



power contactor, AC-3e/AC-3 225 A, 110 kW / 400 V AC (50-60 Hz) / DC U_c: 575-600 V 3-pole, auxiliary contacts 2 NO + 2 NC drive: conventional main circuit: busbar control and auxiliary circuit: screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT1
General technical data	
size of contactor	S10
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	51 W
• at AC in hot operating state per pole	17 W
• without load current share typical	7.4 W
type of calculation of power loss current-dependent	quadratic
insulation voltage	
• of main circuit with degree of pollution 3 rated value	1 000 V
• of auxiliary circuit with degree of pollution 3 rated value	500 V
surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	8,5 g / 5 ms, 4,2 g / 10 ms
• at DC	8,5 g / 5 ms, 4,2 g / 10 ms
shock resistance with sine pulse	
• at AC	13,4 g / 5 ms, 6,5 g / 10 ms
• at DC	13,4 g / 5 ms, 6,5 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 according to IEC 81346-2	Q
Substance Prohibitance (day/month/year)	05/01/2012
SVHC substance name	Lead CAS-No. 7439-92-1
Net Weight	6.504 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 %
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0
operating voltage	

<ul style="list-style-type: none"> ● at AC-3 rated value maximum 	1 000 V
<ul style="list-style-type: none"> ● at AC-3e 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 	275 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 	275 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — up to 690 V at ambient temperature 60 °C rated value 	250 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — up to 1000 V at ambient temperature 40 °C rated value 	100 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — up to 1000 V at ambient temperature 60 °C rated value 	100 A
<ul style="list-style-type: none"> ● at AC-3 <ul style="list-style-type: none"> — at 400 V rated value 	225 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 500 V rated value 	225 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 690 V rated value 	225 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 1000 V rated value 	68 A
<ul style="list-style-type: none"> ● at AC-3e <ul style="list-style-type: none"> — at 400 V rated value 	225 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 500 V rated value 	225 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 690 V rated value 	225 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 1000 V rated value 	68 A
<ul style="list-style-type: none"> ● at AC-4 at 400 V rated value 	195 A
<ul style="list-style-type: none"> ● at AC-5a up to 690 V rated value 	242 A
<ul style="list-style-type: none"> ● at AC-5b up to 400 V rated value 	186 A
<ul style="list-style-type: none"> ● at AC-6a <ul style="list-style-type: none"> — up to 230 V for current peak value n=20 rated value 	225 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — up to 400 V for current peak value n=20 rated value 	225 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — up to 500 V for current peak value n=20 rated value 	225 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — up to 690 V for current peak value n=20 rated value 	225 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — up to 1000 V for current peak value n=20 rated value 	68 A
<ul style="list-style-type: none"> ● at AC-6a <ul style="list-style-type: none"> — up to 230 V for current peak value n=30 rated value 	172 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — up to 400 V for current peak value n=30 rated value 	172 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — up to 500 V for current peak value n=30 rated value 	172 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — up to 690 V for current peak value n=30 rated value 	172 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — up to 1000 V for current peak value n=30 rated value 	68 A
minimum cross-section in main circuit at maximum AC-1 rated value	150 mm ²
operational current for approx. 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> ● at 400 V rated value 	96 A
<ul style="list-style-type: none"> ● at 690 V rated value 	85 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 	200 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 60 V rated value 	200 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 110 V rated value 	18 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 220 V rated value 	3.4 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 440 V rated value 	0.8 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 600 V rated value 	0.5 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 	200 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 60 V rated value 	200 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 110 V rated value 	200 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 220 V rated value 	20 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 440 V rated value 	3.2 A
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 600 V rated value 	1.6 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 — at 600 V rated value ● 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 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 60 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 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	<p>200 A 200 A 200 A 200 A 11 A 4 A</p> <p>200 A 7.5 A 0.6 A 0.17 A 0.12 A</p> <p>200 A 200 A 200 A 2.5 A 0.65 A 0.37 A</p> <p>200 A 200 A 200 A 200 A 1.4 A 0.75 A</p>
<p>operating power</p> <ul style="list-style-type: none"> ● 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 ● at AC-3e <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 	<p>55 kW 110 kW 160 kW 200 kW 90 kW</p> <p>55 kW 110 kW 160 kW 200 kW 90 kW</p>
<p>operating power for approx. 200000 operating cycles at AC-4</p> <ul style="list-style-type: none"> ● at 400 V rated value ● at 690 V rated value 	<p>54 kW 82 kW</p>
<p>operating apparent power at AC-6a</p> <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 ● up to 1000 V for current peak value n=20 rated value 	<p>90 kVA 150 kVA 190 kVA 260 kVA 110 kVA</p>
<p>operating apparent power at AC-6a</p> <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 ● up to 1000 V for current peak value n=30 rated value 	<p>60 kVA 110 kVA 140 kVA 200 kVA 110 kVA</p>
<p>short-time withstand current in cold operating state up to 40 °C</p> <ul style="list-style-type: none"> ● limited to 1 s switching at zero current maximum 	<p>4 000 A; Use minimum cross-section acc. to AC-1 rated value</p>

