

SIRIUS, COMPACT STARTER, DIRECT STARTER 690 V, 24 V AC/DC, 50 ... 60 HZ, 3 ... 12 A, IP20, CONNECTION MAIN CIRCUIT: SCREW TERMINAL, 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
Shock resistance	a=60 m/s ² (6g) with 10 ms per 3 shocks in all axes
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	100 000
• at AC-15 at 6 A at 230 V typical	500 000
Electrical endurance (switching cycles) of the signaling contacts	
• at DC-13 at 6 A at 24 V typical	100 000
• at AC-15 at 6 A at 230 V typical	500 000
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

Installation altitude at height above sea level maximum	2 000 m
Ambient temperature	
• during operation	-20 ... +60 °C
• during storage	-55 ... +80 °C
• during transport	-55 ... +80 °C
Relative humidity during operation	10 ... 90 %

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
Control supply voltage 1 at AC	
• at 50 Hz rated value	24 V
• at 60 Hz rated value	24 V
Control supply voltage 1	
• at DC rated value	24 V
Control supply voltage frequency 1 rated value	50 Hz
Control supply voltage frequency 2 rated value	60 Hz
Holding power	
• at AC maximum	2.8 W
• at DC maximum	2.9 W
Auxiliary circuit	
Number of NC contacts	
• for auxiliary contacts	1
Number of NO contacts	
• for auxiliary contacts	1
• of instantaneous short-circuit trip unit for signaling contact	1
Number of CO contacts	
• 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	
• 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)	
• at 400 V	53 kA
• at 500 V rated value	3 kA
• at 690 V rated value	3 kA
UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	12 A

• at 600 V rated value	12 A
Yielded mechanical performance [hp] • for three-phase AC motor — 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

Design of the fuse link • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the signaling switch of the short-circuit release required • for short-circuit protection of the signaling switch of the overload release required	fuse gL/gG: 10 A 6A gL/gG/400V 4A gL/gG/400V
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Installation/ mounting/ dimensions

Mounting position • recommended	any 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 • removable terminal for main circuit • removable terminal for auxiliary and control circuit	Yes Yes
Type of electrical connection • for main current circuit • for auxiliary and control current circuit	screw-type terminals screw-type terminals
Type of connectable conductor cross-sections • for main contacts — solid — finely stranded with core end processing • at AWG conductors for main contacts	2x (1.5 ... 6 mm ²), 1x 10 mm ² 2x (1.5 ... 6 mm ²) 2x (16 ... 10), 1x 8
Type of connectable conductor cross-sections • for auxiliary contacts — solid — finely stranded with core end processing • at AWG conductors for auxiliary contacts	0.5 ... 4 mm ² , 2x (0.5 ... 2.5 mm ²) 0.5 ... 2.5 mm ² , 2x (0.5 ... 1.5 mm ²) 2x (20 ... 14)

Safety related data	
B10 value	
• with high demand rate acc. to SN 31920	3 000 000
Proportion of dangerous failures	
• with low demand rate acc. to SN 31920	40 %
• 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
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Declaration of Conformity	Test Certificates	Shipping Approval
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[Typprüfbescheinigung/Werkszeugnis](#)



Shipping Approval	other
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[Umweltbestätigung](#)

[Bestätigungen](#)

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=3RA6120-1DB32>

Cax online generator

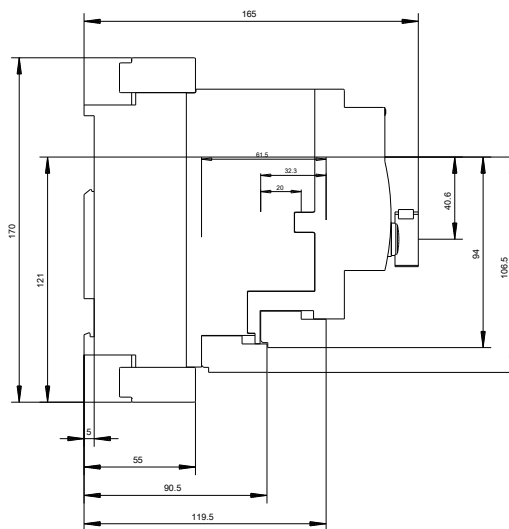
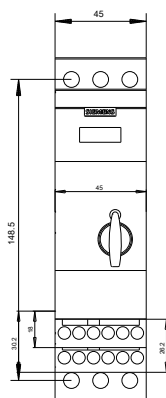
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1DB32>

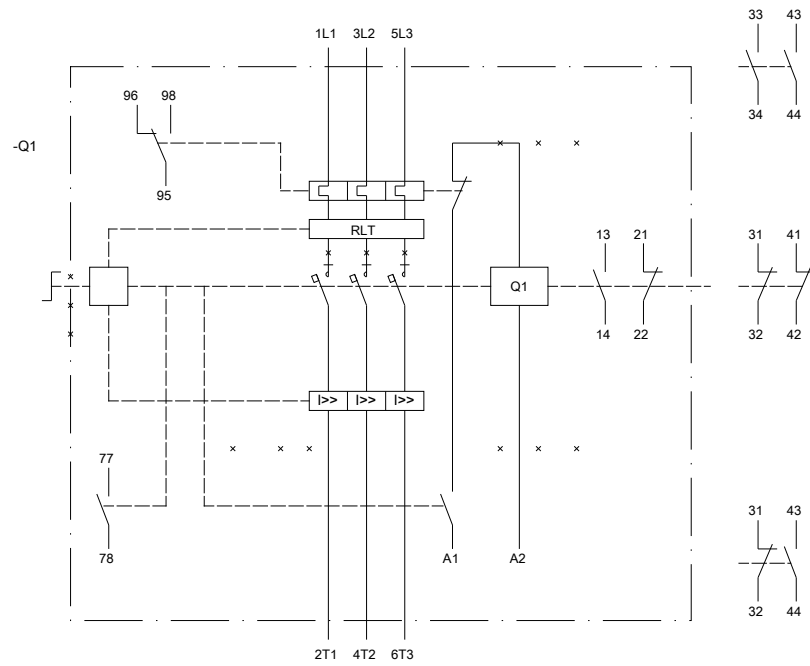
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1DB32>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1DB32&lang=en





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