SIEMENS

Data sheet 3RT1516-1BB40

CONTACTOR, AC-3 4 KW/400 V, AC-1 18 A, DC 24 V, 4-POLE, 2 NO + 2 NC, SIZE S00, SCREW CONNECTION



Figure similar

product brand name	SIRIUS
Product designation	power contactor
General technical data:	
Size of contactor	S00
Insulation voltage	
• rated value	690 V
Protection class IP	
• on the front	IP20
Degree of pollution	3
Mechanical service life (switching cycles)	
of contactor typical	30 000 000
 of the contactor with added electronics- compatible auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
Ambient conditions:	
Installation altitude at height above sea level	2 000 m

maximum

Ambient temperature

during operation	-25 +60 °C
during storage	-55 +80 °C

Main circuit:	
Number of NO contacts for main contacts	2
Number of NC contacts for main contacts	2
Operating current	
• at AC-1 up to 690 V	
 at ambient temperature 40 °C rated value 	18 A
— at ambient temperature 60 °C rated value	16 A
• at AC-2 at AC-3 at 400 V	
 per NO contact rated value 	9 A
 per NC contact rated value 	9 A
Connectable conductor cross-section in main circuit	
at AC-1	
• at 60 °C minimum permissible	2.5 mm²
at 40 °C minimum permissible	2.5 mm²
Operating current	
• at 1 current path at DC-1	
— at 24 V rated value	16 A
— at 110 V rated value	2.1 A
— at 220 V rated value	0.8 A
— at 440 V rated value	0.6 A
 with 2 current paths in series at DC-1 	
— at 24 V rated value	16 A
— at 110 V rated value	12 A
— at 220 V rated value	1.6 A
— at 440 V rated value	0.8 A
Operating current	
• at 1 current path at DC-3 at DC-5	
 at 24 V per NC contact rated value 	16 A
 at 24 V per NO contact rated value 	16 A
 at 110 V per NC contact rated value 	0.075 A
 at 110 V per NO contact rated value 	0.15 A
 at 220 V per NC contact rated value 	0.375 A
— at 220 V per NO contact rated value	0.75 A
• with 2 current paths in series at DC-3 at DC-5	
 at 110 V per NC contact rated value 	0.175 A
— at 110 V per NO contact rated value	0.35 A
— at 24 V per NC contact rated value	16 A
— at 24 V per NO contact rated value	16 A
Operating power	

• at AC-1	
— at 230 V rated value	6.5 kW
— at 400 V rated value	11 kW
• at AC-2 at AC-3	
— at 230 V per NC contact rated value	3 kW
— at 230 V per NO contact rated value	3 kW
— at 400 V per NC contact rated value	4 kW
— at 400 V per NO contact rated value	4 kW
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor	0.7 W
Operating frequency	
● at AC-1 maximum	1 000 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	0.85 1.1
Closing power of magnet coil at DC	3.3 W
Holding power of magnet coil at DC	3.3 W
Closing delay	
● at AC	8 35 ms
• at DC	25 100 ms
Opening delay	
• at AC	4 30 ms
• at DC	7 10 ms
Arcing time	10 15 ms
Control version of the switch operating mechanism	conventional
Residual current of the electronics for control with signal <0>	
 at DC at 24 V maximum permissible 	0.01 A

Auxiliary circuit:	
Number of NC contacts	
• for auxiliary contacts	
 instantaneous contact 	0
Number of NO contacts	
• for auxiliary contacts	
 instantaneous contact 	0
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
• at 230 V rated value	6 A
• at 400 V rated value	3 A

Operating 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
Operating 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)

Short	-cırcuit	protecti	on

Design of the fuse link	Design	of the	fuse	link
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• for short-circuit protection of the main circuit

— with type of assignment 1 required

— with type of assignment 2 required

• for short-circuit protection of the auxiliary switch required

fuse gL/gG: 35 A

fuse gL/gG: 20 A

fuse gL/gG: 10 A

Installation/ mounting/ dimensions:	
Mounting position	with vertical mounting surface +/-180° rotatable, with vertical mounting surface +/- 30° tiltable to the front and back
Mounting type	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
 Side-by-side mounting 	Yes
Height	57.5 mm
Width	45 mm
Depth	72 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 current circuit 	screw-type terminals	
Type of connectable conductor cross-sections		
• for main contacts		
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), max. 2x (0.75 4 mm²)	
 single or multi-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)	
 at AWG conductors for main contacts 	2x (20 16), 2x (18 14), 1x 12	
Type of connectable conductor cross-sections		
for auxiliary contacts		

- solid

- single or multi-stranded

- finely stranded with core end processing

• at AWG conductors for auxiliary contacts

 $2x\ (0.5\ ...\ 1.5\ mm^2),\ 2x\ (0.75\ ...\ 2.5\ mm^2),\ max.\ 2x\ (0.75\ ...\ 4\ mm^2)$

2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), max. 2x (0,75 ... 4 mm²)

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)

2x (20 ... 16), 2x (18 ... 14), 1x 12

Safety related data:

Failure rate [FIT]

• with low demand rate acc. to SN 31920

100 FIT

Certificates/approvals

General Product Approval

Functional Safety/Safety of Machinery











Baumusterbescheini gung

Declaration	ot
Conformity	

Test Certificates

Shipping Approval



spezielle Prüfbescheinigunge

O, SHIP



GL





Shipping

other

Approval

Umweltbestätigung

Bestätigungen

sonstig



Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT15161BB40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT15161BB40

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/3RT15161BB40

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT15161BB40&lang=en



