SIEMENS

Data sheet 3RT2518-1BB40

Power contactor, AC-3 16 A, 7.5 kW, 400 V 2 NO + 2 NC 24 V DC 4-pole
Size S00 screw terminals

product brand name	SIRIUS
product designation	contactor
product type designation	3RT25
General technical data	
size of contactor	S00
product extension	
● function module for communication	No
● auxiliary switch	Yes
insulation voltage	
● of main circuit with degree of pollution 3 rated value	690 V
● of auxiliary circuit with degree of pollution 3 rated value	690 V
surge voltage resistance	
● of main circuit rated value	6 kV
● of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	400 V
shock resistance at rectangular impulse	
● at DC	7.3g / 5 ms, 4.7g / 10 ms
shock resistance with sine pulse	
● at DC	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (switching cycles)	
● of contactor typical	30 000 000
● 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)	01.10.2009 00:00:00
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
● ambient temperature during operation	-25 ... +60 °C
● ambient temperature during storage	-55 ... +80 °C
Main circuit	
number of poles for main current circuit	4
number of NO contacts for main contacts	2
number of NC contacts for main contacts	2
operational current	

● at AC-1 up to 690 V	
— at ambient temperature 40 °C rated value	22 A
— at ambient temperature 60 °C rated value	20 A
● at AC-2 at AC-3 at 400 V	
— per NO contact rated value	16 A
— per NC contact rated value	9 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm²
operational current	
● at 1 current path at DC-1	
— at 24 V rated value	20 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	20 A
— at 110 V rated value	12 A
— at 220 V rated value	1.6 A
— at 440 V rated value	0.8 A
operational current	
● at 1 current path at DC-3 at DC-5	
— at 24 V per NC contact rated value	20 A
— at 24 V per NO contact rated value	20 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 24 V per NC contact rated value	20 A
— at 24 V per NO contact rated value	20 A
— at 110 V per NC contact rated value	0.175 A
— at 110 V per NO contact rated value	0.35 A
operating power at AC-2 at AC-3	
● at 230 V per NC contact rated value	2.2 kW
● at 230 V per NO contact rated value	4 kW
● at 400 V per NC contact rated value	4 kW
● at 400 V per NO contact rated value	7.5 kW
short-time withstand current in cold operating state up to 40 °C	
● limited to 1 s switching at zero current maximum	165 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 5 s switching at zero current maximum	165 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 10 s switching at zero current maximum	128 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 30 s switching at zero current maximum	92 A; Use minimum cross-section acc. to AC-1 rated value
● limited to 60 s switching at zero current maximum	74 A; Use minimum cross-section acc. to AC-1 rated value
power loss [W] at AC-3 at 400 V for rated value of the operational current per conductor	2.2 W
no-load switching frequency	
● at AC	10 000 1/h
● at DC	10 000 1/h
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	
● initial value	0.8
● full-scale value	1.1
inductive power factor with closing power of the coil	0.8

closing power of magnet coil at DC	4 W
holding power of magnet coil at DC	4 W
closing delay	
● at DC	30 ... 100 ms
opening delay	
● at DC	7 ... 13 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	10 A
● at 400 V rated value	3 A
operational current at DC-12	
● at 48 V rated value	6 A
● at 60 V rated value	6 A
● at 110 V rated value	3 A
● at 125 V rated value	2 A
● at 220 V rated value	1 A
● at 600 V rated value	0.15 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 220 V rated value	0.3 A
● at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
yielded mechanical performance [hp] for single-phase AC motor at 230 V rated value	2 hp
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	gG: 35 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 20A (690V, 100kA)
● for short-circuit protection of the auxiliary switch required	fuse 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	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	73 mm
required spacing	
● with side-by-side mounting	
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
● for grounded parts	

— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— at the side	6 mm
— downwards	0 mm
● for live parts	
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— 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 (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²
— solid or stranded	2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm²
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
● at AWG cables for main contacts	2x (20 ... 16), 2x (18 ... 14), 2x 12
type of connectable conductor cross-sections	
● for auxiliary contacts	
— solid	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²
— solid or stranded	2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 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), 2x 12
AWG number as coded connectable conductor cross section for main contacts	20 ... 12

Safety related data

product function	
● mirror contact acc. to IEC 60947-4-1	Yes; with 3RH29
● positively driven operation acc. to IEC 60947-5-1	No
T1 value for proof test interval or service life acc. to IEC 61508	20 y
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front

