



Power contactor, AC-3 400 A, 200 kW / 400 V AC (50-60 Hz) / DC operation 200-277 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S12 Busbar connections Drive: electronic with PLC interface 24 V DC Spring-type terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT1
General technical data	
size of contactor	S12
product extension	
• function module for communication	No
• auxiliary switch	Yes
power loss [W] for rated value of the current at AC in hot operating state	105 W
• per pole	35 W
power loss [W] for rated value of the current without load current share typical	3.6 W
surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• at DC	8,5g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 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 Prohibition (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
• ambient temperature during storage	-55 ... +80 °C
Main circuit	
number of poles for main current circuit	3

number of NO contacts for main contacts	3
● operating voltage at AC-3 rated value maximum	1 000 V
operational current	
● at AC-1 at 400 V at ambient temperature 40 °C rated value	430 A
● at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	430 A
— up to 690 V at ambient temperature 60 °C rated value	400 A
— up to 1000 V at ambient temperature 40 °C rated value	200 A
— up to 1000 V at ambient temperature 60 °C rated value	200 A
● at AC-3	
— at 400 V rated value	400 A
— at 500 V rated value	400 A
— at 690 V rated value	400 A
— at 1000 V rated value	180 A
● at AC-4 at 400 V rated value	350 A
● at AC-5a up to 690 V rated value	378 A
● at AC-5b up to 400 V rated value	332 A
● at AC-6a	
— up to 230 V for current peak value n=20 rated value	395 A
— up to 400 V for current peak value n=20 rated value	395 A
— up to 500 V for current peak value n=20 rated value	395 A
— up to 690 V for current peak value n=20 rated value	395 A
— up to 1000 V for current peak value n=20 rated value	180 A
● at AC-6a	
— up to 230 V for current peak value n=30 rated value	264 A
— up to 400 V for current peak value n=30 rated value	264 A
— up to 500 V for current peak value n=30 rated value	264 A
— up to 690 V for current peak value n=30 rated value	264 A
— up to 1000 V for current peak value n=30 rated value	180 A
minimum cross-section in main circuit at maximum AC-1 rated value	300 mm ²
operational current for approx. 200000 operating cycles at AC-4	
● at 400 V rated value	150 A
● at 690 V rated value	135 A
operational current	
● at 1 current path at DC-1	
— at 24 V rated value	400 A
— at 110 V rated value	33 A
— at 220 V rated value	3.8 A
— at 440 V rated value	0.9 A
— at 600 V rated value	0.6 A
● with 2 current paths in series at DC-1	
— at 24 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	400 A
— at 440 V rated value	4 A

— at 600 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value	2 A 400 A 400 A 400 A 11 A 5.2 A
operational current • at 1 current path at DC-3 at DC-5 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-3 at DC-5 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-3 at DC-5 — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value	400 A 3 A 0.6 A 0.18 A 0.125 A 400 A 400 A 2.5 A 0.65 A 0.37 A 400 A 400 A 400 A 1.4 A 0.75 A
operating power • at AC-3 — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 1000 V rated value	132 kW 200 kW 250 kW 400 kW 250 kW
operating power for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value	85 kW 133 kW
operating apparent power at AC-6a • up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 1000 V for current peak value n=20 rated value	150 000 kV·A 270 000 V·A 340 000 V·A 470 000 V·A 310 000 V·A
operating apparent power at AC-6a • up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 1000 V for current peak value n=30 rated value	100 000 V·A 180 000 V·A 220 000 V·A 310 000 V·A 310 000 V·A
short-time withstand current in cold operating state up to 40 °C • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum	6 600 A; Use minimum cross-section acc. to AC-1 rated value 5 761 A; Use minimum cross-section acc. to AC-1 rated value 4 143 A; Use minimum cross-section acc. to AC-1 rated value 2 635 A; Use minimum cross-section acc. to AC-1 rated value 2 088 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	

• at AC • at DC	1 000 1/h 1 000 1/h
operating frequency • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum	700 1/h 200 1/h 500 1/h 130 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value	200 ... 277 V 200 ... 277 V
control supply voltage at DC • rated value	200 ... 277 V
type of PLC-control input acc. to IEC 60947-1	Type 2
consumed current at PLC-control input acc. to IEC 60947-1 maximum	20 mA
voltage at PLC-control input rated value	24 V
operating range factor of the voltage at PLC-control input	0.8 ... 1.1
operating range factor control supply voltage rated value of magnet coil at DC • initial value • full-scale value	0.8 1.1
operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz	0.8 ... 1.1 0.8 ... 1.1
design of the surge suppressor	with varistor
apparent pick-up power of magnet coil at AC • at 50 Hz	750 V·A
inductive power factor with closing power of the coil • at 50 Hz	0.8
apparent holding power of magnet coil at AC • at 50 Hz	7 V·A
inductive power factor with the holding power of the coil • at 50 Hz	0.8
closing power of magnet coil at DC	800 W
holding power of magnet coil at DC	3.6 W
closing delay • at AC • at DC	60 ... 90 ms 60 ... 90 ms
opening delay • at AC • at DC	80 ... 100 ms 80 ... 100 ms
arcing time	10 ... 15 ms
control version of the switch operating mechanism	PLC-IN or Standard A1 - A2 (adjustable)
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value	6 A 3 A 2 A 1 A
operational current at DC-12	

