Data sheet 3RA2220-1GF24-0BB4



Load feeder fuseless, Reversing duty 400 V AC, Size S0 4.50...6.30 A 24 V DC Spring-type terminal for installation on standard mounting rail with standard mounting rail adapter (also fulfills type of coordination 1) Type of coordination 2, Iq = 150 kA 1 NO+1 NC (contactor)

product brand name	SIRIUS
product designation	Reversing starter
design of the product	for DIN-rail or screw mounting
product type designation	3RA22
manufacturer's article number	
of the supplied contactor	3RT2024-2BB40
of the supplied circuit-breakers	3RV2021-1GA20
 of the supplied RH assembly kit 	3RA2923-1BB2
of the supplied link module	3RA2921-2AA00
of the supplied DIN-rail adapter	3RA2922-1AA00
General technical data	
size of the circuit-breaker	SO
size of load feeder	S0
power loss [W] for rated value of the current	
 at AC in hot operating state per pole 	2.7 W
 without load current share typical 	5.9 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
degree of protection NEMA rating	other
shock resistance according to IEC 60068-2-27	6g / 11 ms
mechanical service life (operating cycles) of contactor typical	10 000 000
type of assignment	2
reference code according to IEC 81346-2:2019	Q
Substance Prohibitance (Date)	03/01/2017
SVHC substance name	Lead - 7439-92-1
Weight	2.427 kg
Ambient conditions	
ambient temperature	
 during operation 	-20 +60 °C
during storage	-50 +80 °C
during transport	-50 +80 °C
temperature compensation	-20 +60 °C
relative humidity during operation	10 95 %
Main circuit	
number of poles for main current circuit	3
design of the switching contact	electromechanical
adjustable current response value current of the current-	4.5 6.3 A
dependent overload release	
operating voltage	

