## **SIEMENS**

Data sheet 3RT1075-6AF36



Power contactor, AC-3 400 A, 200 kW / 400 V AC (50-60 Hz) / DC operation 110-127 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S12 Busbar connections Drive: conventional screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT1
General technical data	
size of contactor	S12
product extension	
<ul> <li>function module for communication</li> </ul>	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	10 W
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	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)	
<ul> <li>of contactor typical</li> </ul>	10 000 000
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
reference code acc. to IEC 81346-2	Q
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	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	430 A
• at AC-1	
<ul> <li>up to 690 V at ambient temperature 40 °C rated value</li> </ul>	430 A
<ul> <li>up to 690 V at ambient temperature 60 °C rated value</li> </ul>	400 A
<ul> <li>up to 1000 V at ambient temperature 40 °C rated value</li> </ul>	200 A
— up to 1000 V at ambient temperature 60 $^{\circ}\text{C}$ 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
<ul> <li>at AC-5a up to 690 V rated value</li> </ul>	378 A
<ul> <li>at AC-5b up to 400 V rated value</li> </ul>	332 A
• at AC-6a	
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	395 A
— up to 400 V for current peak value n=20 rated value	395 A
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	395 A
<ul> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	395 A
<ul> <li>up to 1000 V for current peak value n=20 rated value</li> </ul>	180 A
• at AC-6a	
<ul> <li>up to 230 V for current peak value n=30 rated value</li> </ul>	264 A
— up to 400 V for current peak value n=30 rated value	264 A
<ul> <li>up to 500 V for current peak value n=30 rated value</li> </ul>	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 <sup>2</sup>
operational current for approx. 200000 operating cycles at AC-4	450 A
• at 400 V rated value	150 A
at 690 V rated value	135 A
operational current	
• at 1 current path at DC-1	400 A
— 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
<ul> <li>with 2 current paths in series at DC-1</li> </ul>	
— 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	2 A

<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
— 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	11 A
— at 600 V rated value	5.2 A
operational current	
<ul> <li>at 1 current path at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	400 A
— at 110 V rated value	3 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.18 A
— at 600 V rated value	0.125 A
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	2.5 A
— at 440 V rated value	0.65 A
— at 600 V rated value	0.37 A
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— 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	1.4 A
— at 600 V rated value	0.75 A
operating power	
• at AC-3	
— at 230 V rated value	132 kW
— at 400 V rated value	200 kW
— at 500 V rated value	250 kW
— at 690 V rated value	400 kW
— at 1000 V rated value	250 kW
operating power for approx. 200000 operating cycles at AC-4	
at 400 V rated value	85 kW
• at 690 V rated value	133 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	150 000 kV·A
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	270 000 V·A
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	340 000 V·A
<ul> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	470 000 V·A
up to 1000 V for current peak value n=20 rated value	310 000 V·A
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	100 000 V·A
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	180 000 V A
<ul> <li>up to 500 V for current peak value n=30 rated value</li> </ul>	220 000 V-A
<ul> <li>up to 690 V for current peak value n=30 rated value</li> </ul>	310 000 V A
<ul> <li>up to 1000 V for current peak value n=30 rated</li> </ul>	310 000 V A
value	
short-time withstand current in cold operating state up to 40 °C	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	6 600 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	5 761 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	4 143 A; Use minimum cross-section acc. to AC-1 rated value
_	
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	2 635 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 50's switching at zero current maximum     Ilmited to 60's switching at zero current maximum	2 088 A; Use minimum cross-section acc. to AC-1 rated value
limited to 60 s switching at zero current maximum	

