SIEMENS

Data sheet 3RT2516-1BM40



Power contactor, AC-3 9 A, 4 kW / 400 V 2 NO + 2 NC 220 V DC 4-pole Size S00 screw terminals

product designation product type designation size of contactor size of contactor of unction module for communication of auxiliary switch of auxiliary circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value of auxiliary circuit rated value of auxiliary switch sine puise of the contactor with sine puise of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the	product brand name	SIRIUS
Size of contactor product extension • function module for communication • auxiliary switch • of main circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of main circuit rated value • of auxiliary sircuit rated value • of auxiliary circuit rated value • of auxiliary sivint block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch blo	product designation	contactor
size of contactor product extension	product type designation	3RT25
product extension • function module for communication • auxiliary switch • auxiliary switch • of main circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit rated value • of work maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse • at DC • at DC • of, 7, 5 ms, 4, 2g / 10 ms shock resistance with sine pulse • at DC • of contactor with added electronically optimized auxiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor w	General technical data	
insulation module for communication auxiliary switch insulation voltage of main circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value of main circuit rated value of main circuit rated value of auxiliary switch sine pulse of the contactor with sine pulse of ontactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added	size of contactor	S00
insulation voltage of main circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value value surge voltage resistance of main circuit rated value of auxiliary circuit rated value of at DC of auxiliary switch sine pulse of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the	product extension	
insulation voltage of main circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value of main circuit rated value of auxiliary circuit rated value of kV maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse of at DC office (switching cycles) of contactor with sine pulse of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical office contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Involvacione installation altitude at height above sea level maximum ambient temperature of during operation of during storage office of C offi	 function module for communication 	No
of main circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value surge voltage resistance of main circuit rated value of auxiliary circuit rated value of kV maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse of tDC of contactor with sine pulse of contactor typical of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation of during operation of during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit number of poles for main current circuit 4 6 kV 6	auxiliary switch	Yes
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value surge voltage resistance of main circuit rated value of auxiliary circuit rated value anximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse out DC shock resistance with sine pulse out DC sh	 of main circuit with degree of pollution 3 rated value 	690 V
of main circuit rated value of auxillary circuit rated value of auxillary circuit rated value aximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse at DC shock resistance with sine pulse at DC shock resistance with sine pulse at DC		690 V
of auxiliary circuit rated value maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse o at DC shock resistance with sine pulse of contactor typical of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electron	surge voltage resistance	
maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse	of main circuit rated value	6 kV
shock resistance at rectangular impulse • at DC shock resistance with sine pulse • at DC 10,5g / 5 ms, 4,2g / 10 ms eat DC • of DC • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added	of auxiliary circuit rated value	6 kV
• at DC shock resistance with sine pulse • at DC mechanical service life (switching cycles) • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Questional Rubbert conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit number of poles for main current circuit 4		400 V
shock resistance with sine pulse	shock resistance at rectangular impulse	
at DC mechanical service life (switching cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation of during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit number of poles for main current circuit 4 30 000 000 10 000	• at DC	6,7g / 5 ms, 4,2g / 10 ms
mechanical service life (switching cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation of during storage relative humidity minimum relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit number of poles for main current circuit 4	shock resistance with sine pulse	
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reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/01/2009 Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature		5 000 000
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit number of poles for main current circuit 10/01/2009 2 000 m 2 000 m - 25 +60 °C - 25 +80 °C 95 % 95 %		10 000 000
installation altitude at height above sea level maximum ambient temperature during operation during storage during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit number of poles for main current circuit 2 000 m -25 +60 °C -55 +80 °C 10 % 95 %	reference code according to IEC 81346-2	Q
installation altitude at height above sea level maximum ambient temperature during operation during storage during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit number of poles for main current circuit 2 000 m -25 +60 °C -55 +80 °C 95 %	Substance Prohibitance (Date)	10/01/2009
ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit number of poles for main current circuit -25 +60 °C -25 +80 °C 10 % 95 % 95 %	Ambient conditions	
 during operation during storage telative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit number of poles for main current circuit 	installation altitude at height above sea level maximum	2 000 m
• during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit number of poles for main current circuit -55 +80 °C 95 % 95 %	ambient temperature	
relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit number of poles for main current circuit 10 % 95 % 4	 during operation 	-25 +60 °C
relative humidity at 55 °C according to IEC 60068-2-30 95 % Main circuit number of poles for main current circuit 4	during storage	-55 +80 °C
maximum Main circuit number of poles for main current circuit 4		10 %
number of poles for main current circuit 4		95 %
·	Main circuit	
	number of poles for main current circuit	4
number of NU contacts for main contacts 2	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	18 A
— at ambient temperature 40 °C rated value	16 A
at AC-2 at AC-3 at 400 V	10 /
— per NO contact rated value	9 A
— per NC contact rated value	9 A
minimum cross-section in main circuit at maximum AC-1	2.5 mm ²
rated value	2.5 11111
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
 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 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	0.175 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	2.2 kW
 at 400 V per NC contact rated value 	4 kW
• at 400 V per NO contact rated value	4 kW
short-time withstand current in cold operating state up to 40 °C	
Iimited to 1 s switching at zero current maximum	110 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	110 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	86 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	66 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	54 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	0.7 W
operational current per conductor	
no-load switching frequency	40,000,4/b
• 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	220 V
operating range factor control supply voltage rated value of magnet coil at DC	
value of magnet con at Do	
• initial value	0.8
_	0.8 1.1
• initial value	

