SIEMENS

Data sheet 3RT2036-1AN00

power contactor, AC-3 50 A, 22 kW / 400 V 1 NO + 1 NC, 220 V AC, 50 Hz, 3-pole, Size S2, screw terminal



product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2

General technical data		
size of contactor	S2	
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 	12 W	
 at AC in hot operating state per pole 	4 W	
power loss [W] for rated value of the current without	16 W	
load current share typical		
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 	400 V	
60947-1		

protection class IP		
• on the front	IP20	
of the terminal	IP00	
shock resistance at rectangular impulse		
• at AC	11.8g / 5 ms, 7.4g / 10 ms	
shock resistance with sine pulse		
● at AC	18.5g / 5 ms, 11.6g / 10 ms	
mechanical service life (switching cycles)		
of contactor typical	10 000 000	
 of the contactor with added electronics- 	5 000 000	
compatible auxiliary switch block typical		
of the contactor with added auxiliary switch	10 000 000	
block typical		
reference code acc. to DIN EN 81346-2	Q	
Ambient conditions		
• installation altitude at height above sea level	2 000 m	
maximum		
ambient temperature	05	
during operation	-25 +60 °C	
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	690 V	
operating current		
• at AC-1 at 400 V		
 — at ambient temperature 40 °C rated value 	70 A	
• at AC-1		
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$		
rated value	70 A	
rated value — up to 690 V at ambient temperature 60 °C rated value	70 A 60 A	
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$		
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value		
 up to 690 V at ambient temperature 60 °C rated value at AC-3 	60 A	
 — up to 690 V at ambient temperature 60 °C rated value • at AC-3 — at 400 V rated value 	60 A 51 A	
 up to 690 V at ambient temperature 60 °C rated value at AC-3 at 400 V rated value at 500 V rated value 	60 A 51 A 51 A	
 — up to 690 V at ambient temperature 60 °C rated value • at AC-3 — at 400 V rated value — at 500 V rated value — at 690 V rated value 	60 A 51 A 51 A 24 A	
 up to 690 V at ambient temperature 60 °C rated value at AC-3 at 400 V rated value at 500 V rated value at 690 V rated value at AC-4 at 400 V rated value 	60 A 51 A 51 A 24 A 41 A	

 up to 230 V for current peak value n=20 rated value 	43.2 A
 up to 400 V for current peak value n=20 rated value 	43.2 A
 up to 500 V for current peak value n=20 rated value 	43.2 A
 up to 690 V for current peak value n=20 rated value 	24 A
• at AC-6a	
up to 230 V for current peak value n=30 rated value	28.8 A
 up to 400 V for current peak value n=30 rated value 	28.8 A
— up to 500 V for current peak value n=30 rated value	28.8 A
 up to 690 V for current peak value n=30 rated value 	24 A
minimum cross-section in main circuit	
 at maximum AC-1 rated value 	25 mm²
operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	24 A
• at 690 V rated value	20 A
operating current	
• at 1 current path at DC-1	
— at 24 V rated value	55 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
 with 2 current paths in series at DC-1 	
— at 24 V rated value	55 A
— at 110 V rated value	45 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
 with 3 current paths in series at DC-1 	
— at 24 V rated value	55 A
— at 110 V rated value	55 A
— at 220 V rated value	45 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
operating current	

35 A 2.5 A 1 A	
2.5 A	
1 A	
0.1 A	
0.06 A	
55 A	
25 A	
5 A	
0.27 A	
0.16 A	
55 A	
55 A	
25 A	
0.6 A	
0.35 A	
22 kW	
15 kW	
22 kW	
30 kW	
22 kW	
12.6 kW	
18.2 kW	
17.2 kV·A	
29.9 kV·A	
37.4 kV·A	
28.6 kV·A	
11.4 kV·A	
19.9 kV·A	

 up to 500 V for current peak value n=30 rated value 	24.9 kV·A
 up to 690 V for current peak value n=30 rated value 	28.6 kV·A
short-time withstand current in cold operating state	
up to 40 °C	
 limited to 1 s switching at zero current maximum 	937 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	697 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	468 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	282 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	229 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	5 000 1/h
operating frequency	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	600 1/h
• at AC-3 maximum	800 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	

Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
● at 50 Hz rated value	220 V
operating range factor control supply voltage rated value of magnet coil at AC	
● at 50 Hz	0.8 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	190 V·A
inductive power factor with closing power of the coil	
● at 50 Hz	0.72
apparent holding power of magnet coil at AC	
● at 50 Hz	16 V·A
inductive power factor with the holding power of the coil	
● at 50 Hz	0.37
closing delay	
● at AC	10 80 ms
opening delay	
● at AC	10 18 ms

arcing time	10 20 ms	
control version of the switch operating mechanism	Standard A1 - A2	
Auxiliary circuit		
number of NC contacts for auxiliary contacts		
• instantaneous contact	1	
number of NO contacts for auxiliary contacts		
• instantaneous contact	1	
operating current at AC-12 maximum	10 A	
operating current at AC-15		
• at 230 V rated value	10 A	
● at 400 V rated value	3 A	
● at 500 V rated value	2 A	
• at 690 V rated value	1 A	
operating current at DC-12		
• at 24 V rated value	10 A	
• 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	
operating 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 125 V rated value	0.9 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		
full-load current (FLA) for three-phase AC motor		
• at 480 V rated value	52 A	
• at 600 V rated value	52 A	
yielded mechanical performance [hp]		
• for single-phase AC motor		
— at 110/120 V rated value	3 hp	
— at 230 V rated value	10 hp	
• for three-phase AC motor		
— at 200/208 V rated value	15 hp	
— at 220/230 V rated value	15 hp	