• at DC	2 000 1/h
operating frequency	2 000 1/11
at AC-1 maximum	700 1/h
at AC-1 maximum     at AC-2 maximum	200 1/h
at AC-2 maximum     at AC-3 maximum	500 1/h
• at AC-4 maximum	130 1/h
Control circuit/ Control	1070
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
at 50 Hz rated value	110 127 V
at 60 Hz rated value	110 127 V
control supply voltage at DC	
rated value	110 127 V
operating range factor control supply voltage rated value of magnet coil at DC	
initial value	0.8
full-scale value	1.1
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 1.1
● at 60 Hz	0.8 1.1
design of the surge suppressor	with varistor
apparent pick-up power of magnet coil at AC	
• at 50 Hz	830 V·A
inductive power factor with closing power of the coil	
• at 50 Hz	0.9
apparent holding power of magnet coil at AC	
• at 50 Hz	9.2 V·A
inductive power factor with the holding power of the coil	
• at 50 Hz	0.9
closing power of magnet coil at DC	920 W
holding power of magnet coil at DC	10 W
closing delay	
• at AC	45 100 ms
• at DC	45 100 ms
opening delay	
• at AC	60 100 ms
• at DC	60 100 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts	2
instantaneous contact	
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	6 A
<ul><li>at 400 V rated value</li></ul>	3 A
<ul> <li>at 500 V rated value</li> </ul>	2 A
at 690 V rated value	1 A
operational current at DC-12	
<ul><li>at 24 V rated value</li></ul>	10 A
<ul> <li>at 48 V rated value</li> </ul>	6 A
<ul><li>at 60 V rated value</li></ul>	6 A
<ul> <li>at 110 V rated value</li> </ul>	3 A
<ul> <li>at 125 V rated value</li> </ul>	2 A
<ul><li>at 220 V rated value</li></ul>	1 A

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

tune of electrical connection				
type of electrical connection	Connection has			
for main current circuit	Connection bar			
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				
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				
<ul> <li>solid or stranded</li> </ul>	0.5 4 mm²			
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 2.5 mm²			
type of connectable conductor cross-sections				
<ul> <li>for auxiliary contacts</li> </ul>				
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), max. 2x (0.75 4 mm²)			
— solid or stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), max. 2x (0,75 4 mm²)			
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)			
<ul> <li>at AWG cables for auxiliary contacts</li> </ul>	2x (20 16), 2x (18 14), 1x 12			
AWG number as coded connectable conductor cross section for auxiliary contacts	18 14			
Safety related data				
B10 value with high demand rate acc. to SN 31920	1 000 000			
product function				
<ul> <li>mirror contact acc. to IEC 60947-4-1</li> </ul>	Yes			
<ul> <li>positively driven operation acc. to IEC 60947-5-1</li> </ul>	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 conta	ct from the front with be	ox terminal/cover	
suitability for use safety-related switching OFF	Yes			
Certificates/ approvals				
General Product Approval		EMC	Declaration of Conformity	













Declaration of Conformity	Test Certificates			Marine / Shipping	
Miscellaneous	Type Test Certificates/Test Report	Special Test Certificate	<u>Miscellaneous</u>	ABS	RMRS

Marine / Shipping	other				Railway
	Confirmation	Miscellaneous	Confirmation	Miscellaneous	Special Test Certificate

## Further information

Information- and Downloadcenter (Catalogs, Brochures,...) <a href="https://www.siemens.com/ic10">https://www.siemens.com/ic10</a>

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1075-6AF36

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1075-6AF36

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-6AF36

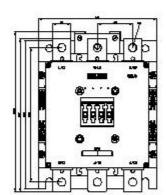
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1075-6AF36&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1075-6AF36&lang=en</a>

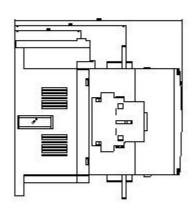
Characteristic: Tripping characteristics, I²t, Let-through current

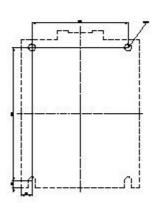
https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-6AF36/char

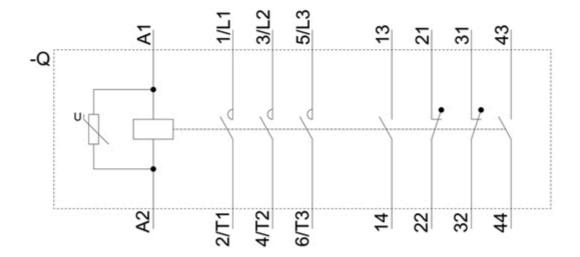
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1075-6AF36&objecttype=14&gridview=view1









last modified: 12/18/2020 🖸