SIEMENS

Data sheet 3RT1046-1BB40

Power contactor, AC-3 95 A, 45 kW / 400 V 24 V DC, 3-pole, Size S3
Screw terminal !!! Phased-out product !!! Successor is SIRIUS 3RT2
Preferred successor type is >>3RT2046-1KB40<<

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 DC	6,8g / 5 ms, 4g / 10 ms
shock resistance with sine pulse	
● at DC	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	120 A
● at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	120 A

— up to 690 V at ambient temperature 60 °C rated value	100 A
— up to 1000 V at ambient temperature 40 °C rated value	70 A
— up to 1000 V at ambient temperature 60 °C rated value	60 A
● at AC-3	
— at 400 V rated value	95 A
— at 690 V rated value	58 A
— at 1000 V rated value	30 A
● at AC-4 at 400 V rated value	80 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 for approx. 200000 operating cycles at AC-4	
● at 400 V rated value	42 A
● at 690 V rated value	27 A
operational current	
● at 1 current path at DC-1	
— at 24 V rated value	100 A
— at 110 V rated value	9 A
● with 2 current paths in series at DC-1	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
● with 3 current paths in series at DC-1	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
operational current	
● at 1 current path at DC-3 at DC-5	
— at 24 V rated value	40 A
— at 110 V rated value	2.5 A
● with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
● with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
operating power	
● at AC-1	
— at 230 V at 60 °C rated value	38 kW
— at 400 V rated value	66 kW
— at 690 V rated value	114 kW
— at 690 V at 60 °C rated value	114 kW
— at 1000 V at 60 °C rated value	98 W
● at AC-2 at 400 V rated value	45 kW
● at AC-3	
— at 230 V rated value	22 kW
— at 400 V rated value	45 kW
— at 500 V rated value	55 kW
— at 690 V rated value	55 kW
— at 1000 V rated value	37 W
operating power for approx. 200000 operating cycles at AC-4	
● at 400 V rated value	22 kW
● at 690 V rated value	25.4 kW
thermal short-time current limited to 10 s	760 A
no-load switching frequency	
● at DC	1 000 1/h

operating frequency	
● at AC-1 maximum	900 1/h
● at AC-2 maximum	350 1/h
● at AC-3 maximum	850 1/h
● at AC-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC	
● rated value	24 V
operating range factor control supply voltage rated value of magnet coil at DC	
● initial value	0.8
● full-scale value	1.1
closing power of magnet coil at DC	15 W
holding power of magnet coil at DC	15 W
closing delay	
● at DC	90 ... 230 ms
opening delay	
● at DC	14 ... 20 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 gL/gG: 160 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	152 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

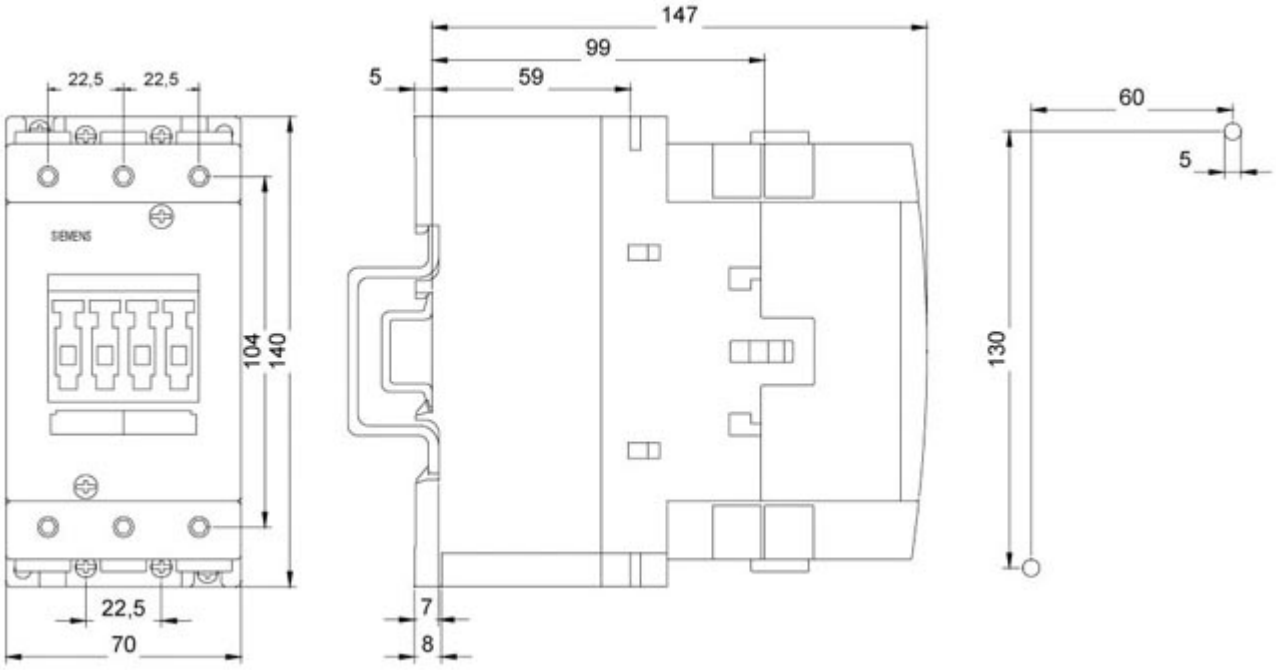
General Product Approval				EMC	Declaration of Conformity
CSA	CCC	UL	EAC	RCM	Miscellaneous

