## **SIEMENS**

Data sheet 3RA6120-2BB32



SIRIUS Compact load feeder DOL starter 690 V 24 V AC/DC 50...60 Hz 0.32...1.25 A IP20 Connection main circuit: Spring-type terminal Connection auxiliary circuit: Spring-type terminal

product brand name	SIRIUS		
product designation	compact starter		
design of the product	direct starter		
product type designation	3RA61		
General technical data			
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	0.1 W		
• per pole	0.03 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		
surge voltage resistance rated value	6 000 V		
maximum permissible voltage for safe isolation			
<ul> <li>between main and auxiliary circuit</li> </ul>	400 V		
<ul> <li>between auxiliary and auxiliary circuit</li> </ul>	250 V		
between control 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		
vibration resistance	f= 4 5.8 Hz, d= 15 mm; f= 5.8 500 Hz, a= 20 m/s <sup>2</sup> ; 10 cycles		
mechanical service life (switching cycles)			
<ul> <li>of the main contacts typical</li> </ul>	10 000 000		
<ul> <li>of auxiliary contacts typical</li> </ul>	10 000 000		
of the signaling contacts typical	10 000 000		
electrical endurance (switching cycles) of auxiliary contacts			
<ul><li>at DC-13 at 6 A at 24 V typical</li></ul>	30 000		
• at AC-15 at 6 A at 230 V typical	200 000		
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			
installation altitude at height above sea level maximum	2 000 m		
ambient temperature during operation	-20 +60 °C		
ambient temperature during storage	-55 +80 °C		
ambient temperature during transport	-55 +80 °C		

relative humidity during operation	10 90 %
Main circuit	
	2
number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	0.32 1.25 A
formula for making capacity limit current	38.4 x le
formula for breaking capacity limit current	32 x le
yielded mechanical performance for 4-pole AC motor	32 X IE
at 400 V rated value	0.37 kW
at 500 V rated value     at 500 V rated value	0.55 kW
at 690 V rated value     at 690 V rated value	0.75 kW
operating voltage at AC-3 rated value maximum	690 V
operational current	
at AC at 400 V rated value	1.25 A
• at AC-43	
— at 400 V rated value	1.1 A
— at 500 V rated value	1.2 A
— at 690 V rated value	1.1 A
operating power	
• at AC-3 at 400 V rated value	370 W
• at AC-43	
— at 400 V rated value	370 W
— at 500 V rated value	550 W
— at 690 V rated value	750 W
no-load switching frequency	3 600 1/h
operating frequency	
• at AC-41 acc. to IEC 60947-6-2 maximum	750 1/h
<ul> <li>at AC-43 acc. to IEC 60947-6-2 maximum</li> </ul>	250 1/h
Control circuit/ Control	
type of voltage	AC/DC
type or vertage	710/20
control supply voltage 1 at AC	
control supply voltage 1 at AC	24 V
at 50 Hz rated value	24 V
at 50 Hz rated value     at 60 Hz rated value	24 V 24 V
at 50 Hz rated value     at 60 Hz rated value  control supply voltage frequency	24 V
at 50 Hz rated value     at 60 Hz rated value  control supply voltage frequency     1 rated value	24 V 50 Hz
<ul> <li>at 50 Hz rated value</li> <li>at 60 Hz rated value</li> <li>control supply voltage frequency</li> <li>1 rated value</li> <li>2 rated value</li> </ul>	24 V
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 50 Hz 60 Hz
<ul> <li>at 50 Hz rated value</li> <li>at 60 Hz rated value</li> <li>control supply voltage frequency</li> <li>1 rated value</li> <li>2 rated value</li> <li>control supply voltage 1</li> <li>at DC rated value</li> </ul>	24 V 50 Hz
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	24 V 50 Hz 60 Hz 24 V
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	24 V 50 Hz 60 Hz 24 V 2.8 W
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 maximum	24 V 50 Hz 60 Hz 24 V
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 maximum  Auxiliary circuit	24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W
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 maximum Auxiliary circuit number of NC contacts for auxiliary contacts	24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W
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 maximum Auxiliary circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts	24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W
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 maximum  Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit trip unit for signaling contact	24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W
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 maximum Auxiliary circuit number of NC contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip	24 V 50 Hz 60 Hz 24 V 2.8 W 2.9 W
at 50 Hz rated value  at 60 Hz rated value  control supply voltage frequency  1 rated value  2 rated value  at DC rated value  holding power  at AC maximum  at DC maximum  Nuxiliary circuit  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  50 Hz 60 Hz  24 V  2.8 W 2.9 W
at 50 Hz rated value at 60 Hz rated value control supply voltage frequency 1 rated value 2 rated value at DC rated value holding power at AC maximum at DC maximum Auxiliary circuit 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	24 V  50 Hz 60 Hz  24 V  2.8 W 2.9 W  1 1 1 1
at 50 Hz rated value at 60 Hz rated value control supply voltage frequency 1 rated value 2 rated value at DC rated value holding power at AC maximum at DC maximum Auxiliary circuit 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	24 V  50 Hz 60 Hz  24 V  2.8 W 2.9 W  1 1 1 1 1 1
at 50 Hz rated value at 60 Hz rated value control supply voltage frequency 1 rated value 2 rated value at DC rated value bolding power at AC maximum at DC maximum at DC maximum  Auxiliary circuit  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	24 V  50 Hz 60 Hz  24 V  2.8 W 2.9 W  1 1 1 1 1 0 A  0.27 A
at 50 Hz rated value  at 60 Hz rated value  control supply voltage frequency  1 rated value  2 rated value  at DC rated value  holding power  at AC maximum  at DC maximum  Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit tripunit 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  50 Hz 60 Hz  24 V  2.8 W 2.9 W  1 1 1 1 1 1
at 50 Hz rated value  at 60 Hz rated value  control supply voltage frequency  1 rated value  2 rated value  at DC rated value  holding power  at AC maximum  at DC maximum  Auxiliary circuit  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  trip class  breaking capacity operating short-circuit current (lcs)	24 V  50 Hz 60 Hz  24 V  2.8 W 2.9 W  1 1 1 1 1 CLASS 10 and 20 adjustable
at 50 Hz rated value at 60 Hz rated value control supply voltage frequency 1 rated value 2 rated value at DC rated value holding power at AC maximum at DC maximum Auxiliary circuit 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 trip class breaking capacity operating short-circuit current (Ics) at 400 V	24 V  50 Hz 60 Hz  24 V  2.8 W 2.9 W  1 1 1 1 CLASS 10 and 20 adjustable  53 kA
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 AC maximum at DC maximum  Auxiliary circuit  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  trip class  breaking capacity operating short-circuit current (Ics) at 400 V at 500 V rated value	24 V  50 Hz 60 Hz  24 V  2.8 W 2.9 W  1 1 1 1 1 CLASS 10 and 20 adjustable  53 kA 3 kA
at 50 Hz rated value at 60 Hz rated value control supply voltage frequency 1 rated value 2 rated value at DC rated value holding power at AC maximum at DC maximum Auxiliary circuit 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 trip class breaking capacity operating short-circuit current (Ics) at 400 V	24 V  50 Hz 60 Hz  24 V  2.8 W 2.9 W  1 1 1 1 CLASS 10 and 20 adjustable  53 kA