* AI AG-3 reted value maximum * AI AG-3 reted value maximum * OBO V * AI AG-3 reted value * OBO V * OB		
operational current		690 V
	operating frequency rated value	50 60 Hz
and AC-2e at 400 V rated value and AC-2e and	operational current	
operating power * at AC-3 — at 400 V rated value * 200 W * at AC-3 — at 400 V rated value 2 200 W Control credit Control Type of Voltage of the control supply voltage Locotrol supply voltage at DC rated value 2 4 V Abdility product extension auxiliary switch Product product functions Tull-load current (FLA) for 3-phase AC motor **at 480 V rated value **at 600 V rated value **at 600 V rated value **at 100 V rated value **at 200 V rated value **at 300 V rated value **at 300 V rated value **at 400 V value value **ship **Short-Circuit protection Product function-circuit current (p) **at 400 V according to IEC 60947-4-1 rated value **at 400 V according to IEC 60947-4-1 rated value **at 400 V according to IEC 60947-4-1 rated value **at 400 V according to IEC 60947-4-1 rated value **at 400 V according to IEC 60947-4-1 rated value **at 400 V according to IEC 60947-4-1 rated value **at 400 V according to IEC 60947-4-1 rated value **at 400 V according to IEC 60947-4-1 rated value **at 400 V according to IEC 60947-4-1 rated value **at 400 V according to IEC 60947-4-1 rated value **at 400 V according to IEC 60947-4-1 rated value **at 400 V according to IEC 60947-4-1 rated val	 at AC-3 at 400 V rated value 	6.3 A
and AC-3 and AC-30 by evidage at DC Tated value 2 2 V bolding power of magnet coil at DC Acrillary screent product extension auxiliary switch Protective and monitoring functions try class CLASS 10 design of the overload release design of the overload release CLASS 10 design of the overload release Try class Tull-load current (FLA) for 3-phase AC motor and according to the ac	at AC-3e at 400 V rated value	6.3 A
= at AG-3c = at 400 V rated value	operating power	
al AG-3e	• at AC-3	
	— at 400 V rated value	2 200 W
Control circuit/ Control Type of voltage of the control auphy voltage OC control supply voltage at DC tated value Availary cried. Protective and monitoring functions Trip class CLASS 10 thermal (binetallic) design of the overload rolease response value current of instantaneous short-circuit trip unit ULCSA ratings full-load current (FLA) for 3-phase AC motor at 1800 V rated value at 1800 V rated value of single-phase AC motor — at 1800 V rated value of single-phase AC motor — at 1800 V rated value of single-phase AC motor — at 1800 V rated value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value final value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value final value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value final value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value final value of single-phase AC motor — at 200228 V rated value of single-phase AC motor — at 200228 V rated value final value of single-phase AC motor of single-phase AC motor — at 200228 V rated value of single-phase AC motor of single-pha	• at AC-3e	
type of voltage of the control supply voltage	— at 400 V rated value	2 200 W
Control supply voltage at DC rated value	Control circuit/ Control	
holding power of magnet coil at DC AUXIBITY circuit Product extension auxiliary switch Protective and monitoring functions trip class design of the overload release response value current of instantaneous short-circuit trip unit ULGSA ratings full-load current (FLA) for 3-phase AC motor • at 460 V rated value • at 460 V rated value • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value — at 230 V rated value — at 230 V rated value — at 200/208 V rated value — at 270/209 V rated value — at 270/209 V rated value — at 460/40 V rated value — at 460/40 V rated value — at 67/4600 V rated value — at 67/4600 V rated value — at 67/4600 V rated value — 5 hp Short-circuit protection product function short circuit function (1) • at 400 V according to IEC 60947-4-1 rated value 150 000 A Installation function functi	type of voltage of the control supply voltage	DC
Product extension auxiliary switch Yes	control supply voltage at DC rated value	24 V
product extension auxiliary switch Protective and monitoring functions Trip class design of the overload release response value current of instantaneous short-circuit trip unit UuciSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value • for 300 V rated value • for 3-phase AC motor — at 1101/120 V rated value • for 3-phase AC motor — at 1200/280 V rated value • for 3-phase AC motor — at 200/280 V rated value • for 3-phase AC motor — at 200/280 V rated value • for 3-phase AC motor — at 200/280 V rated value • for 3-phase AC motor — at 200/280 V rated value • for 3-phase AC motor — at 200/280 V rated value • for 3-phase AC motor — at 200/280 V rated value • for 3-phase AC motor — at 200/280 V rated value • for 3-phase AC motor — at 460/480 V rated value • 5 hp Short-circuit protection product function short circuit protection product function short circuit protection product function short-circuit current (q) • at 400 V according to IEC 609474-1 rated value for 3-phase AC motor at 400 V according to IEC 609474-1 rated value for design of the short-circuit current (q) • at 400 V according to IEC 609474-1 rated value for design of the short-circuit current (q) • at 400 V according to IEC 609474-1 rated value for design of the short-circuit current (q) • at 400 V according to IEC 609478-1 or a for a	holding power of magnet coil at DC	5.9 W
