SIEMENS

Data sheet 3RT2036-3AV00



power contactor, AC-3 50 A, 22 kW / 400 V 1 NO + 1 NC, 400 V AC, 50 Hz 3-pole, Size S2, Spring-type 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
• per pole	4 W
power loss [W] for rated value of the current without load current share typical	16 W
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 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)	
 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 acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.10.2014 00:00:00
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	690 V

operational current	70.4
 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	70 A
rated value	
— up to 690 V at ambient temperature 60 °C	60 A
rated value	
• 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-4 at 400 V rated value at AC-5 aug to 600 V rated value	41 A 61.6 A
at AC-5a up to 690 V rated value at AC-5b up to 400 V rated value	41.5 A
at AC-5b up to 400 V rated valueat AC-6a	41.3 A
— up to 230 V for current peak value n=20 rated	43.2 A
value	70.2 A
— up to 400 V for current peak value n=20 rated	43.2 A
value	
 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	24 A
value	217
• at AC-6a	
— up to 230 V for current peak value n=30 rated	28.8 A
value	
 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	28.8 A
value	20.071
— up to 690 V for current peak value n=30 rated	24 A
value	2= 2
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 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 reted value.	55 A
— at 24 V rated value	55 A 45 A
— at 110 V rated value — at 220 V rated value	45 A 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	0.07,
— 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
operational current	
at 1 current path at DC-3 at DC-5	
— at 24 V rated value	35 A

