



Power contactor, AC-3 225 A, 110 kW / 400 V Coil AC 50/60 Hz and DC 96-127 V x (0.8-1.1) F-PLC input 24 V DC 3-pole size S10 Auxiliary contacts 2 NO + 2 NC 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	3.4 W
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 safe isolation between coil and main contacts according to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• at DC	8,5g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 10 ms
mechanical service life (switching 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 (Date)	03/01/2017
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
operating voltage	
• at AC-3 rated value maximum	1 000 V
• at AC-3e rated value maximum	1 000 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	275 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	275 A
— up to 690 V at ambient temperature 60 °C rated value	250 A
— up to 1000 V at ambient temperature 40 °C rated value	100 A
— up to 1000 V at ambient temperature 60 °C rated value	100 A
• at AC-3	
— at 400 V rated value	225 A
— at 500 V rated value	225 A
— at 690 V rated value	225 A
— at 1000 V rated value	68 A
• at AC-3e	
— at 400 V rated value	225 A
— at 500 V rated value	225 A
— at 1000 V rated value	68 A
• at AC-4 at 400 V rated value	195 A
• at AC-5a up to 690 V rated value	242 A
• at AC-5b up to 400 V rated value	186 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	225 A
— up to 400 V for current peak value n=20 rated value	225 A
— up to 500 V for current peak value n=20 rated value	225 A
— up to 690 V for current peak value n=20 rated value	225 A
— up to 1000 V for current peak value n=20 rated value	68 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	172 A
— up to 400 V for current peak value n=30 rated value	172 A
— up to 500 V for current peak value n=30 rated value	172 A
— up to 690 V for current peak value n=30 rated value	172 A
— 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	
• at 400 V rated value	96 A
• at 690 V rated value	85 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	200 A

<ul style="list-style-type: none"> — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	18 A 3.4 A 0.8 A 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 — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	200 A 200 A 20 A 3.2 A 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 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	200 A 200 A 200 A 11 A 4 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 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	200 A 2.5 A 0.6 A 0.17 A 0.12 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 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	200 A 200 A 2.5 A 0.65 A 0.37 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 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	200 A 200 A 200 A 1.4 A 0.75 A
operating power <ul style="list-style-type: none"> ● at AC-2 at 400 V rated value ● 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 1000 V rated value 	110 kW 55 kW 110 kW 160 kW 200 kW 90 kW 55 kW 110 kW 160 kW 90 kW
operating power for approx. 200000 operating cycles at AC-4 <ul style="list-style-type: none"> ● at 400 V rated value ● at 690 V rated value 	54 kW 82 kW
operating apparent power at AC-6a <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 	90 000 kVA 150 000 VA 190 000 VA 260 000 VA 110 000 VA
operating apparent power at AC-6a <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 	60 000 VA 110 000 VA

<ul style="list-style-type: none"> • 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 	140 000 VA 200 000 VA 110 000 VA
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 	4 000 A; Use minimum cross-section acc. to AC-1 rated value 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 	1 000 1/h 1 000 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 maximum • at AC-4 maximum 	500 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 	96 ... 127 V 96 ... 127 V
control supply voltage at DC <ul style="list-style-type: none"> • rated value 	96 ... 127 V
type of PLC-control input according to IEC 60947-1	Type 1
consumed current at PLC-control input according to IEC 60947-1 maximum	14 mA
voltage at PLC-control input rated value	24 V
operating range factor of the voltage at PLC-control input	0.8 ... 1.1
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 of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	530 VA 530 VA
inductive power factor with closing power of the coil <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.8 0.8
apparent holding power of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	5 VA 5 VA
inductive power factor with the holding power of the coil <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.5 0.5
closing power of magnet coil at DC	580 W
holding power of magnet coil at DC	3.4 W
closing delay <ul style="list-style-type: none"> • at AC • at DC 	60 ... 75 ms 60 ... 75 ms
opening delay <ul style="list-style-type: none"> • at AC 	115 ... 130 ms

