

Power contactor, AC-3 7 A, 3 kW / 400 V 1 NO, 400 V AC 50 Hz 400-440 V, 60 Hz, 3-pole, Size S00, screw terminal



product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S00
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	1.2 W
• at AC in hot operating state per pole	0.4 W
power loss [W] for rated value of the current without load current share typical	4.8 W
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

protection class IP	
• on the front	IP20
• of the terminal	IP20
shock resistance at rectangular impulse	
• at AC	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	10,5g / 5 ms, 6,6g / 10 ms
mechanical service life (switching cycles)	
• of contactor typical	30 000 000
• of the contactor with added electronics-compatible auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
reference code acc. to DIN EN 81346-2	Q

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

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
operating current	
• at AC-1 at 400 V — at ambient temperature 40 °C rated value	18 A
• at AC-1 — up to 690 V at ambient temperature 40 °C rated value	18 A
— up to 690 V at ambient temperature 60 °C rated value	16 A
• at AC-3 — at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
• at AC-4 at 400 V rated value	6.5 A
• at AC-5a up to 690 V rated value	15.8 A
• at AC-5b up to 400 V rated value	5.8 A
• at AC-6a	

— up to 230 V for current peak value n=20 rated value	4 A
— up to 400 V for current peak value n=20 rated value	4 A
— up to 500 V for current peak value n=20 rated value	3.8 A
— up to 690 V for current peak value n=20 rated value	3.6 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	2.7 A
— up to 400 V for current peak value n=30 rated value	2.7 A
— up to 500 V for current peak value n=30 rated value	2.5 A
— up to 690 V for current peak value n=30 rated value	2.4 A
minimum cross-section in main circuit	
• at maximum AC-1 rated value	2.5 mm ²
operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	2.6 A
• at 690 V rated value	1.8 A
operating current	
• at 1 current path at DC-1	
— at 24 V rated value	15 A
— at 110 V rated value	1.5 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.42 A
— at 600 V rated value	0.42 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	15 A
— at 110 V rated value	8.4 A
— at 220 V rated value	1.2 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.5 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	15 A
— at 110 V rated value	15 A
— at 220 V rated value	15 A
— at 440 V rated value	0.9 A
— at 600 V rated value	0.7 A
operating current	

• at 1 current path at DC-3 at DC-5 — at 24 V rated value — at 110 V rated value • with 2 current paths in series at DC-3 at DC-5 — at 24 V rated value — at 110 V rated value • with 3 current paths in series at DC-3 at DC-5 — 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	15 A 0.1 A 15 A 0.25 A 15 A 15 A 1.2 A 0.14 A 0.14 A
operating power • at AC-3 — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value	1.5 kW 3 kW 3 kW 4 kW
operating power for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value	1.15 kW 1.15 kW
operating apparent output at AC-6a • 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	1.5 kV·A 2.7 kV·A 3.3 kV·A 4.3 kV·A
operating apparent output at AC-6a • 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	1 kV·A 1.8 kV·A 2.2 kV·A 2.9 kV·A
short-time withstand current in cold operating state up to 40 °C	

• 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	120 A; Use minimum cross-section acc. to AC-1 rated value 86 A; Use minimum cross-section acc. to AC-1 rated value 67 A; Use minimum cross-section acc. to AC-1 rated value 52 A; Use minimum cross-section acc. to AC-1 rated value 43 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	10 000 1/h
operating frequency	
• at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum	1 000 1/h 750 1/h 750 1/h 250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
• at 50 Hz rated value • at 60 Hz rated value	400 V 440 V
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz • at 60 Hz	0.8 ... 1.1 0.85 ... 1.1
apparent pick-up power of magnet coil at AC	
• at 50 Hz • at 60 Hz	26.4 V·A 31.7 V·A
inductive power factor with closing power of the coil	
• at 50 Hz • at 60 Hz	0.81 0.81
apparent holding power of magnet coil at AC	
• at 50 Hz • at 60 Hz	4.4 V·A 4.8 V·A
inductive power factor with the holding power of the coil	
• at 50 Hz • at 60 Hz	0.24 0.25
closing delay	
• at AC	9 ... 35 ms
opening delay	
• at AC	3.5 ... 14 ms

arcing time	10 ... 15 ms
control version of the switch operating mechanism	Standard A1 - A2