at 110 V rated value		
	— at 110 V rated value	2.5 A
	— at 220 V rated value	1 A
• with 2 current paths in series at DC-3 at DC-5 — at 24 V Yrated value — at 110 V rated value — at 220 V rated value — at 400 V rated value — at 600 V rated value — at 600 V rated value — at 100 V rated value — at 1600 V rated	— 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 110 V rated value		55 A
at 800 V rated value 55 A		
with 3 current paths in series at DC-3 at DC-5		
		0.1071
		55 A
operating power ■ at AC-2 at 40 0V rated value ■ at 4C-3 at 40 0V rated value — at 400 V rated value — at 500 V rated value — at 500 V rated value — at 500 V rated value — at 690 V rated value — at 690 V rated value ■ poerating power for approx. 200000 operating cycles at AC-4 ■ at 40 V rated value ■ at 690 V rated value ■ porting apparent power at AC-8 ■ up to 230 V for current peak value n=20 rated value ■ up to 500 V for current peak value n=20 rated value ■ up to 500 V for current peak value n=20 rated value ■ up to 500 V for current peak value n=30 rated value ■ up to 500 V for current peak value n=20 rated value ■ up to 500 V for current peak value n=20 rated value ■ up to 500 V for current peak value n=20 rated value ■ up to 500 V for current peak value n=2		
Operating power		
• at AC-2 at 400 V rated value • at AC-3 — at 230 V rated value — at 400 V rated value — at 690 V rated value — at 690 V rated value — at 690 V rated value operating power for approx, 200000 operating cycles at AC-4 • at 400 V rated value operating power for approx, 200000 operating cycles at AC-4 • at 400 V rated value operating paparent power at AC-6a • up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current nacimum • limited to 1s switching at zero current maximum • limited to 1s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 80 s switching at zero current maximum • limited to 80 s switching at zero current maximum • limited to 80 s switching at zero current maximum • limited to 80 s switching at zero current maximum • limited to 80 s switching at zero current maximum • limited to 80 s switching at zero current maximum • limited to 80 s switching at zero current maximum • limited to 80 s switching at zero current maximum • lim		0.55 A
at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 690 V rated value operating power for approx. 200000 operating cycles at AC-4 at 400 V rated value 12.6 kW at 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value 400 V for current peak value n=30 rated value 400 V for current peak value n=30 rated value 400 V for current peak value n=30 rated value 400 V for current peak value n=30 rated value 400 V for current peak value n=30 rated value 400 V for current peak value n=30 rated value 400 V for current peak value n=30 rated value 400 V for current not peak value n=30 rated value 400 V for current not peak value n=30 rated value 400 V for current not peak value n=30 rated value 400 V for current not peak value n=30 rated value 400 V for current not not peak value n=30 rated value 400 V for current not not peak value n=30 rated value 400 V for current not not peak value n=30 rated value 400 V for current not not peak value n=30 rated value 400 V for current not not peak value n=30 rated value 400 V for current not not peak value n=30 rated value 400 V for current not not peak value n=30 rated value 400 V for current not not peak value n=30 rated value 400 V for current not not peak value n=30 rated value 400 V for current not not peak value n=30 rated value 400 V for current not		22 kW
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operating apparent power at AC-6a • up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 590 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C • limited to 1 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maxim	·	
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short-time withstand current in cold operating state up to 40 °C • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • at AC • at AC • at AC-1 maximum • at AC-2 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum • at AC-4 maximum • at AC-4 maximum • at AC-4 maximum • at AC-5 maximum • at AC-6 maximum • at AC-7 maximum • at AC-8 maximum • at AC-8 maximum • at AC-9 maximum • at AC-9 maximum • at AC-1 maximum • at AC-4 maximum • at AC-5 maximum • at AC-6 maximum • at AC-7 maximum • at AC-8 maximum • at AC-8 maximum • at AC-9 maximum • at	·	
up to 40 °C • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum no-load switching frequency • at AC operating frequency • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum • at AC-5 maximum • at AC-4 maximum • at AC-4 maximum • at AC-4 maximum • at AC-5 maximum • at AC-4 maximum • at AC-4 maximum • at AC-5 maximum • at AC-4 maximum • at AC-5 maximum • at AC-4 maximum • at AC-4 maximum • at AC-5 maximum • at AC-4 maximum • at AC-4 maximum • at AC-4 maximum • at AC-5 maximum • at AC-4 maximum • at AC-5 maximum • at AC-6 maximum • at AC-7 maximum • at AC-1 rated value 229 A; Use minimum cross-section acc. to AC-1 rated value 229 A; Use minimum cross-section acc. to AC-1 rated value 229 A; Use minimum cross-section acc. to AC-1 rated value 229 A; Use minimum cross-section acc. to AC-1 rated value 229 A; Use minimum cross-section acc. to AC-1 rated value 229 A; Use minimum cross-section acc. to AC-1 rated value 400 V		
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 limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum no-load switching frequency at AC at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum at AC-4 maximum at AC-4 maximum at AC-4 maximum at AC-5 maximum at AC-4 maximum at AC-5 maximum at AC-5 maximum at AC-6 maximum at AC-7 maximum at AC-8 maximum at AC-9 maximum at SO Hz rated value at 50 Hz at 50 Hz at 50 Hz at 50 Hz 	 limited to 5 s switching at zero current maximum 	697 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum no-load switching frequency • at AC operating frequency • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum • at AC-4 maximum • at AC-4 maximum • at AC-9 most mum • at AC-1 maximum • at AC-1 maximum • at AC-3 maximum • at AC-4 maximum 250 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz O.8 1.1	 limited to 10 s switching at zero current maximum 	468 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency • at AC operating frequency • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3 maximum • at AC-4 maximum • at AC-4 maximum • at AC-4 maximum Control circuit/ Control type of voltage of the control supply voltage type of voltage at AC • at 50 Hz rated value • at 50 Hz • at 50 Hz O.8 1.1	 limited to 30 s switching at zero current maximum 	282 A; Use minimum cross-section acc. to AC-1 rated value
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● at AC-4 maximum Control circuit/ Control type of voltage of the control supply voltage AC control supply voltage at AC ● at 50 Hz rated value 400 V operating range factor control supply voltage rated value of magnet coil at AC ● at 50 Hz 0.8 1.1	• at AC-2 maximum	600 1/h
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 50 Hz 0.8 1.1	• at AC-3 maximum	800 1/h
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz AC 400 V 0.8 1.1		250 1/h
control supply voltage at AC	Control circuit/ Control	
● at 50 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC ● at 50 Hz 400 V 0.8 1.1	type of voltage of the control supply voltage	AC
operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz 0.8 1.1	control supply voltage at AC	
value of magnet coil at AC • at 50 Hz 0.8 1.1	at 50 Hz rated value	400 V
	value of magnet coil at AC	
apparent pick-up power of magnet coil at AC		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	0.72
• at 50 Hz	16 V·A
51.00.112	10 V·A
inductive power factor with the holding power of the coil	
● at 50 Hz	0.37
closing delay	0.01
• at AC	10 80 ms
opening delay	10 00 mc
• at AC	10 18 ms
arcing time	10 20 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	Standard AT - AZ
	4
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 at 690 V rated value	1A
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 110 V rated value at 125 V rated value	2 A
at 123 V rated value at 220 V rated value	1A
at 600 V rated value	0.15 A
operational current at DC-13	0:15 A
• 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	F2 A
• at 480 V rated value	52 A 52 A
at 600 V rated value yielded mechanical performance [hp]	JZ A
for single-phase AC motor at 110/120 V rated value	3 hn
— at 110/120 V rated value	3 hp
— at 230 V rated value	10 hp
• for 3-phase AC motor	15 ha
— 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 assignment 2 required for short-circuit protection of the auxiliary switch required 	V, 80 kA) gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA) 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 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	
for main current circuit	screw-type terminals
for auxiliary and control circuit	spring-loaded terminals
 at contactor for auxiliary contacts 	Spring-type terminals
of magnet coil	Spring-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)
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 mm²
 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	18 1
cross section for main contacts	
 cross section for main contacts AWG number as coded connectable conductor cross section for auxiliary contacts 	20 14

