

CONTACTOR, AC-3, 7.5KW/400V, 1NO, AC 230V, 50/60 HZ, 3-POLE, SZ S00 SCREW TERMINAL



product brandname	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
Insulation voltage	
• rated value	690 V
Surge voltage resistance 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	7,3g / 5 ms, 4,7g / 10 ms

Shock resistance with sine pulse	
• at AC	11,4g / 5 ms, 7,3g / 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
Ambient conditions	
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	22 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	22 A
— up to 690 V at ambient temperature 60 °C rated value	20 A
• at AC-2 at 400 V rated value	16 A
• at AC-3	
— at 400 V rated value	16 A
— at 500 V rated value	12.4 A
— at 690 V rated value	8.9 A
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	2.5 mm ²
• at 40 °C minimum permissible	4 mm ²
Operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	5.5 A
• at 690 V rated value	4.4 A
Operating current	
• at 1 current path at DC-1	
— at 24 V rated value	20 A
— at 110 V rated value	2.1 A

— at 220 V rated value	0.8 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	20 A
— at 110 V rated value	12 A
— at 220 V rated value	1.6 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.7 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	20 A
— at 440 V rated value	1.3 A
— at 600 V rated value	1 A
Operating current	
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 110 V rated value	0.1 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 110 V rated value	0.35 A
• with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
Operating power	
• at AC-1	
— at 230 V rated value	7.5 kW
— at 230 V at 60 °C rated value	7.5 kW
— at 400 V rated value	13 kW
— at 400 V at 60 °C rated value	13 kW
— at 690 V rated value	22 kW
— at 690 V at 60 °C rated value	22 kW
• at AC-2 at 400 V rated value	7.5 kW
• at AC-3	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 690 V rated value	7.5 kW

Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	2.5 kW
• at 690 V rated value	3.5 kW
Thermal short-time current limited to 10 s	128 A
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor	2.2 W
No-load switching frequency	
• at AC	10 000 1/h
Operating frequency	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	750 1/h
• at AC-3 maximum	750 1/h
• at AC-4 maximum	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	230 V
• at 60 Hz rated value	230 V
Operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 ... 1.1
• at 60 Hz	0.85 ... 1.1
Apparent pick-up power of magnet coil at AC	
• at 50 Hz	37 V·A
• at 60 Hz	43 V·A
Inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.8
Apparent holding power of magnet coil at AC	
• at 50 Hz	5.7 V·A
• at 60 Hz	6.5 V·A
Inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
• at 60 Hz	0.25
Closing delay	
• at AC	8 ... 33 ms
Opening delay	
• at AC	4 ... 15 ms
Arcing time	10 ... 15 ms
Residual current of the electronics for control with signal <0>	

- at AC at 230 V maximum permissible
- at DC at 24 V maximum permissible

4 mA
10 mA

Auxiliary circuit

Number of NO contacts	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — instantaneous contact 	1
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
<ul style="list-style-type: none"> • at 230 V rated value 	10 A
<ul style="list-style-type: none"> • at 400 V rated value 	3 A
<ul style="list-style-type: none"> • at 500 V rated value 	2 A
<ul style="list-style-type: none"> • at 690 V rated value 	1 A
Operating current at DC-12	
<ul style="list-style-type: none"> • at 24 V rated value 	10 A
<ul style="list-style-type: none"> • at 48 V rated value 	6 A
<ul style="list-style-type: none"> • at 60 V rated value 	6 A
<ul style="list-style-type: none"> • at 110 V rated value 	3 A
<ul style="list-style-type: none"> • at 125 V rated value 	2 A
<ul style="list-style-type: none"> • at 220 V rated value 	1 A
<ul style="list-style-type: none"> • at 600 V rated value 	0.15 A
Operating current at DC-13	
<ul style="list-style-type: none"> • at 24 V rated value 	10 A
<ul style="list-style-type: none"> • at 48 V rated value 	2 A
<ul style="list-style-type: none"> • at 60 V rated value 	2 A
<ul style="list-style-type: none"> • at 110 V rated value 	1 A
<ul style="list-style-type: none"> • at 125 V rated value 	0.9 A
<ul style="list-style-type: none"> • at 220 V rated value 	0.3 A
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • at 480 V rated value 	14 A
<ul style="list-style-type: none"> • at 600 V rated value 	11 A
Yielded mechanical performance [hp]	
<ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> — at 110/120 V rated value — at 230 V rated value 	1 hp 2 hp
<ul style="list-style-type: none"> • for three-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value 	3 hp 5 hp 10 hp