Auxiliary circuit

number of NO contacts for auxiliary contacts	
• instantaneous contact	1
operating current at AC-12 maximum	10 A
operating 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
operating 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
operating 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 three-phase AC motor	
• at 480 V rated value	4.8 A
• at 600 V rated value	6.1 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	0.25 hp
— at 230 V rated value	0.75 hp
• for three-phase AC motor	
— at 200/208 V rated value	1.5 hp
— at 220/230 V rated value	2 hp
— at 460/480 V rated value	3 hp
— at 575/600 V rated value	5 hp

contact rating of auxiliary contacts according to UL	A600 / Q600
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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: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA) gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (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
mounting type	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
side-by-side mounting	Yes
height	58 mm
width	45 mm
depth	73 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 current 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 — single or multi-stranded — finely stranded with core end processing • at AWG conductors for main contacts	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), 2x 4 mm ² 2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²), 2x 4 mm ² 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14), 2x 12
connectable conductor cross-section for main contacts • solid • stranded • finely stranded with core end processing	0.5 ... 4 mm ² 0.5 ... 4 mm ² 0.5 ... 2.5 mm ²
connectable conductor cross-section for auxiliary contacts • single or multi-stranded • finely stranded with core end processing	0.5 ... 4 mm ² 0.5 ... 2.5 mm ²
type of connectable conductor cross-sections for auxiliary contacts — single or multi-stranded — finely stranded with core end processing	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²), 2x 4 mm ² 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
type of connectable conductor cross-sections at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14), 2x 12
AWG number as coded connectable conductor cross section • for main contacts • for auxiliary contacts	20 ... 12 20 ... 12

Safety related data

B10 value • with high demand rate acc. to SN 31920	1 000 000
proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920	40 % 73 %
failure rate [FIT] • with low demand rate acc. to SN 31920	100 FIT
product function • mirror contact acc. to IEC 60947-4-1	Yes; with 3RH29
T1 value for proof test interval or service life acc. to IEC 61508	20 y
protection against electrical shock	finger-safe
suitability for use safety-related switching OFF	Yes

Certificates/ approvals

General Product Approval	EMC
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[KC](#)



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



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping



other

[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=3RT2015-1AR61>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2015-1AR61>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1AR61>

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

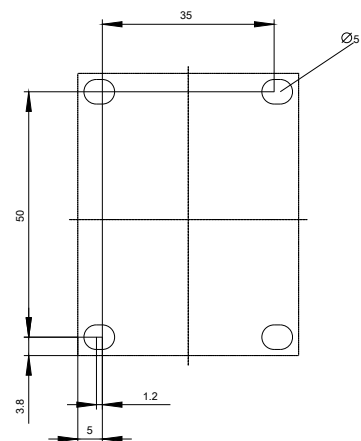
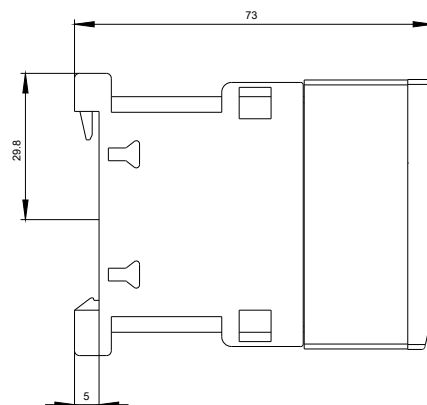
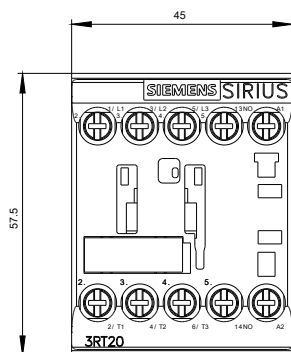
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2015-1AR61&lang=en

