



power contactor, AC-3e/AC-3, 41 A, 18.5 kW / 400 V, 3-pole, 24 V DC, 0.8-1.2* Us, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S2, suitable for PLC outputs

product brand name	SIRIUS
product designation	Coupling contactor
product type designation	3RT2
General technical data	
size of contactor	S2
product extension	
• function module for communication	No
• auxiliary switch	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	6.6 W
• at AC in hot operating state per pole	2.2 W
• without load current share typical	1 W
insulation voltage	
• of main circuit with degree of pollution 3 rated value	690 V
• of auxiliary circuit with degree of pollution 3 rated value	690 V
surge voltage resistance	
• of main circuit rated value	6 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	7.7g / 5 ms, 4.5g / 10 ms
shock resistance with sine pulse	
• at DC	12g / 5 ms, 7g / 10 ms
mechanical service life (operating cycles)	
• of contactor typical	10 000 000
• of the contactor with added electronically optimized auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2014
SVHC substance name	Blei - 7439-92-1 Bleimoxid (Bleioxid) - 1317-36-8
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-25 ... +60 °C
• during storage	-55 ... +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %

Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage <ul style="list-style-type: none"> at AC-3 rated value maximum at AC-3e rated value maximum 	690 V 690 V
operational current <ul style="list-style-type: none"> at AC-1 at 400 V at ambient temperature 40 °C rated value at AC-1 <ul style="list-style-type: none"> up to 690 V at ambient temperature 40 °C rated value up to 690 V at ambient temperature 60 °C rated value at AC-3 <ul style="list-style-type: none"> at 400 V rated value at 500 V rated value at 690 V rated value at AC-3e <ul style="list-style-type: none"> at 400 V rated value at 500 V rated value at 690 V rated value at AC-4 at 400 V rated value at AC-5a up to 690 V rated value at AC-5b up to 400 V rated value at AC-6a <ul style="list-style-type: none"> up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value at AC-6a <ul style="list-style-type: none"> up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value 	60 A 60 A 55 A 41 A 41 A 24 A 41 A 41 A 24 A 35 A 52.8 A 33.2 A 36.5 A 36.5 A 36.5 A 24 A 24.2 A 24.2 A 24.2 A 24 A
minimum cross-section in main circuit at maximum AC-1 rated value	16 mm²
operational current for approx. 200000 operating cycles at AC-4 <ul style="list-style-type: none"> at 400 V rated value at 690 V rated value 	22 A 18.5 A
operational current <ul style="list-style-type: none"> at 1 current path at DC-1 <ul style="list-style-type: none"> at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 <ul style="list-style-type: none"> at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 3 current paths in series at DC-1 <ul style="list-style-type: none"> at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value 	55 A 23 A 4.5 A 1 A 0.4 A 0.25 A 55 A 45 A 45 A 5 A 1 A 0.8 A 55 A 55 A 55 A 45 A 2.9 A

<div>— at 600 V rated value</div> <div>● at 1 current path at DC-3 at DC-5</div> <div>— at 24 V rated value</div> <div>— at 60 V rated value</div> <div>— at 220 V rated value</div> <div>— at 440 V rated value</div> <div>— at 600 V rated value</div> <div>● with 2 current paths in series at DC-3 at DC-5</div> <div>— at 24 V rated value</div> <div>— at 60 V rated value</div> <div>— at 110 V rated value</div> <div>— at 220 V rated value</div> <div>— at 440 V rated value</div> <div>— at 600 V rated value</div> <div>● with 3 current paths in series at DC-3 at DC-5</div> <div>— at 24 V rated value</div> <div>— at 60 V rated value</div> <div>— at 110 V rated value</div> <div>— at 220 V rated value</div> <div>— at 440 V rated value</div> <div>— at 600 V rated value</div>	1.4 A 35 A 6 A 1 A 0.1 A 0.06 A 55 A 45 A 25 A 5 A 0.27 A 0.16 A 55 A 55 A 55 A 25 A 0.6 A 0.35 A
<div>operating power</div> <div>● at AC-2 at 400 V rated value</div> <div>● at AC-3</div> <div>— at 230 V rated value</div> <div>— at 400 V rated value</div> <div>— at 500 V rated value</div> <div>— at 690 V rated value</div> <div>● at AC-3e</div> <div>— at 230 V rated value</div> <div>— at 400 V rated value</div> <div>— at 500 V rated value</div> <div>— at 690 V rated value</div>	18.5 kW 11 kW 18.5 kW 22 kW 22 kW 11 kW 18.5 kW 22 kW 22 kW
<div>operating power for approx. 200000 operating cycles at AC-4</div> <div>● at 400 V rated value</div> <div>● at 690 V rated value</div>	11.6 kW 16.8 kW
<div>operating apparent power at AC-6a</div> <div>● up to 230 V for current peak value n=20 rated value</div> <div>● up to 400 V for current peak value n=20 rated value</div> <div>● up to 500 V for current peak value n=20 rated value</div> <div>● up to 690 V for current peak value n=20 rated value</div>	14.5 kVA 25.2 kVA 31.6 kVA 28.6 kVA
<div>operating apparent power at AC-6a</div> <div>● up to 230 V for current peak value n=30 rated value</div> <div>● up to 400 V for current peak value n=30 rated value</div> <div>● up to 500 V for current peak value n=30 rated value</div> <div>● up to 690 V for current peak value n=30 rated value</div>	9.6 kVA 16.8 kVA 21 kVA 28.6 kVA
<div>short-time withstand current in cold operating state up to 40 °C</div> <div>● limited to 1 s switching at zero current maximum</div> <div>● limited to 5 s switching at zero current maximum</div> <div>● limited to 10 s switching at zero current maximum</div> <div>● limited to 30 s switching at zero current maximum</div> <div>● limited to 60 s switching at zero current maximum</div>	843 A; Use minimum cross-section acc. to AC-1 rated value 596 A; Use minimum cross-section acc. to AC-1 rated value 400 A; Use minimum cross-section acc. to AC-1 rated value 241 A; Use minimum cross-section acc. to AC-1 rated value 196 A; Use minimum cross-section acc. to AC-1 rated value
<div>no-load switching frequency</div> <div>● at DC</div>	1 500 1/h
<div>operating frequency</div> <div>● at AC-1 maximum</div> <div>● at AC-2 maximum</div> <div>● at AC-3 maximum</div> <div>● at AC-3e maximum</div>	1 200 1/h 750 1/h 1 000 1/h 1 000 1/h