— at 460/480 V rated value	40 hp
— at 575/600 V rated value	50 hp
contact rating of auxiliary contacts according to UL	A600 / P600

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design of the fuse link

- for short-circuit protection of the main circuit
 - with type of coordination 1 required

A (415 V, 80 kA)

gG: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125

— with type of assignment 2 required

gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A

(415V,80kA)

• for short-circuit protection of the auxiliary switch required

gG: 10 A (500 V, 1 kA)

mounting position	+/-180° rotation possible on vertical mounting surface; can be
	tilted forward and backward by +/- 22.5° on vertical mounting
	surface
mounting type	screw and snap-on mounting onto 35 mm standard mounting rail
	according to DIN EN 60715
side-by-side mounting	Yes
height	114 mm
width	55 mm
depth	130 mm
required spacing	
with side-by-side mounting	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
• for grounded parts	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
• for live parts	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm

Connections/ Terminals

type of	electrical	connection
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- for main current circuit
- screw-type terminals
- for auxiliary and control current 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	
 single or multi-stranded 	2x (1 35 mm²), 1x (1 50 mm²)
 finely stranded with core end processing 	2x (1 25 mm²), 1x (1 35 mm²)
 at AWG conductors for main contacts 	2x (18 2), 1x (18 1)
connectable conductor cross-section for main contacts	
• finely stranded with core end processing	1 35 mm²
connectable conductor cross-section for auxiliary contacts	
• single or multi-stranded	0.5 2.5 mm²
 finely stranded with core end processing 	0.5 2.5 mm²
 type of connectable conductor cross-sections for auxiliary contacts 	
 single or multi-stranded 	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
 type of connectable conductor cross-sections at AWG conductors for auxiliary contacts 	2x (20 16), 2x (18 14)
AWG number as coded connectable conductor cross	
section	
• for main contacts	18 1
• for auxiliary contacts	20 14
Safety related data	
D40 valva	

Safety related data	
B10 value	
 with high demand rate acc. to SN 31920 	1 000 000
proportion of dangerous failures	
 with low demand rate acc. to SN 31920 	40 %
 with high demand rate acc. to SN 31920 	73 %
failure rate [FIT]	
 with low demand rate acc. to SN 31920 	100 FIT
product function	
 mirror contact acc. to IEC 60947-4-1 	Yes
• positively driven operation acc. to IEC 60947-5-	No
1	
T1 value for proof test interval or service life acc. to	20 y
IEC 61508	
protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529
suitability for use safety-related switching OFF	Yes
0-4:54/	

General Product Approval







KC





EMC

Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Marine / Ship- ping
Type Examination Certificate	Miscellaneous EG-Konf.	Type Test Certificates/Test Report Special Test Certificate	ABS

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=3RT2036-1AN00

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2036-1AN00

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1AN00

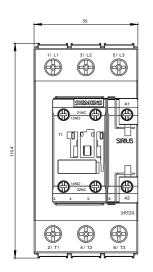
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2036-1AN00&lang=en

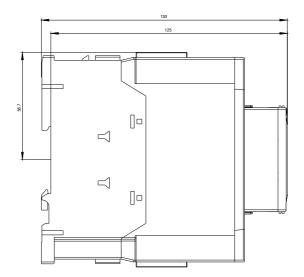
Characteristic: Tripping characteristics, I2t, Let-through current

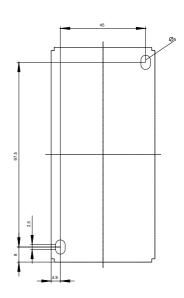
https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1AN00/char

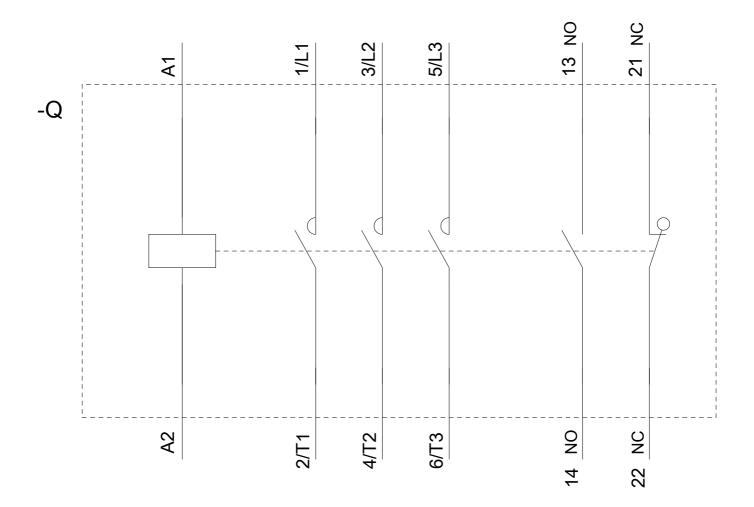
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2036-1AN00&objecttype=14&gridview=view1









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