## SIEMENS

## Data sheet

## 3RA2120-1ED23-0BB4



Fuseless motor starter Direct start 600VAC Size S0 2.8-4A 24V DC screw connection For snapping onto 60 mm busbar systems Type of coordination 2 IQ = 150 KA Also full fills type Of coordination 1 1NO+1NC (contactor)

product brand name	SIRIUS				
product designation	non-fused motor starter 3RA2				
design of the product	direct starter				
manufacturer's article number					
of the supplied contactor	3073023 10040				
	<u>3RT2023-1BB40</u> 2RV2011 1FA10				
of the supplied circuit-breakers	<u>3RV2011-1EA10</u>				
of the supplied busbar adapter	8US1251-5NT10				
of the supplied link module	<u>3RA2921-1BA00</u>				
General technical data					
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	690 V				
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	10 000 000				
type of assignment	2				
Substance Prohibitance (Date)	03/01/2017				
Ambient conditions					
ambient temperature					
<ul> <li>during operation</li> </ul>	-20 +60 °C				
<ul> <li>during storage</li> </ul>	-50 +80 °C				
<ul> <li>during transport</li> </ul>	-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	2.8 4 A				
operating voltage					
<ul> <li>rated value</li> </ul>	690 V				
at AC-3 rated value maximum	690 V				
operating frequency rated value	50 60 Hz				
operational current at AC-3 at 400 V rated value	3.6 A				
operating power at AC-3					
<ul> <li>at 400 V rated value</li> </ul>	1 500 W				
• at 500 V rated value	2 200 W				
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	
trip class	CLASS 10
design of the overload release	thermal (bimetallic)
response value current of instantaneous short-circuit trip	52 A
unit	
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
<ul> <li>at 480 V rated value</li> </ul>	3.95 A
<ul> <li>at 600 V rated value</li> </ul>	4 A
yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	
— at 110/120 V rated value	0.13 hp
— at 230 V rated value	0.33 hp
<ul> <li>for 3-phase AC motor</li> </ul>	
— 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
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
mounting position fastening method	vertical for snapping onto 60 mm busbar systems
fastening method	for snapping onto 60 mm busbar systems
fastening method height	for snapping onto 60 mm busbar systems 260 mm
fastening method height width	for snapping onto 60 mm busbar systems 260 mm 45 mm
fastening method height width depth	for snapping onto 60 mm busbar systems 260 mm 45 mm
fastening method height width depth required spacing	for snapping onto 60 mm busbar systems 260 mm 45 mm
fastening method         height         width         depth         required spacing         • for grounded parts	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — backwards         — backwards	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 0 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — upwards         • for live parts         — upwards         — upwards         • for live parts         — upwards         — upwards	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 30 mm 30 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — upwards         — downwards         — obackwards         — downwards         — downwards         — downwards         — upwards         — upwards         — downwards	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — downwards         • for live parts         — forwards         — at the side         — downwards         — at the side         — upwards         — at the side	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — backwards         — at the side         — downwards         • for live parts         — forwards         — upwards         — upwards         — at the side         — downwards         — upwards         — at the side	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 10 mm 9 mm 10 mm 9 mm 10 mm 9 mm 30 mm 9 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — downwards         • for live parts         — forwards         — at the side         — downwards         — at the side         — downwards         — at the side         Connections/ Terminals         type of electrical connection for main current circuit	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 10 mm 9 mm 10 mm 9 mm 10 mm 9 mm 30 mm 9 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — at the side         — downwards         • for live parts         — forwards         — at the side         — downwards         — at the side         — upwards         — at the side         Connections/ Terminals         type of electrical connection for main current circuit         type of connectable conductor cross-sections	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 0 mm 30 mm 9 mm 30 mm 10 mm 9 mm 10 mm
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — backwards         — upwards         — of orwards         — ownwards         — upwards         — downwards         — upwards         — downwards         — upwards         — of orwards         — in 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	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 10 mm 30 mm 30 mm 30 mm 30 mm 10 mm 30 mm 10 mm 2 x (2.5 6 mm <sup>2</sup> )
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — backwards         — upwards         — forwards         — downwards         — of orwards         — upwards         — downwards         — upwards         — 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	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 10 mm 0 mm 30 mm 10 mm 9 mm 10 mm 2 mm 10 mm 2 mm 10 mm 10 mm 2 mm 10 mm 10 mm 10 mm 2 (2.5 6 mm <sup>2</sup> ) 2 x (16 12), 2 x (14 8)
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — backwards         — upwards         — of orwards         — ownwards         • for live parts         — forwards         — 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	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 10 mm 10 mm 9 mm 30 mm 10 mm 9 mm 10 mm 2 mm 10 mm <sup>2</sup> , 2x (2.5 6 mm <sup>2</sup> ) 2x (16 12), 2x (14 8) 1 6 mm <sup>2</sup>
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — backwards         — of orwards         — of orwards         — ownwards         — 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	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 10 mm 0 mm 30 mm 10 mm 9 mm 10 mm 9 mm 10 mm 9 mm 10 mm <sup>2</sup> , 2x (2.5 6 mm <sup>2</sup> ) 1x (16 12), 2x (14 8) 1 6 mm <sup>2</sup>
fastening method         height         width         depth         required spacing         • for grounded parts         - forwards         - backwards         - upwards         - at the side         - downwards         • for live parts         - forwards         - backwards         - of orwards         - backwards         - backwards         - 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	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 10 mm 10 mm 9 mm 30 mm 10 mm 9 mm 10 mm 2 mm 10 mm <sup>2</sup> , 2x (2.5 6 mm <sup>2</sup> ) 2x (16 12), 2x (14 8) 1 6 mm <sup>2</sup>
fastening method         height         width         depth         required spacing         • for grounded parts         — forwards         — backwards         — upwards         — at the side         — downwards         • for live parts         — forwards         — backwards         — of orwards         — of orwards         — ownwards         — 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	for snapping onto 60 mm busbar systems 260 mm 45 mm 165 mm 10 mm 0 mm 30 mm 9 mm 10 mm 10 mm 10 mm 0 mm 30 mm 10 mm 9 mm 10 mm 9 mm 10 mm 9 mm 10 mm <sup>2</sup> , 2x (2.5 6 mm <sup>2</sup> ) 1x (16 12), 2x (14 8) 1 6 mm <sup>2</sup>