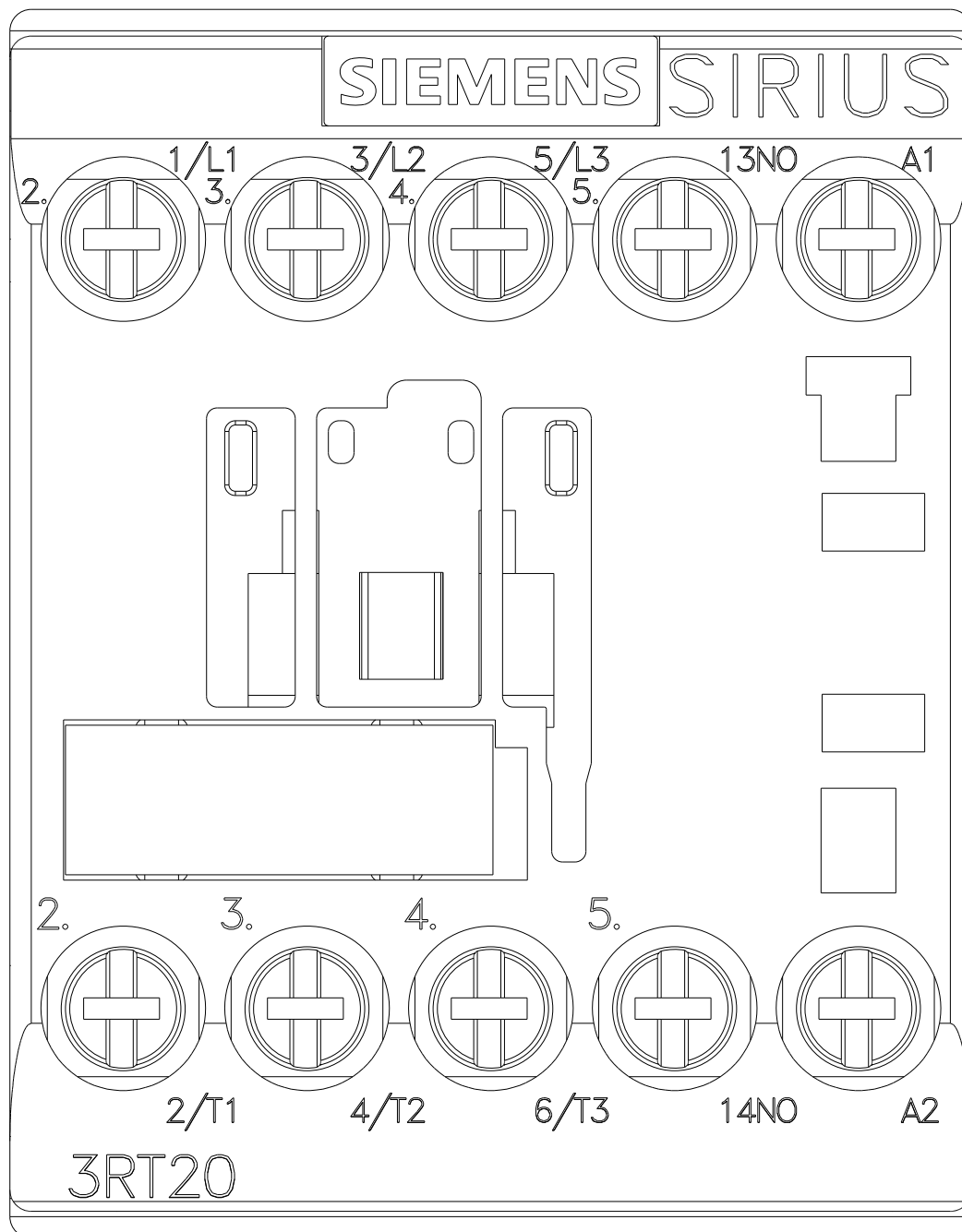
Characteristic: Tripping characteristics, I_t, Let-through current

