SIEMENS

Data sheet

3RT1456-6AS36



power contactor AC-1 275 A / 690 V / 40 $^\circ$ C 3-pole, Uc: 500-550 V AC(50-60 Hz) / DC drive: conventional auxiliary contacts 2 NO + 2 NC main circuit: busbar control and auxiliary circuit: screw terminal

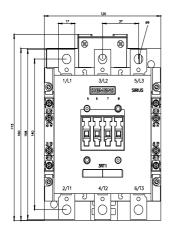
product brand name	SIRIUS
product designation	Contactor
product type designation	3RT14
General technical data	
size of contactor	S6
product extension	
 function module for communication 	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	86.4 W
 at AC in hot operating state per pole 	28.8 W
 without load current share typical 	5.2 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
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

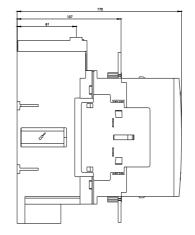
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0
type of voltage for main current circuit	AC
operational current	
• at AC-1	
up to 690 V at ambient temperature 40 °C rated value	275 A
— up to 690 V at ambient temperature 55 °C rated value	250 A
— up to 690 V at ambient temperature 60 °C rated value	250 A
• at AC-3	
— at 400 V rated value	97 A
— at 690 V rated value	97 A
minimum cross-section in main circuit at maximum AC-1 rated value	140 mm ²
no-load switching frequency	
• at AC	2 000 1/h
• at DC	2 000 1/h
operating frequency at AC-1 maximum	600 1/h
Control circuit/ Control	
type of voltage	AC/DC
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
• at 50 Hz rated value	500 550 V
• at 60 Hz rated value	500 550 V
control supply voltage at DC	
• rated value	500 550 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
inductive power factor with closing power of the coil	
• at 50 Hz	0.9
apparent holding power of magnet coil at AC	
• at 50 Hz	5.8 VA
inductive power factor with the holding power of the coil	
● at 50 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	2
attachable	4
instantaneous contact	2
number of NO contacts for auxiliary contacts	2
attachable	4
instantaneous contact	2

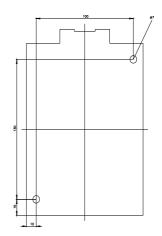
operational current at AC-12 maximum	10 A
operational current at AC-15	
 at 230 V rated value 	6 A
 at 400 V rated value 	3 A
• at 500 V rated value	2 A
• at 690 V rated value	1 A
operational current at DC-13	
• at 24 V rated value	10 A
• at 48 V rated value	2 A
 at 60 V rated value 	2 A
 at 110 V rated 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
design of the miniature circuit breaker for short-circuit protection	gG: 10 A (230 V, 400 A)
of the auxiliary switch required	4 fourther point 400 million (47) (4 m A)
contact reliability of auxiliary contacts Short-circuit protection	1 faulty switching per 100 million (17 V, 1 mA)
product function short circuit protection	No
design of the fuse link	
for short-circuit protection of the main circuit	-C- 255 A (000) (400 kA)
 — with type of coordination 1 required with type of coordination 2 required 	gG: 355 A (690 V, 100 kA)
 — with type of assignment 2 required a for obort circuit protection of the quiviliant quitab required 	gR: 350 A (690 V, 100 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	20
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
Connections/ Terminals	
type of electrical connection	Connection her
for main current circuit for auxiliant and control 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	25 120 mm ²
solid or stranded	25 120 mm ²
 stranded 	25 120 mm²

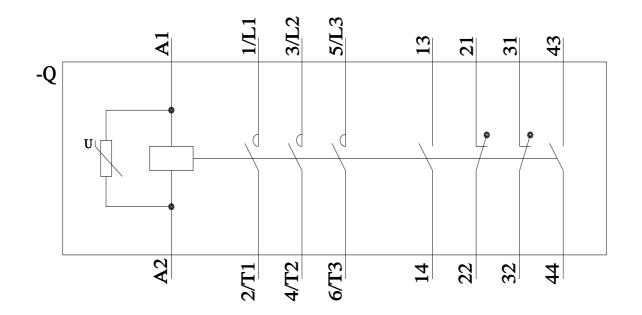
solid or strandedfinely stranded w		liary contacts			
 finely stranded w 			0.5 4 mm²		
 finely stranded with core end processing 		0.5 2.5 mm²			
type of connectable c	onductor cross-sections	5			
 for auxiliary containing 	acts				
— solid			2x (0.5 1.5 mm²), 2x (0.75 .	2.5 mm²), max. 2x (0.75	4 mm²)
— 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 f 	 for AWG cables for auxiliary contacts 		2x (20 16), 2x (18 14), 1x 12		
Safety related data					
product function					
 mirror contact ac 	 mirror contact according to IEC 60947-4-1 		Yes		
	 positively driven operation according to IEC 60947-5-1 		No		
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		rminal/cover
Certificates/ approvals			iniger care, for vertical contact		
General Product App	roval				
(S) M		Confirmation		KC	EHC
EMC	Functional Safety/Safety of Ma- chinery	Declaration of	Conformity	Test Certificates	
	<u>Type Examination Cer-</u> <u>tificate</u>	CE EG-Konf.	UK CA	<u>Type Test Certific-</u> ates/Test Report	<u>Special Test Certific-</u> <u>ate</u>
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