

CONTACTOR, AC-3, 4KW/400V, 1NO+1NC, DC 24V, 3-POLE, SZ
S0 SPRING-LOADED TERMINAL



product brand name	SIRIUS
Product designation	3RT2 contactor
General technical data	
Size of contactor	S0
Product extension	
• function module for communication	No
• Auxiliary switch	Yes
Insulation voltage	
• rated value	690 V
Degree of pollution	3
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	

<ul style="list-style-type: none"> — at DC • with sine pulse — at DC 	<p>10g / 5 ms, 7,5g / 10 ms</p> <p>15g / 5 ms, 10g / 10 ms</p>
Mechanical service life (switching cycles) <ul style="list-style-type: none"> • of contactor typical • of the contactor with added electronics-compatible auxiliary switch block typical • of the contactor with added auxiliary switch block typical 	<p>10 000 000</p> <p>5 000 000</p> <p>10 000 000</p>

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

Main circuit	
Number of poles for main current circuit	3
Number of NO contacts for main contacts	3
Number of NC contacts for main contacts	0
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 • at AC-1 <ul style="list-style-type: none"> — up to 690 V at ambient temperature 40 °C rated value — up to 690 V at ambient temperature 60 °C rated value • at AC-2 at 400 V rated value • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value 	<p>40 A</p> <p>40 A</p> <p>35 A</p> <p>9 A</p> <p>9 A</p> <p>9 A</p> <p>9 A</p> <p>9 A</p> <p>9 A</p>
Connectable conductor cross-section in main circuit at AC-1	
<ul style="list-style-type: none"> • at 60 °C minimum permissible • at 40 °C minimum permissible 	<p>10 mm²</p> <p>10 mm²</p>
Operating current for approx. 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> • at 400 V rated value • at 690 V rated value 	<p>4.1 A</p> <p>3.3 A</p>

Operating current	
<ul style="list-style-type: none"> • at 1 current path at DC-1 <ul style="list-style-type: none"> — 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 • with 2 current paths in series at DC-1 <ul style="list-style-type: none"> — 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 • with 3 current paths in series at DC-1 <ul style="list-style-type: none"> — 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 	<p>35 A</p> <p>4.5 A</p> <p>1 A</p> <p>0.4 A</p> <p>0.25 A</p> <p>35 A</p> <p>35 A</p> <p>5 A</p> <p>1 A</p> <p>0.8 A</p> <p>35 A</p> <p>35 A</p> <p>35 A</p> <p>2.9 A</p> <p>1.4 A</p>
Operating current	
<ul style="list-style-type: none"> • at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> — 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 • with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 110 V rated value — at 220 V rated value — at 24 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 110 V rated value — at 220 V rated value — at 24 V rated value — at 440 V rated value — at 600 V rated value 	<p>20 A</p> <p>2.5 A</p> <p>1 A</p> <p>0.09 A</p> <p>0.06 A</p> <p>15 A</p> <p>3 A</p> <p>35 A</p> <p>0.27 A</p> <p>0.16 A</p> <p>35 A</p> <p>10 A</p> <p>35 A</p> <p>0.6 A</p> <p>0.6 A</p>
Operating power	
<ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — at 230 V rated value 	<p>13.3 kW</p>

— at 230 V at 60 °C rated value	13.3 kW
— at 400 V rated value	23 kW
— at 400 V at 60 °C rated value	23 kW
— at 690 V rated value	40 kW
— at 690 V at 60 °C rated value	40 kW
• at AC-2 at 400 V rated value	4 kW
• at AC-3	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 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 kW
• at 690 V rated value	2.5 kW
Thermal short-time current limited to 10 s	80 A
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor	0.4 W
No-load switching frequency	
• at DC	1 500 1/h
Operating frequency	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	1 000 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	DC
Control supply voltage at DC	
• rated value	24 V
Operating range factor control supply voltage rated value of magnet coil at DC	0.8 ... 1.1
Closing power of magnet coil at DC	5.9 W
Holding power of magnet coil at DC	5.9 W
Closing delay	
• at DC	50 ... 170 ms
Opening delay	
• at DC	15 ... 17.5 ms
Arcing time	10 ... 10 ms
Residual current of the electronics for control with signal <0>	
• at AC at 230 V maximum permissible	6 mA
• at DC at 24 V maximum permissible	16 mA

