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Data sheet 3RA2120-1JQ27-0AK6

Fuseless motor starter Direct start 600VAC Size NEMA 1 7-10A 110/120VAC 50/60HZ 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	3RT2027-1AK60-0UA0
• of the supplied circuit-breakers	3RV2021-1JA10
• of the supplied busbar adapter	8US1251-5NT10
• of the supplied link module	3RA2921-1AA00

General technical data

Size of the circuit-breaker	S0
Size of load feeder	NEMA 1
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
Protection class IP	
• on the front	IP20
• of the terminal	IP00
Shock resistance	
• acc. to IEC 60068-2-27	6g / 11 ms
Mechanical service life (switching cycles)	
• of contactor typical	10 000 000
Type of assignment	2

Main circuit

Number of poles for main current circuit	3
Design of the switching contact	electromechanical
Adjustable pick-up value current of the current-dependent overload release	7 ... 10 A
Operating voltage	
• rated value	600 V
• at AC-3 rated value maximum	600 V
Operating frequency rated value	50 ... 60 Hz

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Operating current	
• at AC-3	
— at 400 V rated value	8.5 A
Operating power	
• at AC-3	
— at 400 V rated value	4 000 W
— at 500 V rated value	5 500 W

Control circuit/ Control

Control supply voltage at AC	
• at 50 Hz rated value	110 V
• at 50 Hz rated value	88 ... 121 V
• at 60 Hz rated value	120 V
• at 60 Hz rated value	96 ... 132 V
Apparent holding power of magnet coil at AC	9.4 V·A
Inductive power factor with the holding power of the coil	0.28

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 unit	130 A

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	7.92 A
• at 600 V rated value	9.19 A
Yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	0.5 hp
— at 230 V rated value	3 hp
• for three-phase AC motor	
— at 200/208 V rated value	2 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	5 hp
— at 575/600 V rated value	7.5 hp

Short-circuit protection

Product function Short circuit protection	Yes
Design of the short-circuit trip	magnetic

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Conditional short-circuit current (Iq)	
• at 400 V acc. to IEC 60947-4-1 rated value	153 000 A

Installation/ mounting/ dimensions

Mounting position	vertical
Mounting type	for snapping onto 60 mm busbar systems
Height	260 mm
Width	45 mm
Depth	155 mm
Required spacing	
• for grounded parts	
— forwards	10 mm
— Backwards	0 mm
— upwards	30 mm
— at the side	9 mm
— downwards	10 mm
• for live parts	
— forwards	10 mm
— Backwards	0 mm
— upwards	30 mm
— downwards	10 mm
— at the side	9 mm

Connections/ Terminals

Type of electrical connection	
• for main current circuit	screw-type terminals
Type of connectable conductor cross-sections	
• for main contacts	
— stranded	1 ... 10 mm², 2x (2.5 ... 6 mm²)
• at AWG conductors for main contacts	2x (16 ... 12), 2x (14 ... 8)
Connectable conductor cross-section for main contacts	
• finely stranded with core end processing	1 ... 6 mm²

Safety related data

B10 value	
• with high demand rate acc. to SN 31920	1 000 000
Proportion of dangerous failures	
• with high demand rate acc. to SN 31920	73 %

Certificates/ approvals

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General Product Approval			For use in hazardous locations	Declaration of Conformity	other
CSA	UL	EAC	ATEX	EG-Konf.	Confirmation

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=3RA2120-1JQ27-0AK6

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA2120-1JQ27-0AK6

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RA2120-1JQ27-0AK6

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA2120-1JQ27-0AK6&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RA2120-1JQ27-0AK6/char

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA2120-1JQ27-0AK6&objecttype=14&gridview=view1

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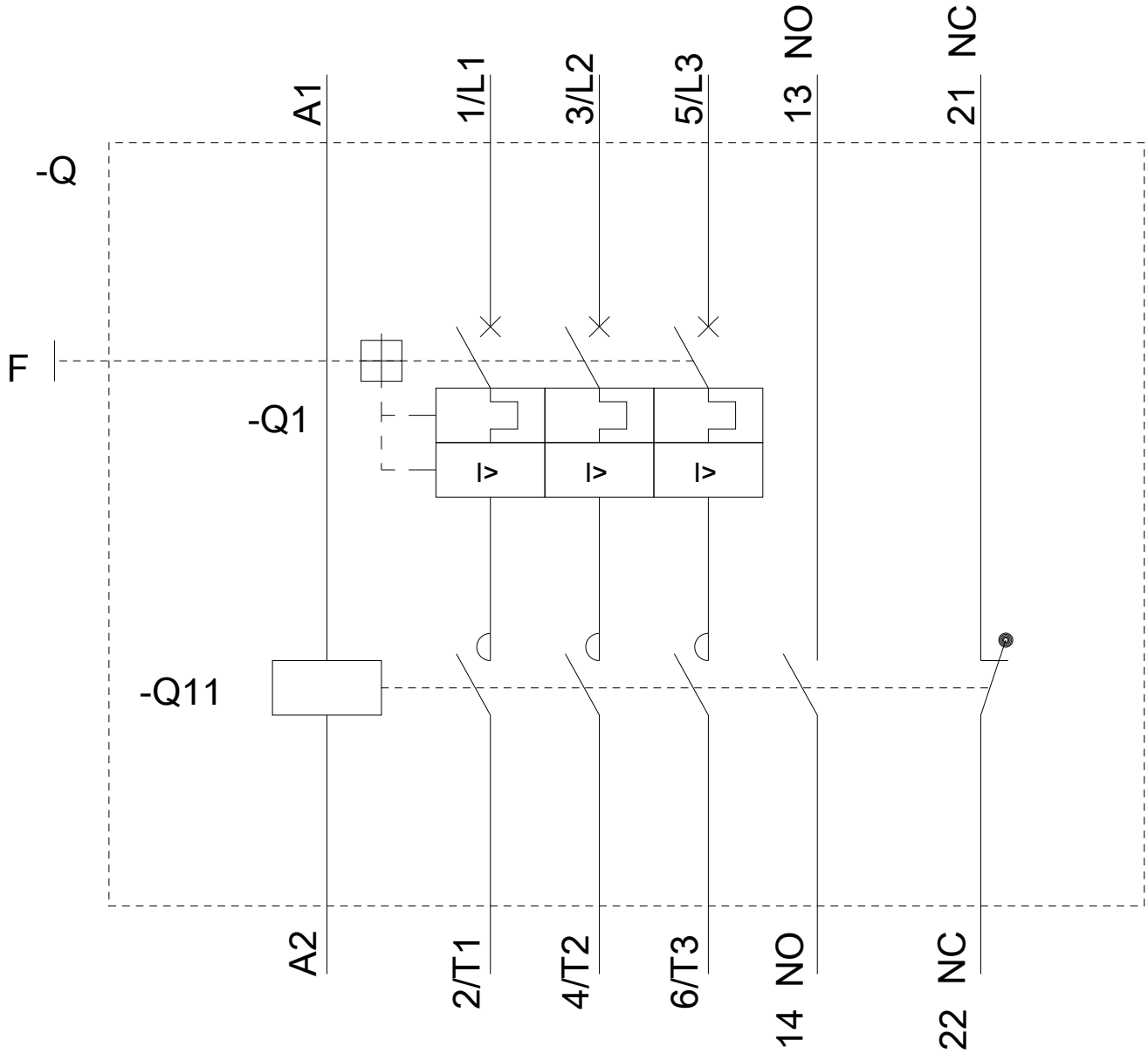

last modified: 03/05/2020

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