Protective and monitoring functions trip class	Auxiliary circuit	
Protective and monitoring functions trip class	product extension auxiliary switch	Yes
trip class design of the overload release thermal (binetallic) response value current of instantaneous short-circuit trip unit ULCSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value 6.3 A side of single-phase AC motor at 101/120 V rated value b for single-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor at 200208 V rated value b for 3-phase AC motor yes b for 5-phase AC motor yes b for gounded pats b for gounded		
design of the overload release response value current of instantaneous short-circuit trip unit ### AUDICSA ratings full-load current (FLA) for 3-phase AC motor ### at 480 V rated value ### at 280 V rated value ### at 480 V value value ### at 480 V rated value ### at 55 hp ### at 480 V rated value ### at 50 hp ### at 480 V rated value ### at 50 hp ### at 480 V rated value ### at 50 hp ### at 480 V rated value ### at 50 hp ### at 480 V rated value ### at 50 hp ### at 480 V rated value ### at 50 hp ### at 50 hp ### at 480 V rated value ### at 50 hp ### at 50		CLASS 10
Tresponse value current of instantaneous short-circuit trip unit		
Tull-Gad current (FLA) for 3-phase AC motor		
Mil-load current (FLA) for 3-phase AC motor	· ·	
• at 480 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value • 6.3 A yiolded mechanical performance [tp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/230 V rated value — at 220/230 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 475/5600 V rated value — at 575/5600 V rated value Short-circuit protection product function short circuit protection dosign of the short-circuit current (tq) • at 400 V according to 15€ 60947-4.1 rated value satellation/ mounting/ dimensions mounting position vertical fastening method height 269 mm width 90 mm depth required spacing • for grounded parts — forwards — backwards — ommand — the side — downwards — to reverse — backwards — backwards — backwards — backwards — to reverse — the side — downwards — the side — downwards — upwards — backwards — omm — the side — downwards — the side — the		
● at 600 V rated value 9 9 9 1 1 1 1 1 1 1		62 /
violated mechanical performance [hp] • for single-phase AC motor		
• for single-phase AC motor — at 110/120 V rated value		0.3 A
at 110/120 V rated value at 230 V rated value of or 3-phase AC motor at 2200/230 V rated value at 2200/230 V rated value at 460/480 V rated value at 460/480 V rated value at 460/480 V rated value at 575/600 V rated value at 60 V according to IEC 60947-4-1 rated value at 400 V acco		
- at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 220/230 V rated value - at 460/480 V rated value 5 hp - at 575/600 V rated value 5 hp Short-circuit protection product function short circuit protection design of the short-circuit current (Iq) • at 400 V according to IEC 60947-4-1 rated value 150 000 A Installation/ mounting/ dimensions mounting position vertical fastening method 0n adapter for screw and snap-on mounting on 35 mm DIN rail height 90 mm depth 130 mm required spacing • for grounded parts - forwards - backwards 0 mm - at the side 10 mm • for live parts - forwards 0 mm - downwards 0 mm - backwards 0 mm - at the side 10 mm - backwards 0 mm - backwards 0 mm - downwards 0 mm - backwards 0 mm - at the side 10 mm - backwards 0 mm - downwards 0 mm - backwards 0 mm - at the side 10 mm - backwards 0 mm - at the side 10 mm - backwards 0 mm - at the side 10 mm - backwards 0 mm - backwards 0 mm - backwards 0 mm - backwards 0 mm - at the side 10 mm - backwards 0 mm - at the side 10 mm - backwards 0 mm - backwards 0 mm - at the side 10 mm - at the side 1		0.051
• for 3-phase AC motor — at 200/208 V rated value 2 hp — at 420/230 V rated value 5 hp — at 480/480 V rated value 5 hp — at 490/480 V rated value 5 hp Short-circuit protection product function short circuit trip magnetic conditional short-circuit current (tq) • at 400 V according to IEC 60947-4-1 rated value 150 000 A Installation/ mounting/ dimensions mounting position vertical fastening method On adapter for screw and snap-on mounting on 35 mm DIN rail height 269 mm width 90 mm depth 130 mm required spacing • for grounded parts — forwards — backwards — backwards — odwnwards — of wards • for live parts — forwards • for live parts — forwards — odwnwards — upwards — backwards — omm • for live parts — forwards — backwards — ownwards — upwards — backwards — ownwards —		