● at AC-4 maximum	300 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC	
● rated value	24 V
operating range factor control supply voltage rated value of magnet coil at DC	
● initial value	0.8
● full-scale value	1.2
design of the surge suppressor	with varistor
inrush current peak	2.6 A
duration of inrush current peak	50 μs
locked-rotor current mean value	0.9 A
locked-rotor current peak	2.1 A
duration of locked-rotor current	230 ms
holding current mean value	40 mA
closing power of magnet coil at DC	21.5 W
holding power of magnet coil at DC	1 W
closing delay	
● at DC	35 ... 80 ms
opening delay	
● at DC	30 ... 55 ms
arcing time	10 ... 20 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	1
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
● at 230 V rated value	10 A
● at 400 V rated value	3 A
● at 500 V rated value	2 A
● at 690 V rated value	1 A
operational current at DC-12	
● at 24 V rated value	10 A
● at 48 V rated value	6 A
● at 60 V rated value	6 A
● at 110 V rated value	3 A
● at 125 V rated value	2 A
● at 220 V rated value	1 A
● at 600 V rated value	0.15 A
operational current at DC-13	
● at 24 V rated value	10 A
● at 48 V rated value	2 A
● at 60 V rated value	2 A
● at 110 V rated value	1 A
● at 125 V rated value	0.9 A
● at 220 V rated value	0.3 A
● at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
● at 480 V rated value	40 A
● at 600 V rated value	41 A
yielded mechanical performance [hp]	
● for single-phase AC motor	
— at 110/120 V rated value	3 hp
— at 230 V rated value	7.5 hp
● for 3-phase AC motor	

— at 200/208 V rated value	10 hp
— at 220/230 V rated value	15 hp
— at 460/480 V rated value	30 hp
— at 575/600 V rated value	40 hp
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	
design of the fuse link	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA)
— with type of assignment 2 required	gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA)
• for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
• side-by-side mounting	Yes
height	114 mm
width	55 mm
depth	130 mm
required spacing	
• with side-by-side mounting	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
• for grounded parts	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
• for live parts	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm
Connections/ Terminals	
type of electrical connection	
• for main current circuit	screw-type terminals
• for auxiliary and control circuit	screw-type terminals
• at contactor for auxiliary contacts	Screw-type terminals
• of magnet coil	Screw-type terminals
type of connectable conductor cross-sections for main contacts	
• solid or stranded	2x (1 ... 35 mm²), 1x (1 ... 50 mm²)
• finely stranded with core end processing	2x (1 ... 25 mm²), 1x (1 ... 35 mm²)
connectable conductor cross-section for main contacts	
• finely stranded with core end processing	1 ... 35 mm²
connectable conductor cross-section for auxiliary contacts	
• solid or stranded	0.5 ... 2.5 mm²
• finely stranded with core end processing	0.5 ... 2.5 mm²
type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid or stranded	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
• for AWG cables for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
AWG number as coded connectable conductor cross section	
• for main contacts	18 ... 1
• for auxiliary contacts	20 ... 14
Safety related data	
product function	

• mirror contact according to IEC 60947-4-1	Yes
• positively driven operation according to IEC 60947-5-1	No
suitability for use safety-related switching OFF	Yes
B10 value with high demand rate according to SN 31920	1 000 000
proportion of dangerous failures	
• with low demand rate according to SN 31920	40 %
• with high demand rate according to SN 31920	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
T1 value for proof test interval or service life according to IEC 61508	20 a
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Certificates/ approvals	
General Product Approval	



[Confirmation](#)



