SIEMENS

Data sheet

3RA6120-2CB32



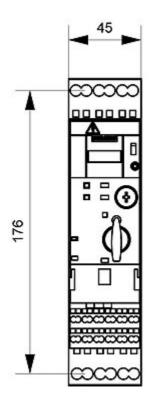
SIRIUS Compact load feeder DOL starter 690 V 24 V AC/DC 50...60 Hz 1...4 A IP20 Connection main circuit: Spring-type terminal Connection auxiliary circuit: Spring-type terminal

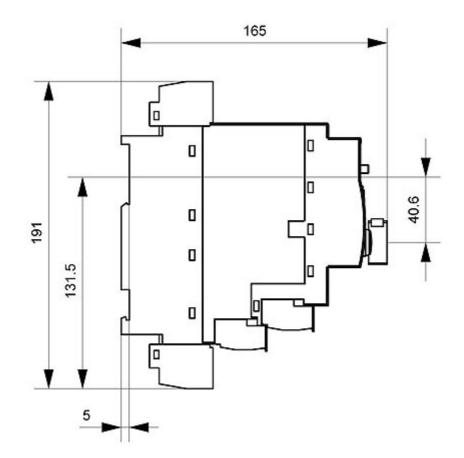
product function control circuit interface to parallel wiring Yes product extension auxiliary switch Yes power loss [W] for rated value of the current at AC in hot operating state 1 W • per pole 0.33 W power loss [W] for rated value of the current without load current share typical 690 V insulation voltage rated value 690 V degree of pollution 3 surge voltage resistance rated value 600 V maximum permissible voltage for safe isolation 600 V • between main and auxiliary circuit 400 V • between control and auxiliary circuit 300 V • between control and auxiliary circuit 300 V • between control and auxiliary circuit 300 V • between control and auxiliary circuit 00 V • between control and auxiliary circuit 10 000 00 • of the signaling contacts typical 10 000 000 • of the signaling contacts typical 10 000 000 • of the signaling contacts typical 10 000 000 • of the signaling contacts typical 30 000 • at DC-13 at 6 A at 24 V typical 30 000 • at AC-15 at 6 A at 230 V typical 200 000 • at AC-15 at 6 A at 24 V typical 200 000 • at AC-15 at 6 A at 230 V typical 200 000 • at AC-15 at	product brand name	SIRIUS		
product type designation 3RA61 General technical data	product designation			
General technical data Yes product function control circuit interface to parallel wiring product extension auxiliary switch Yes power loss [W] for rated value of the current at AC in hot operating state 1 W • per pole 0.33 W power loss [W] for rated value of the current without load current share typical 2.9 W insulation voltage rated value 690 V degree of pollution 3 • between main and auxiliary circuit 400 V • between auxiliary and auxiliary circuit 250 V • between auxiliary and auxiliary circuit 300 V • degree of protection NEMA rating other • between auxiliary and auxiliary circuit 250 V • between auxiliary and auxiliary circuit 300 V • degree of protection NEMA rating other • shock resistance a=60 m/s2 (6g) with 10 ms per 3 shocks in all axes • bitration 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) 10 000 000 • of auxiliary contacts typical 10 000 000 • of the signaling contacts typical 30 000 • at DC-13 at 6 A at 24 V typical 30 000 • a	design of the product	direct starter		
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vibration resistancef= 4 5.8 Hz, d= 15 mm; f= 5.8 500 Hz, a= 20 m/s²; 10 cyclesmechanical service life (switching cycles)10 000 000o of the main contacts typical10 000 000o f the signaling contacts typical10 000 000e at DC-13 at 6 A at 24 V typical30 000e at DC-13 at 6 A at 230 V typical200 000type of assignmentcontinuous operation according to IEC 60947-6-2reference code acc. to IEC 81346-2QSubstance Prohibitance (Date)01.05.2012 00:00:00	degree of protection NEMA rating	other		
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contacts• at DC-13 at 6 A at 24 V typical30 000• at AC-15 at 6 A at 230 V typical200 000type of assignmentcontinous operation according to IEC 60947-6-2reference code acc. to IEC 81346-2QSubstance Prohibitance (Date)01.05.2012 00:00:00Ambient conditions	 of the signaling contacts typical 	10 000 000		
type of assignment continous operation according to IEC 60947-6-2 reference code acc. to IEC 81346-2 Q Substance Prohibitance (Date) 01.05.2012 00:00:00 Ambient conditions Image: Content of the second	 at DC-13 at 6 A at 24 V typical 	30 000		
reference code acc. to IEC 81346-2 Q Substance Prohibitance (Date) 01.05.2012 00:00:00 Ambient conditions 01.05.2012 00:00:00	 at AC-15 at 6 A at 230 V typical 	200 000		
Substance Prohibitance (Date) 01.05.2012 00:00:00 Ambient conditions 01.05.2012 00:00:00	type of assignment	continous operation according to IEC 60947-6-2		
Ambient conditions	reference code acc. to IEC 81346-2	Q		
	Substance Prohibitance (Date)	01.05.2012 00:00:00		
	Ambient conditions			
installation altitude at height above sea level maximum 2 000 m	installation altitude at height above sea level maximum	2 000 m		
• ambient temperature during operation -20 +60 °C	 ambient temperature during operation 	-20 +60 °C		
• ambient temperature during storage -55 +80 °C	 ambient temperature during storage 	-55 +80 °C		
• ambient temperature during transport -55 +80 °C	 ambient temperature during transport 	-55 +80 °C		

