

power contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 400 V AC, 50 Hz / 400-440 V, 60 Hz, auxiliary contacts: 1 NO, ring cable lug connection, size: S00

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S00
product extension	
• function module for communication	No
• auxiliary switch	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	0.9 W
• at AC in hot operating state per pole	0.3 W
• without load current share typical	1.2 W
type of calculation of power loss current-dependent	quadratic
insulation voltage	
• of main circuit with degree of pollution 3 rated value	690 V
• of auxiliary circuit with degree of pollution 3 rated value	690 V
surge voltage resistance	
• of main circuit rated value	6 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	6,7 g / 5 ms, 4,2 g / 10 ms
shock resistance with sine pulse	
• at AC	10,5 g / 5 ms, 6,6 g / 10 ms
mechanical service life (operating cycles)	
• of contactor typical	30 000 000
• of the contactor with added electronically optimized auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (day/month/year)	10/01/2009
Net Weight	0.225 kg
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
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
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	
• 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	22 A

value	
<ul style="list-style-type: none"> ● at AC-1 <ul style="list-style-type: none"> — 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-3 <ul style="list-style-type: none"> — 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 <ul style="list-style-type: none"> — 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-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 <ul style="list-style-type: none"> — 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 <ul style="list-style-type: none"> — 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 mm ²
operational current for approx. 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> ● at 400 V rated value 4.1 A ● at 690 V rated value 3.3 A 	
operational 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 20 A — at 60 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 — at 600 V rated value 0.6 A ● with 2 current paths in series at DC-1 <ul style="list-style-type: none"> — 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 <ul style="list-style-type: none"> — 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 <ul style="list-style-type: none"> — 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 	

<ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value ● with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	20 A 5 A 0.35 A 20 A 20 A 20 A 1.5 A 0.2 A 0.2 A
operating power <ul style="list-style-type: none"> ● at AC-3 <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 ● at AC-3e <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 	2.2 kW 4 kW 4 kW 5.5 kW 2.2 kW 4 kW 4 kW 5.5 kW
operating power for approx. 200000 operating cycles at AC-4 <ul style="list-style-type: none"> ● at 400 V rated value ● at 690 V rated value 	2 kW 2.5 kW
operating apparent power at AC-6a <ul style="list-style-type: none"> ● up to 230 V for current peak value n=20 rated value ● up to 400 V for current peak value n=20 rated value ● up to 500 V for current peak value n=20 rated value ● up to 690 V for current peak value n=20 rated value 	2 kVA 3.6 kVA 4.6 kVA 5.9 kVA
operating apparent power at AC-6a <ul style="list-style-type: none"> ● up to 230 V for current peak value n=30 rated value ● up to 400 V for current peak value n=30 rated value ● up to 500 V for current peak value n=30 rated value ● up to 690 V for current peak value n=30 rated value 	1.3 kVA 2.4 kVA 3.1 kVA 4 kVA
short-time withstand current in cold operating state up to 40 °C <ul style="list-style-type: none"> ● limited to 1 s switching at zero current maximum ● limited to 5 s switching at zero current maximum ● limited to 10 s switching at zero current maximum ● limited to 30 s switching at zero current maximum ● limited to 60 s switching at zero current maximum 	155 A; Use minimum cross-section acc. to AC-1 rated value 111 A; Use minimum cross-section acc. to AC-1 rated value 86 A; Use minimum cross-section acc. to AC-1 rated value 66 A; Use minimum cross-section acc. to AC-1 rated value 55 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency <ul style="list-style-type: none"> ● at AC 	10 000 1/h
operating frequency <ul style="list-style-type: none"> ● at AC-1 maximum ● at AC-2 maximum ● at AC-3 maximum ● at AC-3e <ul style="list-style-type: none"> — maximum ● at AC-4 maximum 	1 000 1/h 750 1/h 750 1/h 750 1/h 250 1/h
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 	400 V 440 V
operating range factor control supply voltage rated value of magnet coil at AC <ul style="list-style-type: none"> ● at 50 Hz ● at 60 Hz 	0.8 ... 1.1 0.85 ... 1.1

