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Data sheet 3RT6025-1AL20



Contactor AC 230 V 50/60 HZ AC3 7.5 kW 400 V AUX contacts 1 NO +1 NC 3-pole, size S0 screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT6
General technical data	
size of contactor	S0
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
● at AC in hot operating state per pole	0.9 W
● without load current share typical	1.97 W
type of calculation of power loss current-dependent	quadratic
insulation voltage rated value	690 V
degree of pollution	3
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
● at AC	7,5 g / 5 ms, 4,7 g / 10 ms
shock resistance with sine pulse	
● at AC	11,8 g / 5 ms, 7,4 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)	05/01/2012
Net Weight	0.39 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	690 V
● at AC-3e rated value maximum	690 V
operational current	
● at AC-1 up to 690 V	
— at ambient temperature 40 °C rated value	40 A

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— at ambient temperature 60 °C rated value	35 A
● at AC-3	
— at 400 V rated value	17 A
— at 690 V rated value	13 A
● at AC-3e	
— at 400 V rated value	17 A
— at 690 V rated value	13 A
connectable conductor cross-section in main circuit at AC-1	
● at 60 °C minimum permissible	10 mm²
● at 40 °C minimum permissible	10 mm²
operational current for approx. 200000 operating cycles at AC-4	
● at 400 V rated value	7.7 A
● at 690 V rated value	7.7 A
operating power	
● at AC-1	
— at 230 V rated value	13.3 kW
— at 230 V at 60 °C rated value	13.3 kW
— at 400 V at 60 °C rated value	23 kW
— at 690 V at 60 °C rated value	40 kW
● at AC-3	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 690 V rated value	11 kW
● at AC-3e	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 690 V rated value	11 kW
operating power for approx. 200000 operating cycles at AC-4	
● at 400 V rated value	3.5 kW
● at 690 V rated value	6 kW
short-time withstand current in cold operating state up to 40 °C limited to 10 s switching at zero current maximum	150 A
no-load switching frequency	
● at AC	5 000 1/h
operating frequency	
● at AC-1 maximum	1 000 1/h
● at AC-3 maximum	1 000 1/h
● at AC-3e maximum	1 000 1/h
● at AC-4 maximum	300 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
● at 50 Hz rated value	230 V
● at 60 Hz rated value	230 V
operating range factor control supply voltage rated value of magnet coil at AC	
● at 50 Hz	0.8 ... 1.1
● at 60 Hz	0.85 ... 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	68 V·A
● at 60 Hz	67 V·A
inductive power factor with closing power of the coil	
● at 50 Hz	0.72
● at 60 Hz	0.74
apparent holding power of magnet coil at AC	
● at 50 Hz	7.9 V·A
● at 60 Hz	6.5 V·A

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inductive power factor with the holding power of the coil	
● at 50 Hz	0.25
● at 60 Hz	0.28
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	1
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
● at 230 V rated value	10 A
● at 400 V rated value	3 A
● at 690 V rated value	1 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
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
yielded mechanical performance [hp] for 3-phase AC motor at 460/480 V rated value	10 hp
Short-circuit protection	
design of the fuse link	
● for short-circuit protection of the main circuit	
— with type of coordination 1 required	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 63 A
— with type of coordination 2 required	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25 A
● for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
fastening method side-by-side mounting	Yes
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 50022
height	85 mm
width	45 mm
depth	97 mm
required spacing	
● with side-by-side mounting	
— at the side	0 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	
● solid or stranded	2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²)
● finely stranded with core end processing	2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²
type of connectable conductor cross-sections	
● for auxiliary contacts	
— solid or stranded	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 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)
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	

