## **SIEMENS**

## **Data sheet**

## 3RA2120-1CA23-0BB4



Fuseless motor starter Direct start 600VAC Size S0 1.8-2.5A 24V DC screw connection For screw mounting Or 35 mm rail-mounting Type of coordination 2 IQ = 150 KA Also full fills type Of coordination 1 1NO+1NC (contactor)

design of the product   direct starter	product brand name	SIRIUS
manufacturer's article number  of the supplied contactor of the supplied contactor supplied richt-breakers of the supplied link module 3RA2921-1BA00  Seneral technical data size of the circuit-breaker size of load feeder product extension auxiliary switch relation of the supplied richt with th	product designation	non-fused motor starter 3RA2
of the supplied circuit-breakers of the supplied circuit-breakers of the supplied link module  SRA2321-1BA00  General technical data  size of the circuit-breaker size of load feeder product extension auxiliary switch rall responsibility of the supplied link module  S00 product extension auxiliary switch rall responsibility of the supplied link module  S00 product extension auxiliary switch rall responsibility of the supplied link module responsibility of the supplied link responsibility of the supplied link responsibility of the switching cycles) of contactor typical type of assignment  Substance Prohibitance (Date)  Substance Prohibitance (Date)  Ambient conditions  ambient temperature of during storage during transport  Source of policy of the switching contact substance Prohibitance (Date)  Ambient conditions  ambient temperature of the switching contact substance prohibitance (Date)  Main circuit number of poles for main current circuit design of the switching contact adjustable current response value current of the current-dependent overload release operating voltage orated value operational current at AC-3 at 400 V rated value operational current at AC-3  at 400 V rated value at 500 V rated value	design of the product	direct starter
of the supplied circuit-breakers     of the supplied link module     3RA2921-1BA00  General technical data  size of the circuit-breaker     size of load feeder     product extension auxiliary switch     insulation voltage with degree of pollution 3 at AC rated value     degree of pollution     surge voltage resistance rated value     shock resistance according to IEC 60068-2-27     mechanical service life (switching cycles) of contactor typical  type of assignment     2 Substance Prohibitance (Date)  Ambient conditions  ambient temperature     during operation     during storage     during transport     of using fransport  Asian circuit number of poles for main current circuit     design of the switching contact     adjustable current response value current of the current-dependent overload release     operating voltage	manufacturer's article number	
• of the supplied link module  General technical data  size of the circuit-breaker  size of load feeder  product extension auxiliary switch insulation voltage with degree of pollution 3 at AC rated value  degree of pollution  surge voltage resistance rated value shock resistance according to IEC 60068-2-27  mechanical service life (switching cycles) of contactor typical  type of assignment  2  Substance Prohibitance (Date)  Ambient conditions  ambient temperature  • during operation • during storage • during transport  Aid esign of the switching contact  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  operating requency rated value • at 4CO-3 rated value • at 550 V rated value	<ul> <li>of the supplied contactor</li> </ul>	3RT2023-1BB40
Size of the circuit-breaker   S00	<ul> <li>of the supplied circuit-breakers</li> </ul>	3RV2011-1CA10
size of the circuit-breaker S00  size of load feeder S0  product extension auxiliary switch Yes insulation voltage with degree of pollution 3 at AC rated value  degree of pollution 3  surge voltage resistance rated value 6 kV  shock resistance according to IEC 60068-2-27 6g / 11 ms  mechanical service life (switching cycles) of contactor typical 1  type of assignment 2  Substance Prohibitance (Date) 03/01/2017  Ambient conditions  ambient temperature  • during operation -20 +60 °C • during storage -55 +80 °C • during transport -55 +80 °C  Main circuit 1  number of poles for main current circuit 3  design of the switching contact adjustable current response value current of the current-dependent overload release operating voltage  • rated value 690 V  operating frequency rated value 50 60 Hz operational current at AC-3 at 400 V rated value 0 e at 500 V vated value 1.9 A  operating power at AC-3  • at 400 V rated value 750 W  at 500 V  control circuit/ Control	<ul> <li>of the supplied link module</li> </ul>	3RA2921-1BA00
size of load feeder product extension auxiliary switch insulation voltage with degree of pollution 3 at AC rated value  degree of pollution 3 surge voltage resistance rated value shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) of contactor typical type of assignment 2 Substance Prohibitance (Date)  Ambient conditions ambient temperature during operation during storage during transport  -20 +60 °C during transport  -55 +80 °C  Main circuit number of poles for main current circuit design of the switching contact adjustable current response value current of the current-dependent overload release operating voltage	General technical data	
