SIEMENS

Data sheet 3RT2016-2AB02



power contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 24 V AC, 50/60 Hz, auxiliary contacts: 1 NC, spring-loaded terminal, size: S00

product obsignation Power contactor product type designation SRT2 Size of contactor S00 Fround textension • function module for communication • auxiliary switch • at AC in hot operating state • at AC in hot operating state per pole • at AC in hot operating state per pole • at AC in hot operating state per pole • at AC in hot operating state per pole • of auxiliary orbital with degree of pollution 3 rated value • of main circuit with degree of pollution 3 rated value • of main circuit rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 4 rated value • of auxiliary circuit rated value • of with a contactor with sine pulse • at AC • of the contactor with sine pulse • at AC • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) • during operation • during operation • during operation • during storage • elative humidity at 55 °C according to IEC 60068-2-30 maximum First with the contactor with added electronically to IEC 60068-2-30 maximum First with the contactor with added electronically to IEC 60068-2-30 maximum	product brand name	SIRIUS
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relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30	 during operation 	-25 +60 °C
relative humidity at 55 °C according to IEC 60068-2-30 95 % maximum	during storage	-55 +80 °C
maximum	relative humidity minimum	10 %
Environmental footprint		95 %
	Environmental footprint	

Environmental Product Declaration(EPD)	Yes
Global Warming Potential [CO2 eq] total	39.6 kg
Global Warming Potential [CO2 eq] total Global Warming Potential [CO2 eq] during manufacturing	1.18 kg
Global Warming Potential [CO2 eq] during manufacturing Global Warming Potential [CO2 eq] during operation	38.5 kg
Global Warming Potential [CO2 eq] after end of life	-0.155 kg
Main circuit	0.100 kg
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	·
at AC-3 rated value maximum	690 V
at AC-3e rated value maximum	690 V
operational current	
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	22 A
• at AC-1	
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	22 A
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	20 A
• at AC-3	
— at 400 V rated value	9 A
— at 500 V rated value	7.7 A
— at 690 V rated value	6.7 A
• at AC-3e	9 A
— at 400 V rated value	7.7 A
— at 500 V rated value — at 690 V rated value	6.7 A
at AC-4 at 400 V rated value	8.5 A
at AC-5a up to 690 V rated value	19.4 A
at AC-5b up to 400 V rated value	7.4 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	5.3 A
— up to 400 V for current peak value n=20 rated value	5.3 A
— up to 500 V for current peak value n=20 rated value	5.3 A
— up to 690 V for current peak value n=20 rated value	5 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	3.5 A
— up to 400 V for current peak value n=30 rated value	3.5 A
 up to 500 V for current peak value n=30 rated value 	3.6 A
— up to 690 V for current peak value n=30 rated value	3.3 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	4.1 A
at 690 V rated value	3.3 A
operational current	
• at 1 current path at DC-1	20.4
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value — at 220 V rated value	2.1 A 0.8 A
— at 440 V rated value	0.6 A
— at 440 V rated value — at 600 V rated value	0.6 A
with 2 current paths in series at DC-1	0.071
— at 24 V rated value	20 A
— at 60 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
— at 600 V rated value	0.7 A
• with 3 current paths in series at DC-1	
<u> </u>	

— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	20 A
— at 440 V rated value	1.3 A
— at 600 V rated value	1 A
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 60 V rated value	0.5 A
— at 110 V rated value	0.15 A
with 2 current paths in series at DC-3 at DC-5	0.13 A
•	20. 4
— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 110 V rated value	0.35 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
operating power	
• at AC-3	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	5.5 kW
• at AC-3e	0.0 101
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	5.5 kW
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	2 kW
at 690 V rated value	2.5 kW
operating apparent power at AC-6a	Z.J RVV
up to 230 V for current peak value n=20 rated value	2 kVA
·	
• up to 400 V for current peak value n=20 rated value	3.6 kVA
up to 500 V for current peak value n=20 rated value	4.6 kVA
up to 690 V for current peak value n=20 rated value	5.9 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	1.3 kVA
 up to 400 V for current peak value n=30 rated value 	2.4 kVA
 up to 500 V for current peak value n=30 rated value 	3.1 kVA
up to 690 V for current peak value n=30 rated value	4 kVA
short-time withstand current in cold operating state up to	
40 °C	455 4 11 11 11 11 11 11 11 11 11 11 11 11 1
limited to 1 s switching at zero current maximum	155 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	111 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	86 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	66 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 60 s switching at zero current maximum	55 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	10 000 1/h
operating frequency	
operating in equation	
• at AC-1 maximum	1 000 1/h
	1 000 1/h 750 1/h
at AC-1 maximum	
at AC-1 maximum at AC-2 maximum	750 1/h
 at AC-1 maximum at AC-2 maximum at AC-3 maximum 	750 1/h 750 1/h

Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 Hz rated value	24 V
• at 60 Hz rated value	24 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	
• at 50 Hz	27 VA
• at 60 Hz	24.3 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.75
apparent holding power of magnet coil at AC	40.1/4
at 50 Hzat 60 Hz	4.2 VA 3.3 VA
	J.J VA
inductive power factor with the holding power of the coil • at 50 Hz	0.25
• at 50 Hz	0.25
closing delay	0.20
• at AC	9 35 ms
opening delay	V VO 110
• at AC	4 15 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous	1
contact	40.0
operational current at AC-12 maximum	10 A
operational current at AC-15	40.0
at 230 V rated value	10 A
at 400 V rated value at 500 V rated value	3 A
at 500 V rated value at 600 V rated value	2 A
at 690 V rated value Operational current at DC 12	1 A
operational current at DC-12 • at 24 V rated value	10 A
at 24 V rated value at 48 V rated value	6 A
at 40 V rated value at 60 V rated value	6 A
at 110 V rated value	3 A
at 110 V rated value at 125 V rated value	2 A
at 220 V rated value at 220 V rated value	1A
at 600 V rated value	0.15 A
operational 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	1A
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)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	7.6 A
• at 600 V rated value	9 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	0.33 hp
— at 230 V rated value	1 hp

