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Data sheet 3RT1054-6SF36-3PA0

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 permanently mounted drive: electronic 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	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
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)	03/01/2017
SVHC substance name	Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8 2-Methyl-1-(4-methylthiophenyl)-2-morpho - 71868-10-5 Bleititanzirkonoxid - 12626-81-2 Perfluorbutansulfonsäure (PFBS) und ihre - - 2,2',6,6'-Tetrabrom-4,4'-isopropylidendi - 79-94-7
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	

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● 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	160 A
● at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	160 A
— up to 690 V at ambient temperature 60 °C rated value	140 A
— up to 1000 V at ambient temperature 40 °C rated value	80 A
— up to 1000 V at ambient temperature 60 °C rated value	80 A
● at AC-3	
— at 400 V rated value	115 A
— at 500 V rated value	115 A
— at 690 V rated value	115 A
— at 1000 V rated value	53 A
● at AC-3e	
— at 400 V rated value	115 A
— at 500 V rated value	115 A
— at 690 V rated value	115 A
— at 1000 V rated value	53 A
● at AC-4 at 400 V rated value	97 A
● at AC-5a up to 690 V rated value	140 A
● at AC-5b up to 400 V rated value	95 A
● at AC-6a	
— up to 230 V for current peak value n=20 rated value	115 A
— up to 400 V for current peak value n=20 rated value	115 A
— up to 500 V for current peak value n=20 rated value	115 A
— up to 690 V for current peak value n=20 rated value	115 A
— up to 1000 V for current peak value n=20 rated value	53 A
● at AC-6a	
— up to 230 V for current peak value n=30 rated value	98 A
— up to 400 V for current peak value n=30 rated value	98 A
— up to 500 V for current peak value n=30 rated value	98 A
— up to 690 V for current peak value n=30 rated value	98 A
— up to 1000 V for current peak value n=30 rated value	53 A
minimum cross-section in main circuit at maximum AC-1 rated value	70 mm²
operational current for approx. 200000 operating cycles at AC-4	
● at 400 V rated value	54 A
● at 690 V rated value	48 A
operational current	
● at 1 current path at DC-1	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	18 A
— at 220 V rated value	3.4 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.5 A

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● **with 2 current paths in series at DC-1**	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	20 A
— at 440 V rated value	3.2 A
— at 600 V rated value	1.6 A
● **with 3 current paths in series at DC-1**	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	160 A
— at 440 V rated value	11.5 A
— at 600 V rated value	4 A
● **at 1 current path at DC-3 at DC-5**	
— at 24 V rated value	160 A
— at 60 V rated value	7.5 A
— at 110 V rated value	2.5 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.17 A
— at 600 V rated value	0.12 A
● **with 2 current paths in series at DC-3 at DC-5**	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	2.5 A
— at 440 V rated value	0.65 A
— at 600 V rated value	0.37 A
● **with 3 current paths in series at DC-3 at DC-5**	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	160 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
operating power	
● at AC-2 at 400 V rated value	55 kW
● at AC-3	
— at 230 V rated value	37 kW
— at 400 V rated value	55 kW
— at 500 V rated value	75 kW
— at 690 V rated value	110 kW
— at 1000 V rated value	75 kW
● at AC-3e	
— at 230 V rated value	37 kW
— at 400 V rated value	55 kW
— at 500 V rated value	75 kW
— at 690 V rated value	110 kW
— at 1000 V rated value	75 kW
operating power for approx. 200000 operating cycles at AC-4	
● at 400 V rated value	29 kW
● at 690 V rated value	48 kW
operating apparent power at AC-6a	
● up to 230 V for current peak value n=20 rated value	40 000 kVA
● up to 400 V for current peak value n=20 rated value	80 000 VA
● up to 500 V for current peak value n=20 rated value	100 000 VA
● up to 690 V for current peak value n=20 rated value	130 000 VA
● up to 1000 V for current peak value n=20 rated value	90 000 VA
operating apparent power at AC-6a	
● up to 230 V for current peak value n=30 rated value	30 000 VA