1.25 A		
1.25 A		
0.5 hp		
0.5 hp		
contacts 21-22, 13-14, 43-44 Q600 / A600, contacts 77-78 R300 / B300, contacts 95-96-98 R300 / D300		
Yes		
electromagnetic		
_		
fuse gL/gG: 10 A		
6A gL/gG/400V		
4A gL/gG/400V		
any		
vertical, on horizontal standard mounting rail		
screw and snap-on mounting		
191 mm		
45 mm		
165 mm		
Yes		
Yes		
spring-loaded terminals		
spring-loaded terminals		
spring-loaded terminals		
spring-loaded terminals		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm²		
2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²)		
2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²)		
2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²)		
2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²)		
2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.6 10), 1x 8		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm²  2x (1.5 6 mm²)  2x (1.5 6 mm²)  2x (1.6 10), 1x 8  2x (0.25 1.5 mm²)		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (16 10), 1x 8  2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²)		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (16 10), 1x 8  2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²)		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (16 10), 1x 8  2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²)		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm²  2x (1.5 6 mm²)  2x (1.5 6 mm²)  2x (1.6 10), 1x 8   2x (0.25 1.5 mm²)  2x (0.25 1.5 mm²)  2x (0.25 1.5 mm²)  2x (0.25 1.5 mm²)		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.6 10), 1x 8  2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.24 16)  3 000 000  40 %		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.6 10), 1x 8  2x (0.25 1.5 mm²)		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (16 10), 1x 8   2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.24 16)  3 000 000  40 % 50 % 100 FIT		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.6 10), 1x 8  2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.25 1.6 mm²) 3 000 000  40 % 50 %		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (16 10), 1x 8   2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.24 16)  3 000 000  40 % 50 % 100 FIT		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.6 10), 1x 8   2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.24 16)  3 000 000  40 % 50 % 100 FIT 20 y		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (16 10), 1x 8  2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (24 16)  3 000 000  40 % 50 % 100 FIT 20 y		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (16 10), 1x 8  2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (24 16)  3 000 000  40 % 50 % 100 FIT 20 y		
spring-loaded terminals  2x (1.5 6 mm²), 1x 10 mm² 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (1.5 6 mm²) 2x (16 10), 1x 8  2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.25 1.5 mm²) 2x (0.24 16)  3 000 000  40 % 50 % 100 FIT 20 y  IP20 finger-safe		

