SIEMENS

Data sheet 3RT2517-1AP00

Power contactor, AC-3 12 A, 5.5 kW / 400 V 2 NO + 2 NC 230 V AC, 50/60 Hz 4-pole Size S00 Screw terminal

Product brand name	SIRIUS
Product designation	contactor
Product type designation	3RT25

General technical data	
Size of contactor	S00
Product extension	
• function module for communication	No
• Auxiliary switch	Yes
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	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
Reference code acc. to DIN EN 81346-2	Q

Ambient conditions

Installation altitude at height above sea level	
• maximum	2 000 m

Main circuit

Number of poles for main current circuit	4
Number of NO contacts for main contacts	2
Number of NC contacts for main contacts	2
Operating current	
• 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 AC-3 at 400 V	
— per NO contact rated value	12 A
— per NC contact rated value	9 A
Minimum cross-section in main circuit	
• at maximum AC-1 rated value	4 mm²
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
• 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
Operating current	
• at 1 current path at DC-3 at DC-5	
— at 24 V per NC contact rated value	20 A
— at 24 V per NO contact rated value	20 A

— at 110 V per NC contact rated value	0.075 A
— at 110 V per NO contact rated value	0.15 A
— at 220 V per NC contact rated value	0.375 A
— at 220 V per NO contact rated value	0.75 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V per NC contact rated value	20 A
— at 24 V per NO contact rated value	20 A
— at 110 V per NC contact rated value	0.175 A
— at 110 V per NO contact rated value	0.35 A
Operating power	
• at AC-1	
— at 230 V rated value	7.5 kW
— at 400 V rated value	13 kW
• at AC-2 at AC-3	
— at 230 V per NC contact rated value	2.2 kW
— at 230 V per NO contact rated value	3 kW
— at 400 V per NC contact rated value	4 kW
— at 400 V per NO contact rated value	5.5 kW
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor	1.2 W
No-load switching frequency	
• at AC	10 000 1/h
• at DC	10 000 1/h
Operating frequency	
• at AC-1 maximum	1 000 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	37 V·A
• at 50 Hz	27 V·A
• at 60 Hz	24.3 V·A
Inductive power factor with closing power of the coil	0.8
• at 50 Hz	0.8
• at 60 Hz	0.75
Apparent holding power of magnet coil at AC	4.2 V·A
• at 50 Hz	4.2 V·A

• at 60 Hz	3.3 V·A
Inductive power factor with the holding power of the coil	0.25
• 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	0.004 A

Auxiliary circuit

Number of NC contacts for auxiliary contacts	
• instantaneous contact	0
Number of NO contacts for auxiliary contacts	
• instantaneous contact	0
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
Operating current at DC-12	
• 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 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

Yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	0.5 hp

— at 230 V rated value	2 hp
Contact rating of auxiliary contacts according to UL	A600 / Q600

Short-circuit protection

Design of the fuse link	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 35 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 20A (690V, 100kA)
• for short-circuit protection of the auxiliary switch required	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	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
• Side-by-side mounting	Yes
Height	57.5 mm
Width	45 mm
Depth	73 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	0 mm
— at the side	6 mm
— downwards	0 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	6 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	
— solid	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²
— single or multi-stranded	2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm²
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
• at AWG conductors for main contacts	2x (20 ... 16), 2x (18 ... 14), 2x 12
Type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²
— single or multi-stranded	2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 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), 2x 12
AWG number as coded connectable conductor cross section for main contacts	20 ... 12

Safety related data

Product function	
• Mirror contact acc. to IEC 60947-4-1	Yes; with 3RH29
• positively driven operation acc. to IEC 60947-5-1	No
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	Declaration of Conformity
CCC	CSA	UL	EAC	Type Examination Certificate	EG-Konf.

Declaration of Conformity	Test Certific-ates	Marine / Shipping			
Miscellaneous	Type Test Certific-ates/Test Report	ABS	BUREAU VERITAS	LRS	PRS

