SIEMENS

Data sheet

3RT2036-1NB30



power contactor, AC-3e/AC-3, 51 A, 22 kW / 400 V, 3-pole, 20-33 V AC/DC, 50/60 Hz, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S2

4/13 6/13	
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
 without load current share typical 	2 W
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
 of auxiliary circuit with degree of pollution 3 rated value 	690 V
surge voltage resistance	
 of main circuit rated value 	6 kV
 of auxiliary circuit rated value 	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	7.7g / 5 ms, 4.5g / 10 ms
• at DC	7.7g / 5 ms, 4.5g / 10 ms
shock resistance with sine pulse	
• at AC	12g / 5 ms, 7g / 10 ms
● at DC	12g / 5 ms, 7g / 10 ms
mechanical service life (operating 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 according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2014
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
during operation	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %

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
 at AC-3e rated value maximum 	690 V
operational 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 °C rated value	70 A
— up to 690 V at ambient temperature 60 °C rated value	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
• at AC-3e	
- at 400 V rated value	51 A
- at 500 V rated value	51 A
— at 690 V rated value	24 A
at AC-4 at 400 V rated value	41 A 61.6 A
at AC-5a up to 690 V rated value	41.5 A
 at AC-5b up to 400 V rated value at AC-6a 	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
— 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
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	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 60 V rated value	23 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 60 V rated value	45 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 60 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
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	35 A
— at 60 V rated value	6 A
— at 220 V rated value	1 A
— at 440 V rated value	0.1 A
— 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 60 V rated value	45 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 60 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
• at AC-3e	
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
at 690 V rated value operating power for approx. 200000 operating cycles at AC-	22 kW
4	
• at 400 V rated value	12.6 kW
• at 690 V rated value	18.2 kW
operating apparent power at AC-6a	
 up to 230 V for current peak value n=20 rated value 	17.2 kVA
 up to 400 V for current peak value n=20 rated value 	29.9 kVA
 up to 500 V for current peak value n=20 rated value 	37.4 kVA
 up to 690 V for current peak value n=20 rated value 	28.6 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	11.4 kVA
 up to 400 V for current peak value n=30 rated value 	19.9 kVA
 up to 500 V for current peak value n=30 rated value 	24.9 kVA
 up to 690 V for current peak value n=30 rated value 	28.6 kVA
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 0 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	1 500 1/h
• at DC	1 500 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-3e maximum	800 1/h

• at AC-4 maximum	250 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	20 33 V
at 60 Hz rated value	20 33 V
control supply voltage at DC	
rated value	20 33 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
inrush current peak	3 A
duration of inrush current peak	50 µs
locked-rotor current mean value	1 A
locked-rotor current peak	2.6 A
duration of locked-rotor current	230 ms
holding current mean value	40 mA
apparent pick-up power of magnet coil at AC	
• at 50 Hz	40 VA
• at 60 Hz	40 VA
apparent holding power of magnet coil at AC	
● at 50 Hz	2 VA
● at 60 Hz	2 VA
closing power of magnet coil at DC	23 W
holding power of magnet coil at DC	1 W
closing delay	
● at AC	35 110 ms
● at DC	35 110 ms
opening delay	
• at AC	30 55 ms
• at DC	30 55 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
operational current at AC-12 maximum	10 A
operational current at AC-15	
-	10.0
• at 230 V rated value	10 A
at 230 V rated valueat 400 V rated value	3 A
 at 230 V rated value at 400 V rated value at 500 V rated value 	3 A 2 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value 	3 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value operational current at DC-12	3 A 2 A 1 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value Operational current at DC-12 at 24 V rated value 	3 A 2 A 1 A 10 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value operational current at DC-12 at 24 V rated value at 48 V rated value 	3 A 2 A 1 A 10 A 6 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value operational current at DC-12 at 24 V rated value at 48 V rated value at 60 V rated value 	3 A 2 A 1 A 10 A 6 A 6 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value operational current at DC-12 at 24 V rated value at 48 V rated value at 60 V rated value at 60 V rated value at 110 V rated value 	3 A 2 A 1 A 10 A 6 A 6 A 3 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value 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 	3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value 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 	3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value operational current at DC-12 at 24 V rated value at 48 V rated value at 48 V rated value at 110 V rated value at 125 V rated value at 220 V rated value at 600 V rated value 	3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value 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 at 600 V rated value at 600 V rated value 	3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value operational current at DC-12 at 24 V rated value at 60 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 600 V rated value at 600 V rated value at 600 V rated value at 220 V rated value 	3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A 10 A
 at 230 V rated value at 400 V rated value at 500 V rated value at 690 V rated value 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 at 600 V rated value at 600 V rated value 	3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 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 3-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 3-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
Short-circuit protection	
design of the fuse link	
 for short-circuit protection of the main circuit 	
- with type of coordination 1 required	gG: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA)
 — 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)
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and
	backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN 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	
for main current circuit	screw-type terminals
for auxiliary and control circuit	screw-type terminals
-	Screw-type terminals
at contactor for auxiliary contacts	
of magnet coil type of connectable conductor cross sections for main contacts	Screw-type terminals
type of connectable conductor cross-sections for main contacts	$2x (1 - 25 mm^2) + x (1 - 50 mm^2)$
solid or stranded	2x (1 35 mm ²), 1x (1 50 mm ²)
finely stranded with core end processing	2x (1 25 mm²), 1x (1 35 mm²)
connectable conductor cross-section for main contacts	1 25 mm ²
 finely stranded with core end processing 	1 35 mm²

