3RT2036-3AP00-1AA0

## **Data sheet**



power contactor, AC-3 50 A, 22 kW / 400 V 1 NO + 1 NC, 230 V AC, 50 Hz 3-pole, Size S2, Spring-type terminal upright mounting position

product brand name	SIRIUS	
product designation	Power contactor	
product type designation	3RT2	
General technical data		
size of contactor	S2	
product extension		
<ul> <li>function module for communication</li> </ul>	No	
<ul> <li>auxiliary switch</li> </ul>	Yes	
power loss [W] for rated value of the current at AC in hot operating state	12 W	
• per pole	4 W	
power loss [W] for rated value of the current without load current share typical	16 W	
insulation voltage		
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	690 V	
of auxiliary circuit with degree of pollution 3 rated value	690 V	
surge voltage resistance		
<ul> <li>of main circuit rated value</li> </ul>	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 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)		
<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	
Substance Prohibitance (Date)	01.10.2014	
Ambient conditions		
installation altitude at height above sea level maximum	2 000 m	
ambient temperature		
<ul> <li>during operation</li> </ul>	-25 +60 °C	
during storage	-55 +80 °C	
relative humidity minimum	10 %	
relative humidity at 55 °C acc. to IEC 60068-2-30	95 %	

maximum	
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
operational current	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	70 A
<ul> <li>at AC-1         — up to 690 V at ambient temperature 40 °C rated value     </li> </ul>	70 A
<ul> <li>up to 690 V at ambient temperature 60 °C rated value</li> </ul>	60 A
• at AC-3	
— at 400 V rated value	51 A
— at 500 V rated value	51 A
— at 690 V rated value	24 A
<ul> <li>at AC-4 at 400 V rated value</li> </ul>	41 A
<ul> <li>at AC-5a up to 690 V rated value</li> </ul>	61.6 A
<ul><li>at AC-5b up to 400 V rated value</li><li>at AC-6a</li></ul>	41.5 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 24 A
<ul> <li>— up to 690 V for current peak value n=20 rated value</li> <li>• at AC-6a</li> </ul>	24 A
— up to 230 V for current peak value n=30 rated value  value	28.8 A
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	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  operational current for approx. 200000 operating	25 mm <sup>2</sup>
cycles at AC-4	
<ul> <li>at 400 V rated value</li> </ul>	24 A
• at 690 V rated value	20 A
operational 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	1A
— 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  — at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A

a at 1 ourrant path at DC 2 at DC 5	
<ul> <li>at 1 current path at DC-3 at DC-5</li> <li>at 24 V rated value</li> </ul>	35 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
	0.1 A
— at 440 V rated value	
— at 600 V rated value	0.06 A
with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	55 A
— at 110 V rated value	25 A
— at 220 V rated value	5 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	55 A
— at 110 V rated value	55 A
— at 220 V rated value	25 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.35 A
operating power	
• at AC-2 at 400 V rated value	22 kW
• at AC-3	
— at 230 V rated value	15 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	22 kW
operating power for approx. 200000 operating cycles at AC-4	
at 400 V rated value	12.6 kW
at 400 V rated value     at 690 V rated value	18.2 kW
operating apparent power at AC-6a	IO.2 KVV
• up to 230 V for current peak value n=20 rated value	17.2 kV·A
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	29.9 kV·A
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	37.4 kV·A
• up to 690 V for current peak value n=20 rated value	28.6 kV·A
operating apparent power at AC-6a	20.0 NV A
• up to 230 V for current peak value n=30 rated value	11.4 kV·A
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	19.9 kV·A
• up to 500 V for current peak value n=30 rated value	24.9 kV·A
<ul> <li>up to 500 V for current peak value n=30 rated value</li> </ul>	28.6 kV·A
short-time withstand current in cold operating state	20.0 KV A
up to 40 °C	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	937 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	697 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	468 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	282 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	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	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 Hz rated value	230 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	1	
instantaneous contact		
number of NO contacts for auxiliary contacts	1	
instantaneous contact	40.0	
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	
at 500 V rated value	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	
at 220 V rated value	1 A	
<ul> <li>at 600 V rated value</li> </ul>	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 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	risang omorning por 100 million (17-4, 1 m/y)	
full-load current (FLA) for 3-phase AC motor	F2 A	
<ul> <li>at 480 V rated value</li> <li>at 600 V rated value</li> </ul>	52 A	
	52 A	
yielded mechanical performance [hp]		
• for single-phase AC motor	2 hm	
— at 110/120 V rated value	3 hp	
— at 230 V rated value	10 hp	
• for 3-phase AC motor	451	
— 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	
Short-circuit protection		
design of the fuse link		
<ul> <li>for short-circuit protection of the main circuit</li> </ul>		
<ul> <li>— with type of coordination 1 required</li> </ul>	gG: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415	
	V, 80 kA)	

