



power contactor, AC-3e/AC-3, 41 A, 18.5 kW / 400 V, 3-pole, 24 V AC, 50 Hz, auxiliary contacts: 1 NO + 1 NC, screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2

General technical data

size of contactor	S2
product extension	
- function module for communication - auxiliary switch	No Yes
power loss [W] for rated value of the current	
- at AC in hot operating state - at AC in hot operating state per pole - without load current share typical	6.6 W 2.2 W 16 W
insulation voltage	
- of main circuit with degree of pollution 3 rated value - of auxiliary circuit with degree of pollution 3 rated value	690 V 690 V
surge voltage resistance	
- of main circuit rated value - of auxiliary circuit rated value	6 kV 6 kV
maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
at AC	11.8g / 5 ms, 7.4g / 10 ms
shock resistance with sine pulse	
at AC	18.5g / 5 ms, 11.6g / 10 ms
mechanical service life (operating cycles)	
- of contactor typical - of the contactor with added electronically optimized auxiliary switch block typical - of the contactor with added auxiliary switch block typical	10 000 000 5 000 000 10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2014

Ambient conditions

installation altitude at height above sea level maximum	2 000 m
ambient temperature	
- during operation - during storage	-25 ... +60 °C -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	
• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	60 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	60 A
— up to 690 V at ambient temperature 60 °C rated value	55 A
• at AC-3	
— at 400 V rated value	41 A
— at 500 V rated value	41 A
— at 690 V rated value	24 A
• at AC-3e	
— at 400 V rated value	41 A
— at 500 V rated value	41 A
— at 690 V rated value	24 A
• at AC-4 at 400 V rated value	35 A
• at AC-5a up to 690 V rated value	52.8 A
• at AC-5b up to 400 V rated value	33.2 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	36.5 A
— up to 400 V for current peak value n=20 rated value	36.5 A
— up to 500 V for current peak value n=20 rated value	36.5 A
— up to 690 V for current peak value n=20 rated value	24 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	24.2 A
— up to 400 V for current peak value n=30 rated value	24.2 A
— up to 500 V for current peak value n=30 rated value	24.2 A
— up to 690 V for current peak value n=30 rated value	24 A
minimum cross-section in main circuit at maximum AC-1 rated value	16 mm ²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	22 A
• at 690 V rated value	18.5 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	55 A
— at 60 V rated value	23 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	55 A
— at 60 V rated value	45 A
— at 110 V rated value	45 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	55 A
— at 60 V rated value	55 A

— at 110 V rated value	55 A
— at 220 V rated value	45 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
● at 1 current path at DC-3 at DC-5	
— at 24 V rated value	35 A
— at 60 V rated value	6 A
— at 220 V rated value	1 A
— at 440 V rated value	0.1 A
— at 600 V rated value	0.06 A
● with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	55 A
— at 60 V rated value	45 A
— at 110 V rated value	25 A
— at 220 V rated value	5 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
● with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	55 A
— at 60 V rated value	55 A
— at 110 V rated value	55 A
— at 220 V rated value	25 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.35 A
operating power	
● at AC-2 at 400 V rated value	18.5 kW
● at AC-3	
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	22 kW
— at 690 V rated value	22 kW
● at AC-3e	
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	22 kW
— at 690 V rated value	22 kW
operating power for approx. 200000 operating cycles at AC-4	
● at 400 V rated value	11.6 kW
● at 690 V rated value	16.8 kW
operating apparent power at AC-6a	
● up to 230 V for current peak value n=20 rated value	14.5 kVA
● up to 400 V for current peak value n=20 rated value	25.2 kVA
● up to 500 V for current peak value n=20 rated value	31.6 kVA
● up to 690 V for current peak value n=20 rated value	28.6 kVA
operating apparent power at AC-6a	
● up to 230 V for current peak value n=30 rated value	9.6 kVA
● up to 400 V for current peak value n=30 rated value	16.8 kVA
● up to 500 V for current peak value n=30 rated value	21 kVA
● up to 690 V for current peak value n=30 rated value	28.6 kVA
short-time withstand current in cold operating state up to 40 °C	
● limited to 1 s switching at zero current maximum	843 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 5 s switching at zero current maximum	596 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 10 s switching at zero current maximum	400 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 30 s switching at zero current maximum	241 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 60 s switching at zero current maximum	196 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
● at AC	5 000 1/h
operating frequency	
● at AC-1 maximum	1 200 1/h
● at AC-2 maximum	750 1/h
● at AC-3 maximum	1 000 1/h
● at AC-3e maximum	1 000 1/h