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	
<ul style="list-style-type: none"> • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value 	10 A 3 A 2 A 1 A
Operating current at DC-12	
<ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
Operating current at DC-13	
<ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	10 A 2 A 2 A 1 A 0.9 A 0.3 A 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 • at 600 V rated value 	7.6 A 9 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 • 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 	1 hp 1 hp 2 hp 3 hp 5 hp

— at 575/600 V rated value	7.5 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 	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 63 A gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25 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 <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 50022 Yes
Height	102 mm
Width	45 mm
Depth	107 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 6 mm 0 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 	spring-loaded terminals

<ul style="list-style-type: none"> • for auxiliary and control current circuit 	spring-loaded 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 — finely stranded without core end processing • at AWG conductors for main contacts 	2x (1 ... 10 mm ²) 2x (1 ... 10 mm ²) 2x (1 ... 6 mm ²) 2x (1 ... 6 mm ²) 2x (18 ... 8)
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 — finely stranded without core end processing • at AWG conductors for auxiliary contacts 	2x (0,5 ... 2,5 mm ²) 2x (0.5 ... 1.5 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (20 ... 14)

Safety related data

B10 value <ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 	1 000 000
Proportion of dangerous failures <ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 	40 % 73 %
Failure rate [FIT] <ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 	100 FIT
Product function <ul style="list-style-type: none"> • 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
--------------------------	-----



[KTL](#)



Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Shipping Approval
---------------------------------------	---------------------------	-------------------	-------------------

[Baumusterbescheinigung](#)



[Typprüfbescheinigung/Werkzeugnis](#)

[spezielle Prüfbescheinigung](#)



Shipping Approval



other

[Umweltbestätigung](#)

[Bestätigungen](#)



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=3RT2023-2BB40>

Cax online generator

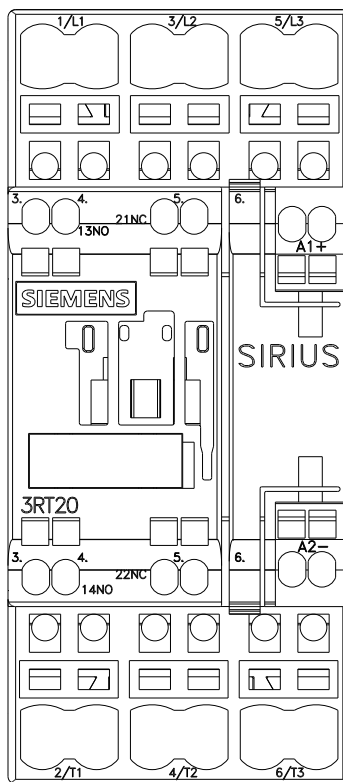
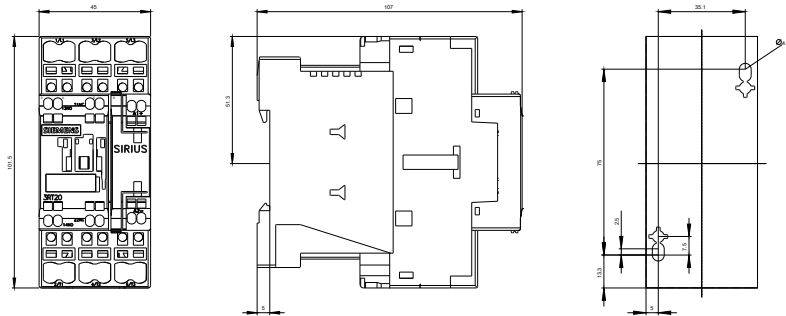
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2023-2BB40>

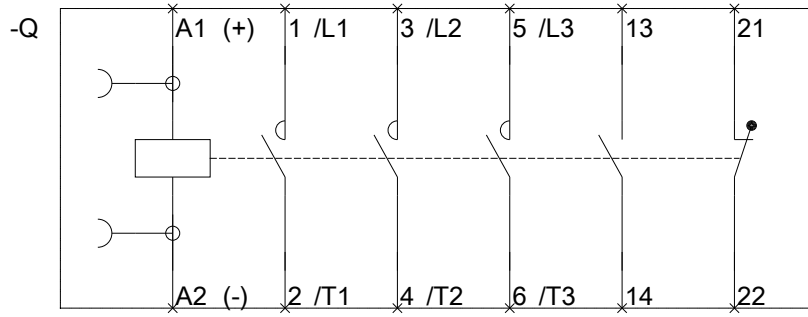
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-2BB40>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2023-2BB40&lang=en





last modified:

10/07/2016