product extension auxiliary switch insulation voltage with degree of pollution 3 at AC rated value degree of pollution 3 at AC rated value 690 V surge voltage resistance rated value 6 kV shock resistance according to IEC 60068-2-27 6g / 11 ms mechanical service life (switching cycles) of contactor typical 10 000 000 type of assignment 2 Substance Prohibitance (Date) 03/01/2017  Ambient conditions ambient temperature 4 during operation 5 -50 +60 °C -50 +80 °C -55 +80 °C	size of the circuit-breaker	S00
insulation voltage with degree of pollution 3 at AC rated value  degree of pollution  surge voltage resistance rated value  shock resistance according to IEC 60068-2-27  mechanical service life (switching cycles) of contactor typical  type of assignment  2  Substance Prohibitance (Date)  Ambient temperature  during operation  during storage  during transport  -55 +80 °C  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  e rated value  e at AC-3 rated value maximum  operating frequency rated value  operating frequency rated value  operating power at AC-3  e at 400 V rated value  e at 500 V rated value  other incompletes in the current of the current of tyred in the current of the current at AC-3  e at 400 V rated value  750 W  control circuit/Control	size of load feeder	S0
degree of pollution surge voltage resistance rated value shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) of contactor typical type of assignment 2 Substance Prohibitance (Date) 3/01/2017  Ambient conditions ambient temperature during operation during storage during transport -50 +80 °C  during transport  Adis circuit number of poles for main current circuit design of the switching contact adjustable current response value current of the current-dependent overload release operating voltage rated value at AC-3 rated value maximum operating frequency rated value operating power at AC-3 at 400 V rated value at 400 V rated value at 4500 V rated value at 550 W at 500 V control circuit/Control	product extension auxiliary switch	Yes
surge voltage resistance rated value shock resistance according to IEC 60068-2-27 fee dy / 11 ms mechanical service life (switching cycles) of contactor typical type of assignment 2 Substance Prohibitance (Date)  Ambient conditions  ambient temperature • during operation • during storage • during transport  Adesign of the switching contact adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum operating frequency rated value operating power at AC-3 • at 400 V rated value • at 500 V rated value	0 0 1	690 V
shock resistance according to IEC 60068-2-27  shock resistance according to IEC 60068-2-27  mechanical service life (switching cycles) of contactor typical  type of assignment  2  Substance Prohibitance (Date)  Ambient conditions  ambient temperature  • during operation  • during storage  • during transport  -20 +60 °C  • during transport  -50 +80 °C  Main circuit  number of poles for main current circuit  design of the switching contact  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  • at AC-3 rated value maximum  operating frequency rated value  operating power at AC-3  • at 400 V rated value  • at 500 V rated value	degree of pollution	3
mechanical service life (switching cycles) of contactor typical  type of assignment  Substance Prohibitance (Date)  Ambient conditions  ambient temperature  • during operation • during storage • during transport  Adesign of the switching contact adjustable current response value current of the current-dependent overload release  operating voltage • rated value • at AC-3 rated value maximum operating frequency rated value operating power at AC-3 • at 400 V rated value • at 500 V rated value	surge voltage resistance rated value	6 kV
type of assignment 2 Substance Prohibitance (Date) 03/01/2017  Ambient conditions  ambient temperature  • during operation -20 +60 °C  • during storage -50 +80 °C  • during transport -55 +80 °C  Main circuit  number of poles for main current circuit 3 design of the switching contact electromechanical adjustable current response value current of the current-dependent overload release  operating voltage  • rated value 690 V  • at AC-3 rated value maximum 690 V  operating frequency rated value 50 60 Hz  operating power at AC-3  • at 400 V rated value 750 W  • at 500 V rated value 750 W  • at 500 V rated value 1100 W  Control circuit/ Control	shock resistance according to IEC 60068-2-27	6g / 11 ms
Substance Prohibitance (Date)  Ambient conditions  ambient temperature  • during operation • during storage • during transport  -50 +80 °C  • during transport  -55 +80 °C  Main circuit  number of poles for main current circuit  design of the switching contact adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum operating frequency rated value  operating frequency rated value  operating power at AC-3 • at 400 V rated value • at 500 V rated value • at 500 V rated value • at 500 V rated value  1 100 W  Control circuit/ Control		10 000 000
ambient temperature  • during operation  • during storage  • during transport  -50 +80 °C  • during transport  -55 +80 °C  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  • at AC-3 rated value maximum  operating frequency rated value  operating frequency rated value  operating power at AC-3  • at 400 V rated value  • at 500 V rated value  • at 500 V rated value  100 W  Control circuit/ Control	type of assignment	2