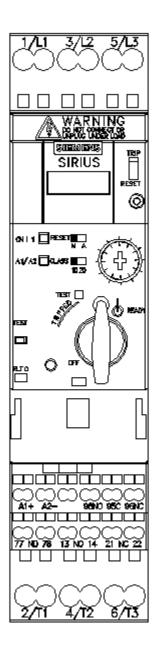
relative humidity during operation	10 90 %	
Main circuit		
number of poles for main current circuit	3	
	3 14A	
adjustable current response value current of the current-dependent overload release	14A	
formula for making capacity limit current	12 x le	
formula for breaking capacity limit current	10 x le	
yielded mechanical performance 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	
operational 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	
operating power		
• at AC-3 at 400 V rated value	1 500 W	
• at AC-43		
— at 400 V rated value	1 500 W	
— at 500 V rated value	2 200 W	
— at 690 V rated value	3 000 W	
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	
type of voltage control supply voltage 1 at AC	AC/DC	
control supply voltage 1 at AC		
• at 50 Hz rated value	24 V	
 control supply voltage 1 at AC at 50 Hz rated value at 60 Hz rated value 		
• at 50 Hz rated value	24 V 24 V	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value	24 V 24 V 50 Hz	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value	24 V 24 V	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value control supply voltage 1	24 V 24 V 50 Hz 60 Hz	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value control supply voltage 1 • at DC rated value	24 V 24 V 50 Hz	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value control supply voltage 1 • at DC rated value	24 V 24 V 50 Hz 60 Hz 24 V	
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control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value control supply voltage 1 • at DC rated value holding power • at DC maximum • at DC maximum	24 V 24 V 50 Hz 60 Hz 24 V	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value control supply voltage 1 • at DC rated value holding power • at DC maximum • at DC maximum	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W	
control supply voltage 1 at AC e at 60 Hz rated value e 1 rated value e 2 rated value e at DC rated value holding power e at DC maximum e at DC contacts for auxiliary contacts	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value control supply voltage 1 • at DC rated value holding power • at DC maximum • at DC contacts for auxiliary contacts number of NC contacts for auxiliary contacts	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W	
control supply voltage 1 at AC e at 60 Hz rated value e 1 rated value e 2 rated value e at DC rated value holding power e at DC maximum e at DC contacts for auxiliary contacts	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.8 W 2.9 W	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value control supply voltage 1 • at DC rated value holding power • at AC maximum • at DC rated value holding power • at DC maximum • at DC contacts for auxiliary contacts number of NC contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.8 W 2.9 W	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value • 1 rated value • 2 rated value control supply voltage 1 • at DC rated value holding power • at DC maximum • at DC maximum • at DC contacts for auxiliary contacts number of NC contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W 1 1 1	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value control supply voltage 1 • at DC rated value holding power • at DC maximum • at DC maximum • at DC contacts for auxiliary contacts number of NC contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W 1 1 1 1	
control supply voltage 1 at AC <td a="" b="" b<="" end="" td="" to=""><td>24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W 1 1 1 1 1 1 1 1</td></td>	<td>24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W 1 1 1 1 1 1 1 1</td>	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W 1 1 1 1 1 1 1 1
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control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value control supply voltage 1 • at DC rated value holding power • at DC maximum • at DC maximum • at DC contacts for auxiliary contacts number of NC contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V Protective and monitoring functions trip class	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W 1 1 1 1 1 1 1 1	
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value control supply voltage 1 • at DC rated value holding power • at DC maximum • at DC maximum • at DC contacts for auxiliary contacts number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V Protective and monitoring functions	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
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control supply voltage 1 at AC <td a="" b="" end="" of="" stat<="" state="" td="" the="" to=""><td>24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td></td>	<td>24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td>	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
control supply voltage 1 at AC • at 50 Hz rated value • at 60 Hz rated value control supply voltage frequency • 1 rated value • 2 rated value • at DC rated value control supply voltage 1 • at DC rated value holding power • at DC maximum • at DC maximum • at DC contacts for auxiliary contacts number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V Protective and monitoring functions trip class breaking capacity operating short-circuit current (lcs) • at 400 V • at 500 V rated value	24 V 24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W 1 1 1 1 1 1 1 1 1 CLASS 10 and 20 adjustable 53 kA 3 kA	