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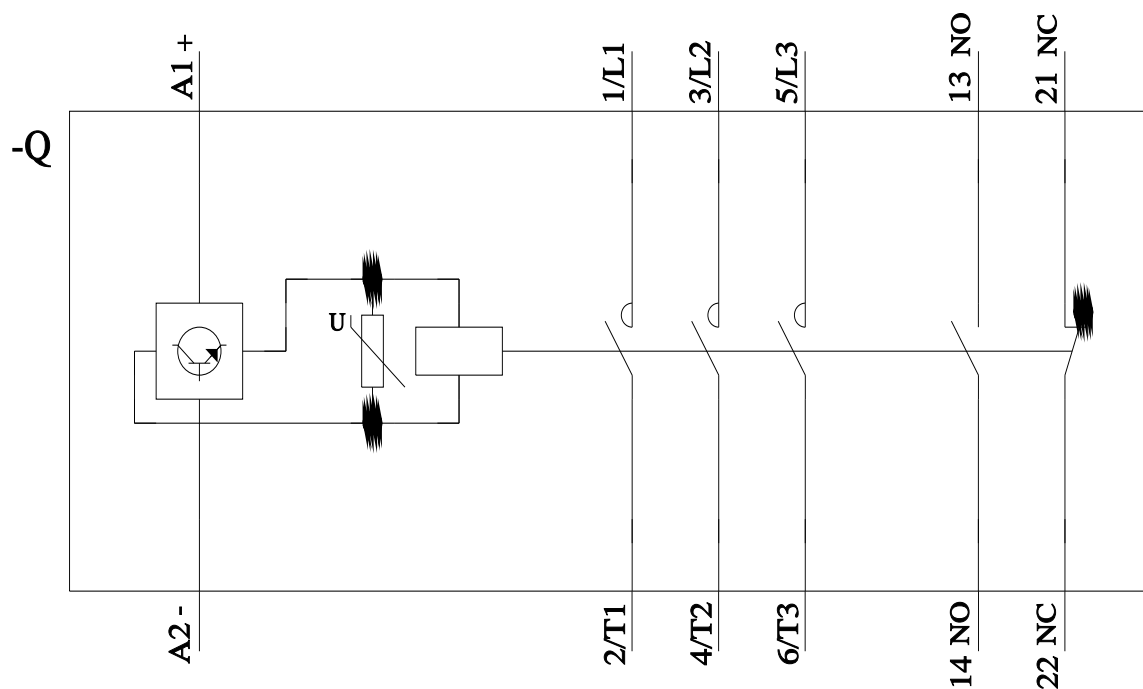
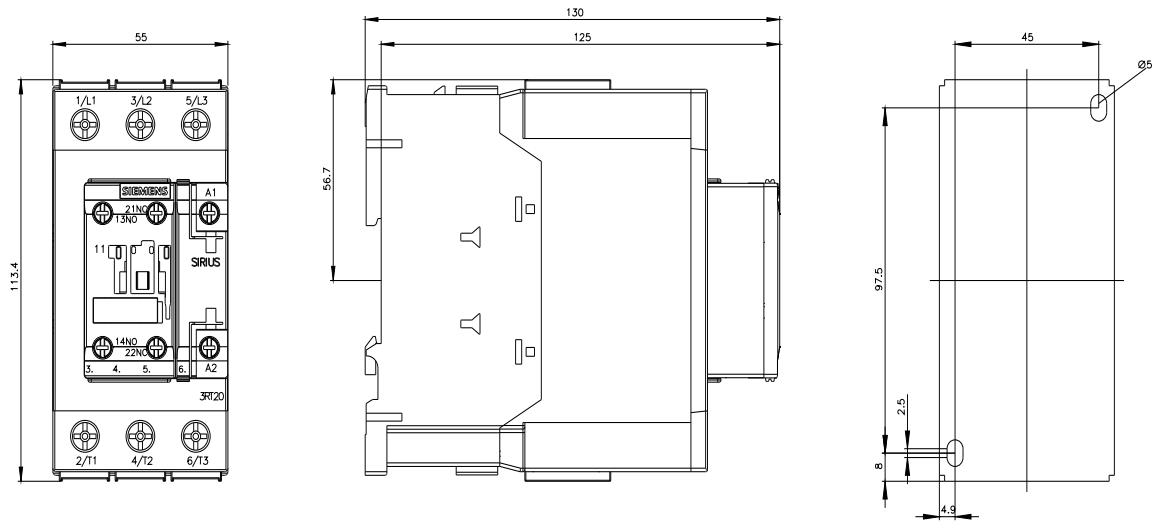


EMC	Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates
	Type Examination Certificate		Special Test Certificate
			Type Test Certificates/Test Report

Marine / Shipping					

Marine / Shipping	other	Railway	Environment
	Confirmation	Vibration and Shock	Environmental Conformations

Further information	
Siemens has decided to exit the Russian market (see here). https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business	
Siemens is working on the renewal of the current EAC certificates. Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).	
Information on the packaging https://support.industry.siemens.com/cs/ww/en/view/109813875	
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Characteristic: Tripping characteristics, I ² t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1KB40/char	
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2035-1KB40&objecttype=14&gridview=view1	



last modified:

8/15/2023 

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