<ul style="list-style-type: none"> • 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 	2 807 A; Use minimum cross-section acc. to AC-1 rated value 2 082 A; Use minimum cross-section acc. to AC-1 rated value 1 397 A; Use minimum cross-section acc. to AC-1 rated value 1 144 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
<ul style="list-style-type: none"> • at AC • at DC 	2 000 1/h 2 000 1/h
operating frequency	
<ul style="list-style-type: none"> • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3e <ul style="list-style-type: none"> — maximum • at AC-4 maximum 	750 1/h 250 1/h 500 1/h 500 1/h 130 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
<ul style="list-style-type: none"> • at 50 Hz rated value • at 60 Hz rated value 	575 ... 600 V 575 ... 600 V
control supply voltage at DC rated value	575 ... 600 V
operating range factor control supply voltage rated value of magnet coil at DC	
<ul style="list-style-type: none"> • initial value • full-scale value 	0.8 1.1
operating range factor control supply voltage rated value of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.8 ... 1.1 0.8 ... 1.1
design of the surge suppressor	with varistor
apparent pick-up power	
<ul style="list-style-type: none"> • at minimum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz — at 60 Hz • at maximum rated control supply voltage at AC <ul style="list-style-type: none"> — at 60 Hz — at 50 Hz 	490 VA 490 VA 590 VA 590 VA
apparent pick-up power of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	590 VA 590 VA
inductive power factor with closing power of the coil	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.9 0.9
apparent holding power	
<ul style="list-style-type: none"> • at minimum rated control supply voltage at DC • at maximum rated control supply voltage at DC 	6.1 VA 7.4 VA
apparent holding power	
<ul style="list-style-type: none"> • at minimum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz — at 60 Hz • at maximum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz — at 60 Hz 	5.6 VA 5.6 VA 6.7 VA 6.7 VA
inductive power factor with the holding power of the coil	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.9 0.9
closing power of magnet coil at DC	650 W
holding power of magnet coil at DC	7.4 W
closing delay	
<ul style="list-style-type: none"> • at AC 	30 ... 95 ms

<ul style="list-style-type: none"> • at DC 	30 ... 95 ms
opening delay	
<ul style="list-style-type: none"> • at AC 	40 ... 80 ms
<ul style="list-style-type: none"> • at DC 	40 ... 80 ms
arcing time	10 ... 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts instantaneous contact	2
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 	180 A
<ul style="list-style-type: none"> • at 600 V rated value 	192 A
yielded mechanical performance [hp]	
<ul style="list-style-type: none"> • for 3-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value 	60 hp
<ul style="list-style-type: none"> — at 220/230 V rated value 	75 hp
<ul style="list-style-type: none"> — at 460/480 V rated value 	150 hp
<ul style="list-style-type: none"> — at 575/600 V rated value 	200 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
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 	gG: 500 A (690 V, 100 kA)
<ul style="list-style-type: none"> — with type of coordination 2 required 	gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 A (415 V, 50 kA)
<ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method side-by-side mounting	Yes
fastening method	screw fixing
height	210 mm