Certificates/ approvals

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

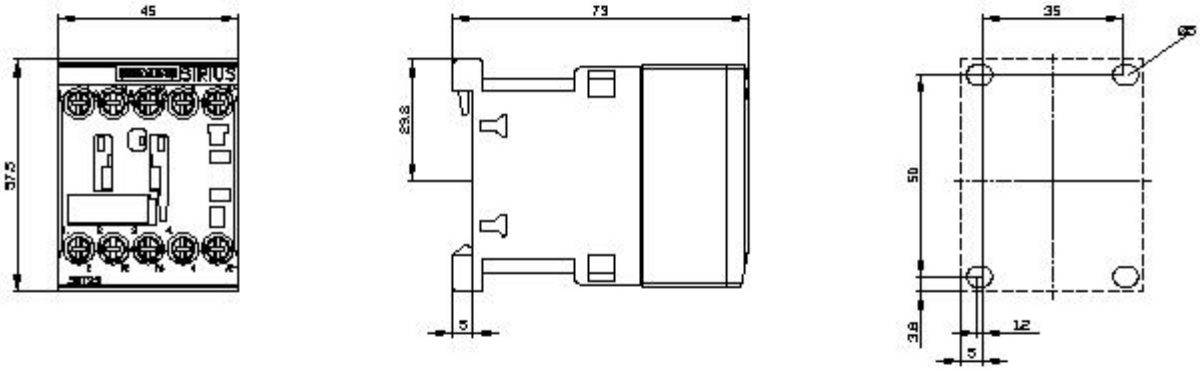
Declaration of Conformity	Test Certificates		Marine / Shipping		
EG-Konf.	Special Test Certificate	Type Test Certificates/Test Report	ABS	BUREAU VERITAS	LRS