		0.75 hp
- at 220/230 V rated value	·	
at 460/480 V rated value 5 hp at 575/600 V rated value 5 hp Short-circuit protection product function short circuit protection Yes design of the short-circuit current (lq) • at 400 V according to IEC 60947-4-1 rated value 150 000 A Installation/ mounting/ dimensions mounting position vertical fastening method On adapter for screw and snap-on mounting on 35 mm DIN rail height 269 mm width 90 mm depth 130 mm required spacing • for grounded parts forwards 32 mm backwards 0 mm at the side 10 mm • for live parts forwards 32 mm • for live parts forwards 32 mm downwards 10 mm • for live parts forwards 32 mm downwards 10 mm downwards 50 mm at the side 0 mm upwards 50 mm downwards 10 mm downwards 10 mm downwards 50 mm at the side 10 mm downwards 10 mm at the side 10 mm at the side 10 mm		
Short-circuit protection product function short circuit protection design of the short-circuit trip conditional short-circuit current (Iq) • at 400 V according to IEC 60947-4-1 rated value Installation/ mounting/ dimensions mounting position fastening method height vidth 90 mm depth 130 mm required spacing • for grounded parts — forwards — upwards — at the side — downwards • for live parts — forwards • for live parts — forwards — upwards — backwards — omm • for live parts — forwards — upwards — downwards — upwards — downwards — to mm — upwards — forwards • for live parts — forwards — downwards — upwards — downwards — upwards — downwards — to mm — upwards — forwards — forwards — forwards • for live parts — forwards — downwards — upwards — downwards — upwards — downwards — to mm — upwards — downwards — to mm — upwards — downwards — upwards — downwards — upwards — downwards — to mm — at the side — downwards — upwards — downwards — to mm — upwards — downwards — to mm — at the side — to mm — to mm — at the side — to mm — at the side — to mm —	— at 220/230 V rated value	·
Short-circuit protection Product function short circuit protection Yes design of the short-circuit trip magnetic conditional short-circuit current (Iq) e at 400 V according to IEC 60947-4-1 rated value 150 000 A Installation/ mounting/ dimensions mounting position vertical fastening method On adapter for screw and snap-on mounting on 35 mm DIN rail height 269 mm depth 130 mm depth 130 mm depth 130 mm depth depth depth depth depth dept	— at 460/480 V rated value	5 hp
product function short circuit protection design of the short-circuit trip conditional short-circuit current (lq) • at 400 V according to IEC 60947-4-1 rated value Installation/ mounting/ dimensions mounting position fastening method height vertical fastening method On adapter for screw and snap-on mounting on 35 mm DIN rail height vidth 90 mm depth 130 mm required spacing • for grounded parts — forwards — backwards — upwards — at the side — downwards • for live parts — forwards — backwards — upwards — downwards • for live parts — forwards — upwards — backwards — downwards • for live parts — forwards — at the side — downwards — upwards — backwards — howards — upwards — downwards — to mm - downw	— at 575/600 V rated value	5 hp
design of the short-circuit trip conditional short-circuit current (Iq) • at 400 V according to IEC 60947-4-1 rated value Installation/ mounting/ dimensions mounting position fastening method height 269 mm width 90 mm depth 130 mm required spacing • for grounded parts — forwards — backwards — upwards — at the side — forwards • for live parts — forwards • for live parts — forwards • for grounded sparts — downwards — at the side — downwards • for live parts — forwards — backwards — backwards — backwards • for live parts — forwards — downwards — upwards — downwards — the side — downwards — upwards — backwards — backwards — the side — downwards — upwards — downwards — the side — downwards — the side Connections/ Terminals	Short-circuit protection	
conditional short-circuit current (Iq) • at 400 V according to IEC 60947-4-1 rated value Installation/ mounting/ dimensions mounting position fastening method fastening method height vidth 90 mm depth 130 mm required spacing • for grounded parts — forwards — backwards — upwards — at the side — downwards — forivards — backwards — to mm • for live parts — forwards — backwards — upwards — downwards • for live parts — fowards — backwards — backwards — backwards — to mm • for live parts — forwards — downwards — upwards — backwards — backwards — to mm - downwards — to mm - downwards — to mm - downwards — upwards — downwards — to mm Connections/ Terminals	product function short circuit protection	Yes