60529						
touch protection on the front according to IEC 60529		finger-safe, for vertical contact from the front				
Certificates/ approvals						
General Product Approval For use in ha ous locations			Declaration of Conformity	other	Dangerous Good	
<u>Confirmation</u>	EHC	(Ex) ATEX		CE EG-Konf.	<u>Confirmation</u>	Transport Informa- tion

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=3RA2120-1ED23-0BB4

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA2120-1ED23-0BB4

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

https://support.industry.siemens.com/cs/ww/en/ps/3RA2120-1ED23-0BB4

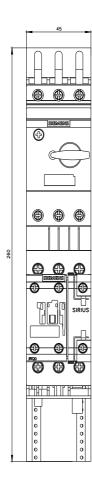
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RA2120-1ED23-0BB4&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RA2120-1ED23-0BB4&lang=en</a>

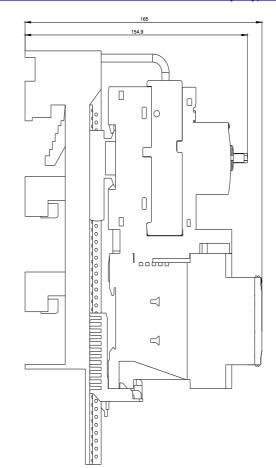
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

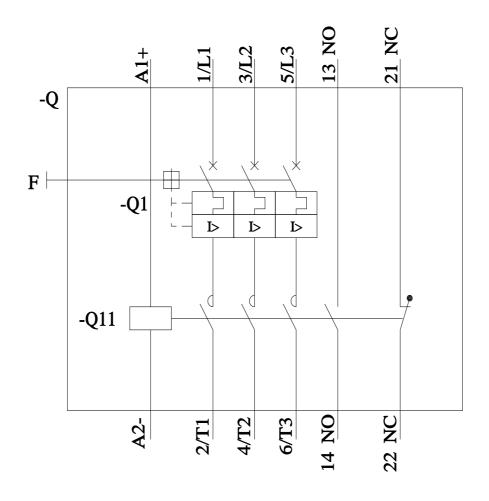
https://support.industry.siemens.com/cs/ww/en/ps/3RA2120-1ED23-0BB4/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA2120-1ED23-0BB4&objecttype=14&gridview=view1







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