ambient temperature  • during operation  • during storage  • during transport  -50 +80 °C  • during transport  -55 +80 °C  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  • at AC-3 rated value maximum  operating frequency rated value  operating power at AC-3  • at 400 V rated value  • at 500 V rated value  • at 500 V rated value  100 W  control circuit/ Control	Substance Prohibitance (Date)	03/01/2017
<ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> <li>55 +80 °C</li> </ul> Main circuit <ul> <li>number of poles for main current circuit</li> <li>design of the switching contact</li> <li>adjustable current response value current of the current-dependent overload release</li> <li>operating voltage</li> <li>rated value</li> <li>at AC-3 rated value maximum</li> <li>operating frequency rated value</li> <li>operating power at AC-3</li> <li>at 400 V rated value</li> <li>at 500 V rated value</li> <li>at 100 W</li> </ul> Control circuit/ Control	Ambient conditions	
<ul> <li>● during storage</li> <li>● during transport</li> <li>-55 +80 °C</li> </ul> Main circuit number of poles for main current circuit <ul> <li>design of the switching contact</li> <li>adjustable current response value current of the current-dependent overload release</li> <li>operating voltage</li> <li>● rated value</li> <li>● at AC-3 rated value maximum</li> <li>operating frequency rated value</li> <li>operating power at AC-3 at 400 V rated value</li> <li>operating power at AC-3</li> <li>● at 400 V rated value</li> <li>● 750 W</li> <li>● at 500 V rated value</li> <li>1 100 W</li> </ul> Control circuit/ Control	ambient temperature	
● during transport  -55 +80 °C  Main circuit  number of poles for main current circuit  design of the switching contact  adjustable current response value current of the current-dependent overload release  operating voltage  ● rated value  ● at AC-3 rated value maximum  operating frequency rated value  operational current at AC-3 at 400 V rated value  operating power at AC-3  ● at 400 V rated value  ● at 500 V rated value  750 W  ● at 500 V rated value  1 100 W  Control circuit/ Control	<ul> <li>during operation</li> </ul>	-20 +60 °C
Main circuit  number of poles for main current circuit  design of the switching contact  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  • at AC-3 rated value maximum  690 V  operating frequency rated value  operational current at AC-3 at 400 V rated value  operating power at AC-3  • at 400 V rated value  • at 500 V rated value  100 W  Control circuit/ Control	<ul> <li>during storage</li> </ul>	-50 +80 °C
number of poles for main current circuit  design of the switching contact  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  • at AC-3 rated value maximum  operating frequency rated value  operational current at AC-3 at 400 V rated value  • at 400 V rated value  • at 500 V rated value  100 W  Control circuit/ Control	<ul> <li>during transport</li> </ul>	-55 +80 °C
design of the switching contact  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  • at AC-3 rated value maximum  operating frequency rated value  operational current at AC-3 at 400 V rated value  operating power at AC-3  • at 400 V rated value  • at 500 V rated value  100 W  Control circuit/ Control	Main circuit	
adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  • at AC-3 rated value maximum  operating frequency rated value  operational current at AC-3 at 400 V rated value  operating power at AC-3  • at 400 V rated value  • at 500 V rated value  750 W  • at 500 V rated value  1 100 W  Control circuit/ Control	number of poles for main current circuit	3
current-dependent overload release  operating voltage  • rated value  • at AC-3 rated value maximum  690 V  operating frequency rated value  operational current at AC-3 at 400 V rated value  operating power at AC-3  • at 400 V rated value  • at 500 V rated value  1 100 W  Control circuit/ Control	design of the switching contact	electromechanical
<ul> <li>rated value</li> <li>at AC-3 rated value maximum</li> <li>690 V</li> <li>operating frequency rated value</li> <li>operational current at AC-3 at 400 V rated value</li> <li>operating power at AC-3</li> <li>at 400 V rated value</li> <li>at 500 V rated value</li> <li>100 W</li> </ul> Control circuit/ Control		1.8 2.5 A
at AC-3 rated value maximum     690 V     operating frequency rated value     operational current at AC-3 at 400 V rated value     operating power at AC-3         • at 400 V rated value         • at 500 V rated value         100 W  Control circuit/ Control	operating voltage	
operating frequency rated value  operational current at AC-3 at 400 V rated value  operating power at AC-3  • at 400 V rated value  • at 500 V rated value  Control circuit/ Control	• rated value	690 V
operational current at AC-3 at 400 V rated value  operating power at AC-3  • at 400 V rated value  • at 500 V rated value  1.9 A  750 W  1 100 W  Control circuit/ Control	at AC-3 rated value maximum	690 V
operating power at AC-3  • at 400 V rated value  • at 500 V rated value  1 100 W  Control circuit/ Control	operating frequency rated value	50 60 Hz
<ul> <li>at 400 V rated value</li> <li>at 500 V rated value</li> <li>1 100 W</li> </ul> Control circuit/ Control	operational current at AC-3 at 400 V rated value	1.9 A
at 500 V rated value     1 100 W  Control circuit/ Control	operating power at AC-3	
Control circuit/ Control	<ul> <li>at 400 V rated value</li> </ul>	750 W
	• at 500 V rated value	1 100 W
control supply voltage at DC	Control circuit/ Control	
	control supply voltage at DC	