— at 575/600 V rated value	10 hp
Contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
Design of the fuse link <ul style="list-style-type: none"> for short-circuit protection of the main circuit <ul style="list-style-type: none"> with type of coordination 1 required with type of assignment 2 required for short-circuit protection of the auxiliary switch required 	gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 50 A gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 25 A fuse gG: 10 A
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 <ul style="list-style-type: none"> Side-by-side mounting 	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 Yes
Height	58 mm
Width	45 mm
Depth	73 mm
Required spacing <ul style="list-style-type: none"> for grounded parts <ul style="list-style-type: none"> at the side for live parts <ul style="list-style-type: none"> at the side 	6 mm 6 mm
Connections/Terminals	
Type of electrical connection <ul style="list-style-type: none"> for main current circuit for auxiliary and control current circuit 	screw-type terminals screw-type terminals
Type of connectable conductor cross-sections <ul style="list-style-type: none"> for main contacts <ul style="list-style-type: none"> solid single or multi-stranded finely stranded with core end processing at AWG conductors for main contacts 	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm² 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm² 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14), 2x 12
Type of connectable conductor cross-sections <ul style="list-style-type: none"> for auxiliary contacts <ul style="list-style-type: none"> single or multi-stranded finely stranded with core end processing at AWG conductors for auxiliary contacts 	2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm² 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14), 2x 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	40 %
• with high demand rate acc. to SN 31920	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

Certificates/approvals

General Product Approval	Functional Safety/Safety of Machinery
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[Type Examination](#)

Declaration of Conformity	Test Certificates	Shipping Approval
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Shipping Approval	other
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[Confirmation](#)

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other



Further information

Information- and Downloadcenter (Catalogs, Brochures,...)
<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2018-1AP01>

