



power contactor, AC-3 80 A, 37 kW / 400 V 1 NO + 1 NC, 230 V AC/50 Hz
3-pole, 3 NO, Size S3 screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S3
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	15.9 W
• per pole	5.3 W
power loss [W] for rated value of the current without load current share typical	19 W
surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	6.7 g / 5 ms, 4.0 g / 10 ms
shock resistance with sine pulse	
• at AC	10.6 g / 5 ms, 6.3 g / 10 ms
mechanical service life (operating cycles)	
• of contactor typical	10 000 000
• 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 acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.03.2017 00:00:00
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 poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage at AC-3 rated value maximum	1 000 V

operational current <ul style="list-style-type: none"> • at AC-1 at 400 V 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 — up to 1000 V at ambient temperature 40 °C rated value — up to 1000 V at ambient temperature 60 °C 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 — at 1000 V rated value • at AC-4 at 400 V rated value • at AC-5a up to 690 V rated value • at AC-5b up to 400 V rated value • 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 • 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 	125 A 125 A 105 A 60 A 50 A 80 A 80 A 58 A 30 A 66 A 110 A 80 A 80 A 80 A 80 A 58 A 54 A 54 A 54 A 54 A
minimum cross-section in main circuit at maximum AC-1 rated value	50 mm ²
operational 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 	 34 A 24 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 — 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 	 100 A 9 A 2 A 0.6 A 0.4 A 100 A 100 A 10 A 1.8 A 1 A 100 A 100 A 80 A 4.5 A

— at 600 V rated value	2.6 A
operational 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 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-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 	40 A 2.5 A 1 A 0.15 A 0.06 A 100 A 100 A 7 A 0.42 A 0.16 A 100 A 100 A 35 A 0.8 A 0.35 A
operating power	
<ul style="list-style-type: none"> at AC-2 at 400 V rated value 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 1000 V rated value 	37 kW 22 kW 37 kW 45 kW 55 kW 37 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 	17.9 kW 21.8 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 	31 kV·A 55 kV·A 69 kV·A 69 kV·A
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 	21.5 kV·A 37.4 kV·A 46.7 kV·A 64.5 kV·A
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 	1 500 A; Use minimum cross-section acc. to AC-1 rated value 1 186 A; Use minimum cross-section acc. to AC-1 rated value 851 A; Use minimum cross-section acc. to AC-1 rated value 538 A; Use minimum cross-section acc. to AC-1 rated value 423 A; Use minimum cross-section acc. to AC-1 rated value
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 	900 1/h 400 1/h 1 000 1/h 300 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 	230 V
operating range factor control supply voltage rated value of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz 	0.8 ... 1.1
apparent pick-up power of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz 	296 V·A
inductive power factor with closing power of the coil	
<ul style="list-style-type: none"> • at 50 Hz 	0.61
apparent holding power of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz 	19 V·A
inductive power factor with the holding power of the coil	
<ul style="list-style-type: none"> • at 50 Hz 	0.38
closing delay	
<ul style="list-style-type: none"> • at AC 	13 ... 50 ms
opening delay	
<ul style="list-style-type: none"> • at AC 	10 ... 21 ms
arcing time	10 ... 20 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	1
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
<ul style="list-style-type: none"> • at 230 V rated value 	6 A
<ul style="list-style-type: none"> • at 400 V rated value 	3 A
<ul style="list-style-type: none"> • at 500 V rated value 	2 A
<ul style="list-style-type: none"> • at 690 V rated value 	1 A
operational current at DC-12	
<ul style="list-style-type: none"> • at 24 V rated value 	10 A
<ul style="list-style-type: none"> • at 48 V rated value 	6 A
<ul style="list-style-type: none"> • at 60 V rated value 	6 A
<ul style="list-style-type: none"> • at 110 V rated value 	3 A
<ul style="list-style-type: none"> • at 125 V rated value 	2 A
<ul style="list-style-type: none"> • at 220 V rated value 	1 A
<ul style="list-style-type: none"> • at 600 V rated value 	0.15 A
operational current at DC-13	
<ul style="list-style-type: none"> • at 24 V rated value 	10 A
<ul style="list-style-type: none"> • at 48 V rated value 	2 A
<ul style="list-style-type: none"> • at 60 V rated value 	2 A
<ul style="list-style-type: none"> • at 110 V rated value 	1 A
<ul style="list-style-type: none"> • at 125 V rated value 	0.9 A
<ul style="list-style-type: none"> • at 220 V rated value 	0.3 A
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • at 480 V rated value 	77 A
<ul style="list-style-type: none"> • at 600 V rated value 	62 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 	7.5 hp 15 hp
<ul style="list-style-type: none"> • for 3-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 	25 hp 30 hp 60 hp

