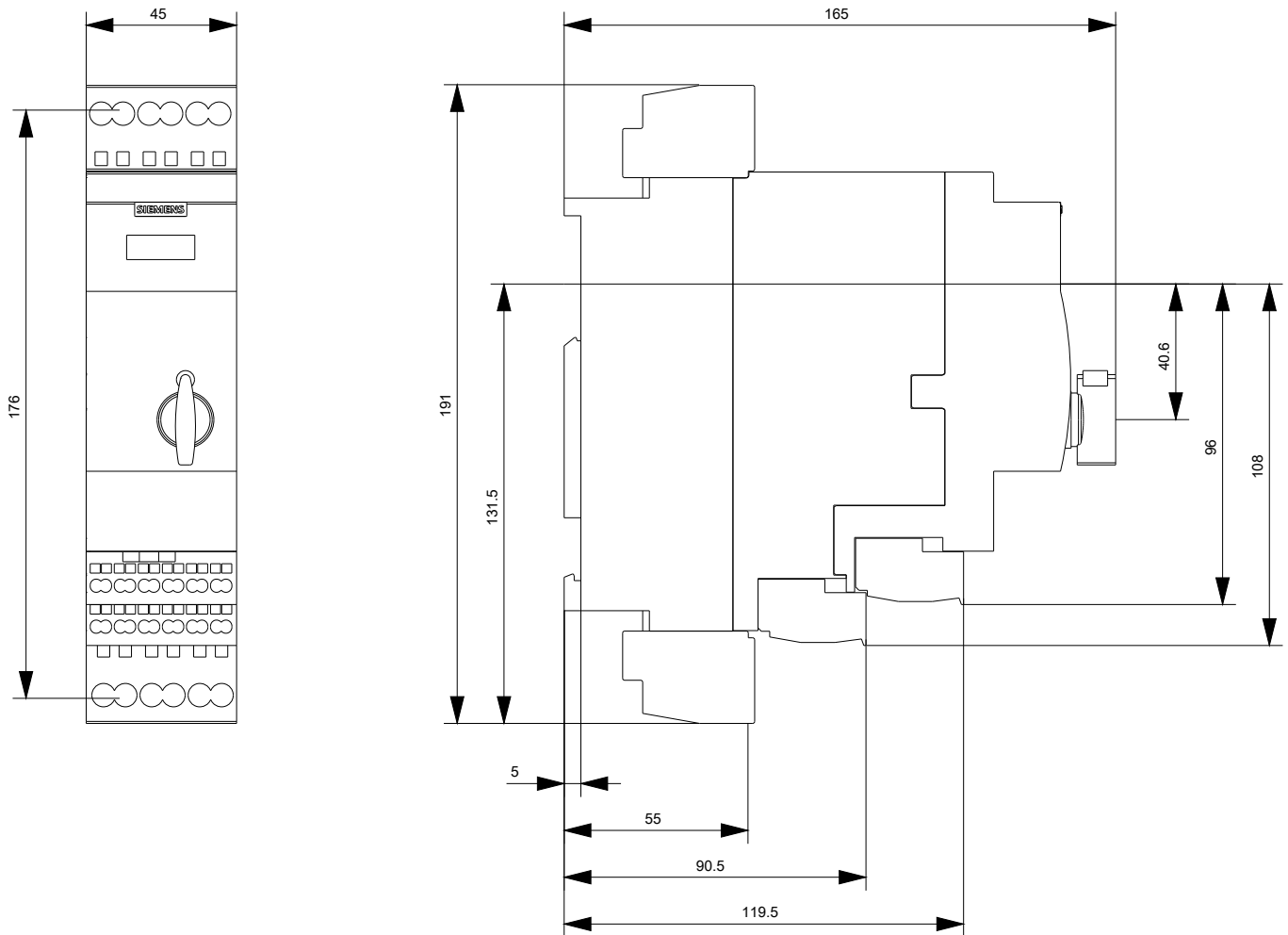
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RA6120-2CP32>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-2CP32>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RA6120-2CP32&lang=en





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