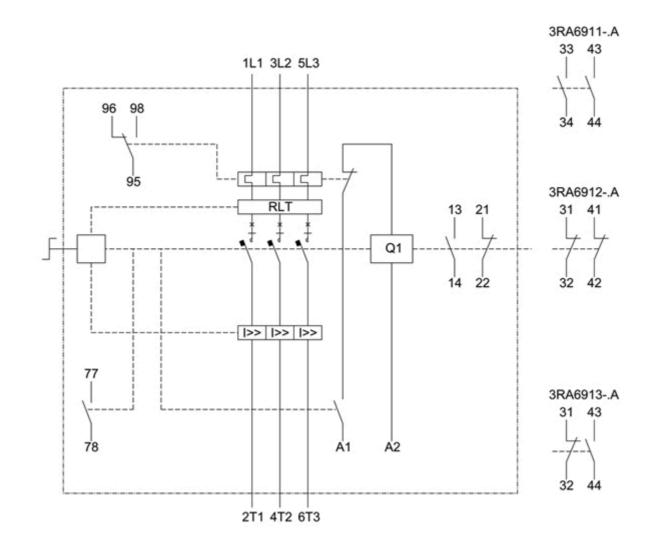
full-load current (FLA) for 3-phase AC motor			
 at 480 V rated value 	4 A		
 at 600 V rated value 	4 A		
yielded mechanical performance [hp] for 3-phase AC motor			
• at 200/208 V rated value	0.75 hp		
 at 220/230 V rated value 	0.75 hp		
 at 460/480 V rated value 	2 hp		
• at 575/600 V rated value	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 short-circuit protection	electromagnetic		
design of the fuse link			
 for short-circuit protection of the auxiliary switch required 	fuse gL/gG: 10 A		
 for short-circuit protection of the signaling switch of the short-circuit release required 	6A gL/gG/400V		
 for short-circuit protection of the signaling switch of the overload release required 	4A gL/gG/400V		
Installation/ mounting/ dimensions			
mounting position	any		
recommended	vertical, on horizontal standard mounting rail		
fastening method	screw and snap-on mounting		
height	191 mm		
width	45 mm		
depth	165 mm		
Connections/ Terminals			
product function			
 removable terminal for main circuit 	Yes		
 removable terminal for auxiliary and control circuit 	Yes		
type of electrical connection			
 for main current circuit 	spring-loaded terminals		
 for auxiliary and control circuit 	spring-loaded terminals		
type of connectable conductor cross-sections			
for main contacts			
— solid	2x (1.5 6 mm²), 1x 10 mm²		
 finely stranded with core end processing 	2x (1.5 6 mm ²)		
 finely stranded without core end processing 	2x (1.5 6 mm ²)		
at AWG cables for main contacts	2x (16 10), 1x 8		
type of connectable conductor cross-sections			
 for auxiliary contacts 			
— solid	2x (0.25 1.5 mm²)		
 finely stranded with core end processing 	2x (0.25 1.5 mm ²)		
— finely stranded without core end processing	2x (0.25 1.5 mm ²)		
 at AWG cables for auxiliary contacts 	2x (24 16)		
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			
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			
AS-Interface protocol	No		