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 60947-5-1 	No
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 safety-related switching OFF	Yes

Certificates/ approvals

General Product Approval















Declaration of Conformity

Test Certificates

Marine / Shipping



Miscellaneous

Type Test Certificates/Test Report Special Test Certificate





Marine / Shipping

other











Confirmation

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=3RT2036-3AV00

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2036-3AV00

 ${\bf Service \& Support~(Manuals,~Certificates,~Characteristics,~FAQs,...)}$

https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-3AV00

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

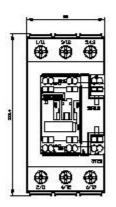
 $\underline{\text{http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2036-3AV00\&lang=en}$

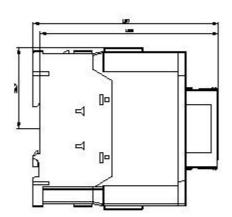
Characteristic: Tripping characteristics, I2t, Let-through current

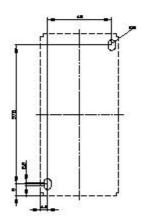
https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-3AV00/char

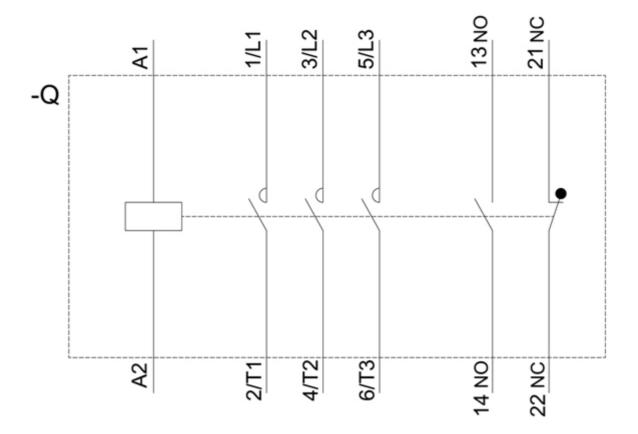
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2036-3AV00&objecttype=14&gridview=view1









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