



power contactor, AC-3, 51 A, 22 kW / 400 V, 4-pole, 400 V AC, 50 Hz, auxiliary contacts: 1 NO + 1 NC, screw terminal, frame size: S2

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT23
General technical data	
size of contactor	S2
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	17.2 W
• at AC in hot operating state per pole	4.3 W
• without load current share typical	5.9 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	6 kV
• of auxiliary circuit rated value	6 kV
shock resistance at rectangular impulse	
• at AC	11.8g / 5 ms, 7.4g / 10 ms
shock resistance with sine pulse	
• at AC	18.5g / 5 ms, 11.6g / 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)	10/01/2014
Net Weight	1.132 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	302 kg
global warming potential [CO2 eq] during manufacturing	4.83 kg
global warming potential [CO2 eq] during operation	297 kg
global warming potential [CO2 eq] after end of life	-0.64 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	
<ul style="list-style-type: none"> ● at AC-1 at 400 V at ambient temperature 40 °C rated value 	60 A
<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 — up to 690 V at ambient temperature 60 °C rated value 	60 A 55 A
<ul style="list-style-type: none"> ● at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 690 V rated value 	51 A 24 A
<ul style="list-style-type: none"> ● at AC-4 at 400 V rated value 	41 A
minimum cross-section in main circuit at maximum AC-1 rated value	25 mm ²
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 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value 	55 A 23 A 4.5 A 1 A 0.4 A
<ul style="list-style-type: none"> ● with 2 current paths in series at DC-1 <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 	55 A 55 A 45 A 5 A 1 A
<ul style="list-style-type: none"> ● with 3 current paths in series at DC-1 <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 	55 A 55 A 55 A 45 A 2.9 A
<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 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value 	20 A 5 A 2.5 A 1 A 0.1 A
<ul style="list-style-type: none"> ● 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 — at 220 V rated value — at 440 V rated value 	45 A 45 A 25 A 5 A 0.27 A
<ul style="list-style-type: none"> ● 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 	45 A 45 A 45 A 25 A 0.6 A

operating power	
<ul style="list-style-type: none"> at AC-3 at 400 V rated value at AC-4 at 400 V rated value 	22 kW 22 kW
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 	628 A; Use minimum cross-section acc. to AC-1 rated value 628 A; Use minimum cross-section acc. to AC-1 rated value 468 A; Use minimum cross-section acc. to AC-1 rated value 282 A; Use minimum cross-section acc. to AC-1 rated value 227 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 at AC-1 maximum	1 000 1/h
Control circuit/ Control	
type of voltage	AC
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 	400 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 	190 VA
inductive power factor with closing power of the coil	
<ul style="list-style-type: none"> at 50 Hz 	0.72
apparent holding power of magnet coil at AC	
<ul style="list-style-type: none"> at 50 Hz 	16 VA
inductive power factor with the holding power of the coil	
<ul style="list-style-type: none"> at 50 Hz 	0.37
closing delay	
<ul style="list-style-type: none"> at AC 	10 ... 80 ms
opening delay	
<ul style="list-style-type: none"> at AC 	10 ... 18 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
<ul style="list-style-type: none"> attachable instantaneous contact 	2 1
number of NO contacts for auxiliary contacts	1
<ul style="list-style-type: none"> attachable instantaneous contact 	2 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 at 400 V rated value at 500 V rated value at 690 V rated value 	10 A 3 A 2 A 1 A
operational current at DC-12	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> at 24 V rated value at 48 V rated value 	10 A 2 A

<ul style="list-style-type: none"> • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	<p>1 A</p> <p>0.9 A</p> <p>0.3 A</p> <p>0.1 A</p>
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 <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 	<p>gG: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA)</p> <p>gG: 80 A (690 V, 100 kA), aM: 50 A (690 V, 100 kA), BS88: 63 A (415 V, 80 kA)</p> <p>gG: 10 A (690 V, 1 kA)</p>
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	114 mm
width	55 mm
depth	130 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>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>0 mm</p> <p>10 mm</p> <p>10 mm</p> <p>6 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>6 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"> — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts 	<p>2x (1 ... 35 mm²), 1x (1 ... 50 mm²)</p> <p>2x (1 ... 25 mm²), 1x (1 ... 35 mm²)</p> <p>2x (18 ... 2), 1x (18 ... 1)</p>
connectable conductor cross-section for main contacts <ul style="list-style-type: none"> • solid or stranded • finely stranded with core end processing 	<p>1 ... 50 mm²</p> <p>1 ... 35 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 	<p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p>

— 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	18 ... 1
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	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
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Approvals Certificates

General Product Approval	EMV	Maritime application
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Maritime application



[Confirmation](#)

other

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=3RT2336-1AV00-4AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2336-1AV00-4AA0>

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

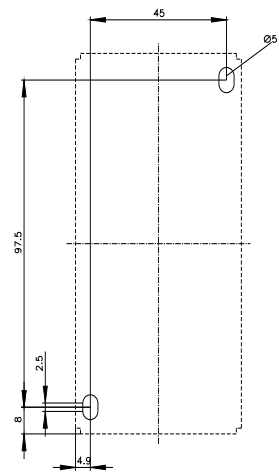
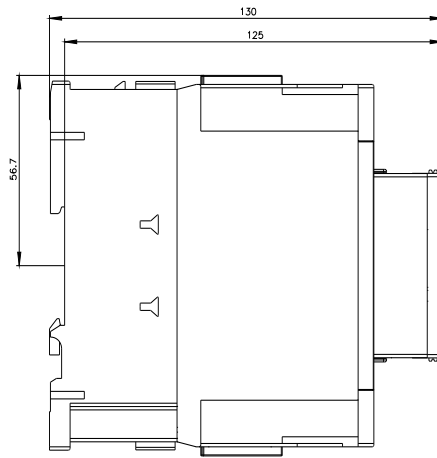
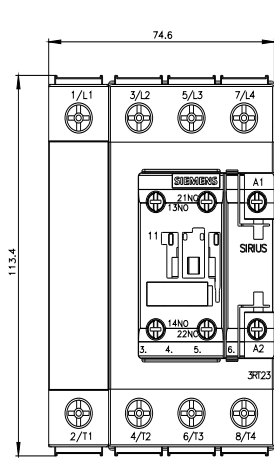
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Cax online generator

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Characteristic curves

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