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● up to 400 V for current peak value n=30 rated value	60 000 VA
● up to 500 V for current peak value n=30 rated value	80 000 VA
● up to 690 V for current peak value n=30 rated value	110 000 VA
● up to 1000 V for current peak value n=30 rated value	90 000 VA
short-time withstand current in cold operating state up to 40 °C	
● limited to 1 s switching at zero current maximum	2 565 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 5 s switching at zero current maximum	1 654 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 10 s switching at zero current maximum	1 170 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 30 s switching at zero current maximum	729 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 60 s switching at zero current maximum	572 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
● at AC	1 000 1/h
● at DC	1 000 1/h
operating frequency	
● at AC-1 maximum	750 1/h
● at AC-2 maximum	400 1/h
● at AC-3 maximum	750 1/h
● at AC-3e maximum	750 1/h
● at AC-4 maximum	130 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
● at 50 Hz rated value	96 ... 127 V
● at 60 Hz rated value	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	
● initial value	0.8
● full-scale value	1.1
operating range factor control supply voltage rated value of magnet coil at AC	
● at 50 Hz	0.8 ... 1.1
● at 60 Hz	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	
● at minimum rated control supply voltage at AC	
— at 50 Hz	190 VA
— at 60 Hz	190 VA
● at maximum rated control supply voltage at AC	
— at 60 Hz	280 VA
— at 50 Hz	280 VA
apparent pick-up power of magnet coil at AC	
● at 50 Hz	280 VA
● at 60 Hz	280 VA
inductive power factor with closing power of the coil	
● at 50 Hz	0.8
● at 60 Hz	0.8
apparent holding power	
● at minimum rated control supply voltage at DC	2.1 VA
● at maximum rated control supply voltage at DC	2.8 VA
apparent holding power	
● at minimum rated control supply voltage at AC	
— at 50 Hz	3.5 VA
— at 60 Hz	3.5 VA
● at maximum rated control supply voltage at AC	

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— at 50 Hz	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)

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— 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 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	172 mm
width	120 mm
depth	170 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	17 mm
thickness of connection bar	3 mm
diameter of holes	9 mm
number of holes	1
type of connectable conductor cross-sections	
● for AWG cables for main contacts	2x 1/0
connectable conductor cross-section for main contacts	
● stranded	25 ... 120 mm²
connectable conductor cross-section for auxiliary contacts	
● solid or stranded	0.5 ... 4 mm²
● finely stranded with core end processing	0.5 ... 2.5 mm²
type of connectable conductor cross-sections	
● for auxiliary contacts	
— 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	
stop category according to EN 60204-1	0
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
B10 value with high demand rate according to SN 31920	1 000 000
product function positively driven operation according to IEC 60947-5-1	No
product function mirror contact according to IEC 60947-4-1	Yes
suitability for use safety-related switching OFF	Yes

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IEC 62061	
SIL Claim Limit (subsystem) according to EN 62061	2
PFHD with high demand rate according to EN 62061	4.5E-7 1/h
ISO 13849	
performance level (PL) according to EN ISO 13849-1	c
category according to EN ISO 13849-1	2
IEC 61508	
Safety Integrity Level (SIL) according to IEC 61508	2
safety device type according to IEC 61508-2	Type B
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 for proof test interval or service life according to IEC 61508	20 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

General Product Approval

Confirmation

General Product Approval

KC

EMV

Test Certificates

Special Test Certific-ate

Type Test Certific-ates/Test Report

other

Confirmation

other

Miscellaneous

Miscellaneous

Railway

Special Test Certific-ate

Further information

Siemens has decided to exit the Russian market (see here).
https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business
Siemens is working on the renewal of the current EAC certificates.
Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).
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=3RT1054-6SF36-3PA0
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-6SF36-3PA0
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-6SF36-3PA0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-6SF36-3PA0&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-6SF36-3PA0/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-6SF36-3PA0&objecttype=14&gridview=view1