width	145 mm
depth	202 mm
required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — downwards 10 mm — at the side 0 mm • for grounded parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — at the side 10 mm — downwards 10 mm • for live parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — downwards 10 mm — at the side 10 mm 	
Connections/ Terminals	
type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit Connection bar • for auxiliary and control circuit screw-type terminals • at contactor for auxiliary contacts Screw-type terminals • of magnet coil Screw-type terminals 	
width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for AWG cables for main contacts 2/0 ... 500 kcmil 	
connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> • stranded 70 ... 240 mm² 	
connectable conductor cross-section for auxiliary contacts	
<ul style="list-style-type: none"> • solid or stranded 0.5 ... 4 mm² • finely stranded with core end processing 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 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²) — solid or stranded 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²) — finely stranded with core end processing 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) • for AWG cables for auxiliary contacts 2x (20 ... 16), 2x (18 ... 14), 1x 12 	
AWG number as coded connectable conductor cross section for auxiliary contacts	18 ... 14
Safety related data	
product function	
<ul style="list-style-type: none"> • mirror contact according to IEC 60947-4-1 Yes • positively driven operation according to IEC 60947-5-1 No • suitable for safety function Yes 	
suitability for use safety-related switching OFF	Yes
service life maximum	20 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
<ul style="list-style-type: none"> • with low demand rate according to SN 31920 40 % • with high demand rate according to SN 31920 73 % 	
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
ISO 13849	
device type according to ISO 13849-1	3

overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
Electrical Safety	
protection class IP on the front according to IEC 60529	IP00; IP20 with box terminal/cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover

Approvals Certificates

Environmental Product Declaration	
<ul style="list-style-type: none"> • global warming potential [CO2 eq] / during manufacturing • global warming potential [CO2 eq] / during sales • global warming potential [CO2 eq] / during operation • global warming potential [CO2 eq] / after end of life • global warming potential [CO2 eq] / total 	<ul style="list-style-type: none"> 31.5 kg 2.6 kg 521 kg -7.22 kg 548 kg

Environment	General Product Approval
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[Environmental Confirmations](#)



General Product Approval	EMV	Functional Safety
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Test Certificates	Maritime application	other
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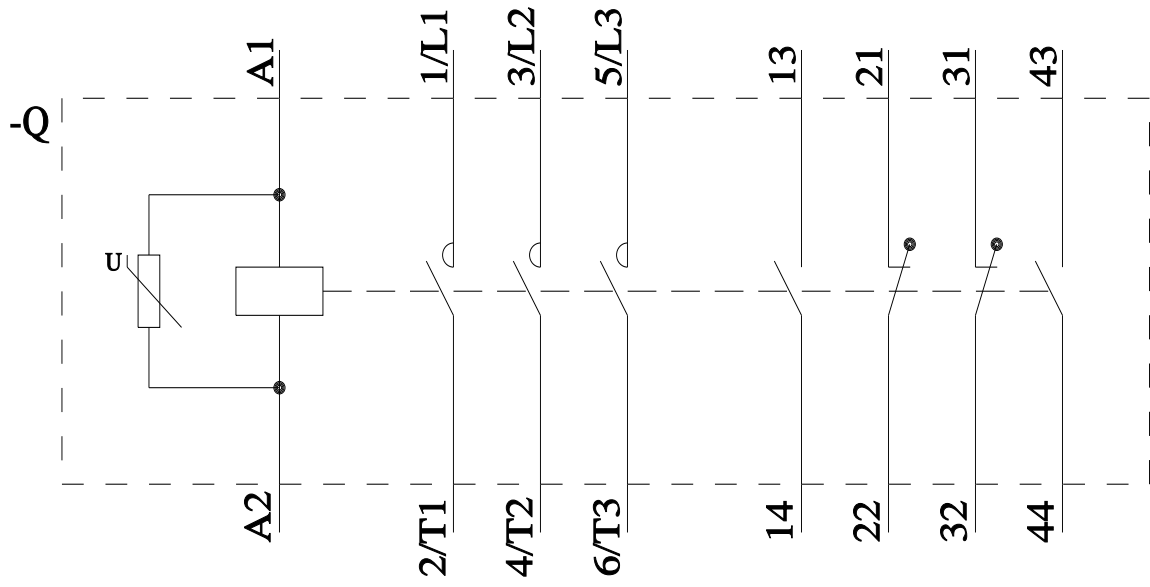


other	Railway
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Further information

- 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=3RT1064-6AT36>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...) <https://support.industry.siemens.com/cs/ww/en/ps/3RT1064-6AT36>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1064-6AT36&lang=en
- Cax online generator <https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1064-6AT36>
- Characteristic curves [https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)



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