



power contactor, AC-3 17 A, 7.5 kW / 400 V 1 NO + 1 NC, 24 V DC 3-pole,
Size S0 Spring-type terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S0
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	2.7 W
• per pole	0.9 W
power loss [W] for rated value of the current without load current share typical	5.9 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 safe isolation between coil and main contacts acc. to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	10g / 5 ms, 7,5g / 10 ms
shock resistance with sine pulse	
• at DC	15g / 5 ms, 10g / 10 ms
mechanical service life (switching 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 acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.10.2009
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 acc. to IEC 60068-2-30	95 %

maximum	
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
operational current	
<ul style="list-style-type: none"> • at AC-1 at 400 V at ambient temperature 40 °C rated value 	40 A
<ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — up to 690 V at ambient temperature 40 °C rated value 	40 A
<ul style="list-style-type: none"> — up to 690 V at ambient temperature 60 °C rated value 	35 A
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value 	17 A
<ul style="list-style-type: none"> — at 500 V rated value 	17 A
<ul style="list-style-type: none"> — at 690 V rated value 	13 A
<ul style="list-style-type: none"> • at AC-4 at 400 V rated value 	15.5 A
<ul style="list-style-type: none"> • at AC-5a up to 690 V rated value 	35.2 A
<ul style="list-style-type: none"> • at AC-5b up to 400 V rated value 	14.1 A
<ul style="list-style-type: none"> • at AC-6a <ul style="list-style-type: none"> — up to 230 V for current peak value n=20 rated value 	11.4 A
<ul style="list-style-type: none"> — up to 400 V for current peak value n=20 rated value 	11.4 A
<ul style="list-style-type: none"> — up to 500 V for current peak value n=20 rated value 	11.4 A
<ul style="list-style-type: none"> — up to 690 V for current peak value n=20 rated value 	11.3 A
<ul style="list-style-type: none"> • at AC-6a <ul style="list-style-type: none"> — up to 230 V for current peak value n=30 rated value 	7.6 A
<ul style="list-style-type: none"> — up to 400 V for current peak value n=30 rated value 	7.6 A
<ul style="list-style-type: none"> — up to 500 V for current peak value n=30 rated value 	7.6 A
<ul style="list-style-type: none"> — up to 690 V for current peak value n=30 rated value 	7.6 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm ²
operational current for approx. 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> • at 400 V rated value 	7.7 A
<ul style="list-style-type: none"> • at 690 V rated value 	7.7 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 	35 A
<ul style="list-style-type: none"> — at 110 V rated value 	4.5 A
<ul style="list-style-type: none"> — at 220 V rated value 	1 A
<ul style="list-style-type: none"> — at 440 V rated value 	0.4 A
<ul style="list-style-type: none"> — at 600 V rated value 	0.25 A
<ul style="list-style-type: none"> • with 2 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value 	35 A
<ul style="list-style-type: none"> — at 110 V rated value 	35 A
<ul style="list-style-type: none"> — at 220 V rated value 	5 A
<ul style="list-style-type: none"> — at 440 V rated value 	1 A
<ul style="list-style-type: none"> — at 600 V rated value 	0.8 A
<ul style="list-style-type: none"> • with 3 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value 	35 A
<ul style="list-style-type: none"> — at 110 V rated value 	35 A
<ul style="list-style-type: none"> — at 220 V rated value 	35 A
<ul style="list-style-type: none"> — at 440 V rated value 	2.9 A
<ul style="list-style-type: none"> — at 600 V rated value 	1.4 A

<ul style="list-style-type: none"> • at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 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-3 at DC-5 <ul style="list-style-type: none"> — at 24 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-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	20 A
	2.5 A
	1 A
	0.09 A
	0.06 A
	35 A
	15 A
	3 A
	0.27 A
	0.16 A
	35 A
	35 A
	10 A
	0.6 A
	0.6 A
operating power	
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value 	4 kW
	7.5 kW
	7.5 kW
	11 kW
operating power for approx. 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> • at 400 V rated value • at 690 V rated value 	3.5 kW
	6 kW
operating apparent power 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 	4.5 kV·A
	7.8 kV·A
	9.9 kV·A
	13.6 kV·A
operating apparent power 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 	3 kV·A
	5.2 kV·A
	6.6 kV·A
	9.1 kV·A
short-time withstand current in cold operating state up to 40 °C	
<ul style="list-style-type: none"> • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum 	225 A; Use minimum cross-section acc. to AC-1 rated value
	225 A; Use minimum cross-section acc. to AC-1 rated value
	180 A; Use minimum cross-section acc. to AC-1 rated value
	115 A; Use minimum cross-section acc. to AC-1 rated value
	96 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
<ul style="list-style-type: none"> • at DC 	1 500 1/h
operating frequency	
<ul style="list-style-type: none"> • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum 	1 000 1/h
	1 000 1/h
	1 000 1/h
	300 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC	
<ul style="list-style-type: none"> • rated value 	24 V
operating range factor control supply voltage rated value of magnet coil at DC	
<ul style="list-style-type: none"> • initial value • full-scale value 	0.8
	1.1
closing power of magnet coil at DC	5.9 W