rated value	24 V
holding power of magnet coil at DC	5.9 W
Auxiliary circuit	
number of NC contacts for auxiliary contacts	1
number of NO contacts for auxiliary contacts	1
Protective and monitoring functions	
	OLACC 40
trip class	CLASS 10
design of the overload release	thermal (bimetallic)
response value current of instantaneous short-circuit trip unit	32.5 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	2.15 A
at 600 V rated value	2.24 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 230 V rated value	0.17 hp
• for 3-phase AC motor	
— at 200/208 V rated value	0.5 hp
— at 220/230 V rated value	0.5 hp
— at 460/480 V rated value	1 hp
— at 575/600 V rated value	1.5 hp
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
conditional short-circuit current (Iq)	
<ul> <li>at 400 V according to IEC 60947-4-1 rated value</li> </ul>	153 000 A
Installation/ mounting/ dimensions	
mounting position	vertical
fastening method	Snap-mounted to DIN rail or screw-mounted with additional push-in lug
height	193.1 mm
width	45 mm
depth	107 mm
required spacing	
<ul> <li>for grounded parts</li> </ul>	
— forwards	10 mm
— backwards	0 mm
— upwards	30 mm
— at the side	9 mm
— downwards	10 mm
<ul> <li>for live parts</li> </ul>	
— forwards	
— lorwards	10 mm
— lorwards — backwards	10 mm 0 mm
— backwards	0 mm
<ul><li>backwards</li><li>upwards</li><li>downwards</li><li>at the side</li></ul>	0 mm 30 mm
<ul><li>backwards</li><li>upwards</li><li>downwards</li></ul>	0 mm 30 mm 10 mm
<ul><li>backwards</li><li>upwards</li><li>downwards</li><li>at the side</li></ul>	0 mm 30 mm 10 mm
backwards upwards downwards at the side  Connections/ Terminals	0 mm 30 mm 10 mm 9 mm
backwards upwards downwards at the side  Connections/ Terminals type of electrical connection for main current circuit	0 mm 30 mm 10 mm 9 mm  screw-type terminals  1 10 mm², 2x (2.5 6 mm²)
<ul> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Connections/ Terminals type of electrical connection for main current circuit type of connectable conductor cross-sections <ul> <li>for main contacts stranded</li> <li>at AWG cables for main contacts</li> </ul>	0 mm 30 mm 10 mm 9 mm  screw-type terminals  1 10 mm², 2x (2.5 6 mm²) 2x (16 12), 2x (14 8)
<ul> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Connections/ Terminals type of electrical connection for main current circuit type of connectable conductor cross-sections <ul> <li>for main contacts stranded</li> </ul>	0 mm 30 mm 10 mm 9 mm  screw-type terminals  1 10 mm², 2x (2.5 6 mm²)
<ul> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Connections/ Terminals type of electrical connection for main current circuit type of connectable conductor cross-sections <ul> <li>for main contacts stranded</li> <li>at AWG cables for main contacts</li> </ul> connectable conductor cross-section for main contacts	0 mm 30 mm 10 mm 9 mm  screw-type terminals  1 10 mm², 2x (2.5 6 mm²) 2x (16 12), 2x (14 8)
