



power contactor, AC-3e/AC-3 115 A, 55 kW / 400 V, AC (50-60 Hz) / DC Uc: 96-127 V x (0.8-1.1) F-PLC input 24 V DC 3-pole, auxiliary contacts 2 NO + 2 NC
drive: electronic main circuit: box terminal control and auxiliary circuit: screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT1
General technical data	
size of contactor	S6
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	21 W
• at AC in hot operating state per pole	7 W
• without load current share typical	2.8 W
type of calculation of power loss depending on pole	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	8,5g / 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 (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 (Date)	
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 Perfluorobutane sulfonic acid (PFBS) and its salts - -
Weight	3.641 kg
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	

<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— at 600 V rated value● 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 110 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	160 A 160 A 160 A 20 A 3.2 A 1.6 A 160 A 160 A 160 A 160 A 11.5 A 4 A 160 A 7.5 A 2.5 A 0.6 A 0.17 A 0.12 A 160 A 160 A 160 A 2.5 A 0.65 A 0.37 A 160 A 160 A 160 A 160 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 690 V rated value— at 1000 V rated value	55 kW 37 kW 55 kW 75 kW 110 kW 75 kW 37 kW 55 kW 75 kW 110 kW 75 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	29 kW 48 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	40 000 kVA 80 000 VA 100 000 VA 130 000 VA 90 000 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	30 000 VA

<ul style="list-style-type: none"> • 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 	60 000 VA 80 000 VA 110 000 VA 90 000 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 	2 565 A; Use minimum cross-section acc. to AC-1 rated value 1 654 A; Use minimum cross-section acc. to AC-1 rated value 1 170 A; Use minimum cross-section acc. to AC-1 rated value 729 A; Use minimum cross-section acc. to AC-1 rated value 572 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 	750 1/h 400 1/h 750 1/h 750 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 rated value	96 ... 127 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
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
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 	190 VA 190 VA 280 VA 280 VA
apparent pick-up power of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	280 VA 280 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 <ul style="list-style-type: none"> • at minimum rated control supply voltage at DC • at maximum rated control supply voltage at DC 	2.1 VA 2.8 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 	3.5 VA 3.5 VA 4.8 VA

— at 60 Hz	4.8 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.6
• at 60 Hz	0.6
closing power of magnet coil at DC	320 W
holding power of magnet coil at DC	2.8 W
closing delay	
• at AC	60 ... 75 ms
• at DC	60 ... 75 ms
opening delay	
• 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	124 A
• at 600 V rated value	125 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 230 V rated value	25 hp
• for 3-phase AC motor	
— at 200/208 V rated value	40 hp
— at 220/230 V rated value	50 hp
— at 460/480 V rated value	100 hp
— at 575/600 V rated value	125 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: 355 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 250 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 250 A (415 V, 50

<ul style="list-style-type: none"> for short-circuit protection of the auxiliary switch required 	kA) 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
height	172 mm
width	120 mm
depth	170 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 for auxiliary and control circuit at contactor for auxiliary contacts of magnet coil 	box terminal screw-type terminals Screw-type terminals Screw-type terminals
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> for main contacts <ul style="list-style-type: none"> stranded max. 1x 50, 1x 70 mm² solid or stranded max. 1x 50, 1x 70 mm² finely stranded with core end processing max. 1x 50, 1x 70 mm² finely stranded without core end processing max. 1x 50, 1x 70 mm² for AWG cables for main contacts 2x 1/0 	
connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> stranded 16 ... 70 mm² finely stranded with core end processing 16 ... 70 mm² finely stranded without core end processing 16 ... 70 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	
<ul style="list-style-type: none"> for auxiliary contacts 18 ... 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 suitable for safety function 	Yes No Yes
suitability for use safety-related switching OFF	Yes
safe state	off

test wear-related service life necessary	Yes
stop category according to IEC 60204-1	0
proportion of dangerous failures <ul style="list-style-type: none"> • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 	40 % 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
MTBF	75 a
IEC 62061	
PFHD with high demand rate according to IEC 62061	4.5E-7 1/h
ISO 13849	
performance level (PL) according to ISO 13849-1	c
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
Safety Integrity Level (SIL) according to IEC 61508	2
safety device type according to IEC 61508-2	Type B
PFHD with high demand rate according to IEC 61508	4.5E-7 1/h
PFDavg with low demand rate according to IEC 61508	0.007
Safe failure fraction (SFF)	93 %
hardware fault tolerance according to IEC 61508	0
T1 value of service life according to IEC 61508	20 a
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

Approvals Certificates

General Product Approval



[Confirmation](#)



[KC](#)

General Product Approval	EMV	Functional Safety	Test Certificates	other
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[Type Examination Certificate](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[Confirmation](#)

other	Railway	Environment
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[Miscellaneous](#)

[Special Test Certificate](#)

[Environmental Conformations](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3RT1054-1SF36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-1SF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1SF36>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-1SF36&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1SF36/char>

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