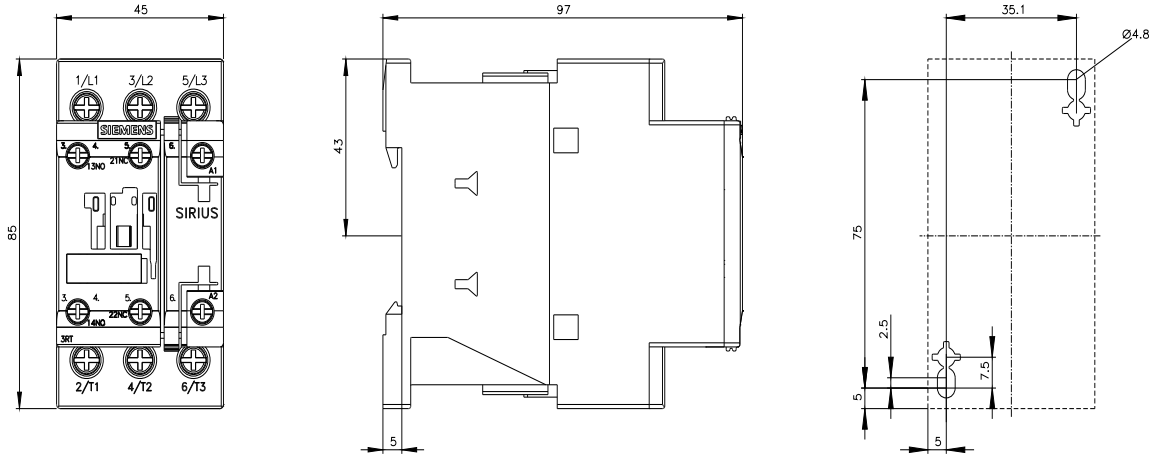
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General Product Approval					EMV
CCC	Confirmation	UL	EAC	CE EG-Konf.	RCM

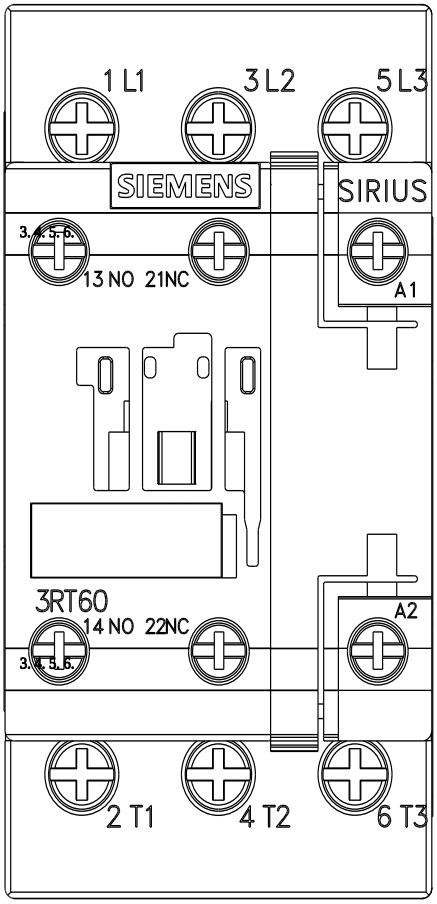
Maritime application		other		Environment
LRS	CCS (China Classification Society)	Confirmation	产品合格 QC PASS	Environmental Confirmations

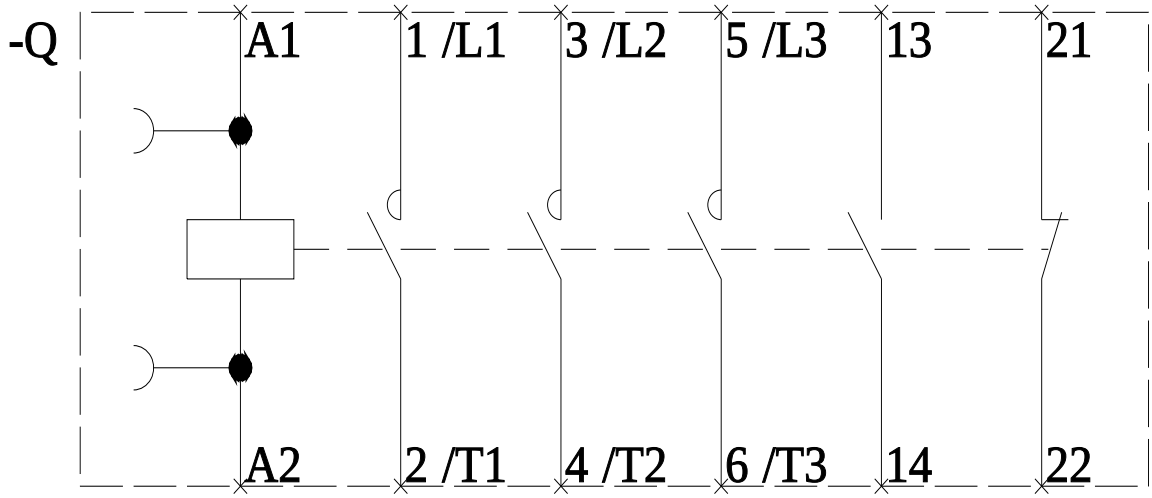
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