SIEMENS

Data sheet 3RT2045-1AP00

power contactor, AC-3 80 A, 37 kW / 400 V 1 NO + 1 NC, 230 V AC/50 Hz 3-pole, 3 NO, Size S3 screw terminal



Figure similar

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

General technical data	
S3	
No	
Yes	
1 000 V	
3	
6 kV	
690 V	
IP20	

• of the terminal	IP00
Shock resistance at rectangular impulse	
• at AC	6.7 g / 5 ms, 4.0 g / 10 ms
Shock resistance with sine pulse	
• at AC	10.6 g / 5 ms, 6.3 g / 10 ms
Mechanical service life (switching cycles)	
 of contactor typical 	10 000 000
 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 indentifier acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	К
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	1 000 V
Operating current	
• at AC-1 at 400 V	
— at ambient temperature 40 °C rated value	125 A
• at AC-1	105 A
 up to 690 V at ambient temperature 40 °C rated value 	125 A
 up to 690 V at ambient temperature 60 °C rated value 	105 A
• at AC-2 at 400 V rated value	80 A
• at AC-3	
— at 400 V rated value	80 A
— at 500 V rated value	80 A
— at 690 V rated value	58 A
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	35 mm²
• at 40 °C minimum permissible	50 mm²

Operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	34 A
• at 690 V rated value	24 A
Operating current	
• at 1 current path at DC-1	
— at 24 V rated value	100 A
— at 110 V rated value	9 A
— at 220 V rated value	2 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.4 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	10 A
— at 440 V rated value	1.8 A
— at 600 V rated value	1 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	80 A
— at 440 V rated value	4.5 A
— at 600 V rated value	2.6 A
Operating current	
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	40 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.15 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	100 A
— at 110 V rated value	100 A
— at 220 V rated value	7 A
— at 440 V rated value	0.42 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	100 A
— at 110 V rated value	100 A
— at 220 V rated value	35 A
— at 440 V rated value	0.8 A

— at 600 V rated value	0.35 A
Operating power	
• at AC-1	
— at 230 V rated value	47 kW
— at 230 V at 60 °C rated value	40 kW
— at 400 V rated value	82 kW
— at 400 V at 60 °C rated value	69 kW
— at 690 V rated value	142 kW
— at 690 V at 60 °C rated value	119 kW
• at AC-2 at 400 V rated value	37 kW
• at AC-3	
— at 230 V rated value	22 kW
— at 400 V rated value	37 kW
— at 500 V rated value	45 kW
— at 690 V rated value	55 kW
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	17.9 kW
• at 690 V rated value	21.8 kW
Thermal short-time current limited to 10 s	760 A
Power loss [W] at AC-3 at 400 V for rated value of	5.3 W
the operating current per conductor	
No-load switching frequency	
• at AC	5 000 1/h
Operating frequency	
● at AC-1 maximum	900 1/h
• at AC-2 maximum	400 1/h
• at AC-3 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	230.1/
at 50 Hz rated value Operating range factor control supply voltage rated	230 V
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	296 V·A
Inductive power factor with closing power of the coil	
• at 50 Hz	0.61
Apparent holding power of magnet coil at AC	
● at 50 Hz	19 V·A

Inductive power factor with the holding power of coil	the
● at 50 Hz	0.38
Closing delay	
• at AC	13 50 ms
Opening delay	
• at AC	10 21 ms
Arcing time	10 20 ms

Auxiliary circuit	
Number of NC contacts	
for auxiliary contacts	
 instantaneous contact 	1
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	6 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)

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	$\Gamma > \Delta$	ratings
	OOL	Taurigo

• at 480 V rated value 77 A

• at 600 V rated value	62 A
Yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 110/120 V rated value	7.5 hp
— at 230 V rated value	15 hp
 for three-phase AC motor 	
— at 200/208 V rated value	25 hp
— at 220/230 V rated value	30 hp
— at 460/480 V rated value	60 hp
— at 575/600 V rated value	60 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

gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 250 A gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 160 A

fuse gG: 10 A

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	140 mm
Width	70 mm
Depth	152 mm
Required spacing	
with side-by-side mounting	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	

— forwards	0 mm
— Backwards	0 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm

Connections/Terminals	
Type of electrical connection	
• for main current circuit	screw-type terminals
 for auxiliary and control current circuit 	screw-type terminals
Type of connectable conductor cross-sections	
• for main contacts	
 finely stranded with core end processing 	2x (2.5 35 mm²), 1x (2.5 50 mm²)
 at AWG conductors for main contacts 	2x (10 1/0), 1x (10 2)
Connectable conductor cross-section for main	
contacts	
• solid	2.5 16 mm²
• stranded	6 70 mm²
Type of connectable conductor cross-sections	
 for auxiliary contacts 	
— single or multi-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)
• at AWG conductors for auxiliary contacts	2x (20 16), 2x (18 14)

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 %
Product function	
 Mirror contact acc. to IEC 60947-4-1 	Yes
 positively driven operation acc. to IEC 60947-5- 	No
1	
T1 value for proof test interval or service life acc. to	20 y
IEC 61508	
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529

Certificates/approvals

General Product Approval

Declaration of Conformity

Test Certificates











Type Test
Certificates/Test
Report

Test Certificates	other	Railway
Special Test Certificate	Confirmation	Vibration and Shock

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=3RT2045-1AP00

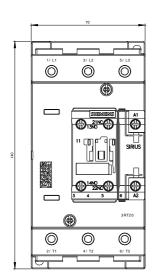
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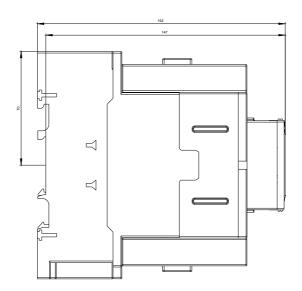
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2045-1AP00

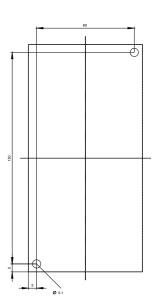
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

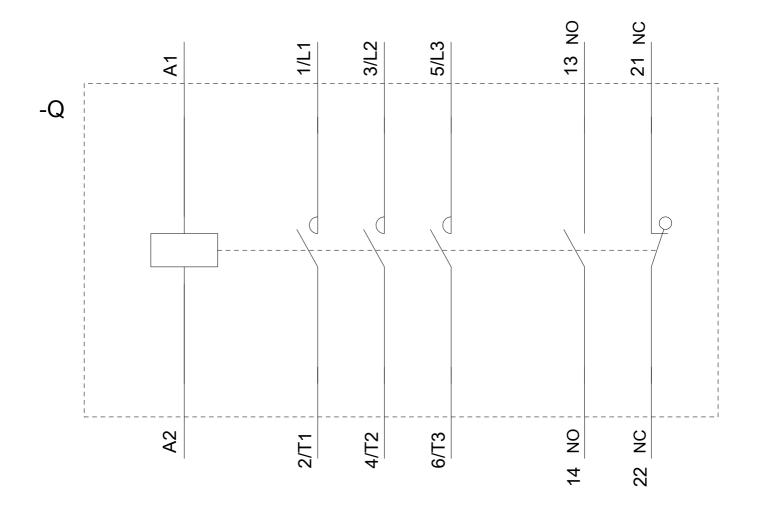
https://support.industry.siemens.com/cs/ww/en/ps/3RT2045-1AP00

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2045-1AP00&lang=en









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