SIEMENS

Data sheet 3RT1054-1PP35



power contactor, AC-3e/AC-3 115 A, 55 kW / 400 V, AC (50-60 Hz) / DC Uc: 200-277 V PLC input 24 V DC 3-pole, auxiliary contacts 1 NO + 1 NC drive: electronic main circuit: box terminal control and auxiliary circuit: screw terminal , remaining lifetime signal

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 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 (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)	05/01/2012		
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	160 A
rated value	
• at AC-1	160 A
 up to 690 V at ambient temperature 40 °C rated value 	100 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	98 A
value — 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

with 2 current paths in series at DC-1	400 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	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	400 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 4 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 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-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 400 V rated value at 690 V rated value	48 kW
operating apparent power at AC-6a	TO INV
• 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 rated value rated value	130 000 VA
up to 1000 V for current peak value n=20 rated value 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	90 000 VA
value	

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 800 1/h • at AC-2 maximum 400 1/h • at AC-3 maximum 1 000 1/h • at AC-3e maximum 1 000 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 0.8 initial value full-scale value 1.1 operating range factor control supply voltage rated value of magnet coil at AC 0.8 ... 1.1 • at 50 Hz 0.8 ... 1.1 at 60 Hz type of PLC-control input according to IEC 60947-1 Type 2 consumed current at PLC-control input according to 20 mA IEC 60947-1 maximum voltage at PLC-control input rated value 24 V operating range factor of the voltage at PLC-control 0.8 ... 1.1 design of the surge suppressor with varistor 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 of magnet coil at AC • at 50 Hz 4.8 VA 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 35 ... 75 ms at AC at DC 35 ... 75 ms opening delay 80 ... 90 ms at AC at DC 80 ... 90 ms arcing time 10 ... 15 ms control version of the switch operating mechanism PLC-IN or Standard A1 - A2 (adjustable) **Auxiliary circuit** number of NC contacts for auxiliary contacts 1 instantaneous contact number of NO contacts for auxiliary contacts

in the share and the share sha			
instantaneous contact	40.4		
operational current at AC-12 maximum	10 A		
operational current at AC-15	0.4		
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	40.4		
• 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	40.4		
• 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 at 220 V rated value	0.9 A		
at 220 V rated value at 600 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 / Q600		
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		
for about almost works at a set the set of t	V, 50 kA)		
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)		
for short-circuit protection of the RLT relay output	miniature fuse: 4 A FF (230 V, Ik= 400 A)		
required			
Installation/ mounting/ dimensions			
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting		
3,7	surface +/- 22.5° tiltable to the front and back		
fastening method	screw fixing		
 side-by-side mounting 	Yes		
height	172 mm		
width	140 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

type of electrical connection

- for main current circuit • for auxiliary and control circuit
- · at contactor for auxiliary contacts
- of magnet coil

type of connectable conductor cross-sections for main contacts

- stranded
- · solid or stranded
- finely stranded with core end processing
- finely stranded without core end processing

connectable conductor cross-section for main contacts

- stranded
- finely stranded with core end processing
- finely stranded without core end processing

connectable conductor cross-section for auxiliary contacts

- solid or stranded
- finely stranded with core end processing

type of connectable conductor cross-sections

- for auxiliary contacts
 - solid
 - solid or stranded
 - finely stranded with core end processing
- at AWG cables for auxiliary contacts

AWG number as coded connectable conductor cross section

• for auxiliary contacts

box terminal

screw-type terminals

Screw-type terminals

Screw-type terminals

max. 1x 50, 1x 70 mm²

16 ... 70 mm²

16 ... 70 mm²

16 ... 70 mm²

0.5 ... 4 mm²

0.5 ... 2.5 mm²

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²)

2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), max. 2x (0,75 ... 4 mm²) 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)

2x (20 ... 16), 2x (18 ... 14), 1x 12

18 ... 14

Safety related data

product function

mirror contact according to IEC 60947-4-1

• positively driven operation according to IEC 60947-

B10 value with high demand rate according to SN 31920

T1 value for proof test interval or service life according to IEC 61508

protection class IP on the front according to IEC 60529

touch protection on the front according to IEC 60529

suitability for use · safety-related switching OFF Yes

No

1 000 000

20 a

IP20

finger-safe, for vertical contact from the front

Yes

Certificates/ approvals

General Product Approval





Confirmation



KC





Type Examination Certificate





Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping











Confirmation

other

other			Railway	
<u>Miscellaneous</u>	<u>Miscellaneous</u>	Confirmation	Vibration and Shock	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=3RT1054-1PP35

Cax online generator

 $\underline{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT1054-1PP35}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1PP35

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

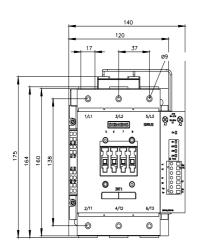
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-1PP35&lang=en

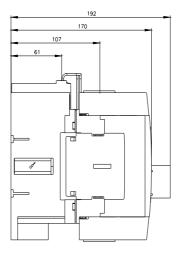
Characteristic: Tripping characteristics, I2t, Let-through current

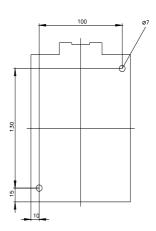
https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1PP35/char

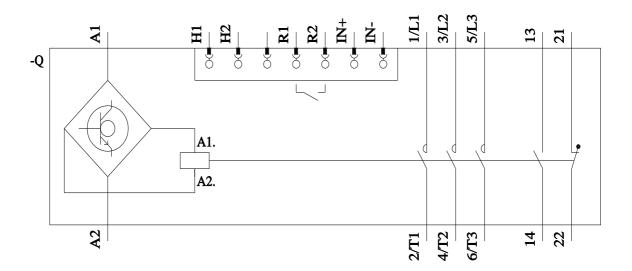
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-1PP35&objecttype=14&gridview=view1









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