SIEMENS

Data sheet

3RT1054-1AF36



power contactor, AC-3 115 A, 55 kW / 400 V AC (50-60 Hz) / DC operation 110-127 V AC/DC auxiliary contacts 2 NO + 2 NC 3-pole, frame size S6 with box terminals drive: conventional screw terminal

product designation Power contactor product type designation 3RT1 size of contactor S6 product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 7 • at AC in hot operating state per pole 7 • of main circuit with degree of pollution 3 rated value 5.2 W insulation voltage 1000 V • of main circuit with degree of pollution 3 rated value 500 V • of main circuit with degree of pollution 3 rated value 6 kV • of main circuit rated value 8 kV • of maxiliary circuit rated value 8 kV • of maxiliary circuit rated value 6 kV • of maxiliary circuit rated value 8 kV • of auxiliary circuit rated value 8 kV • at AC 8 kg / 5 ms, 4.2g / 10 ms * at AC 13.4g / 5 ms, 6.5g / 10 ms • at AC 13.4g / 5 ms, 6.5g / 10 ms • at AC 13.4g / 5 ms, 6.5g / 10 ms • at AC 10 000 000 • at AC 10 00	product brand name	SIRIUS
General tock-hical data size of contactor S6 product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current + + + + + + + + + + + + + + + + + + +	product designation	Power contactor
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product extension No • function module for communication Yes • auxiliary switch Yes • auxiliary switch Yes • at AC in hot operating state 21 W • at AC in hot operating state per pole 7 W • without load current share typical 5.2 W Insulation voltage 1 000 V • 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 • of auxiliary circuit rated value 6 kV • of main circuit rated value 6 kV • of main circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • of main dircuit rated value 6 kV • of auxiliary circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • at AC 8.5g / 5 ms, 4.2g / 10 ms • at AC 8.5g / 5 ms, 4.2g / 10 ms • at AC 13.4g / 5 ms, 6.5g / 10 ms • at AC 13.4g / 5 ms, 6.5g / 10 ms • at AC 10 000 000 • of the contactor with added electronically optimized auxiliary switch block 10 000 000 • of the contactor with added auxiliary switch block 10 000 000 <td< th=""><th>General technical data</th><th></th></td<>	General technical data	
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• at AC in hot operating state per pole 7 W • without load current share typical 5.2 W insulation voltage 1000 V • of main circuit with degree of pollution 3 rated value 1000 V • of main circuit with degree of pollution 3 rated value 500 V • of main circuit rated value 8 kV • of main circuit rated value 8 kV • of auxiliary circuit rated value 6 kV • of auxiliary circuit rated value 8 kV • at AC 8.5g / 5 ms, 4.2g / 10 ms • at AC 13.4g / 5 ms, 6,5g / 10 ms • at AC 13.4g / 5 ms, 6,5g / 10 ms • at DC 13.4g / 5 ms, 6,5g / 10 ms • at DC 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary swit	auxiliary switch	Yes
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Insulation voltage 0 • 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 6 • of main circuit rated value 8 kV • of auxiliary circuit rated value 8 kV • of auxiliary circuit rated value 8 kV • of auxiliary circuit rated value 6 kV maximum permissible voltage for safe isolation between coll and main contacts according to EN 60947-1 690 V shock resistance at rectangular impulse 8,5g / 5 ms, 4,2g / 10 ms • at AC 8,5g / 5 ms, 6,5g / 10 ms • at DC 13,4g / 5 ms, 6,5g / 10 ms • at DC 10 000 000 • at DC 10 000 000 • of contactor typical 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • 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 2 000 m installation altitude at height above sea level maximum 2 000 m	 at AC in hot operating state per pole 	7 W
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Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C	reference code according to IEC 81346-2	Q
installation altitude at height above sea level maximum 2 000 m ambient temperature during operation -25 +60 °C 	Substance Prohibitance (Date)	05/01/2012
ambient temperature • during operation -25 +60 °C	Ambient conditions	
• during operation -25 +60 °C	installation altitude at height above sea level maximum	2 000 m
	ambient temperature	
• during storage -55 +80 °C	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	1000 V
•	160.4
 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	160 A
rated value	100 A
— up to 690 V at ambient temperature 60 °C	140 A
rated value	
— up to 1000 V at ambient temperature 40 °C	80 A
rated value	
— up to 1000 V at ambient temperature 60 °C	80 A