closing dolay	
closing delay • at DC	30 100 ms
opening delay	00 100 III3
• at DC	7 13 ms
arcing time	10 15 ms
residual current of the electronics for control with	To To mo
signal <0>	
 at DC at 24 V maximum permissible 	0.01 A
Auxiliary circuit	
number of NC contacts for auxiliary contacts	0
instantaneous contact	
number of NO contacts for auxiliary contacts instantaneous contact	0
operational current at AC-12 maximum	10 A
operational current at AC-15	1071
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 	1 hp
• for 3-phase AC motor at 460/480 V rated value	5 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
mounting position	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	
at contactor for auxiliary contacts	Screw-type terminals	
of magnet coil	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 according to IEC 60947-4-1 	Yes; with 3RH29	
 positively driven operation according to IEC 60947- 5-1 	No	
protection class IP on the front according to IEC 60529	IP20	
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front	
Certificates/ approvals		
General Product Approval		EMC



Confirmation









Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Marine / Shipping

Type Examination Certificate UK Declaration of Conformity



Special Test Certificate

Type Test Certificates/Test Report



Marine / Shipping













other

Dangerous Good

Confirmation



Transport Informa-<u>tion</u>

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=3RT2516-1BM40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2516-1BM40

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2516-1BM40

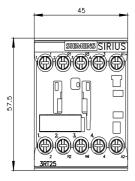
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

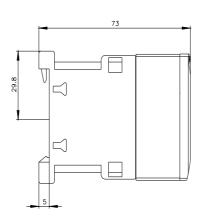
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2516-1BM40&lang=en

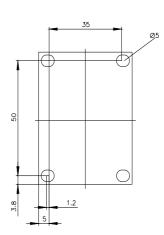
Characteristic: Tripping characteristics, I2t, Let-through current

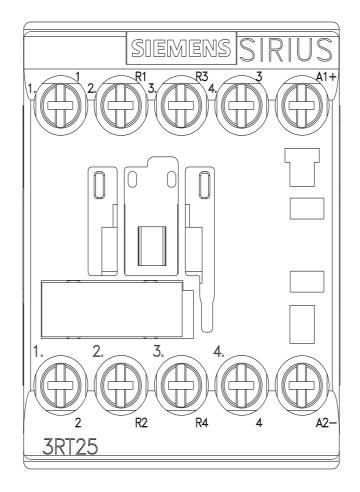
https://support.industry.siemens.com/cs/ww/en/ps/3RT2516-1BM40/char

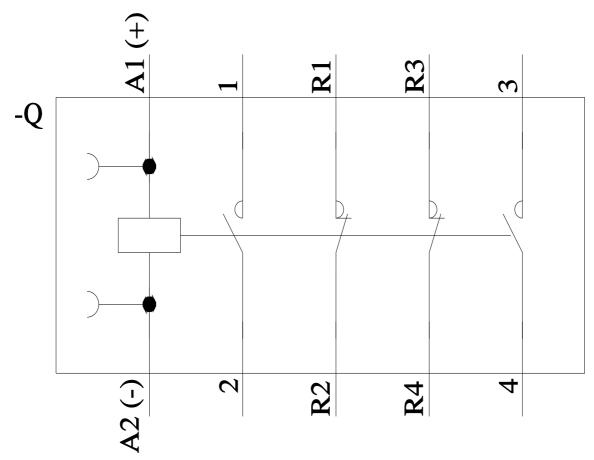
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2516-1BM40&objecttype=14&gridview=view1











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