



contactor AC-1, 140 A, 400 V / 40 °C, 4-pole, 230 V AC, 50 Hz, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S3

product brand name	SIRIUS
product designation	Contacteur
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
• without load current share typical	7.2 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 Prohibition (Date)	09/01/2017
Weight	2.07 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
type of voltage for main current circuit	AC
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	230 V
operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz	0.8 ... 1.1
apparent pick-up power of magnet coil at AC • at 50 Hz	296 VA
inductive power factor with closing power of the coil • at 50 Hz	0.61
apparent holding power of magnet coil at AC • at 50 Hz	19 VA
inductive power factor with the holding power of the coil • at 50 Hz	0.38
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 • attachable • instantaneous contact	1 2 1
number of NO contacts for auxiliary contacts • attachable • instantaneous contact	1 2 1
operational current at AC-12 maximum	10 A
operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value	6 A 3 A 2 A 1 A
operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 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 6 A 6 A 3 A 2 A 1 A 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	gG: 250 A (690 V, 100 kA)

- with type of coordination 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	
<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 	<p>20 mm</p> <p>10 mm</p> <p>10 mm</p> <p>0 mm</p> <p>20 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>20 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p>

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 	<p>screw-type terminals</p> <p>screw-type terminals</p> <p>Screw-type terminals</p> <p>Screw-type terminals</p>
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> ● for main contacts <ul style="list-style-type: none"> — stranded — solid or stranded — finely stranded with core end processing ● for AWG cables for main contacts 	<p>2x (6 ... 16 mm²), 2x (10 ... 50 mm²), 1x (10 ... 70 mm²)</p> <p>2x (2.5 ... 16 mm²), 2x (6 ... 16 mm²), 2x (10 ... 50 mm²), 1x (10 ... 70 mm²)</p> <p>2x (2.5 ... 35 mm²), 1x (2.5 ... 50 mm²)</p> <p>2x (10 ... 1/0), 1x (10 ... 2/0)</p>
connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> ● solid ● solid or stranded ● stranded ● finely stranded with core end processing 	<p>2.5 ... 16 mm²</p> <p>4 ... 70 mm²</p> <p>6 ... 70 mm²</p> <p>2.5 ... 50 mm²</p>
connectable conductor cross-section for auxiliary contacts	
<ul style="list-style-type: none"> ● solid or stranded ● finely stranded with core end processing 	<p>0.5 ... 2.5 mm²</p> <p>0.5 ... 2.5 mm²</p>
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> ● for auxiliary contacts <ul style="list-style-type: none"> — solid — solid or stranded — finely stranded with core end processing ● for AWG cables for auxiliary contacts 	<p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (20 ... 16), 2x (18 ... 14)</p>
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	
<ul style="list-style-type: none"> ● mirror contact according to IEC 60947-4-1 ● positively driven operation according to IEC 60947-5-1 	<p>Yes</p> <p>No</p>





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					
				KC	

EMV	Test Certificates	Maritime application			
	Special Test Certificate	Type Test Certificates/Test Report			

Maritime application	other			Railway	
				Confirmation	Special Test Certificate

Dangerous goods	Environment	
Transport Information		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=3RT2346-1AP00>
Cax online generator
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2346-1AP00>
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2346-1AP00>
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2346-1AP00&lang=en
Characteristic: Tripping characteristics, I_t, Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2346-1AP00/char>
Further characteristics (e.g. electrical endurance, switching frequency)
<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2346-1AP00&objecttype=14&gridview=view1>

