SIEMENS

Data sheet 3RT2036-1AH20



power contactor, AC-3e/AC-3, 51 A, 22 kW / 400 V, 3-pole, 48 V AC, 50/60 Hz, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S2 $\,$

product designation Power contactor product type designation 3RT2 General technical data size of contactor \$2	
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 17.2 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	
shock resistance at rectangular impulse	
• at AC 11.8g / 5 ms, 7.4g / 1	0 ms
shock resistance with sine pulse	
• at AC 18.5g / 5 ms, 11.6g /	10 ms
mechanical service life (operating cycles)	
• of contactor typical 10 000 000	
of the contactor with added electronically optimized auxiliary switch block typical	
• 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 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
at AC-3e rated value maximum	690 V
operational current	
 at AC-1 at 400 V at ambient temperature 40 °C rated 	70 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated	70 A
value	CO 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	277
— 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 at AC-5 aug to 600 V rated value	41 A
at AC-5a up to 690 V rated value	61.6 A
at AC-5b up to 400 V rated value	41.5 A
• at AC-6a	
— 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 mm ²
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	55.4
— 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	0.0071
at AC-2 at 400 V rated value	22 kW
	LE IVV
at AC-3 at 230 V rated value.	15 NW
— at 230 V rated value	15 kW 22 kW
— at 400 V rated value	
— at 500 V rated value	30 kW
— at 690 V rated value	22 kW
• at AC-3e	20.114
— 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-	
at 400 V rated value	12.6 kW
at 690 V rated value	18.2 kW
operating apparent power at AC-6a	10.2 KVV
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 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 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 up to 690 V for current peak value n=20 rated value	28.6 kVA
	20.0 KVA
operating apparent power at AC-6a	44 A INTA
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 About time withstand surrent in cold energing state up to	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 0.3 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 30's switching at zero current maximum 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	227., 500 minimum oroco occitori doc. to 710 mateu value
• at AC	5 000 1/h
operating frequency	0 000 mil
at AC-1 maximum	1 000 1/h
at AC-1 maximum at AC-2 maximum	600 1/h
at AC-2 maximum at AC-3 maximum	800 1/h
at AC-3e maximum at AC-4 maximum	800 1/h
at AC-4 maximum Control pirquit/ Control	250 1/h
Control circuit/ Control	40
type of voltage of the control supply voltage	AC

control supply voltage at AC	
• at 50 Hz rated value	48 V
at 60 Hz rated value	48 V
operating range factor control supply voltage rated value of magnet coil at AC	
● at 50 Hz	0.8 1.1
• at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	210 VA
• at 60 Hz	188 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.69
• at 60 Hz	0.65
apparent holding power of magnet coil at AC	
● at 50 Hz	17.2 VA
• at 60 Hz	16.5 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.36
• at 60 Hz	0.39
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
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	
• 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
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	
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		
— upwarus — downwards	10 mm		
— at the side	0 mm		
	Ollilli		
• for grounded parts	10		
— 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		
 at contactor for auxiliary contacts 	Screw-type terminals		
of magnet coil	Screw-type terminals		
type of connectable conductor cross-sections for main contacts			
solid or stranded	2x (1 35 mm²), 1x (1 50 mm²)		
• finely stranded with core end processing	2x (1 25 mm²), 1x (1 35 mm²)		
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 mm²		
finely stranded with core end processing	0.5 2.5 mm²		
type of connectable conductor cross-sections			
• for auxiliary contacts			
— solid or 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)		
for AWG cables for auxiliary contacts			
AWG number as coded connectable conductor cross section	2x (20 16), 2x (18 14)		
for main contacts	18 1		
for auxiliary contacts	20 14		
Safety related data			
outory relation data			

product function	
 mirror contact according to IEC 60947-4-1 	Yes
 positively driven operation according to IEC 60947-5-1 	No
B10 value with high demand rate according to SN 31920	1 000 000
proportion of dangerous failures	
 with low demand rate according to SN 31920 	40 %
 with high demand rate according to SN 31920 	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
T1 value for proof test interval or service life according to IEC 61508	20 a
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
suitability for use	
safety-related switching OFF	Yes

Certificates/ approvals

General Product Approval





Confirmation



<u>KC</u>





Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping













Marine / Shipping	other	Railway	Dangerous Good	Environment
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Confirmation

Confirmation

Vibration and Shock

Transport Information

Environmental Confirmations

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=3RT2036-1AH20

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2036-1AH20

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

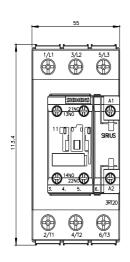
https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1AH20

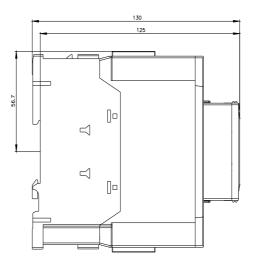
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

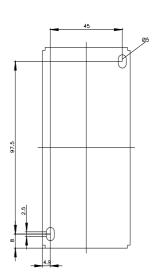
 $\underline{\text{http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2036-1AH20\&lang=en}}$

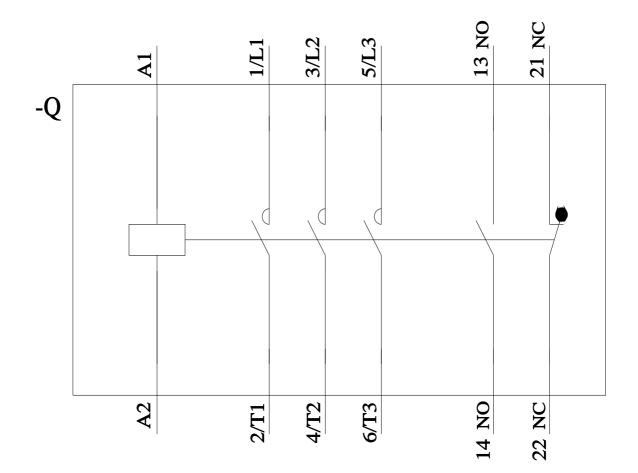
Characteristic: Tripping characteristics, I^2t , Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1AH20/char Further characteristics (e.g. electrical endurance, switching frequency)









last modified: 2/10/2023 🖸