apparent pick-up power of magnet coil at AC	
• at 50 Hz	26.4 VA
• at 60 Hz	31.7 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.81
• at 60 Hz	0.81
apparent holding power of magnet coil at AC	
• at 50 Hz	4.4 VA
• at 60 Hz	4.8 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.24
• at 60 Hz	0.25
closing delay	
• at AC	9 ... 35 ms
opening delay	
• 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 contact	0
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational 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
operational 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
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	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 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 miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
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 coordination 2 required ● for short-circuit protection of the auxiliary switch required 	gG: 35 A (690 V, 100 kA), aM: 20 A (690 V, 100 kA), BS88: 35 A (415 V, 80 kA) gG: 20 A (690 V, 100 kA), aM: 16 A (690 V, 100 kA), BS88: 20 A (415 V, 80 kA) 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 side-by-side mounting	Yes
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	58 mm
width	45 mm
depth	73 mm
required spacing	
<ul style="list-style-type: none"> ● with side-by-side mounting <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side ● for grounded parts <ul style="list-style-type: none"> — forwards — upwards — at the side — downwards ● for live parts <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side 	10 mm 10 mm 10 mm 0 mm 10 mm 10 mm 6 mm 10 mm 10 mm 10 mm 10 mm 6 mm
Connections/ Terminals	
type of electrical connection	
<ul style="list-style-type: none"> ● for main current circuit ● for auxiliary and control circuit ● at contactor for auxiliary contacts ● of magnet coil 	Ring cable lug connection ring terminal lug connection Ring cable lug connection Ring cable lug connection
Safety related data	
product function	
<ul style="list-style-type: none"> ● mirror contact according to IEC 60947-4-1 ● positively driven operation according to IEC 60947-5-1 ● suitable for safety function 	Yes; with 3RH29 No 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	
<ul style="list-style-type: none"> ● with low demand rate according to SN 31920 ● with high demand rate according to SN 31920 	40 % 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
Electrical Safety	
protection class IP on the front according to IEC 60529	IP00

Approvals Certificates

Environmental Product Declaration

- | | |
|--|-----------|
| • global warming potential [CO2 eq] / during manufacturing | 1.18 kg |
| • global warming potential [CO2 eq] / during operation | 38.5 kg |
| • global warming potential [CO2 eq] / after end of life | -0.155 kg |
| • global warming potential [CO2 eq] / total | 39.6 kg |

Environment

General Product Approval

[Environmental Confirmations](#)



General Product Approval

EMV

Test Certificates



[Special Test Certificate](#)

Test Certificates

Maritime application

[Type Test Certificates/Test Report](#)



Maritime application

other



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Railway

[Special Test Certificate](#)

Further information

Information on the packaging

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

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2016-4AR61>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-4AR61>

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

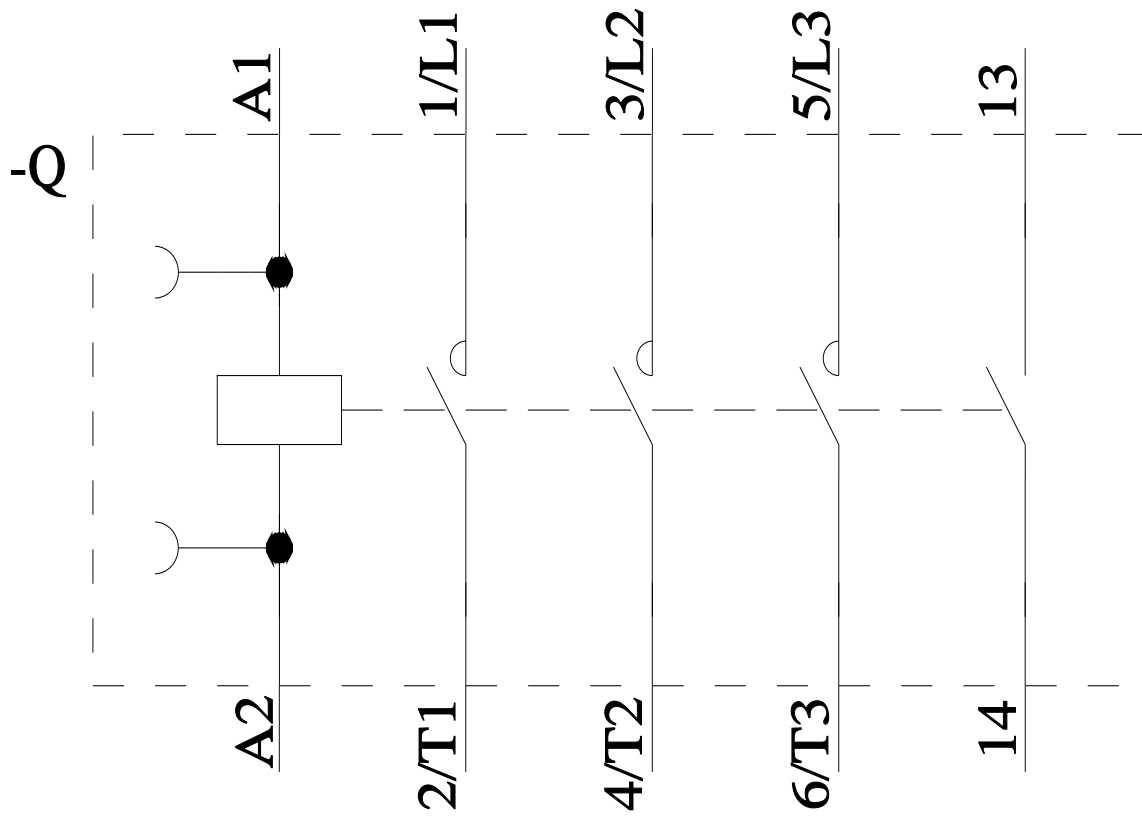
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Characteristic curves

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