— at 575/600 V rated value	60 hp
contact rating of auxiliary contacts according to UL	A600 / P600
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 	gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA) gG: 160A (690V,100kA), aM: 80A (690V,100kA), BS88: 125A (415V,80kA) 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 standard mounting rail according to DIN EN 60715
<ul style="list-style-type: none"> side-by-side mounting 	Yes
height	140 mm
width	70 mm
depth	152 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 	20 mm 10 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm 20 mm 10 mm 10 mm 10 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 	screw-type terminals screw-type terminals Screw-type terminals Screw-type terminals
type of connectable conductor cross-sections <ul style="list-style-type: none"> for main contacts <ul style="list-style-type: none"> finely stranded with core end processing at AWG cables for main contacts 	2x (2.5 ... 35 mm²), 1x (2.5 ... 50 mm²) 2x (10 ... 1/0), 1x (10 ... 2)
connectable conductor cross-section for main contacts <ul style="list-style-type: none"> solid stranded finely stranded with core end processing 	2.5 ... 16 mm² 6 ... 70 mm² 2.5 ... 50 mm²
connectable conductor cross-section for auxiliary contacts <ul style="list-style-type: none"> solid or stranded finely stranded with core end processing 	0.5 ... 2.5 mm² 0.5 ... 2.5 mm²
type of connectable conductor cross-sections <ul style="list-style-type: none"> for auxiliary contacts <ul style="list-style-type: none"> solid or stranded finely stranded with core end processing at AWG cables 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)

AWG number as coded connectable conductor cross section	
• for main contacts	10 ... 2
• for auxiliary contacts	20 ... 14
Safety related data	
product function mirror contact acc. to IEC 60947-4-1	Yes
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 %
failure rate [FIT] with low demand rate acc. to SN 31920	100 FIT
product function positively driven operation acc. to IEC 60947-5-1	No
T1 value for proof test interval or service life acc. to IEC 61508	20 y
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front
suitability for use	
• safety-related switching on	Yes
• safety-related switching OFF	Yes
Certificates/ approvals	
General Product Approval	EMC