 connectable conducto solid or stranded 	r cross-section for au	ixiliary contacts	0.5	2.5 mm ²		
	ith core end processing			2.5 mm ²		
type of connectable co			0.5	2.5 mm		
 for auxiliary containing 		115				
- solid or stra			2x (0 l	5 1.5 mm²), 2x (0.7	$75 - 2.5 \text{ mm}^2$	
					·	
	led with core end proce	essing		5 1.5 mm²), 2x (0.7		
for AWG cables for auxiliary contacts AWG number as coded connectable conductor cross		2x (20	2x (20 16), 2x (18 14)			
section		ctor cross				
 for main contacts 			18 ′			
 for auxiliary containing 	acts		20 1	14		
Safety related data						
product function						
 mirror contact according 	cording to IEC 60947-4-	-1	Yes			
 positively driven of 	operation according to I	EC 60947-5-1	No			
B10 value with high den	nand rate according to S	SN 31920	1 000	000		
proportion of dangero	us failures					
	rate according to SN 37	1920	40 %			
	rate according to SN 3		73 %			
failure rate [FIT] with low			100 F	IT		
T1 value for proof test in 61508			20 a			
protection class IP on	the front according to		IP20			
-			-	-safe, for vertical con	taat from the front	
touch protection on th	le nonit according to n	EC 00525	iiigei-			
suitability for use			Vee			
safety-related sw			Yes			
Certificates/ approvals						
SP:		<u>Confirmation</u>	<u>on</u>	(h	<u>Miscellaneous</u>	KC
General Product Ap-	CCC	Confirmation Functional Safety/Safety		Declaration of Co		KC Test Certificates
General Product Approval	EMC	Functional				
	EMC RCM	Functional Safety/Safety	of Ma-	Declaration of Co		
proval	EMC EMC RCM	Functional Safety/Safety chinery Type Examination	of Ma-		nformity CE	Test Certificates
proval ERC Test Certificates	RCM	Functional Safety/Safety chinery Type Examination	of Ma-		nformity CE	Test Certificates
FRE	RCM	Functional Safety/Safety chinery Type Examination	of Ma-		nformity CE	Test Certificates
proval ERE Test Certificates Special Test Certific-	RCM	Functional Safety/Safety chinery Type Examination tificate	of Ma-	UK CA	nformity CCC EG-Konf.	Test Certificates
proval EFFE Test Certificates Special Test Certific- ate	RCM	Functional Safety/Safety chinery Type Examination tificate	of Ma- on Cer-	UK CA	nformity EG-Konf.	Test Certificates <u>Type Test Certificates</u> <u>ates/Test Report</u>
proval EFFE Test Certificates Special Test Certific- ate	RCM	Functional Safety/Safety chinery Type Examination tificate	of Ma- on Cer-		nformity EG-Konf.	Test Certificates Type Test Certificates ates/Test Report Image: Dangerous Good
proval EEEE Test Certificates Special Test Certific- ate	RCM	Functional Safety/Safety chinery Type Examination tificate	of Ma- on Cer-		nformity EG-Konf.	Test Certificates Type Test Certificates ates/Test Report Image: Dangerous Good

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RT2036-1NB30

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2036-1NB30

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1NB30

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

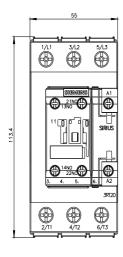
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2036-1NB30&lang=en

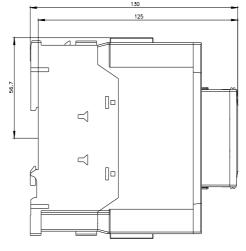
Characteristic: Tripping characteristics, I²t, Let-through current

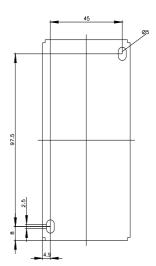
https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1NB30/char

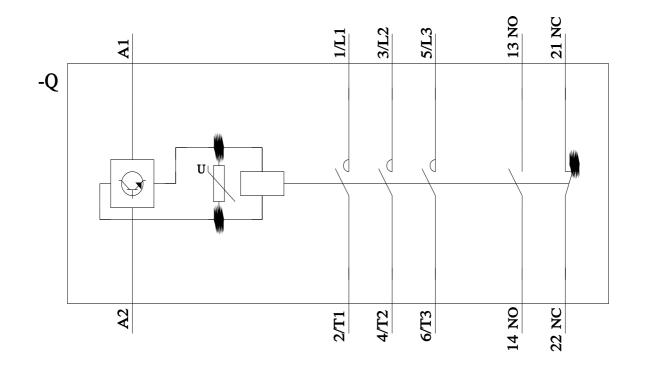
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2036-1NB30&objecttype=14&gridview=view1









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2/10/2023 🖸