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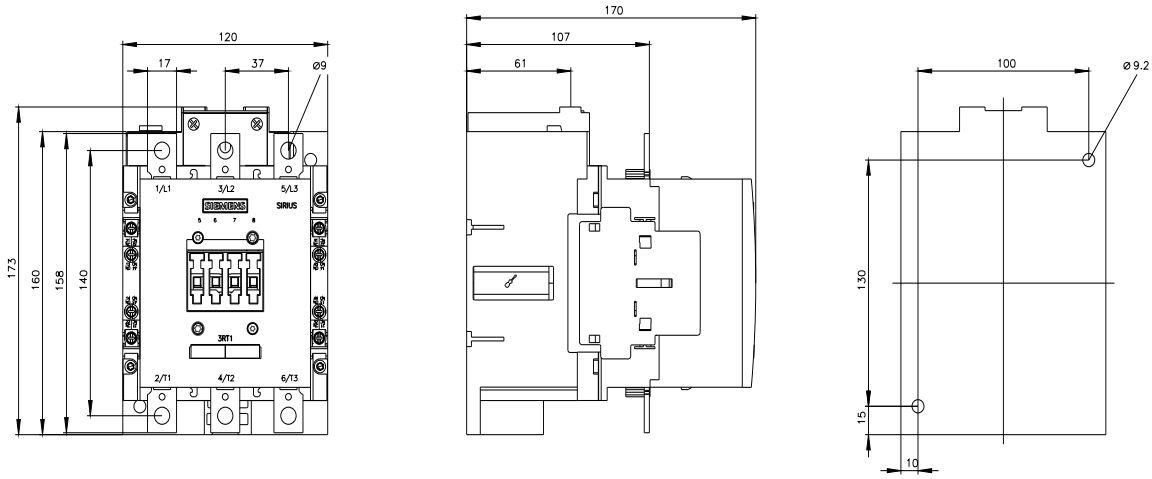

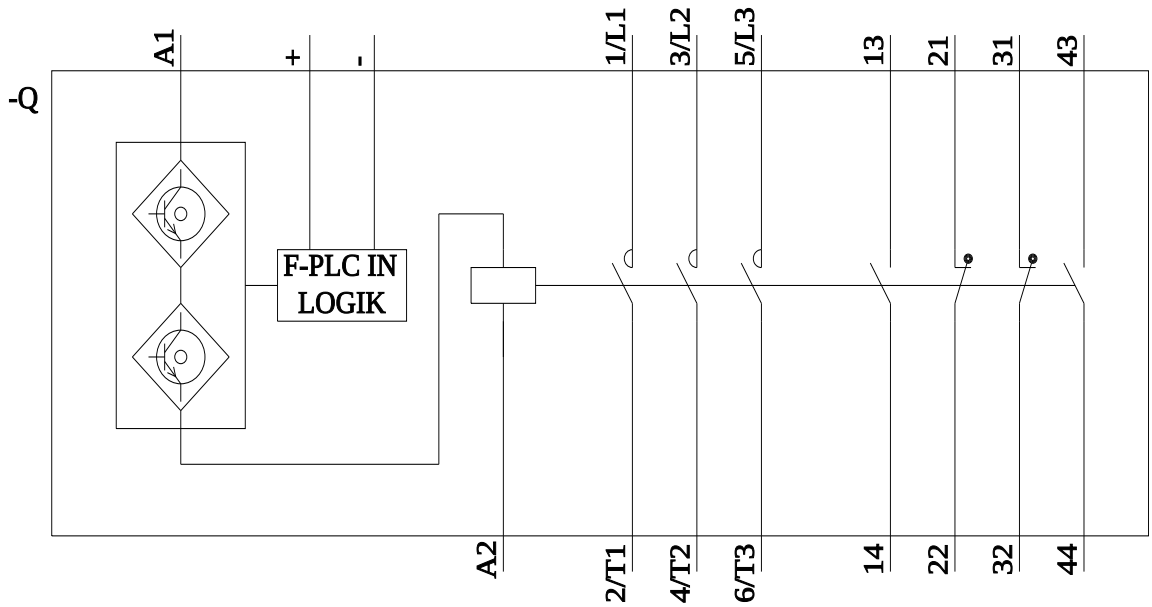

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