SIEMENS

Product data sheet 3RA6120-2AB32



SIRIUS, COMPACT STARTER,
DIRECT STARTER 690 V, 24 V AC/DC,
50 ... 60 HZ, 0.1 ... 0.4 A, IP20,
CONNECTION MAIN CIRCUIT: SPRING-LOADED
TERMINAL,
CONNECTION AUXILIARY CIRCUIT: SPRING-LOADED
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 assignement		continous operation according to IEC 60947-6-2
Protection class IP		IP20
Degree of pollution		3
Built in orientation / 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/s2 (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/s²; 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	V	400
between control and auxiliary circuit	V	300
between auxiliary circuit and auxiliary circuit	V	250
Item designation		
 according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 		Q
• according to DIN EN 61346-2		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	Α	0.1 0.4
Formula for making capacity limit current		120 x le
Formula for interruption capacity limit current		100 x le
Emitted mechanical power / for 4-pole three-phase motor		
• at 400 V / rated value	kW	0.09
at 500 V / rated value	kW	0.12
at 690 V / rated value	kW	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		
rated value	V	24
• at 50 Hz / for AC		
• rated value	V	24
• at 60 Hz / for AC		
rated value	V	24
Holding power		
• for AC / maximum	W	2.8
• for DC / maximum	W	2.9
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	Α	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:		
Type of mounting		screw and snap-on mounting
Width	mm	45
Height	mm	191
Depth	mm	165
Built in orientation		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	spring-loaded terminals	
for auxiliary and control current circuit	spring-loaded terminals	
Type of the connectable conductor cross-section		
for main contacts		
• solid	2x (1.5 6 mm²), 1x 10 mm²	
• finely stranded		
 with conductor end processing 	2x (1.5 6 mm²)	
 without conductor final cutting 	2x (1.5 6 mm²)	
for auxiliary contacts		
• solid	2x (0.25 1.5 mm²)	
finely stranded		
 with conductor end processing 	2x (0.25 1.5 mm²)	
 without conductor final cutting 	2x (0.25 1.5 mm²)	
• for AWG conductors		
• for main contacts	2x (16 10), 1x 8	
for auxiliary contacts	2x (24 16)	

Certificates/approvals:	
Verification of suitability	IEC / EN 60947-6-2

General Product Approval

Functional Safety / Safety of

Test Certificates





ROSTEST



other

Machinery

Manufacturer

Shipping Approval









otherManufacturer

other

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

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:

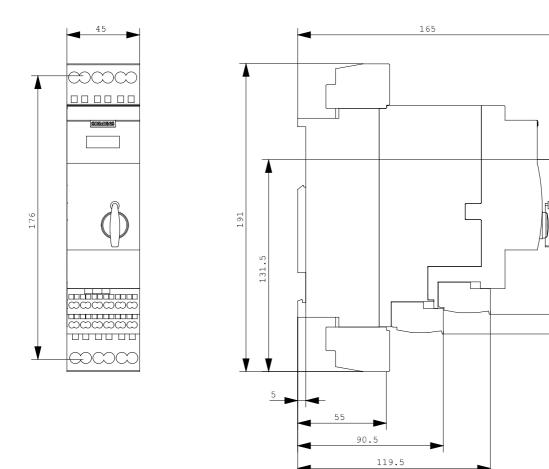
http://www.siemens.com/cax

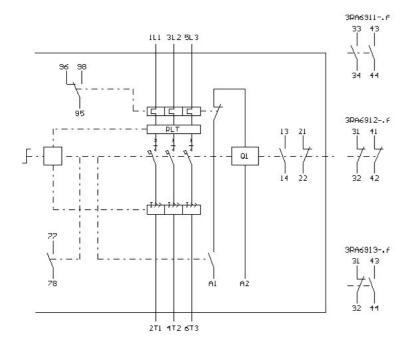
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

http://support.automation.siemens.com/WW/view/en/3RA6120-2AB32/all

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RA6120-2AB32





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