• at DC	115 ... 130 ms
recovery time after power failure typical	2 s
arcing time	10 ... 15 ms
control version of the switch operating mechanism	Fail-safe PLC input (F-PLC-IN)
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	
• 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 60 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	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	180 A
• at 600 V rated value	192 A
yielded mechanical performance [hp]	
• for 3-phase AC motor	
— at 200/208 V rated value	60 hp
— at 220/230 V rated value	75 hp
— at 460/480 V rated value	150 hp
— at 575/600 V rated value	200 hp
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	
design of the fuse link	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 500 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 A (415 V, 50 kA)
• 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	screw fixing
• side-by-side mounting	Yes
height	210 mm
width	145 mm
depth	202 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	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	
• at AWG cables for main contacts	2/0 ... 500 kcmil
connectable conductor cross-section for main contacts	
• stranded	70 ... 240 mm ²
connectable conductor cross-section for auxiliary contacts	
• solid or stranded	0.5 ... 4 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), max. 2x (0.75 ... 4 mm ²)
— solid or stranded	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
• at 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	
• mirror contact according to IEC 60947-4-1	Yes
• positively driven operation according to IEC 60947-5-1	No
safety device type according to IEC 61508-2	Type B
B10 value with high demand rate according to SN 31920	1 000 000
Safety Integrity Level (SIL) according to IEC 61508	2
SIL Claim Limit (subsystem) according to EN 62061	2
performance level (PL) according to EN ISO 13849-1	c
category according to EN ISO 13849-1	2
stop category according to EN 60204-1	0
Safe failure fraction (SFF)	93 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
PFHD with high demand rate according to EN 62061	0.00000045 1/h
PFDavg with low demand rate according to IEC 61508	0.007
MTBF	75 y
hardware fault tolerance according to IEC 61508	0

T1 value for proof test interval or service life according to IEC 61508	20 y
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
suitability for use <ul style="list-style-type: none"> • safety-related switching on • safety-related switching OFF 	No Yes

Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



EMC	Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	other
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[Type Examination Certificate](#)



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Confirmation](#)

other	Railway
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[Miscellaneous](#)

[Miscellaneous](#)

[Special Test Certificate](#)

Further information

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=3RT1064-6SF36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1064-6SF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1064-6SF36>

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

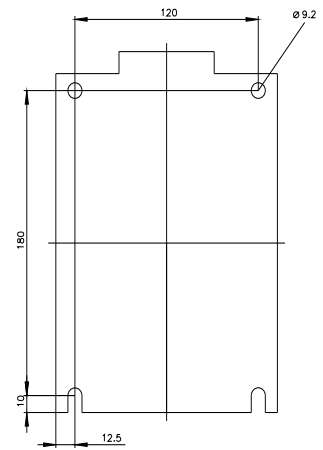
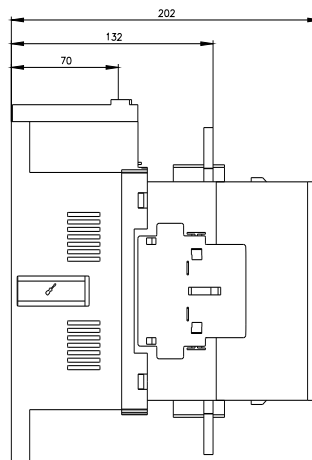
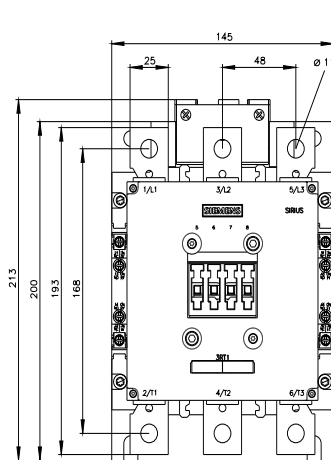
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1064-6SF36&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1064-6SF36/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1064-6SF36&objecttype=14&gridview=view1>



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