rated value	
• 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	115 A
value	445.4
 — 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	115 A
value	137
— up to 690 V for current peak value n=20 rated	115 A
value	
— up to 1000 V for current peak value n=20 rated	53 A
value	
● 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 	98 A
value	
 up to 500 V for current peak value n=30 rated 	98 A
value	00.4
 — 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	53 A
value	
minimum cross-section in main circuit at maximum AC-1	70 mm ²
rated value	
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 24 M rated value	400 A
— at 24 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	
— at 24 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 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 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 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 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 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 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 000 V for current peak value n=20 rated value 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 	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	2 000 1/h		
• at DC	2 000 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	110 127 V		
at 60 Hz rated value	110 127 V		
control supply voltage at DC			
rated value	110 127 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		
design of the surge suppressor	with varistor		
apparent pick-up power of magnet coil at AC			
• at 50 Hz	300 VA		
• at 60 Hz	300 VA		
inductive power factor with closing power of the coil			
• at 50 Hz	0.9		
• at 60 Hz	0.9		
apparent holding power of magnet coil at AC			
• at 50 Hz	5.8 VA		
• at 60 Hz	5.8 VA		
inductive power factor with the holding power of the			
coil			
• at 50 Hz	0.8		
• at 60 Hz	0.8		
closing power of magnet coil at DC	360 W		
holding power of magnet coil at DC	5.2 W		
closing delay			
• at AC	20 95 ms		
• at DC	20 95 ms		
opening delay			
• at AC	40 60 ms		
• at DC	40 60 ms		
arcing time	10 15 ms		
control version of the switch operating mechanism	Standard A1 - A2		
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 / 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 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	box terminal			
 for auxiliary and control circuit 	screw-type terminals			
 at contactor for auxiliary contacts 	Screw-type terminals			
 of magnet coil 	Screw-type terminals			
type of connectable conductor cross-sections				
for main contacts				
- stranded	max. 1x 50, 1x 70 mm²			
— solid or stranded	max. 1x 50, 1x 70 mm ²			
 — solid of stranded — finely stranded with core end processing 				
	max. 1x 50, 1x 70 mm ²			
 finely stranded without core end processing at AWG cables for main contacts 	max. 1x 50, 1x 70 mm² 2x 1/0			
connectable conductor cross-section for main contacts				
stranded	16 70 mm²			
 finely stranded with core end processing 	16 70 mm²			
 finely stranded without core end processing 	16 70 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 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 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			
B10 value with high demand rate according to SN 31920	1 000 000			
protection class IP on the front according to IEC	IP20			
60529				
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front			
suitability for use				
 safety-related switching OFF 	Yes			
Certificates/ approvals				
General Product Approval				
Confirmat				
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CSA CCC				

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EMC	Functional Safety/Safety of Machinery	Declaration of Cor	nformity	Test Certificates	
RCM	<u>Type Examination</u> <u>Certificate</u>	C C EG-Konf.		Special Test Certific- ate	<u>Type Test Certific-</u> ates/Test Report
Marine / Shipping					other
ABS	Lloyds Register urs	PRS	KMRS	UNV-GL DW1LCOMM	<u>Confirmation</u>
other			Railway		
<u>Miscellaneous</u>	<u>Miscellaneous</u>	Confirmation	Special Test Certific- ate		

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=3RT1054-1AF36

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-1AF36

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1AF36

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-1AF36&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1AF36/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-1AF36&objecttype=14&gridview=view1

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