



contactor AC-1, 140 A, 400 V / 40 °C, 4-pole, 24 V AC, 50/60 Hz, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S3

product brand name	SIRIUS
product designation	Contactor
product type designation	3RT23
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	47.2 W
• at AC in hot operating state per pole	11.8 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
• of main circuit with degree of pollution 3 rated value	690 V
• of the auxiliary and control circuit with degree of pollution 3 rated value	690 V
surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
shock resistance at rectangular impulse	
• at AC	6.7 g / 5 ms, 4.0 g / 10 ms
• at DC	6.7 g / 5 ms, 4g / 10 ms
shock resistance with sine pulse	
• at AC	10.6 g / 5 ms, 6.3 g / 10 ms
• at DC	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 auxiliary switch block typical	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	09/01/2017
Weight	2.072 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 %
Environmental footprint	
Environmental Product Declaration(EPD)	Yes

global warming potential [CO2 eq] total	481 kg
global warming potential [CO2 eq] during manufacturing	9.57 kg
global warming potential [CO2 eq] during operation	473 kg
global warming potential [CO2 eq] after end of life	-1.54 kg
Main circuit	
number of poles for main current circuit	4
number of NO contacts for main contacts	4
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	140 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	140 A
— up to 690 V at ambient temperature 60 °C rated value	130 A
minimum cross-section in main circuit at maximum AC-1 rated value	50 mm ²
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	80 A
— at 60 V rated value	60 A
— at 110 V rated value	9 A
— at 220 V rated value	2 A
— at 440 V rated value	0.6 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	80 A
— at 60 V rated value	80 A
— at 110 V rated value	80 A
— at 220 V rated value	10 A
— at 440 V rated value	1.8 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	80 A
— at 60 V rated value	80 A
— at 110 V rated value	80 A
— at 220 V rated value	80 A
— at 440 V rated value	4.5 A
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 60 V rated value	6.5 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.15 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	80 A
— at 60 V rated value	80 A
— at 110 V rated value	80 A
— at 220 V rated value	7 A
— at 440 V rated value	0.42 A
• with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	80 A
— at 60 V rated value	80 A
— at 110 V rated value	80 A
— at 220 V rated value	35 A
— at 440 V rated value	0.8 A
no-load switching frequency	
• at AC	5 000 1/h
operating frequency at AC-1 maximum	1 000 1/s
Control circuit/ Control	
type of voltage	AC
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	348 VA
• at 60 Hz	296 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.62
• at 60 Hz	0.55
apparent holding power of magnet coil at AC	
• at 50 Hz	25 VA
• at 60 Hz	18 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.35
• at 60 Hz	0.41
closing delay	
• at AC	13 ... 50 ms
opening delay	
• 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	1
• attachable	2
• instantaneous contact	1
number of NO contacts for auxiliary contacts	1
• attachable	2
• instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
• at 230 V rated value	6 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 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	
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	
product function short circuit protection	No
design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required	gG: 10 A (230 V, 400 A)
design of the fuse link	
• for short-circuit protection of the main circuit — with type of coordination 1 required	gG: 250 A (690 V, 100 kA)

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

gR: 250 A (690 V, 100 kA)
gG: 10 A (690 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	140 mm
width	96 mm
depth	152 mm
required spacing	
• with side-by-side mounting	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
• for grounded parts	
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm

Connections/ Terminals

type of electrical connection	
• for main current circuit	screw-type terminals
• for auxiliary and control circuit	screw-type terminals
• at contactor for auxiliary contacts	Screw-type terminals
• of magnet coil	Screw-type terminals
type of connectable conductor cross-sections for main contacts	
• stranded	2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²)
• solid or stranded	2x (2.5 ... 16 mm ²), 2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²)
• finely stranded with core end processing	2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²)
connectable conductor cross-section for main contacts	
• solid	2.5 ... 16 mm ²
• solid or stranded	4 ... 70 mm ²
• stranded	6 ... 70 mm ²
• finely stranded with core end processing	2.5 ... 50 mm ²
connectable conductor cross-section for auxiliary contacts	
• solid or stranded	0.5 ... 2.5 mm ²
• finely stranded with core end processing	0.5 ... 2.5 mm ²
type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
— solid or stranded	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
• for AWG cables for auxiliary contacts	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 according to IEC 60947-4-1	Yes
• positively driven operation according to IEC 60947-5-1	No
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

Communication/ Protocol

product function bus communication

No

Approvals Certificates

General Product Approval



CCC



EG-Konf.

[Confirmation](#)

KC

General Product Approval

EMV

Test Certificates

Marine / Shipping

[Type Test Certificates/Test Report](#)

ABS



DNV



LRS

Marine / Shipping

other

Railway

Dangerous goods

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