



CONTACTOR, AC-3, 18.5KW/400V, 1NO+1NC, AC 110V 50HZ, 120V 60HZ 3-POLE, SZ S0 SCREW TERMINAL

product brand name	SIRIUS
Product designation	3RT2 contactor
General technical data:	
Size of contactor	S0
Product expansion	No
<ul style="list-style-type: none"> function module for communication Auxiliary switch 	Yes
Insulation voltage	690 V
<ul style="list-style-type: none"> 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	IP20
<ul style="list-style-type: none"> on the front of the terminal 	IP20
Degree of pollution	3
Shock resistance	
<ul style="list-style-type: none"> at rectangular impulse <ul style="list-style-type: none"> at AC with sine pulse <ul style="list-style-type: none"> at AC 	8,3g / 5 ms, 5,3g / 10 ms
	13,5g / 5 ms, 8,3g / 10 ms
Mechanical service life (switching cycles)	
<ul style="list-style-type: none"> of the contactor typical of the contactor with added electronics-compatible auxiliary switch block typical 	10 000 000
	5 000 000

• of the contactor with added auxiliary switch block typical	10 000 000
--	------------

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 NO contacts for main contacts	3
Number of NC contacts for main contacts	0
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	50 A
• at AC-1 up to 690 V	
— at ambient temperature 40 °C Rated value	50 A
— at ambient temperature 60 °C Rated value	42 A
• at AC-2 at 400 V Rated value	38 A
• at AC-3	
— at 400 V Rated value	38 A
— at 500 V Rated value	32 A
— at 690 V Rated value	21 A
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	10 mm ²
• at 40 °C minimum permissible	10 mm ²
Operating current for ≥ 200000 operating cycles at AC-4	
• at 400 V Rated value	12 A
• at 690 V Rated value	12 A
Operating current	
• with 1 current path at DC-1	
— at 24 V Rated value	35 A
— at 110 V Rated value	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 Rated value	16 kW
— at 230 V at 60 °C Rated value	15.5 kW
— at 400 V Rated value	28 kW
— at 400 V at 60 °C Rated value	27.5 kW
— at 690 V Rated value	48 kW
— at 690 V at 60 °C Rated value	47.5 kW
• at AC-2 at 400 V Rated value	18.5 kW
• at AC-3	
— at 230 V Rated value	11 kW
— at 400 V Rated value	18.5 kW
— at 690 V Rated value	18.5 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"> • at 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 at AC	
<ul style="list-style-type: none"> • at 50 Hz Rated value • at 60 Hz Rated value 	<p>110 V</p> <p>120 V</p>
Operating range factor control supply voltage rated value of the magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	<p>0.8 ... 1.1</p> <p>0.85 ... 1.1</p>
Apparent pick-up power of the magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	<p>81 V·A</p> <p>79 V·A</p>
Inductive power factor with closing power of the coil	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	<p>0.72</p> <p>0.74</p>
Apparent holding power of the magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	<p>10.5 V·A</p> <p>8.5 V·A</p>
Inductive power factor with the holding power of the coil	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	<p>0.25</p> <p>0.28</p>
Closing delay	
<ul style="list-style-type: none"> • at AC 	8 ... 40 ms
Opening delay	
<ul style="list-style-type: none"> • at AC 	4 ... 16 ms
Arcing time	10 ... 10 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

7 mA
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 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	
<ul style="list-style-type: none"> • at 480 V Rated value • at 600 V Rated value 	34 A 27 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 	3 hp 5 hp

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

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 100 A
 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

- Side-by-side mounting

Yes

Height

85 mm

Width

45 mm

Depth

97 mm

Required spacing

- with side-by-side mounting
 - forwards
 - Backwards
 - upwards
 - downwards
 - at the side
- for grounded parts
 - forwards
 - Backwards
 - upwards
 - at the side
 - downwards
- for live parts
 - 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 	<p>screw-type terminals</p> <p>screw-type terminals</p>
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 	<p>2x (1 ... 2,5 mm²), 2x (2,5 ... 10 mm²)</p> <p>2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²</p> <p>2x (16 ... 12), 2x (14 ... 8)</p>
Type of connectable conductor cross-section <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 • for AWG conductors for auxiliary contacts 	<p>2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²)</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (20 ... 16), 2x (18 ... 14)</p>

Safety related data:

B10 value 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 	<p>40 %</p> <p>73 %</p>
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	Functional Safety/Safety of Machinery	Declaration of Conformity
--------------------------	-----	---------------------------------------	---------------------------



[Baumusterbescheinigung](#)



Test Certificates	Shipping Approval
-------------------	-------------------

[Typprüfbescheinigung/Werkszeugnis](#)

[spezielle Prüfbescheinigungen](#)



Shipping Approval	other
-------------------	-------



[Umweltbestätigung](#)

[Bestätigungen](#)

other



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

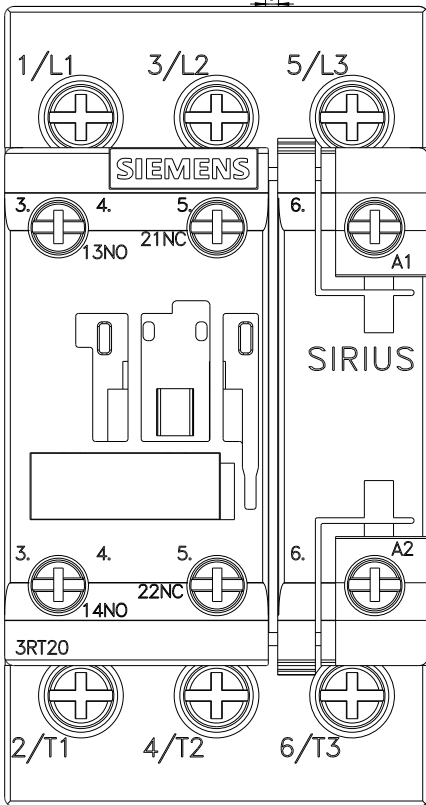
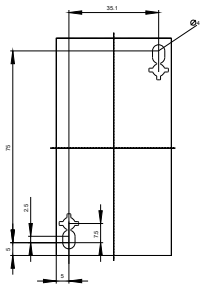
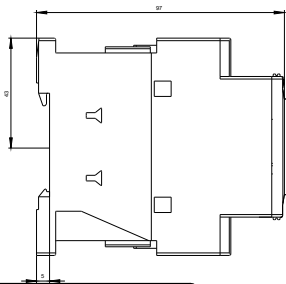
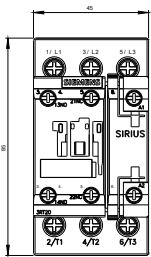
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RT20281AK60>

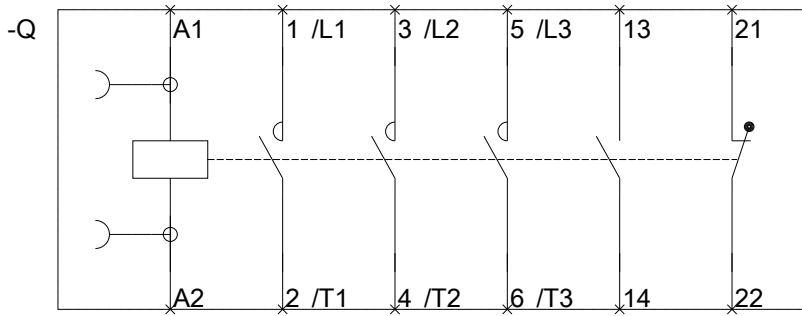
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RT20281AK60>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RT20281AK60&lang=en





last modified:

29.06.2015