• at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value	10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at DC-13 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value	10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value	361 A 382 A
yielded mechanical performance [hp] • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value	125 hp 150 hp 300 hp 400 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 — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required	gG: 630 A (690 V, 100 kA) gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 kA) gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method • side-by-side mounting	screw fixing Yes
height	214 mm
width	160 mm
depth	225 mm
required spacing • with side-by-side mounting — forwards — upwards — downwards — at the side • for grounded parts — forwards — upwards — at the side — downwards • for live parts — forwards — upwards — downwards — at the side	20 mm 10 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm 20 mm 10 mm 10 mm 10 mm

Connections/ Terminals			
width of connection bar	25 mm		
thickness of connection bar	6 mm		
diameter of holes	11 mm		
number of holes	1		
type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil	Connection bar spring-loaded terminals Spring-type terminals Spring-type terminals		
type of connectable conductor cross-sections • at AWG cables for main contacts	2/0 ... 500 kcmil		
connectable conductor cross-section for main contacts • stranded	70 ... 240 mm²		
connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing • finely stranded without core end processing	0.25 ... 2.5 mm² 0.25 ... 1.5 mm² 0.25 ... 2.5 mm²		
type of connectable conductor cross-sections • for auxiliary contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing • at AWG cables for auxiliary contacts	2x (0.25 ... 2.5 mm²) 2x (0,25 ... 2,5 mm²) 2x (0.25 ... 1.5 mm²) 2x (0.25 ... 2.5 mm²) 2x (24 ... 14)		
• AWG number as coded connectable conductor cross section for auxiliary contacts	24 ... 14		
Safety related data			
B10 value with high demand rate acc. to SN 31920	1 000 000		
product function • mirror contact acc. to IEC 60947-4-1 • positively driven operation acc. to IEC 60947-5-1	Yes No		
protection class IP on the front acc. to IEC 60529	IP00; IP20 with box terminal/cover		
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover		
suitability for use safety-related switching OFF	Yes		
Certificates/ approvals			
General Product Approval	EMC	Declaration of Conformity	
 CSA  CCC  UL   RCM  EG-Konf.			
Declaration of Conformity	Test Certificates	Marine / Shipping	other
Miscellaneous	Type Test Certificates/Test Report	Special Test Certificate	Confirmation
		 ABS	 RMRS
other		Railway	

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=3RT1075-2NP36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1075-2NP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-2NP36>

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

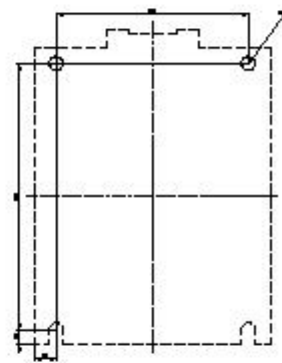
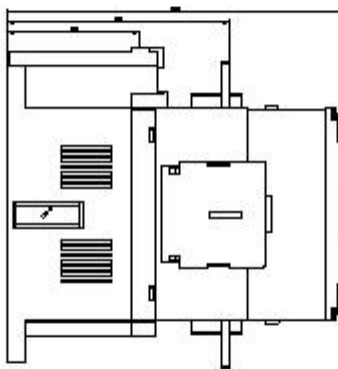
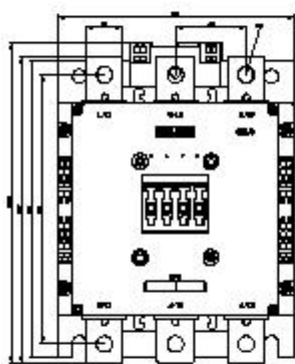
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1075-2NP36&lang=en

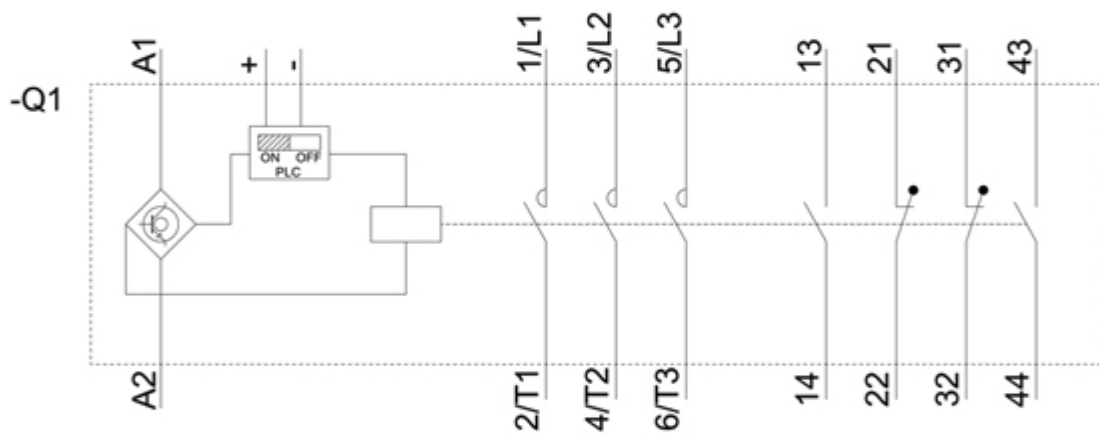
Characteristic: Tripping characteristics, I^2t , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-2NP36/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1075-2NP36&objecttype=14&gridview=view1>





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