• at AC-4 maximum	300 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
• at 50 Hz rated value	24 V
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 ... 1.1
apparent pick-up power of magnet coil at AC	
• at 50 Hz	190 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.72
apparent holding power of magnet coil at AC	
• at 50 Hz	16 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.37
closing delay	
• at AC	10 ... 80 ms
opening delay	
• at AC	10 ... 18 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 - with type of assignment 2 required - for short-circuit protection of the auxiliary switch required		gG: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA) gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA) 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 - upwards - downwards - at the side - for grounded parts - forwards - upwards - at the side - downwards - for live parts - forwards - upwards - downwards - at the side		10 mm 10 mm 10 mm 0 mm 10 mm 10 mm 6 mm 10 mm 10 mm 10 mm 10 mm 6 mm
Connections/ Terminals		
type of electrical connection		
- for main current circuit - for auxiliary and control circuit - at contactor for auxiliary contacts - of magnet coil		screw-type terminals screw-type terminals Screw-type terminals Screw-type terminals
type of connectable conductor cross-sections for main contacts		
- solid or stranded - finely stranded with core end processing		2x (1 ... 35 mm²), 1x (1 ... 50 mm²) 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 - finely stranded with core end processing		0.5 ... 2.5 mm² 0.5 ... 2.5 mm²
type of connectable conductor cross-sections		
- for auxiliary contacts - solid or stranded - finely stranded with core end processing - at AWG cables for auxiliary contacts		2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14)
AWG number as coded connectable conductor cross section		
- for main contacts - for auxiliary contacts		18 ... 1 20 ... 14
Safety related data		
product function		
- mirror contact according to IEC 60947-4-1 - positively driven operation according to IEC 60947-5-1		Yes No

proportion of dangerous failures

- with low demand rate according to SN 31920
- with high demand rate according to SN 31920

failure rate [FIT] with low demand rate according to SN 31920

protection class IP on the front according to IEC 60529

touch protection on the front according to IEC 60529

suitability for use

- safety-related switching OFF

40 %
73 %
100 FIT

IP20

finger-safe, for vertical contact from the front

Yes

Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



EMC	Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates		
 RCM	Type Examination Certificate	 EG-Konf.		Type Test Certificates/Test Report	Special Test Certificate

Marine / Shipping



Marine / Shipping	other	Railway	Dangerous Good	Environment	
	Confirmation	Confirmation	Vibration and Shock	Transport Information	Environmental Confirmations

Further information

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=3RT2035-1AB00>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2035-1AB00>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1AB00>