 IO-Link protocol 			No			
product function control circuit interface with IO link No						
Electromagnetic compatibility						
conducted interference)					
 due to burst acc. to 	o IEC 61000-4-4		4 kV main contacts, 2 kV	auxiliary contacts		
 due to conductor-e 	earth surge acc. to Il	EC 61000-4-5	4 kV main contacts, 2 kV auxiliary contacts			
 due to conductor-o 61000-4-5 	 due to conductor-earth surge acc. to IEC 61000-4-5 due to conductor-conductor surge acc. to IEC 61000-4-5 		2 kV main contacts, 1 kV	auxiliary contacts		
 due to high-freque 4-6 	ncy radiation acc. to	DIEC 61000-	0.15-80Mhz at 10V			
field-based interference acc. to IEC 61000-4-3 10 V/m						
electrostatic discharge	electrostatic discharge acc. to IEC 61000-4-2 8 kV					
conducted HF interfere			150 kHz 30 MHz Class	A		
field-bound HF interfer	ence emission acc	c. to CISPR11	30 1000 MHz Class A			
Supply voltage						
Supply voltage require	d Auxiliary voltage	9	No			
Display						
number of LEDs			2			
Certificates/ approvals						
General Product Appro	oval			EMC	Functional Safety/Safety of Machinery	
(S)	(ዓ	CO 7	Â	DYE	
CSA	CCC		LUL	RCM	VDE	
Declaration of Conform	nity	Test Certifica	ates Marine / Shipping	3		
<u>Miscellaneous</u>	CE EG-Konf.	<u>Type Tes</u> <u>Certificates/1</u> <u>Report</u>		BUREAU VERITAS	Lloyds Register urs	
Marine / Shipping				other		
			DNVGL	<u>Confirmation</u>		
PRS	RINA	RMRS	Devo LCDROW			
Further information						
Information- and Down		ogs, Brochures,.)			
https://www.siemens.com/ic10 Industry Mall (Online ordering system)						
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RA6120-2CB32						
Cax online generator						
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-2CB32						
Service&Support (Manuals, Certificates, Characteristics, FAQs,) https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-2CB32						
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-2CB32⟨=en						
Characteristic: Tripping characteristics, I ² t, Let-through current						
https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-2CB32/char Further characteristics (e.g. electrical endurance, switching frequency)						
Further characteristics			2CB32/char			
	iemens.com/cs/ww/ (e.g. electrical end	/en/ps/3RA6120- durance, switch		CB32&objecttype=14&gri	dview=view1	









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