IO-Link protocol	No				
product function control circuit interface with IO link	No				
Electromagnetic compatibility					
conducted interference					
<ul><li>due to burst acc. to IEC 61000-4-4</li></ul>	4 kV main contacts, 2 kV auxiliary contacts				
<ul> <li>due to conductor-earth surge acc. to IEC 61000-4-5</li> </ul>	4 kV main contacts, 2 kV auxiliary contacts				
<ul> <li>due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul>	2 kV main contacts, 1 kV auxiliary contacts				
• due to high-frequency radiation acc. to IEC 61000- 4-6	0.15-80Mhz at 10V				
field-based interference 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				
Display					
number of LEDs	2				
Certificates/ approvals					
General Product Approval		EMC	Functional Safety/Safety of Machinery		













## **Declaration of Conformity**

**Test Certificates** 

Marine / Shipping

**Miscellaneous** 



Type Test Certificates/Test Report







## Marine / Shipping







Confirmation

other

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

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RA6120-2BB32

Cax online generator

 $\underline{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RA6120-2BB32}$ 

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

https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-2BB32

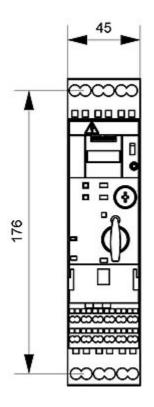
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

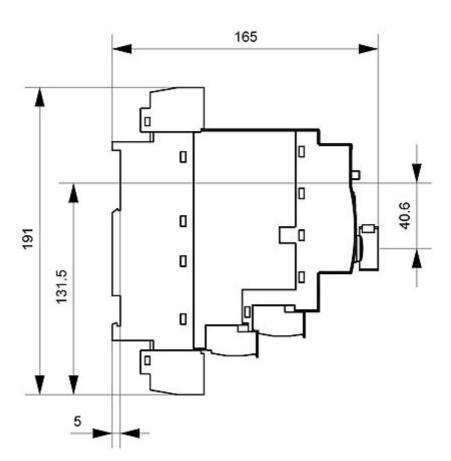
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RA6120-2BB32&lang=en

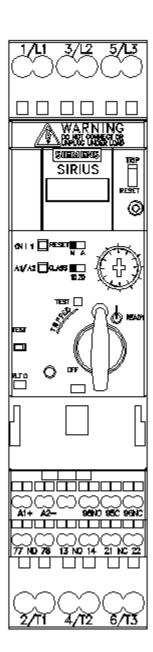
Characteristic: Tripping characteristics, I2t, Let-through current

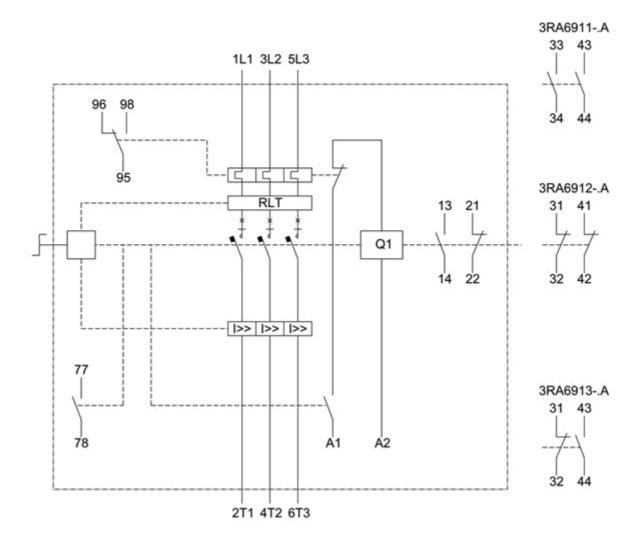
https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-2BB32/char

Further characteristics (e.g. electrical endurance, switching frequency) <a href="http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-2BB32&objecttype=14&gridview=view1">http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-2BB32&objecttype=14&gridview=view1</a>









last modified: 1/20/2021 🖸