Marine / Shipping			other	
RINA	RMRS	DNVGL.COM/AF	Confirmation	VDE

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=3RT2517-1AP00

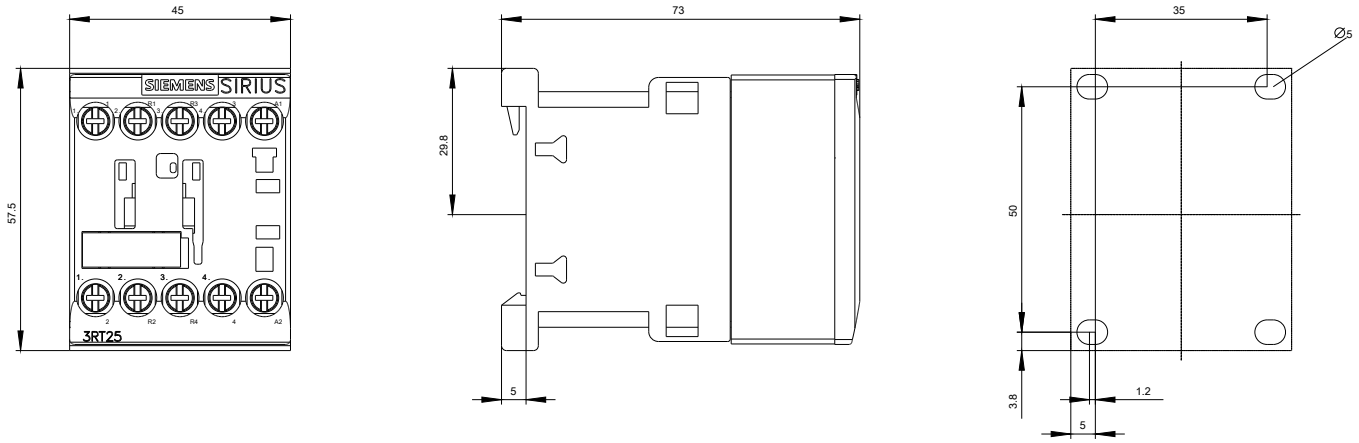
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2517-1AP00

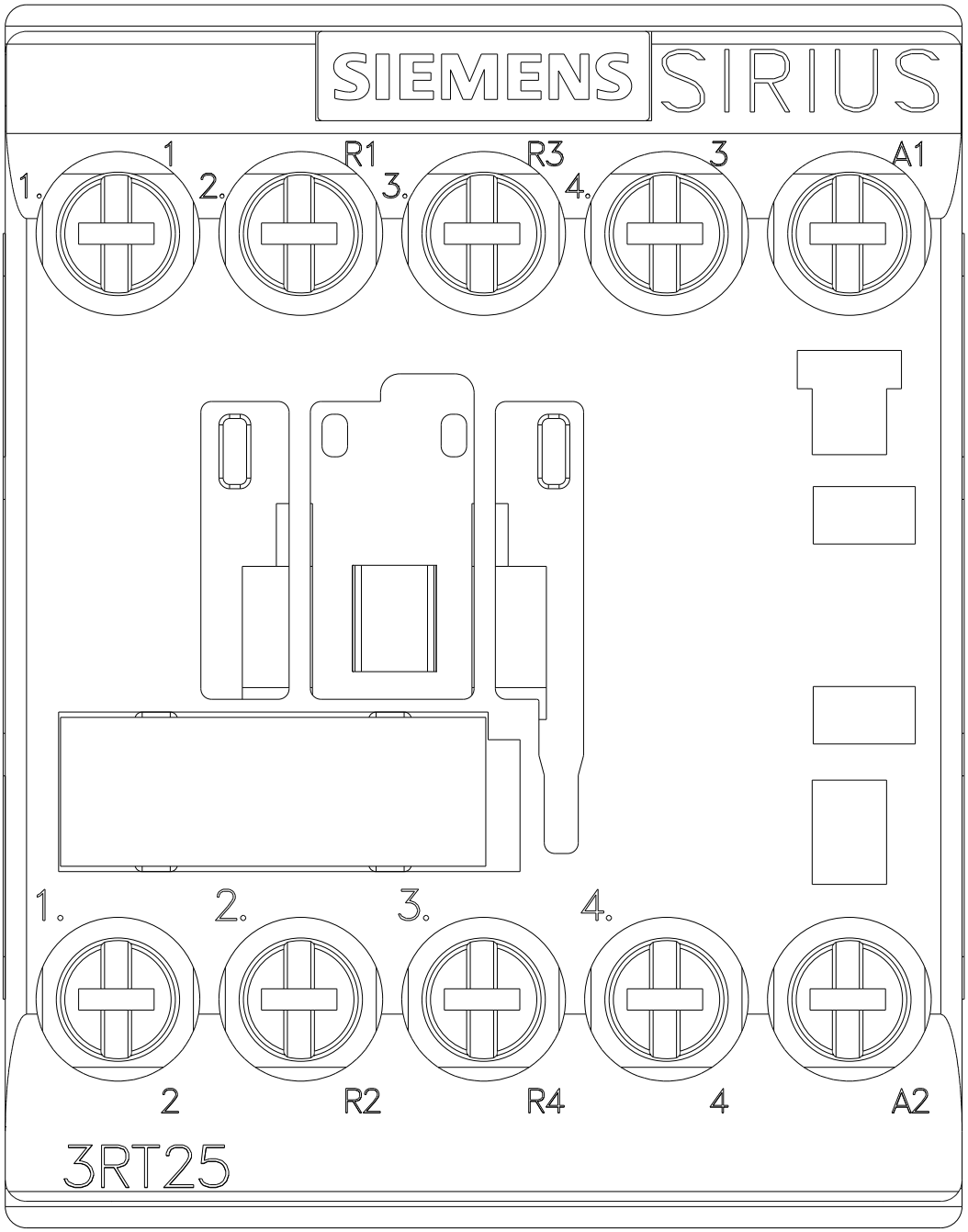
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RT2517-1AP00