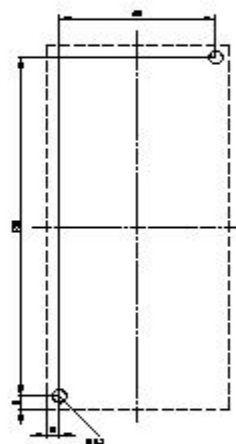
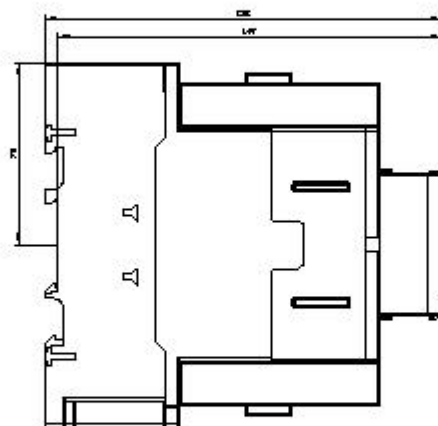
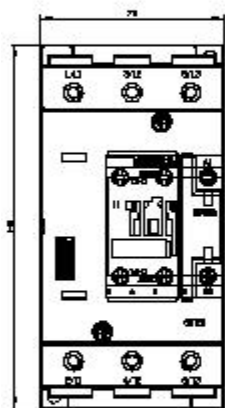
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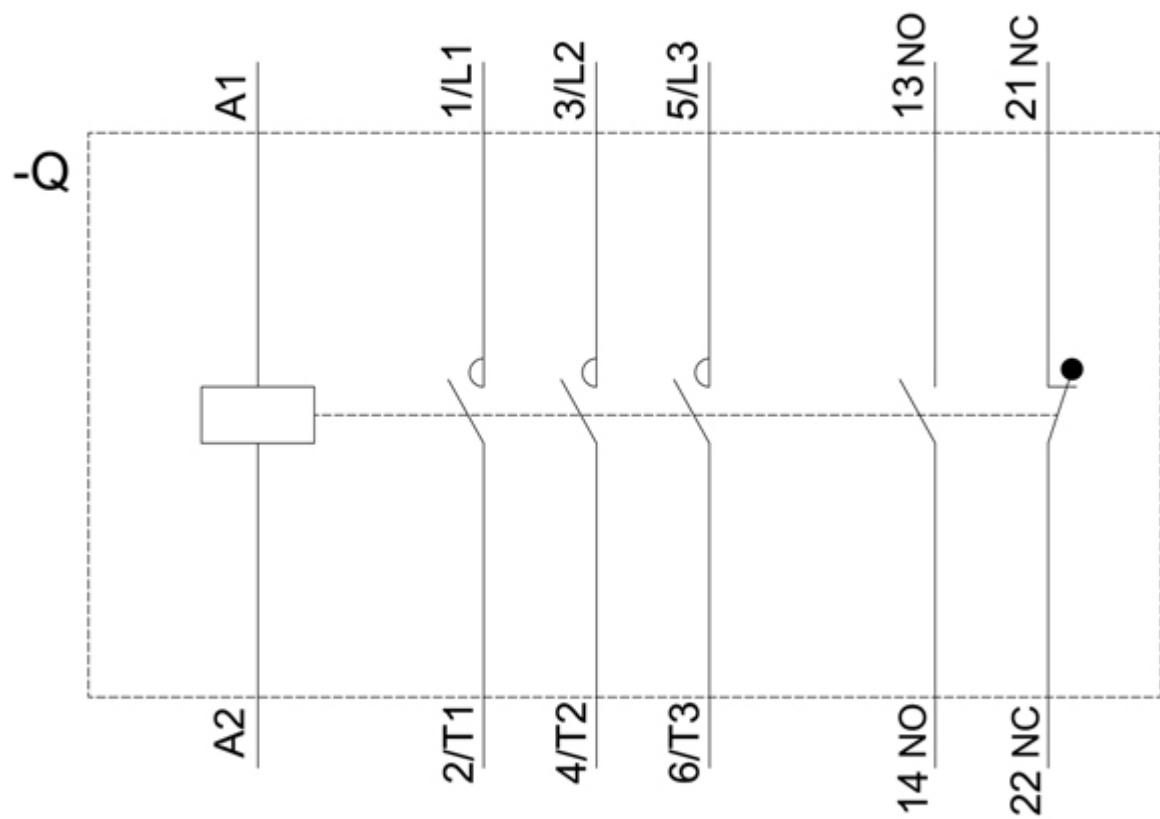


Declaration of Conformity	Test Certificates	Marine / Shipping
 EG-Konf.	Miscellaneous Type Test Certificates/Test Report Special Test Certificate	 ABS LRS

Marine / Shipping	other	Railway
 PRS RINA RMRS DNV-GL DNV GL CERTIFIED	Confirmation	Vibration and Shock

Further information
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