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

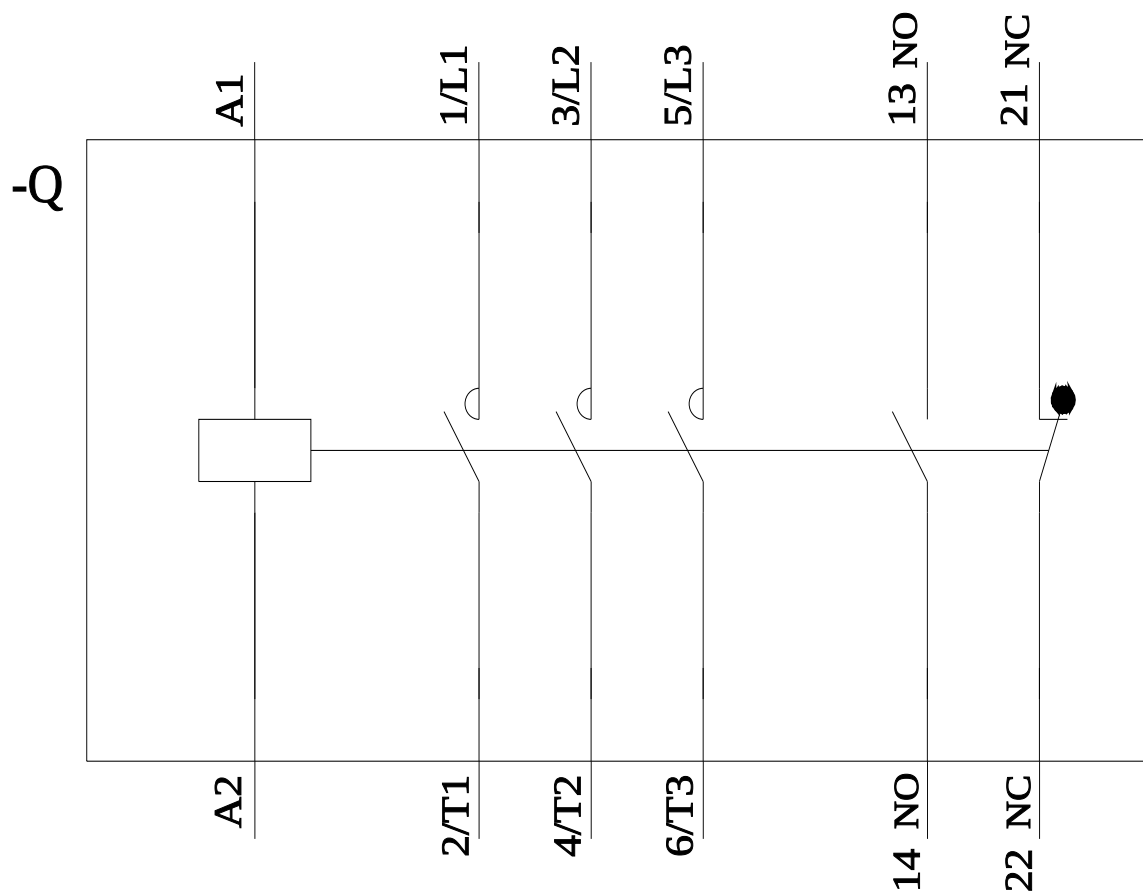
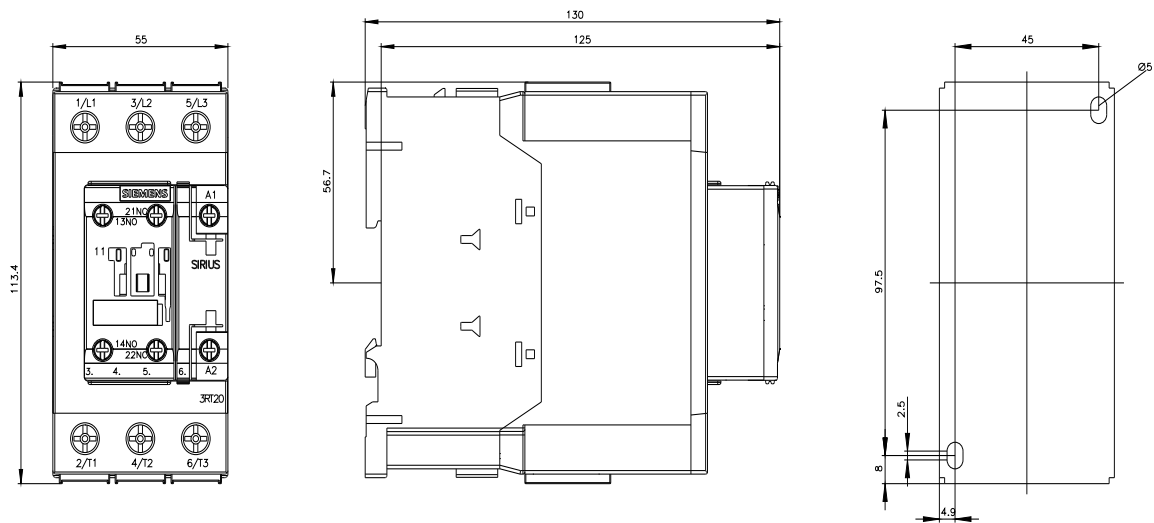
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2035-1AB00&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1AB00/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2035-1AB00&objecttype=14&gridview=view1>



last modified:

2/10/2023 