• for 3-phase AC motor	
— at 200/208 V rated value	2 hp
 at 220/230 V rated value 	3 hp
— at 460/480 V rated value	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	
 for short-circuit protection of the main circuit 	
 — with type of coordination 1 required 	gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
 — with type of assignment 2 required 	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)
for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
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
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	70 mm
width	45 mm
depth	73 mm
required spacing	
• with side-by-side mounting	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
 for grounded parts 	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
• for live parts	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	spring-loaded terminals
 for auxiliary and control circuit 	spring-loaded terminals
at contactor for auxiliary contacts	Spring-type terminals
of magnet coil	Spring-type terminals
type of connectable conductor cross-sections	
• for main contacts	0 (0.5 4 3)
— solid	2x (0.5 4 mm²)
— solid or stranded	2x (0,5 4 mm²)
— finely stranded with core end processing	2x (0.5 2.5 mm²)
— finely stranded without core end processing	2x (0.5 2.5 mm²)
for AWG cables for main contacts	2x (20 12)
connectable conductor cross-section for main contacts	0.5 4 mm²
• solid	0.5 4 mm ²
stranded finely stranded with core and processing	0.5 4 mm ²
finely stranded with core end processing finely stranded without core and processing	0.5 2.5 mm ²
finely stranded without core end processing connectable conductor cross section for auxiliary contacts.	0.5 2.5 mm ²
connectable conductor cross-section for auxiliary contacts	0.5 4 mm ²
solid or stranded finely stranded with core and processing	0.5 4 mm ²
finely stranded with core end processing finely stranded without core end processing	0.5 2.5 mm ²
finely stranded without core end processing type of connectable conductor cross-sections	0.5 2.5 mm ²
type of connectable conductor cross-sections	
for auxiliary contacts colid or stranded.	2v (0.5 4 mm²)
— solid or stranded— finely stranded with core end processing	2x (0,5 4 mm²) 2x (0.5 2.5 mm²)
— illiely straitued with core end processing	د (۵.۵ ۲.۵ IIIII)

 finely stranded without core end processing 	2x (0.5 2.5 mm²)
for AWG cables for auxiliary contacts	2x (20 12)
AWG number as coded connectable conductor cross section	
• for main contacts	20 12
 for auxiliary contacts 	20 12
Safety related data	
product function	
 mirror contact according to IEC 60947-4-1 	Yes
 positively driven operation according to IEC 60947-5-1 	No
suitable for safety function	Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
 with low demand rate according to SN 31920 	40 %
with high demand rate according to SN 31920	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
T1 value	
 for proof test interval or service life according to IEC 61508 	20 a
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Approvals Certificates	

General Product Approval





Confirmation





<u>KC</u>

General Product Approval

EMV

Functional Saftey

Test Certificates

Marine / Shipping





Type Examination Certificate Special Test Certificate

Type Test Certificates/Test Report



Marine / Shipping



Confirmation



Confirmation







Miscellaneous

other

other

Special Test Certificate

Railway



Environment

Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2016-2AB02

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-2AB02

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

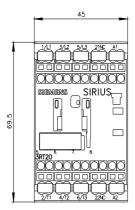
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-2AB02&lang=en

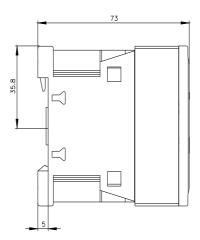
Characteristic: Tripping characteristics, I2t, Let-through current

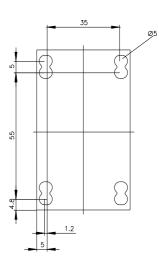
https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2AB02/char

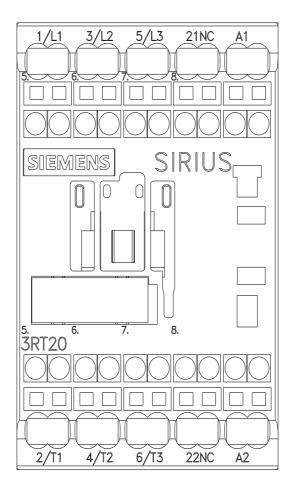
Further characteristics (e.g. electrical endurance, switching frequency)

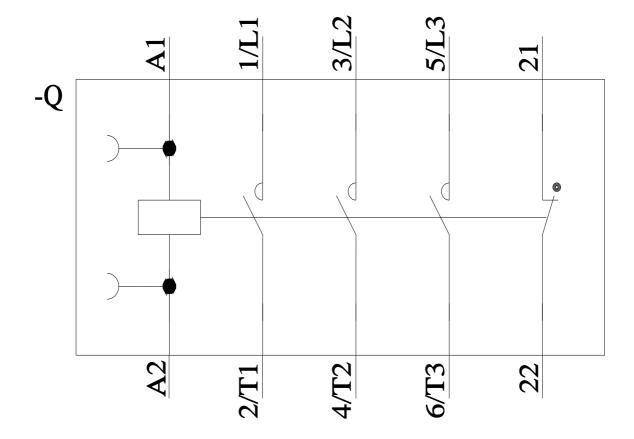
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2016-2AB02&objecttype=14&gridview=view1











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