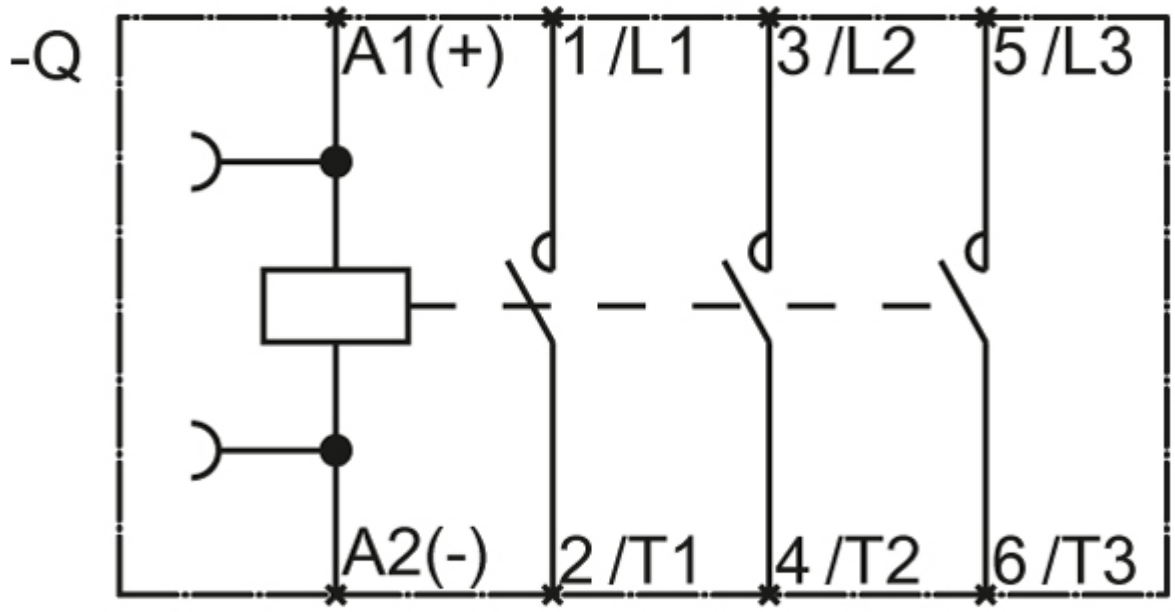
Declaration of Conformity	Test Certificates			Marine / Shipping	
EG-Konf.	Special Test Certific-ate	Type Test Certific-ates/Test Report	Miscellaneous	ABS	LRS

Marine / Shipping		other			Railway
RINA	RMRS	Miscellaneous	Confirmation	Miscellaneous	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=3RT1046-1BB40
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1046-1BB40
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RT1046-1BB40
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1046-1BB40&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RT1046-1BB40/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1046-1BB40&objecttype=14&gridview=view1





last modified: 12/23/2020