Cax online generator

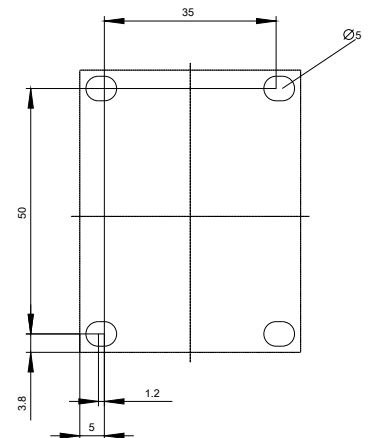
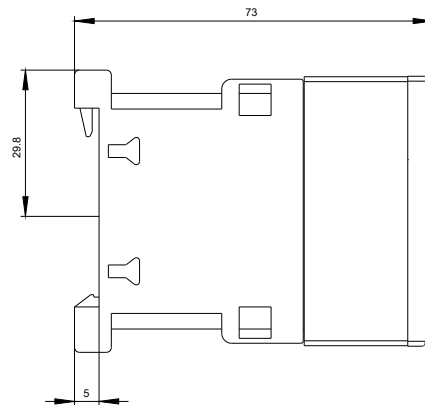
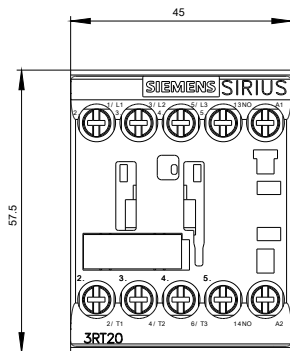
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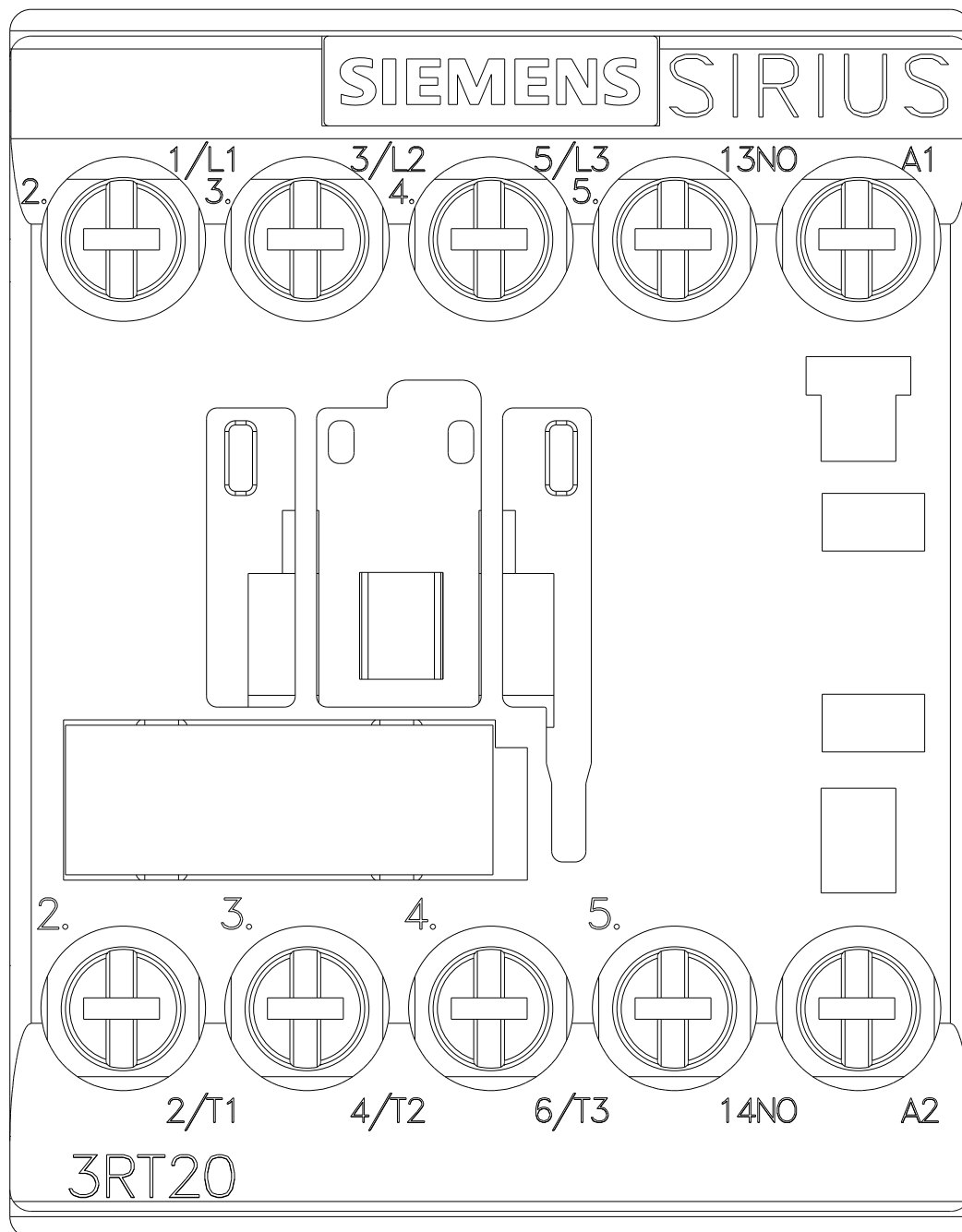
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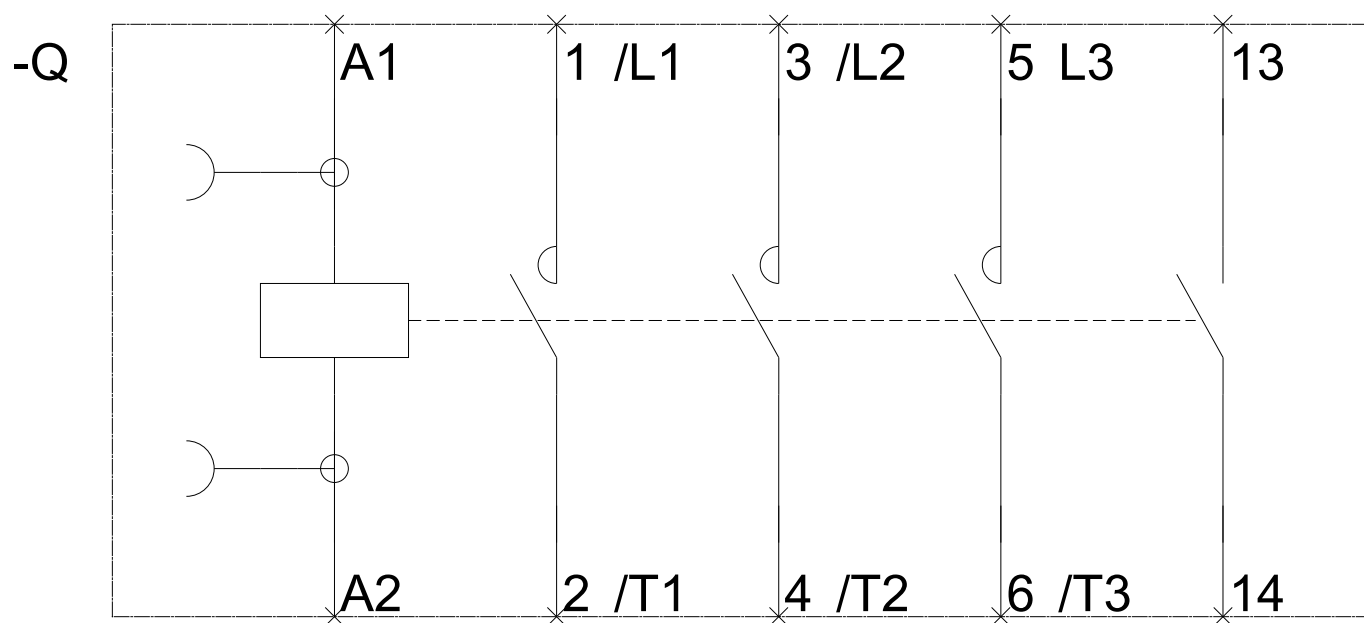
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2018-1AP01>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2018-1AP01&lang=en







last modified:

06/20/2017