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Data sheet 3RT5054-1AF36



Contactor 110...127 V AC/DC AC3 kW 400 V AC (50...60 Hz) / DC operation auxiliary contacts 2 NO + 2 NC, 3-pole, size S6 with box terminals conventional operating mechan. screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT5
General technical data	
size of contactor	S6
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
● at AC in hot operating state per pole	7 W
● without load current share typical	4.3 W
type of calculation of power loss current-dependent	quadratic
insulation voltage rated value	1 000 V
degree of pollution	3
surge voltage resistance rated value	8 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	8,5 g / 5 ms, 4,2 g / 10 ms
● at DC	8,5 g / 5 ms, 4,2 g / 10 ms
shock resistance with sine pulse	
● at AC	13,4 g / 5 ms, 6,5 g / 10 ms
● at DC	13,4 g / 5 ms, 6,5 g / 10 ms
mechanical service life (operating cycles)	
● of contactor typical	10 000 000
● of the contactor with added auxiliary switch block typical	10 000 000
Substance Prohibitance (day/month/year)	03/01/2017
SVHC substance name	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1
Net Weight	3.64 kg
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
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0
operating voltage	
● at AC-3 rated value maximum	1 000 V

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● at AC-3e rated value maximum	1 000 V
operational current	
● at AC-1 up to 690 V	
— at ambient temperature 40 °C rated value	160 A
— at ambient temperature 60 °C rated value	140 A
● at AC-3	
— at 400 V rated value	115 A
— at 690 V rated value	115 A
● at AC-3e	
— at 400 V rated value	115 A
— at 690 V rated value	115 A
— at 1000 V rated value	53 A
connectable conductor cross-section in main circuit at AC-1	
● at 60 °C minimum permissible	50 mm²
● at 40 °C minimum permissible	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
operating power	
● at AC-1	
— at 230 V at 60 °C rated value	53 kW
— at 400 V at 60 °C rated value	92 kW
— at 690 V at 60 °C rated value	159 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 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
short-time withstand current in cold operating state up to 40 °C limited to 10 s switching at zero current maximum	1 100 A
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-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

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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 V·A
● at 60 Hz	300 V·A
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 V·A
● at 60 Hz	5.8 V·A
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
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
operational current at DC-12	
● at 24 V rated value	6 A
● at 110 V rated value	3 A
● at 220 V rated value	1 A
operational current at DC-13	
● at 24 V rated value	6 A
● at 110 V rated value	1 A
● at 220 V rated value	0.3 A
UL/CSA ratings	
yielded mechanical performance [hp] for 3-phase AC motor at 460/480 V rated value	100 hp
Short-circuit protection	
design of the fuse link	
● for short-circuit protection of the main circuit	
— with type of coordination 1 required	fuse gL/gG: 355 A
— with type of coordination 2 required	fuse gL/gG: 250 A
● for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A
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 side-by-side mounting	Yes
fastening method	screw fixing
height	172 mm
width	120 mm
depth	170 mm
Connections/ Terminals	
type of electrical connection	
● for main current circuit	screw-type terminals
● for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections for main contacts	
● finely stranded with core end processing	max. 1x 50, 1x 70 mm²
● finely stranded without core end processing	max. 1x 50, 1x 70 mm²

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type of connectable conductor cross-sections	
● for auxiliary contacts	
— 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
Safety related data	
product function mirror contact according to IEC 60947-4-1	Yes
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

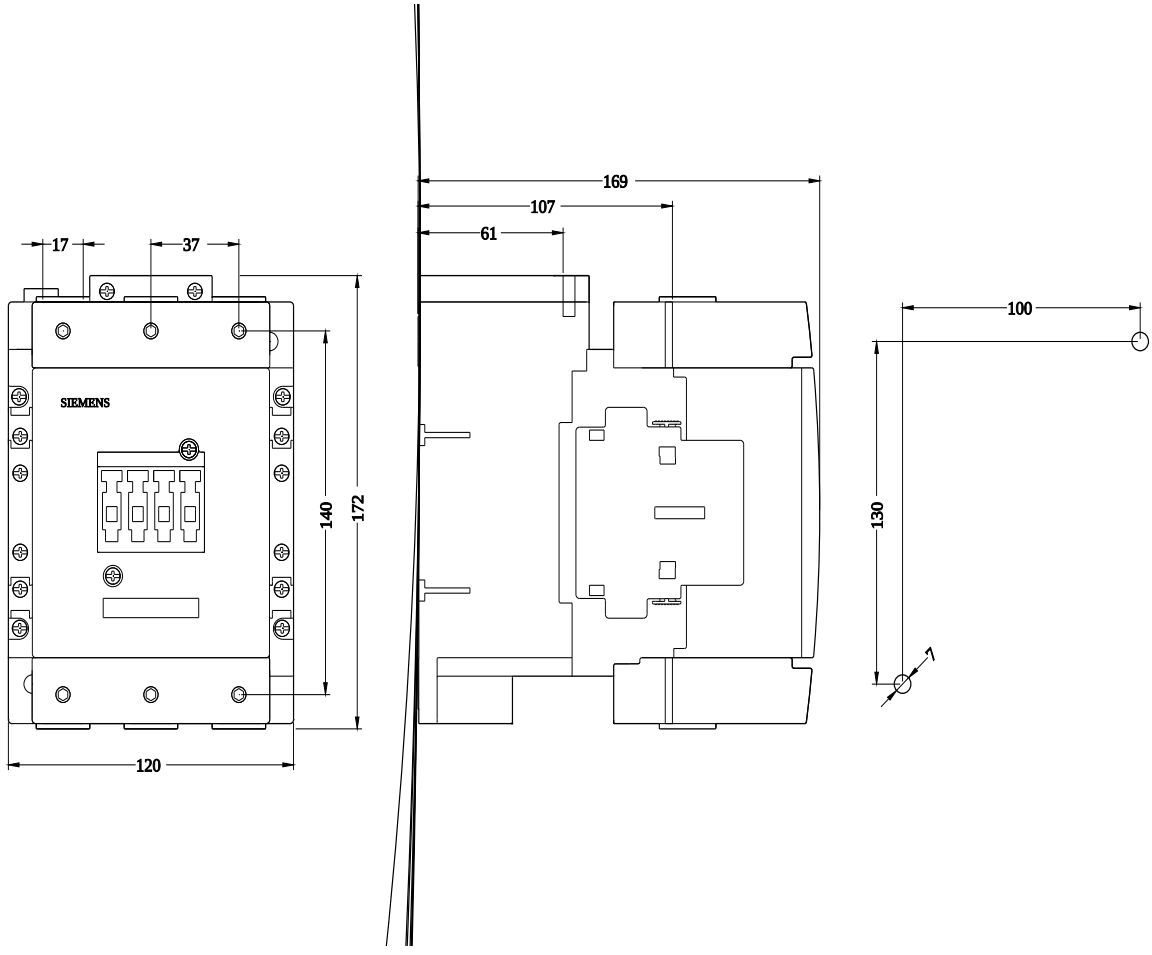
Approvals Certificates

General Product Approval					EMV
CCC	Confirmation	UL	EAC	CE EG-Konf.	RCM

Maritime application		other		Environment
LRS	CCS (China Classification Society)	Confirmation	产品合格 QC PASS	Environmental Confirmations

Further information

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