<ul> <li>— with type of assignment 2 required</li> </ul>	gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA)	
for short-circuit protection of the auxiliary switch	gG: 10 A (500 V, 1 kA)	
required		
Installation/ mounting/ dimensions		
mounting position	standing, on horizontal mounting surface	
fastening method	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	40	
— forwards	10 mm	
— upwards	10 mm	
— downwards	10 mm	
— at the side	0 mm	
• for grounded parts	40	
— forwards	10 mm	
— upwards	10 mm	
— at the side	6 mm 10 mm	
— downwards	10 mm	
<ul><li>for live parts</li><li>forwards</li></ul>	10 mm	
	10 mm	
— upwards — downwards	10 mm	
— at the side	6 mm	
	O IIIIII	
Connections/ Terminals		
type of electrical connection		
for main current circuit     for a william and control circuit	screw-type terminals	
for auxiliary and control circuit	spring-loaded terminals	
at contactor for auxiliary contacts     of magnet soil	Spring-type terminals	
of magnet coil  type of connectable conductor cross-sections	Spring-type terminals	
• for main contacts		
— solid or stranded	2x (1 35 mm²), 1x (1 50 mm²)	
finely stranded with core end processing	2x (1 35 mm²), 1x (1 35 mm²)	
at AWG cables 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		
solid or stranded	0.5 2.5 mm <sup>2</sup>	
finely stranded with core end processing	0.5 1.5 mm²	
finely stranded without core end processing	0.5 2.5 mm²	
type of connectable conductor cross-sections		
for auxiliary contacts		
— solid or stranded	2x (0.5 2.5 mm²)	
— finely stranded with core end processing	2x (0.5 1.5 mm²)	
finely stranded without core end processing	2x (0.5 2.5 mm²)	
at AWG cables for auxiliary contacts	2x (20 14)	
AWG number as coded connectable conductor cross section		
for main contacts	18 1	
for auxiliary contacts	20 14	
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 31020	73 %	

 $\bullet$  with high demand rate acc. to SN 31920

73 %

failure rate [FIT] with low demand rate acc. to SN 31920	100 FIT	
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	
suitability for use		
<ul> <li>safety-related switching OFF</li> </ul>	Yes	

Certificates/ approvals

## **General Product Approval**



Confirmation





<u>KC</u>





Type Examination Certificate UK Declaration of Conformity



Special Test Certificate

Type Test Certificates/Test Report

## Marine / Shipping













Marine / Shipping	other	Railway	Dangerous Good
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Confirmation

Confirmation

Vibration and Shock

<u>Transport Information</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=3RT2036-3AP00-1AA0

Cax online generator

 $\underline{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2036-3AP00-1AA0}$ 

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-3AP00-1AA0

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

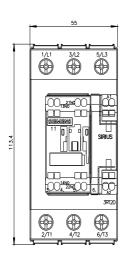
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2036-3AP00-1AA0&lang=en

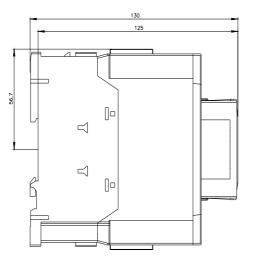
Characteristic: Tripping characteristics, I2t, Let-through current

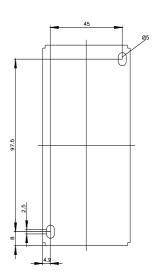
https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-3AP00-1AA0/char

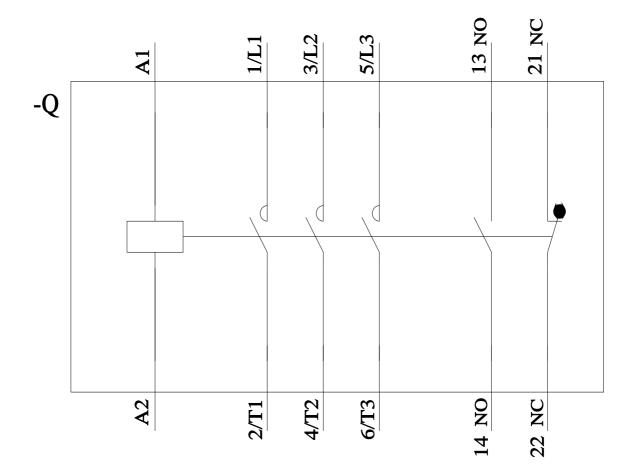
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2036-3AP00-1AA0&objecttype=14&gridview=view1









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