holding power of magnet coil at DC	5.9 W
closing delay	
• at DC	50 ... 170 ms
opening delay	
• at DC	15 ... 17.5 ms
arcing time	10 ... 10 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	14 A
• at 600 V rated value	17 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	1 hp
— at 230 V rated value	3 hp
• for 3-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	5 hp
— at 460/480 V rated value	10 hp
— at 575/600 V rated value	15 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: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA)
— with type of assignment 2 required	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (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 standard mounting rail according to DIN EN 60715

• side-by-side mounting	Yes
height	102 mm
width	45 mm
depth	107 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	spring-loaded terminals
• for auxiliary and control circuit	spring-loaded terminals
• at contactor for auxiliary contacts	Spring-type terminals
• of magnet coil	Spring-type terminals
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (1 ... 10 mm ²)
— solid or stranded	2x (1 ... 10 mm ²)
— finely stranded with core end processing	2x (1 ... 6 mm ²)
— finely stranded without core end processing	2x (1 ... 6 mm ²)
• at AWG cables for main contacts	2x (18 ... 8)
connectable conductor cross-section for main contacts	
• solid	1 ... 10 mm ²
• stranded	1 ... 10 mm ²
• finely stranded with core end processing	1 ... 6 mm ²
• finely stranded without core end processing	1 ... 6 mm ²
connectable conductor cross-section for auxiliary contacts	
• solid or stranded	0.5 ... 2.5 mm ²
• finely stranded with core end processing	0.5 ... 1.5 mm ²
• finely stranded without core end processing	0.5 ... 2.5 mm ²
type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid or stranded	2x (0.5 ... 2.5 mm ²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm ²)
— finely stranded without core end processing	2x (0.5 ... 2.5 mm ²)
• at AWG cables for auxiliary contacts	2x (20 ... 14)
AWG number as coded connectable conductor cross section	
• for main contacts	18 ... 8
• for auxiliary contacts	20 ... 14
Safety related data	
B10 value with high demand rate acc. to SN 31920	450 000
proportion of dangerous failures	
• with low demand rate acc. to SN 31920	40 %
• with high demand rate acc. to SN 31920	73 %
failure rate [FIT] with low demand rate acc. to SN 31920	100 FIT
T1 value for proof test interval or service life acc. to	20 y

IEC 61508	
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front
suitability for use <ul style="list-style-type: none"> • safety-related switching OFF 	Yes

Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



EMC	Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates
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[Type Examination Certificate](#)



[UK Declaration of Conformity](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

Test Certificates	Marine / Shipping
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[Miscellaneous](#)



Marine / Shipping	other	Dangerous Good
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[Confirmation](#)



[Transport Information](#)

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=3RT2025-2BB40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2025-2BB40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-2BB40>

