



contactor AC-1, 110 A, 400 V / 40 °C, 4-pole, 20-33 V AC/DC, 50/60 Hz, with integrated varistor, 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	29.2 W
• at AC in hot operating state per pole	7.3 W
• without load current share typical	2.7 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
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 auxiliary switch block typical	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	09/01/2017
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 Melamine - 108-78-1
Weight	2.18 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	339 kg
global warming potential [CO2 eq] during manufacturing	11.3 kg
global warming potential [CO2 eq] during operation	329 kg
global warming potential [CO2 eq] after end of life	-1.8 kg
Main circuit	
number of poles for main current circuit	4
number of NO contacts for main contacts	4
type of voltage for main current circuit	AC
operational current	
at AC-1 at 400 V at ambient temperature 40 °C rated value	110 A
- at AC-1 - up to 690 V at ambient temperature 40 °C rated value - up to 690 V at ambient temperature 60 °C rated value	110 A 100 A
- at AC-3 - at 400 V rated value	38 A
minimum cross-section in main circuit at maximum AC-1 rated value	35 mm ²
operational current	
- at 1 current path at DC-1 - 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 - with 2 current paths in series at DC-1 - 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 - with 3 current paths in series at DC-1 - 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 1 current path at DC-3 at DC-5 - 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 - with 2 current paths in series at DC-3 at DC-5 - 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 - with 3 current paths in series at DC-3 at DC-5 - 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	70 A 23 A 4.5 A 1 A 0.4 A 70 A 70 A 70 A 70 A 5 A 1 A 70 A 70 A 70 A 70 A 2.9 A 20 A 6 A 2.5 A 1 A 0.15 A 70 A 70 A 70 A 7 A 0.42 A 70 A 70 A 70 A 35 A 0.8 A
no-load switching frequency	
- at AC - at DC	1 000 1/h 1 000 1/h

operating frequency at AC-1 maximum	650 1/h
Control circuit/ Control	
type of voltage	AC/DC
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
• at 50 Hz rated value	20 ... 33 V
• at 60 Hz rated value	20 ... 33 V
control supply voltage at DC rated value	20 ... 33 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.8
• full-scale value	1.1
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 ... 1.1
• at 60 Hz	0.8 ... 1.1
design of the surge suppressor	with varistor
inrush current peak	6.5 A
duration of inrush current peak	50 µs
locked-rotor current mean value	3.2 A
locked-rotor current peak	6.5 A
duration of locked-rotor current	150 ms
holding current mean value	75 mA
apparent pick-up power of magnet coil at AC	
• at 50 Hz	151 VA
• at 60 Hz	151 VA
apparent holding power of magnet coil at AC	
• at 50 Hz	3.5 VA
• at 60 Hz	3.5 VA
closing power of magnet coil at DC	76 W
holding power of magnet coil at DC	2.7 W
closing delay	
• at AC	50 ... 70 ms
• at DC	50 ... 70 ms
opening delay	
• at AC	38 ... 57 ms
• at DC	38 ... 57 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 • at 48 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 1 A 0.9 A 0.3 A 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	
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 • for short-circuit protection of the main circuit — with type of coordination 1 required — with type of coordination 2 required • for short-circuit protection of the auxiliary switch required	gG: 250 A (690 V, 100 kA) 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 — upwards — downwards — at the side • for grounded parts — forwards — upwards — at the side — downwards • for live parts — 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 • 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 • for main contacts — stranded — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts	2x (6 ... 16 mm²), 2x (10 ... 50 mm²), 1x (10 ... 70 mm²) 2x (2.5 ... 16 mm²), 2x (6 ... 16 mm²), 2x (10 ... 50 mm²), 1x (10 ... 70 mm²) 2x (2.5 ... 35 mm²), 1x (2.5 ... 50 mm²) 2x (10 ... 1/0), 1x (10 ... 2/0)
connectable conductor cross-section for main contacts • solid • solid or stranded • stranded • finely stranded with core end processing	2.5 ... 16 mm² 4 ... 70 mm² 6 ... 70 mm² 2.5 ... 50 mm²
connectable conductor cross-section for auxiliary contacts • 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	
- for auxiliary contacts — solid — solid or stranded — finely stranded with core end processing - for AWG cables for auxiliary contacts	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14)
AWG number extended as coded connectable conductor cross section for main contacts	10 ... 2/0
AWG number as coded connectable conductor cross section for auxiliary contacts	20 ... 14

Safety related data

product function	
- mirror contact according to IEC 60947-4-1 - positively driven operation according to IEC 60947-5-1	Yes 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
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Approvals Certificates

General Product Approval



KC



EMV	Test Certificates	Maritime application
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Maritime application	other	Railway
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[Confirmation](#)

[Special Test Certificate](#)

Environment



[Environmental Confirmations](#)

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=3RT2344-1NB30>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2344-1NB30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2344-1NB30>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2344-1NB30&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current



