3RT1054-6SP36-3PA0

Data sheet



power contactor, AC-3e/AC-3 115 A, 55 kW / 400 V, AC (50-60 Hz) / DC Uc: 200-277 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 2,2',6,6'-Tetrabrom-4,4'-isopropylidendi - 79-94-7 Perfluorbutansulfonsäure (PFBS) und ihre
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	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 at AC-3 	80 A
— 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 50 V rated value — at 110 V rated value	18 A
	3.4 A
— at 220 V rated value— at 440 V rated value	0.8 A
	0.5 A
— at 600 V rated value	U.U A

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	1.0 A
— 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-	
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

• 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 $^{\circ}\text{C}$	
 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	200 277 V
at 60 Hz rated value	200 277 V
control supply voltage at DC	
• rated value	200 277 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	0.41/4
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	0.51/4
— at 50 Hz	3.5 VA
— at 60 Hz	3.5 VA
at maximum rated control supply voltage at AC	

— at 50 Hz	4.8 VA
— at 60 Hz	4.8 VA
apparent holding power of magnet coil at AC	
● 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	2
contact	2
number of NO contacts for auxiliary contacts instantaneous	2
contact	
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	aa, ottioning por 100 timiloti (11 v, 1 till ()
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]	1247
for single-phase AC motor	
ior single-phase AC motor — at 230 V rated value	25 ho
	25 hp
• for 3-phase AC motor	40 ha
— 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 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
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 mm ²
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	
product function	
mirror contact according to IEC 60947-4-1	Yes
 positively driven operation according to IEC 60947-5-1 	
	No
	No Type B
safety device type according to IEC 61508-2	Type B

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	С
category according to EN ISO 13849-1	2
stop category according to EN 60204-1	0
PFHD with high demand rate according to EN 62061	4.5E-7 1/h
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
Safe failure fraction (SFF)	93 %
PFDavg with low demand rate according to IEC 61508	0.007
MTBF	75 a
hardware fault tolerance according to IEC 61508	0
T1 value for proof test interval or service life according to IEC 61508	20 a
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
Contification	

Certificates/ approvals

General Product Approval



Confirmation





<u>KC</u>



EMC Functional Safety/Safety chinery	f Ma- Declaration of Conformity	Test Certificates
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Type Examination Certificate





Special Test Certificate

Type Test Certificates/Test Report

other	Railway

<u>Miscellaneous</u> <u>Confirmation</u> <u>Miscellaneous</u> <u>Special Test Certificate</u>

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=3RT1054-6SP36-3PA0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-6SP36-3PA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-6SP36-3PA0

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

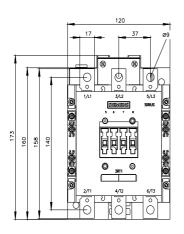
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-6SP36-3PA0&lang=en

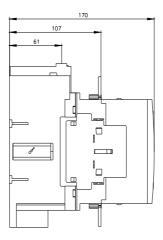
Characteristic: Tripping characteristics, I²t, Let-through current

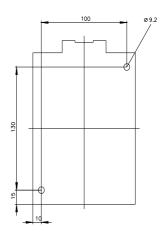
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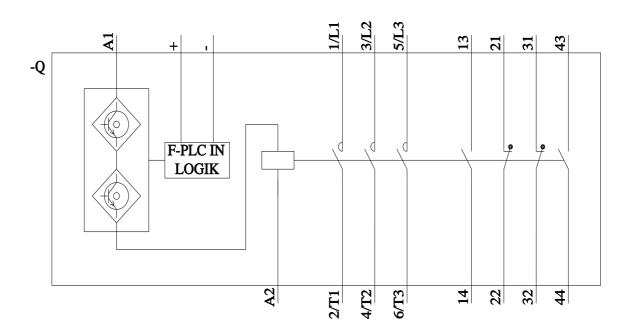
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-6SP36-3PA0&objecttype=14&gridview=view1

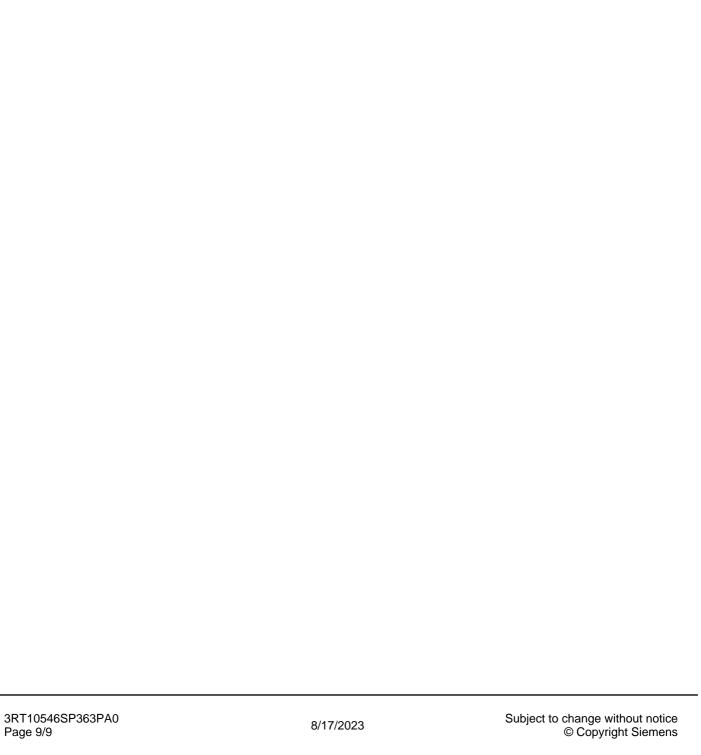








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