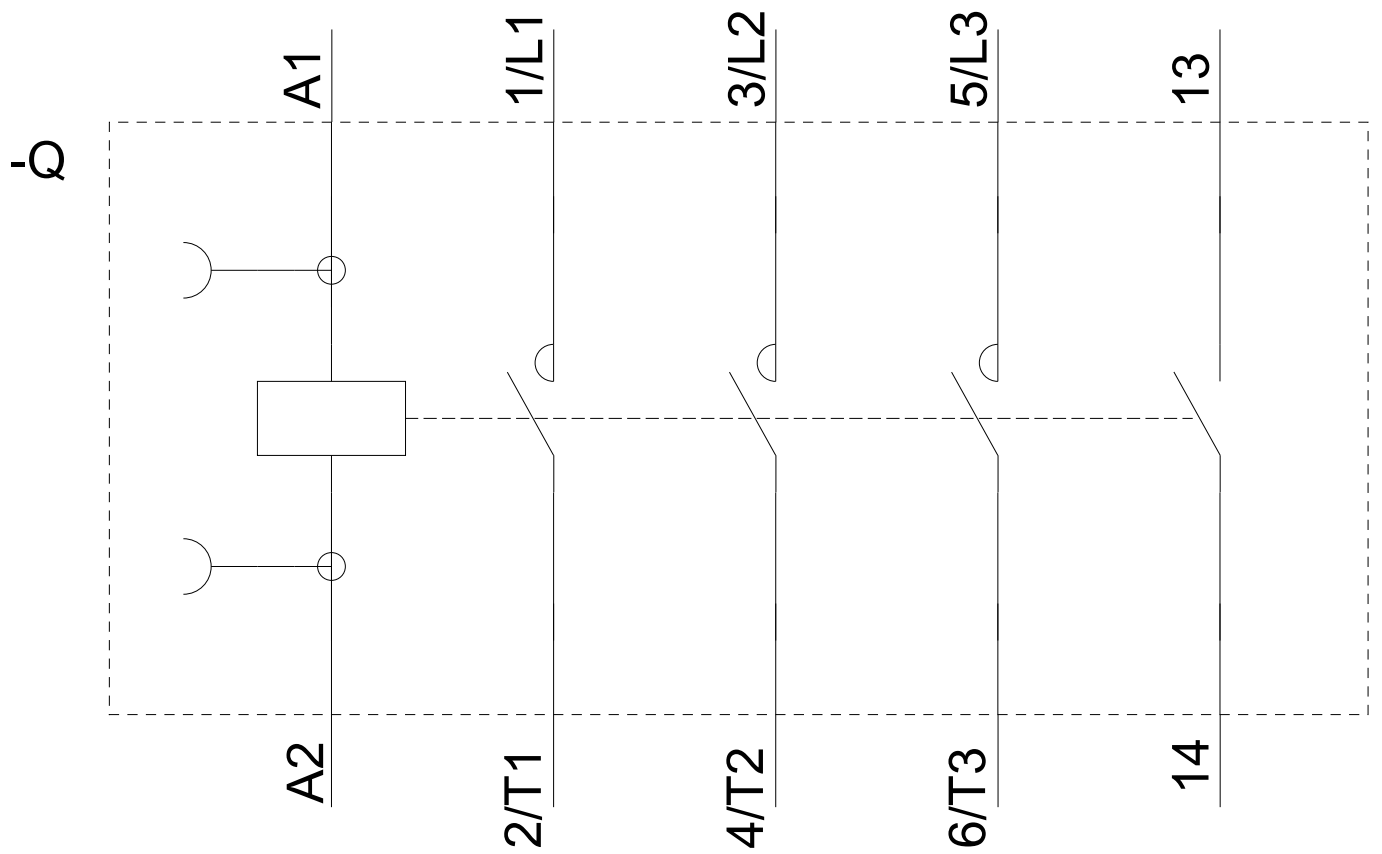
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1AR61/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2015-1AR61&objecttype=14&gridview=view1>







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