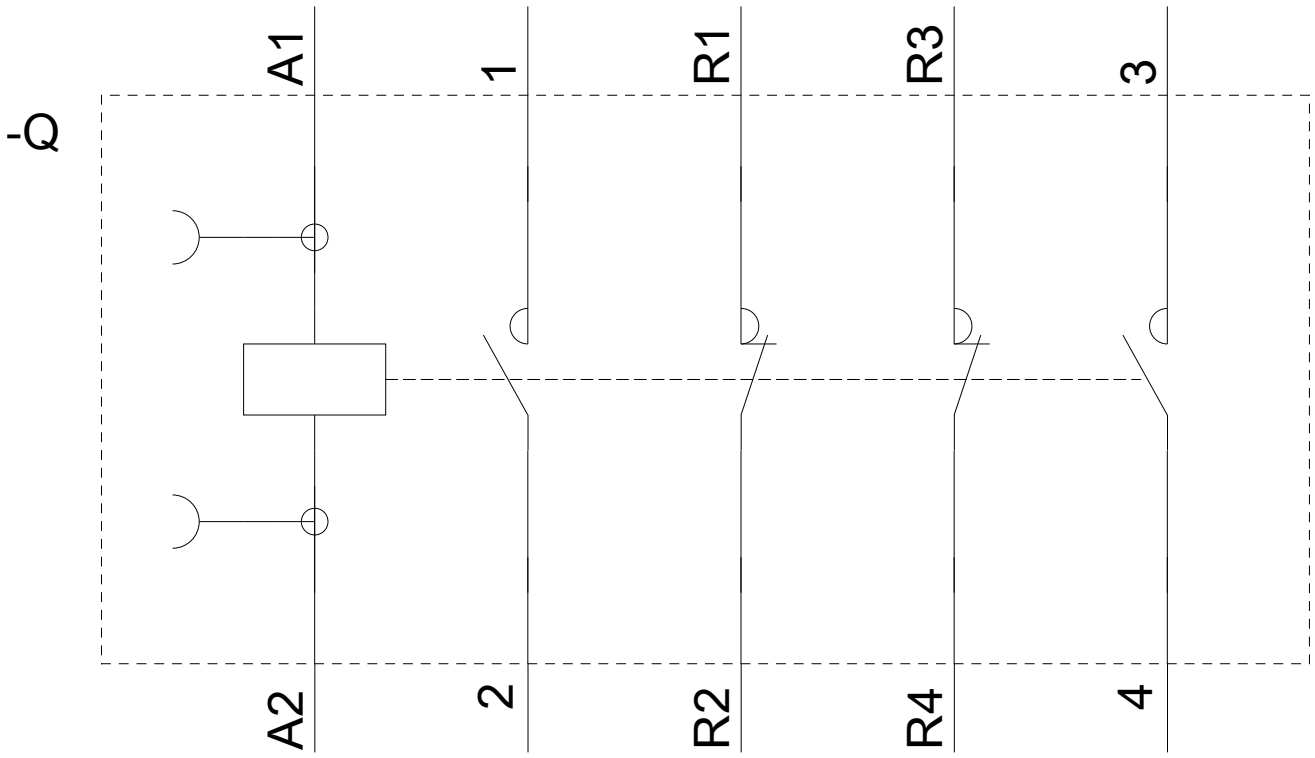
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2517-1AP00&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RT2517-1AP00/char

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2517-1AP00&objecttype=14&gridview=view1







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