- backwards - upwards - downwards - at the side  Connections/ Terminals  type of electrical connection for main current circuit  type of connectable conductor cross-sections  • for main contacts stranded  • at AWG cables for main contacts  connectable conductor cross-section for main contacts finely stranded with core end processing	0 mm 30 mm 10 mm 9 mm  screw-type terminals  1 10 mm², 2x (2.5 6 mm²) 2x (16 12), 2x (14 8)
backwards upwards downwards at the side  Connections/ Terminals  type of electrical connection for main current circuit  type of connectable conductor cross-sections  • for main contacts stranded • at AWG cables for main contacts  connectable conductor cross-section for main contacts finely stranded with core end processing  Safety related data	0 mm 30 mm 10 mm 9 mm  screw-type terminals  1 10 mm², 2x (2.5 6 mm²) 2x (16 12), 2x (14 8) 1 6 mm²
<ul> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Connections/ Terminals type of electrical connection for main current circuit type of connectable conductor cross-sections <ul> <li>for main contacts stranded</li> <li>at AWG cables for main contacts</li> <li>connectable conductor cross-section for main contacts finely stranded with core end processing</li> </ul> Safety related data B10 value with high demand rate according to SN 31920 proportion of dangerous failures with high demand rate	0 mm 30 mm 10 mm 9 mm  screw-type terminals  1 10 mm², 2x (2.5 6 mm²) 2x (16 12), 2x (14 8) 1 6 mm²
backwards upwards downwards at the side  Connections/ Terminals  type of electrical connection for main current circuit  type of connectable conductor cross-sections  • for main contacts stranded • at AWG cables for main contacts  connectable conductor cross-section for main contacts finely stranded with core end processing  Safety related data  B10 value with high demand rate according to SN 31920 proportion of dangerous failures with high demand rate according to SN 31920  protection class IP on the front according to IEC	0 mm 30 mm 10 mm 9 mm  screw-type terminals  1 10 mm², 2x (2.5 6 mm²) 2x (16 12), 2x (14 8) 1 6 mm²  1 000 000 73 %

Certificates/ approvals

General Product Approval

For use in hazardous locations

Declaration of
Conformity

Other

Dangerous Good

Confirmation







Confirmation

Transport Information

## **Further information**

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=3RA2120-1CA23-0BB4

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RA2120-1CA23-0BB4}$ 

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

https://support.industry.siemens.com/cs/ww/en/ps/3RA2120-1CA23-0BB4

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

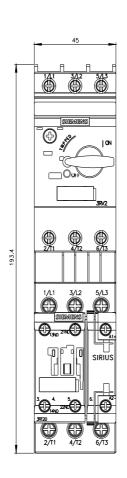
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RA2120-1CA23-0BB4&lang=en

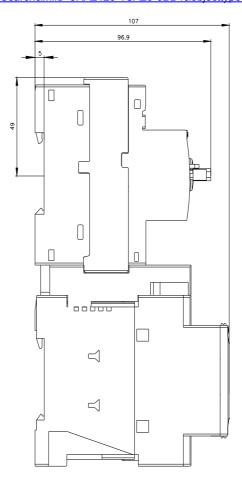
Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RA2120-1CA23-0BB4/char

Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA2120-1CA23-0BB4&objecttype=14&gridview=view1





last modified: 12/15/2020 🖸