at 400 V according to IEC 60947-4-1 rated value Installation/ mounting/ dimensions mounting position fastening method height 269 mm width 90 mm depth 130 mm required spacing • for grounded parts — forwards — backwards — upwards — at the side — downwards — for rowards — backwards • for live parts • for growards — backwards — downwards • for mm • for live parts — forwards — backwards — backwards — downwards — to mm • for live parts — forwards — backwards — backwards — backwards — to mm • for live parts — forwards — backwards — backwards — backwards — backwards — to mm - at the side Connections/ Terminals	design of the short-circuit trip	magnetic
mounting position vertical fastening method On adapter for screw and snap-on mounting on 35 mm DIN rail height 269 mm width 90 mm depth 130 mm required spacing • for grounded parts — forwards — backwards — upwards — at the side 10 mm • for live parts — forwards — backwards — o mm • for live parts — forwards — upwards — downwards — to mm • for live parts — downwards — upwards — downwards — upwards — backwards — to mm • for live parts — forwards — downwards — upwards — backwards — to mm — downwards — to mm — to mm — to mm — to mm — to	conditional short-circuit current (Iq)	
mounting position vertical fastening method On adapter for screw and snap-on mounting on 35 mm DIN rail height 269 mm width 90 mm depth 130 mm required spacing Forwards of or grounded parts 32 mm - backwards 0 mm - upwards 50 mm - at the side 10 mm - for live parts 32 mm - backwards 0 mm - backwards 0 mm - downwards 50 mm - downwards 10 mm - downwards 10 mm - at the side 10 mm Connections/ Terminals	 at 400 V according to IEC 60947-4-1 rated value 	150 000 A
fastening method height 269 mm width 90 mm depth 130 mm required spacing • for grounded parts — forwards — backwards — upwards — at the side — downwards • for live parts — forwards — backwards — to mm • for live parts — downwards — upwards — backwards — to mm • for live parts — forwards — upwards — backwards — backwards — to mm • for live parts — downwards — backwards — backwards — backwards — upwards — backwards — to mm — at the side 10 mm — downwards — upwards — at the side 10 mm — at the side 10 mm — at the side Connections/ Terminals	Installation/ mounting/ dimensions	
height 269 mm width 90 mm depth 130 mm required spacing - for grounded parts - for wards - for wards 32 mm - backwards 0 mm - upwards 50 mm - at the side 10 mm - for live parts 32 mm - backwards 0 mm - upwards 50 mm - downwards 10 mm - downwards 10 mm - at the side 10 mm Connections/Terminals	mounting position	vertical
height 269 mm width 90 mm depth 130 mm required spacing - for grounded parts - for wards - for wards 32 mm - backwards 0 mm - upwards 50 mm - at the side 10 mm - for live parts 32 mm - backwards 0 mm - upwards 50 mm - downwards 10 mm - downwards 10 mm - at the side 10 mm Connections/Terminals		On adapter for screw and snap-on mounting on 35 mm DIN rail
width 90 mm depth 130 mm required spacing 130 mm ● for grounded parts 32 mm — backwards 0 mm — upwards 50 mm — at the side 10 mm — downwards 10 mm — forwards 32 mm — backwards 0 mm — upwards 50 mm — downwards 10 mm — at the side 10 mm Connections/ Terminals		
depth 130 mm required spacing • for grounded parts — forwards 32 mm — backwards 0 mm — upwards 50 mm — at the side 10 mm — downwards 10 mm • for live parts 32 mm — forwards 32 mm — backwards 0 mm — upwards 50 mm — downwards 10 mm — at the side 10 mm Connections/ Terminals		
required spacing • for grounded parts — forwards — backwards — upwards — at the side — downwards — for live parts — for live parts — backwards — backwards — upwards — to mm		
 for grounded parts — forwards — backwards — upwards — at the side — downwards — for live parts — forwards — backwards — backwards — upwards — upwards — upwards — downwards — downwards — at the side — to mm — at the side Connections/ Terminals 		
forwards 32 mm backwards 0 mm upwards 50 mm at the side 10 mm downwards 10 mm for live parts forwards 32 mm backwards 0 mm upwards 50 mm upwards 50 mm downwards 10 mm downwards 10 mm at the side 10 mm		
— backwards 0 mm — upwards 50 mm — at the side 10 mm — downwards 10 mm • for live parts 32 mm — forwards 0 mm — backwards 0 mm — upwards 50 mm — downwards 10 mm — at the side 10 mm		32 mm
 — upwards — at the side — downwards • for live parts — forwards — backwards — upwards — upwards — downwards — downwards — at the side Connections/ Terminals 		
 — at the side — downwards ● for live parts — forwards — backwards — upwards — downwards — at the side Connections/ Terminals 		
 — downwards ● for live parts — forwards — backwards — upwards — downwards — downwards — at the side Connections/ Terminals 	•	
● for live parts — forwards — backwards — upwards — downwards — at the side Connections/ Terminals		
— forwards 32 mm — backwards 0 mm — upwards 50 mm — downwards 10 mm — at the side 10 mm Connections/ Terminals		
 backwards upwards downwards at the side 10 mm mm Connections/ Terminals 	•	32 mm
 upwards downwards at the side 10 mm mm Connections/ Terminals 		
- downwards 10 mm - at the side 10 mm Connections/ Terminals		
— at the side 10 mm Connections/ Terminals	·	
Connections/ Terminals		
		10 mm
type of electrical connection		
	type of electrical connection	