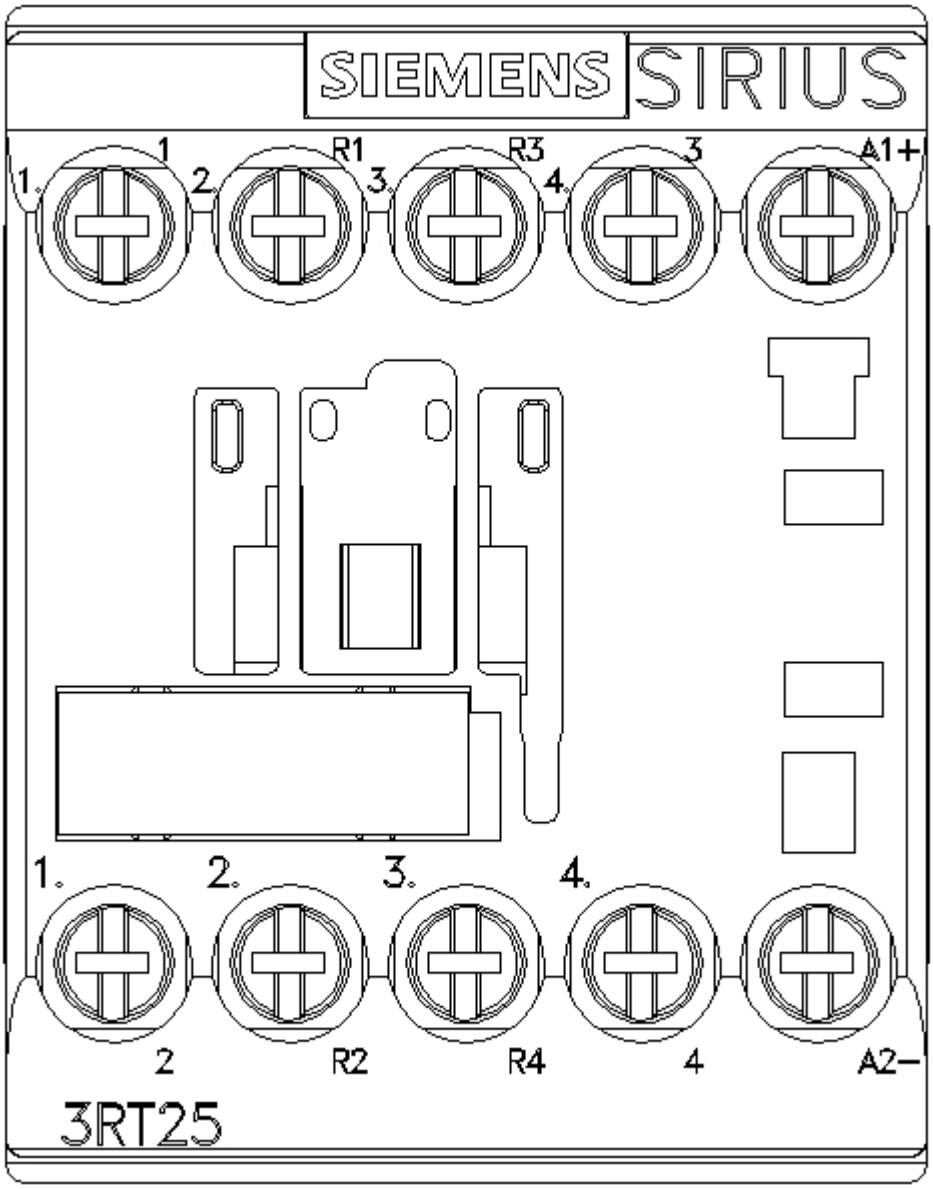
Marine / Shipping	other

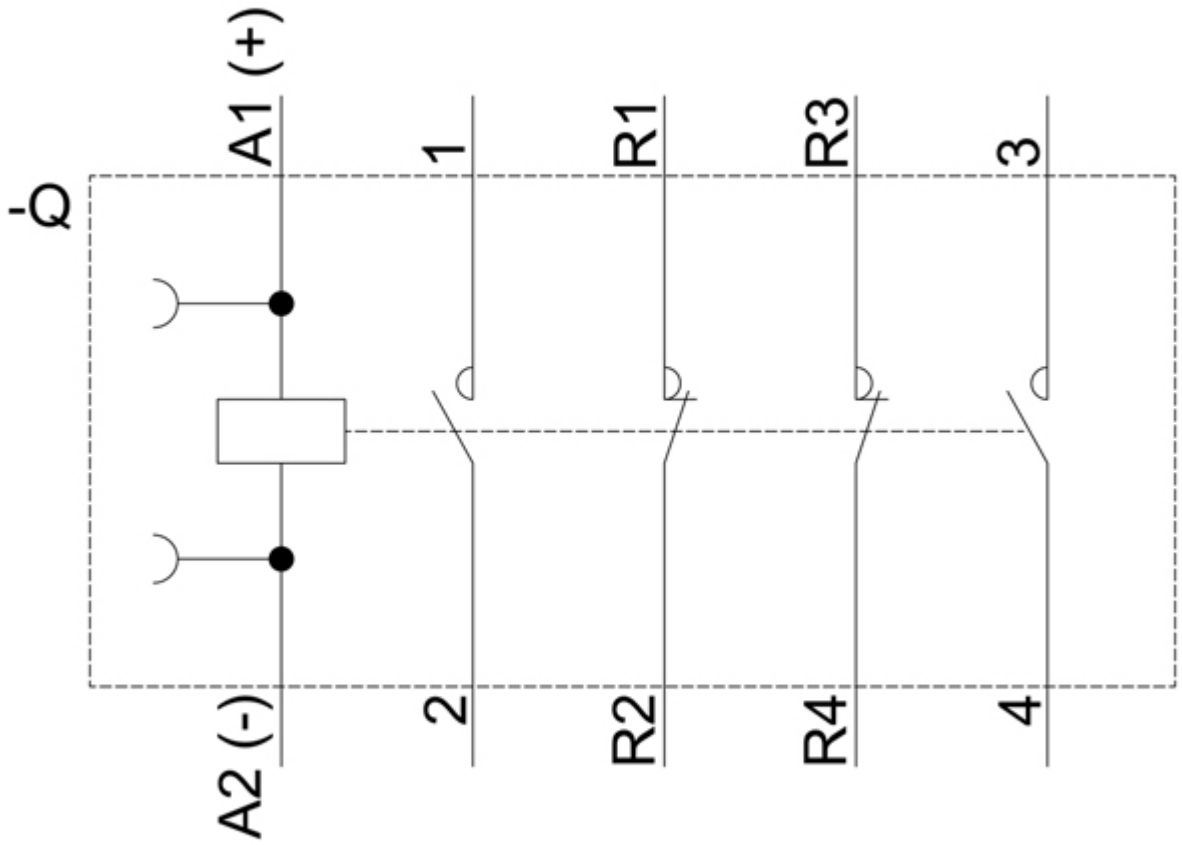
Confirmation

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=3RT2518-1BB40
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2518-1BB40
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RT2518-1BB40
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2518-1BB40&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RT2518-1BB40/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2518-1BB40&objecttype=14&gridview=view1







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