



CONTACTOR, AC-3, 18.5KW/400V, 1NO+1NC, AC 230V 50HZ, 3-POLE, SZ S0 SCREW TERMINAL

product brand name	SIRIUS
Product designation	3RT2 contactor
General technical data:	
Size of contactor	S0
Product expansion	
• function module for communication	No
• Auxiliary switch	Yes
Insulation voltage	
• Rated value	690 V
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	400 V
Degree of pollution	3
Shock resistance	
• at rectangular impulse	
— with AC	8,3g / 5 ms, 5,3g / 10 ms
• with sine pulse	
— with AC	13,5g / 5 ms, 8,3g / 10 ms
Surge voltage resistance Rated value	6 kV
Mechanical service life (switching cycles)	
• of the 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
Protection class IP	

<ul style="list-style-type: none"> • on the front 	IP20
<ul style="list-style-type: none"> • of the terminal 	IP20
Equipment marking	
<ul style="list-style-type: none"> • acc. to DIN EN 61346-2 	Q
<ul style="list-style-type: none"> • acc. to DIN EN 81346-2 	Q

Ambient conditions:

Installation altitude at height above sea level maximum	2 000 m
Ambient temperature	
<ul style="list-style-type: none"> • during operation 	-25 ... +60 °C
<ul style="list-style-type: none"> • during storage 	-55 ... +80 °C

Main circuit:

Number of poles for main current circuit	3
Number of NC contacts for main contacts	0
Number of NO contacts for main contacts	3
Connectable conductor cross-section in main circuit at AC-1	
<ul style="list-style-type: none"> • at 60 °C minimum permissible 	10 mm ²
<ul style="list-style-type: none"> • at 40 °C minimum permissible 	10 mm ²
Operating voltage	
<ul style="list-style-type: none"> • at AC-3 Rated value maximum 	690 V
Operating current	
<ul style="list-style-type: none"> • at AC-1 at 400 V <ul style="list-style-type: none"> — at ambient temperature 40 °C Rated value 	50 A
<ul style="list-style-type: none"> • at AC-1 up to 690 V <ul style="list-style-type: none"> — at ambient temperature 40 °C Rated value — at ambient temperature 60 °C Rated value 	50 A 42 A
<ul style="list-style-type: none"> • at AC-2 at 400 V Rated value 	38 A
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V Rated value — at 500 V Rated value — at 690 V Rated value 	38 A 32 A 21 A
<ul style="list-style-type: none"> • at AC-4 at 400 V Rated value 	22 A
Operating current for ≥ 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> • at 400 V Rated value 	12 A
<ul style="list-style-type: none"> • at 690 V Rated value 	12 A
Operating current	
<ul style="list-style-type: none"> • with 1 current path at DC-1 <ul style="list-style-type: none"> — at 24 V Rated value — at 110 V Rated value 	35 A 4.5 A

— at 220 V Rated value	1 A
— at 440 V Rated value	0.4 A
— at 600 V Rated value	0.25 A
• with 2 current paths in series at DC-1	
— at 24 V Rated value	35 A
— at 110 V Rated value	35 A
— at 220 V Rated value	5 A
— at 440 V Rated value	1 A
— at 600 V Rated value	0.8 A
• with 3 current paths in series at DC-1	
— at 24 V Rated value	35 A
— at 110 V Rated value	35 A
— at 220 V Rated value	35 A
— at 440 V Rated value	2.9 A
— at 600 V Rated value	1.4 A
Operating current	
• with 1 current path at DC-3 at DC-5	
— at 24 V Rated value	20 A
— at 110 V Rated value	2.5 A
— at 220 V Rated value	1 A
— at 440 V Rated value	0.09 A
— at 600 V Rated value	0.06 A
• with 2 current paths in series at DC-3 at DC-5	
— at 110 V Rated value	15 A
— at 220 V Rated value	3 A
— at 24 V Rated value	35 A
— at 440 V Rated value	0.27 A
— at 600 V Rated value	0.16 A
• with 3 current paths in series at DC-3 at DC-5	
— at 110 V Rated value	35 A
— at 220 V Rated value	10 A
— at 24 V Rated value	35 A
— at 440 V Rated value	0.6 A
— at 600 V Rated value	0.6 A
Operating power	
• at AC-1	
— at 230 V at 60 °C Rated value	15.5 kW
— at 400 V at 60 °C Rated value	27.5 kW
— at 690 V at 60 °C Rated value	47.5 kW
Operating power for ≥ 200000 operating cycles at AC-4	

<ul style="list-style-type: none"> • at 400 V Rated value • at 690 V Rated value 	<p>6 kW</p> <p>10.3 kW</p>
Thermal short-time current restricted to 10 s	304 A
Active power loss at AC-3 at 400 V for rated value of the operating current per conductor	3.8 W
No-load switching frequency	
<ul style="list-style-type: none"> • with AC 	5 000 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 	<p>1 000 1/h</p> <p>750 1/h</p> <p>750 1/h</p> <p>250 1/h</p>

Control circuit/ Control:

Type of voltage of the control supply voltage	AC
Control supply voltage with AC	
<ul style="list-style-type: none"> • at 50 Hz Rated value 	230 V
Operating range factor control supply voltage rated value of the magnet coil with AC	
<ul style="list-style-type: none"> • at 50 Hz 	0.8 ... 1.1
Apparent pick-up power of the magnet coil with AC	
<ul style="list-style-type: none"> • at 50 Hz 	77 V·A
Inductive power factor with closing power of the coil	
<ul style="list-style-type: none"> • at 50 Hz 	0.82
Apparent holding power of the magnet coil with AC	
<ul style="list-style-type: none"> • at 50 Hz 	9.8 V·A
Inductive power factor with the holding power of the coil	
<ul style="list-style-type: none"> • at 50 Hz 	0.25
Closing delay	
<ul style="list-style-type: none"> • with AC 	8 ... 40 ms
Arcing time	10 ... 10 ms
Residual current of the electronics for control with signal <0>	
<ul style="list-style-type: none"> • with AC at 230 V maximum permissible • for DC at 24 V maximum permissible 	<p>7 mA</p> <p>16 mA</p>

Auxiliary circuit:

Number of NC contacts	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — instantaneous contact 	1
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	
• 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 the 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	34 A
• at 600 V Rated value	27 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V Rated value	3 hp
— at 230 V Rated value	5 hp
• for three-phase AC motor	
— at 200/208 V Rated value	10 hp
— at 220/230 V Rated value	10 hp
— at 460/480 V Rated value	25 hp
— at 575/600 V Rated value	25 hp
Contact rating of the auxiliary contacts acc. to UL	A600 / Q600

Short-circuit:

Design of the fuse link	
• for short-circuit protection of the main circuit	
— with type of assignment 1 required	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 100 A

- with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 A
fuse gL/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
<ul style="list-style-type: none"> • Side-by-side mounting 	Yes
Height	85 mm
Width	45 mm
Depth	97 mm
Required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side 	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 6 mm 0 mm 0 mm 0 mm 0 mm 0 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-section	
<ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded with core end processing • for AWG conductors for main contacts 	2x (1 ... 2,5 mm ²), 2x (2,5 ... 10 mm ²) 2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ² 2x (16 ... 12), 2x (14 ... 8)
Type of connectable conductor cross-section	

- for auxiliary contacts
 - single or multi-stranded
 - finely stranded with core end processing
- for AWG conductors for auxiliary contacts


2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²)
 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
 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
T1 value for proof test interval or service life acc. to IEC 61508	20 y

Certificates/ approvals:

General Product Approval	EMC	Functional Safety/Safety of Machinery
 CCC	 CSA	 UL
 EAC		 C-TICK
Type Examination		

Declaration of Conformity	Test Certificates	Shipping Approval
 EG-Konf.	Type Test Certificates/Test Report Special Test Certificate	 ABS
		 BUREAU VERITAS
		 DNV

Shipping Approval	other
 GL	 LRS
 PRS	 RINA
	 RMRS
Confirmation	

other
Environmental Confirmations  VDE

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<http://www.siemens.com/industrymall>

Cax online generator

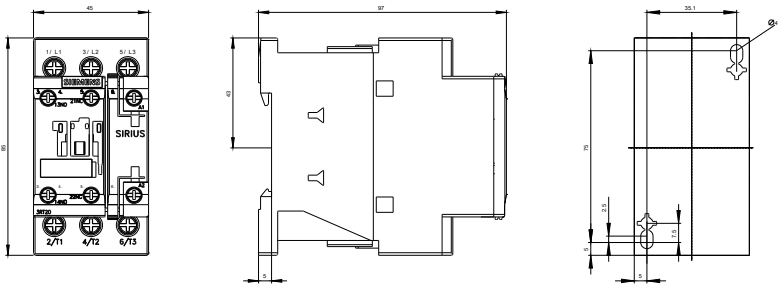
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RT20281AP00>

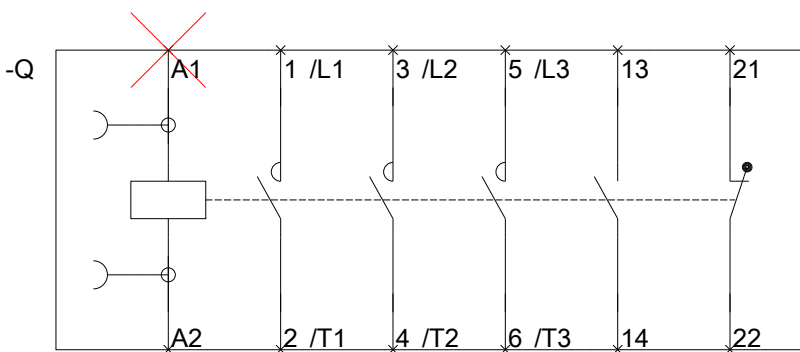
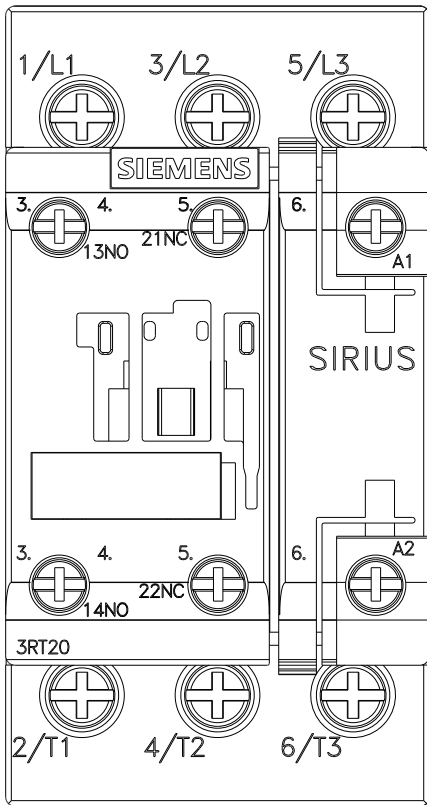
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RT20281AP00>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RT20281AP00&lang=en





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