 for main current circuit 	spring-loaded terminals				
 for auxiliary and control circuit 	spring-loaded terminals				
Safety related data					
product function suitable for safety function	Yes				
Electrical Safety					
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front				
Communication/ Protocol					
protocol is supported					
 PROFINET IO protocol 	No				
PROFIsafe protocol	No				
protocol is supported AS-Interface protocol	No				
Approvals Certificates					
General Product Approval		For use in hazard-	Test Certificates		

General Product Approval









ous locations

Type Test Certificates/Test Report

Test Certificates

Test Certificates

Marine / Shipping

Special Test Certific-<u>ate</u>











Marine / Shipping

other

Railway

Dangerous goods

Environment





Confirmation

Special Test Certific-<u>ate</u>

Transport Information

Environmental Confirmations

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RA2220-1GF24-0BB4

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA2220-1GF24-0BB4

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

https://support.industry.siemens.com/cs/ww/en/ps/3RA2220-1GF24-0BB4

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

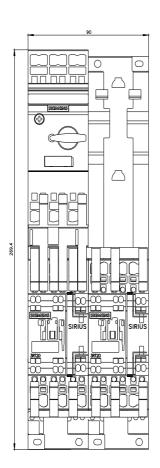
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA2220-1GF24-0BB4&lang=en

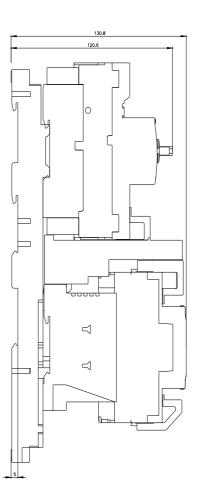
Characteristic: Tripping characteristics, I2t, Let-through current

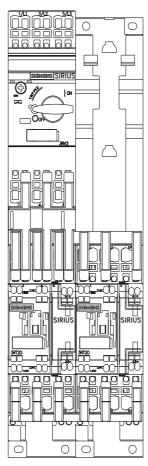
https://support.industry.siemens.com/cs/ww/en/ps/3RA2220-1GF24-0BB4/char

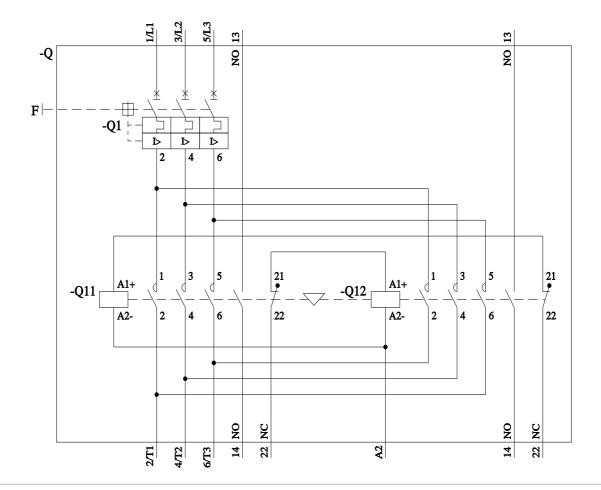
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA2220-1GF24-0BB4&objecttype=14&gridview=view1









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Mouser Electronics

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Siemens:

3RA22201GF240BB4