SIEMENS

Data sheet 3RT1446-1AP00

Contactor, AC-1, 140 A / 400 V, 230 V AC, 50 Hz, 3-pole, Size S3, Screw terminal !!! Phased-out product !!! Successor is SIRIUS 3RT2 Preferred successor type is >>3RT2446-1AP00<<

product brand name	SIRIUS
product designation	power contactor
General technical data	
size of contactor	S3
insulation voltage rated value	1 000 V
degree of pollution	3
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	690 V
protection class IP	
● on the front	IP20; IP20 on the front with cover / box terminal
● of the terminal	IP00
shock resistance at rectangular impulse	
● at AC	6.8g / 5 ms, 4g / 10 ms
shock resistance with sine pulse	
● at AC	10.6g / 5 ms, 6.2g / 10 ms
mechanical service life (switching 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 acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.05.2012 00:00:00
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
operational current	
● at AC-1 at 400 V at ambient temperature 40 °C rated value	140 A
● at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	140 A
— up to 690 V at ambient temperature 60 °C rated value	130 A

● at AC-3	
— at 400 V rated value	44 A
— at 690 V rated value	44 A
connectable conductor cross-section in main circuit at AC-1	
● at 60 °C minimum permissible	35 mm²
● at 40 °C minimum permissible	50 mm²
operational current	
● at 1 current path at DC-1	
— at 24 V rated value	130 A
— at 110 V rated value	12 A
● with 2 current paths in series at DC-1	
— at 24 V rated value	130 A
— at 110 V rated value	130 A
● with 3 current paths in series at DC-1	
— at 24 V rated value	130 A
— at 110 V rated value	130 A
operational current	
● at 1 current path at DC-3 at DC-5	
— at 24 V rated value	6 A
— at 110 V rated value	1.25 A
● with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	130 A
— at 110 V rated value	130 A
● with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	130 A
— at 110 V rated value	130 A
operating power	
● at AC-1	
— at 230 V at 60 °C rated value	50 kW
— at 400 V rated value	86 kW
— at 690 V rated value	148 kW
— at 690 V at 60 °C rated value	148 kW
● at AC-2 at 400 V rated value	22 kW
● at AC-3	
— at 230 V rated value	12.7 kW
— at 400 V rated value	22 kW
— at 500 V rated value	29.9 kW
— at 690 V rated value	38.2 kW
thermal short-time current limited to 10 s	600 A
no-load switching frequency	
● at AC	5 000 1/h
operating frequency	
● at AC-1 maximum	650 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
control supply voltage frequency	
● 1 rated value	50 Hz
operating range factor control supply voltage rated value of magnet coil at AC	
● at 50 Hz	0.8 ... 1.1
apparent pick-up power of magnet coil at AC	270 V·A
inductive power factor with closing power of the coil	0.68
apparent holding power of magnet coil at AC	22 V·A
inductive power factor with the holding power of the coil	0.27
closing delay	
● at AC	17 ... 90 ms
opening delay	

● at AC	10 ... 25 ms
arcing time	10 ... 15 ms
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	0
number of NO contacts for auxiliary contacts instantaneous contact	0
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 60 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	10 A
● at 60 V rated value	2 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	
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	fuse gL/gG: 250 A
— with type of assignment 2 required	Fuse gR: 250 A
● for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A
Installation/ mounting/ dimensions	
fastening method	screw and snap-on mounting onto 35 mm and 75 mm standard mounting rail
● side-by-side mounting	Yes
height	146 mm
width	70 mm
depth	139 mm
required spacing for grounded parts at the side	6 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	2x (2.5 ... 16 mm²)
— stranded	2x (10 ... 50 mm²)
— solid or stranded	2x (2,5 ... 16 mm²)
— finely stranded with core end processing	2x (2.5 ... 35 mm²)
— finely stranded without core end processing	2x (10 ... 35 mm²)
● at AWG cables for main contacts	2x (10 ... 1/0)
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)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
● at AWG cables for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14), 1x 12
Certificates/ approvals	
General Product Approval	**EMC**

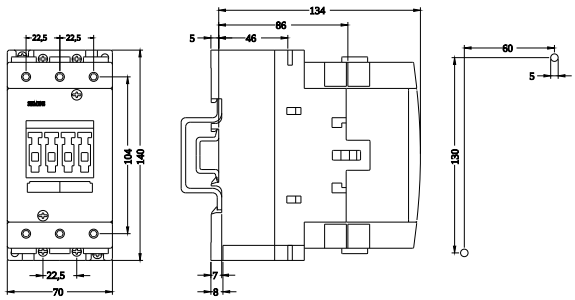
CSA	Confirmation	CCC	UL	EAC	RCM

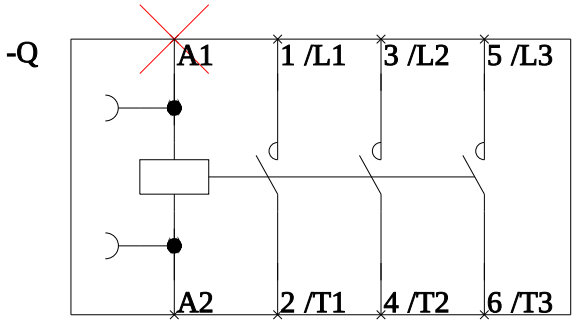
Declaration of Conformity		Test Certificates	Marine / Shipping		
EG-Konf.	UK Declaration of Conformity	Special Test Certific-ate	ABS	LRS	RINA

Marine / Shipping	other			Railway
RMRS	Confirmation	Miscellaneous	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=3RT1446-1AP00
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1446-1AP00
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RT1446-1AP00
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1446-1AP00&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RT1446-1AP00/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1446-1AP00&objecttype=14&gridview=view1





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