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

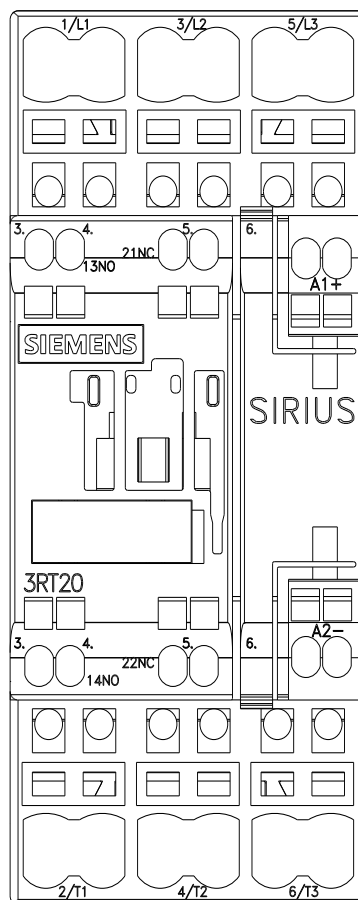
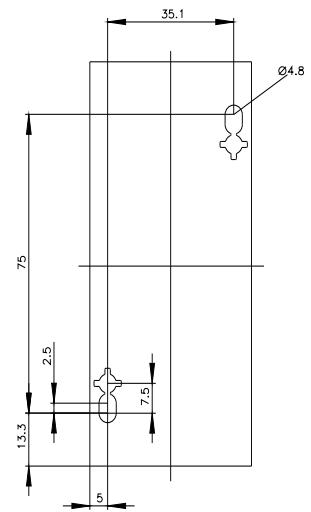
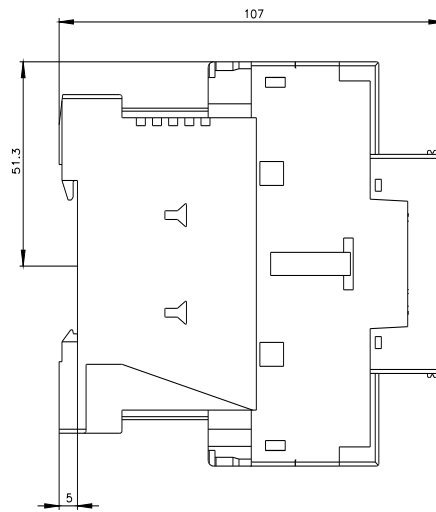
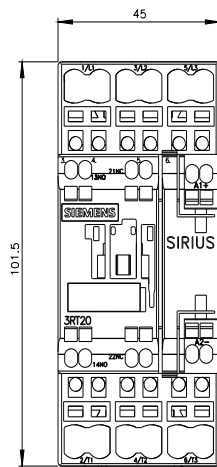
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2025-2BB40&lang=en

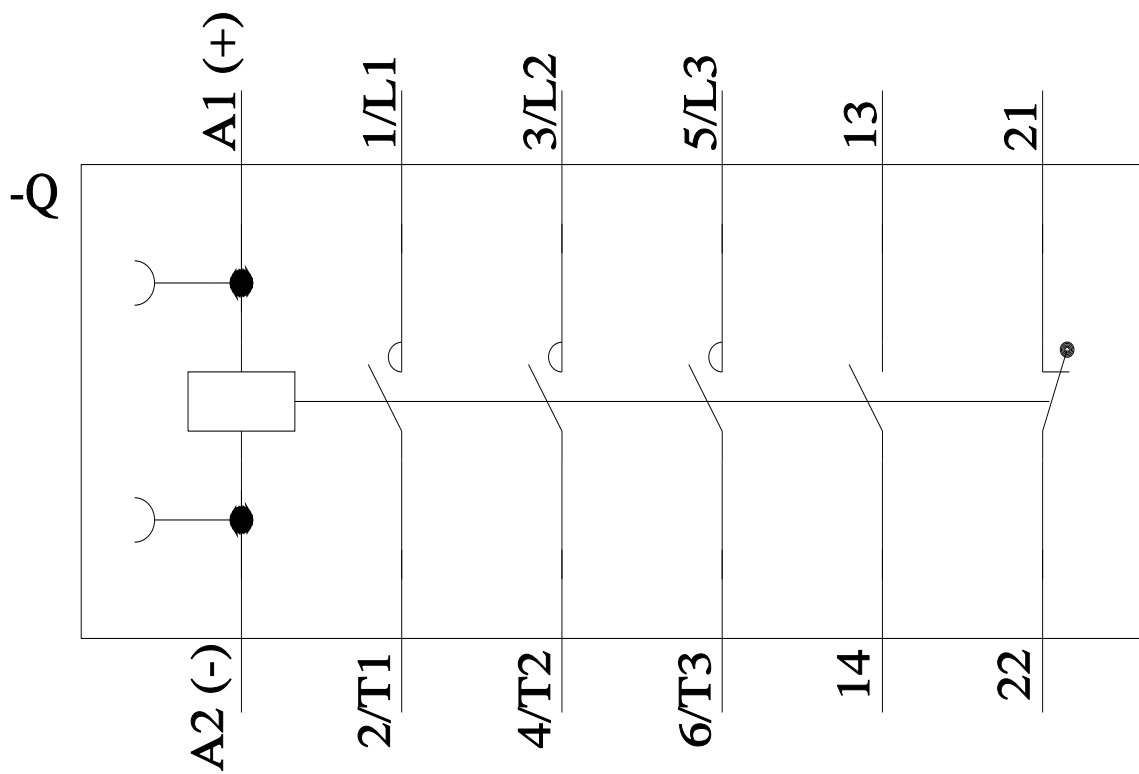
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-2BB40/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2025-2BB40&objecttype=14&gridview=view1>





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