SIEMENS

Data sheet 3RT1055-2AB36





power contactor, AC-3e/AC-3 150 A, 75 kW / 400 V AC (50-60 Hz) / DC Uc: 23-26 V 3-pole, auxiliary contacts 2 NO + 2 NC drive: conventional main circuit: busbar control and auxiliary circuit: spring-loaded terminal



product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT1
General technical data	
size of contactor	S6
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 	27 W
 at AC in hot operating state per pole 	9 W
without load current share typical	5.2 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	1 000 V
 of auxiliary circuit with degree of pollution 3 rated value 	500 V
surge voltage resistance	
of main circuit rated value	8 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• at DC	8,5g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 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)	05/01/2012
SVHC substance name	Lead - 7439-92-1
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	1 000 V
 at AC-3e rated value maximum 	1 000 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	185 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	185 A
— up to 690 V at ambient temperature 60 °C rated value	160 A
— up to 1000 V at ambient temperature 40 °C rated value	90 A
 up to 1000 V at ambient temperature 60 °C rated value at AC-3 	90 A
— at 400 V rated value	150 A
— at 500 V rated value	150 A
— at 690 V rated value	150 A
— at 1000 V rated value	65 A
• at AC-3e	
— at 400 V rated value	150 A
— at 500 V rated value	150 A
— at 690 V rated value	150 A
— at 1000 V rated value	65 A
• at AC-4 at 400 V rated value	132 A
• at AC-5a up to 690 V rated value	162 A
at AC-5b up to 400 V rated value	124 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	150 A
— up to 400 V for current peak value n=20 rated value	150 A
— up to 500 V for current peak value n=20 rated value	150 A
— up to 690 V for current peak value n=20 rated value	150 A
— up to 1000 V for current peak value n=20 rated value	65 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	105 A
— up to 400 V for current peak value n=30 rated value	105 A
— up to 500 V for current peak value n=30 rated value	105 A
— up to 690 V for current peak value n=30 rated value	105 A
— up to 1000 V for current peak value n=30 rated value	65 A
minimum cross-section in main circuit at maximum AC-1 rated value	95 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	68 A
at 690 V rated value	57 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	18 A
— at 220 V rated value	3.4 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.5 A

with 2 current paths in series at DC-1	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	20 A
— at 440 V rated value	3.2 A
— at 600 V rated value	1.6 A
with 3 current paths in series at DC-1	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	160 A
— at 440 V rated value	11.5 A
— at 600 V rated value	4 A
at 1 current path at DC-3 at DC-5	
— at 24 V rated value	160 A
— at 60 V rated value	7.5 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.17 A
— at 600 V rated value	0.12 A
with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	2.5 A
— at 440 V rated value	0.65 A
— at 600 V rated value	0.37 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	160 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
operating power	
• at AC-3	47 111/
— at 230 V rated value	45 kW
— at 400 V rated value	75 kW
— at 500 V rated value	90 kW
— at 690 V rated value	132 kW
— at 1000 V rated value	90 kW
• at AC-3e	47 144
— at 230 V rated value	45 kW
— at 400 V rated value	75 kW
— at 500 V rated value	90 kW
— at 690 V rated value	132 kW
— at 1000 V rated value	90 kW
operating power for approx. 200000 operating cycles at AC-	
• at 400 V rated value	38 kW
at 690 V rated value	55 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	60 000 kVA
• up to 400 V for current peak value n=20 rated value	100 000 VA
• up to 500 V for current peak value n=20 rated value	130 000 VA
• up to 690 V for current peak value n=20 rated value	170 000 VA
• up to 1000 V for current peak value n=20 rated value	110 000 VA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	40 000 VA
• up to 400 V for current peak value n=30 rated value	70 000 VA
• up to 500 V for current peak value n=30 rated value	90 000 VA

• up to 690 V for current peak value n=30 rated value	120 000 VA
 up to 1000 V for current peak value n=30 rated value 	110 000 VA
short-time withstand current in cold operating state up to	
40 °C	
 limited to 1 s switching at zero current maximum 	2 727 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	1 831 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	1 300 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	850 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	703 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	2 000 1/h
• at DC	2 000 1/h
operating frequency	
• at AC-1 maximum	800 1/h
• at AC-2 maximum	300 1/h
at AC-2 maximum at AC-3 maximum	750 1/h
at AC-3e maximum	750 1/h
• at AC-4 maximum	130 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 	23 26 V
at 60 Hz rated value	23 26 V
control supply voltage at DC rated value	
•	23 26 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
apparent pick-up power	
 at minimum rated control supply voltage at AC 	
— at 50 Hz	250 VA
— at 60 Hz	250 VA
at maximum rated control supply voltage at AC	
— at 60 Hz	300 VA
— at 50 Hz	300 VA
apparent pick-up power of magnet coil at AC	000 11.
at 50 Hz	300 \/A
	300 VA
• at 60 Hz	300 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.9
• at 60 Hz	0.9
apparent holding power	
 at minimum rated control supply voltage at DC 	4.3 VA
at maximum rated control supply voltage at DC	5.2 VA
apparent holding power	
 at minimum rated control supply voltage at AC 	
— at 50 Hz	4.8 VA
— at 60 Hz	4.8 VA
at maximum rated control supply voltage at AC	
— at 50 Hz	5.8 VA
— at 60 Hz	5.8 VA
inductive power factor with the holding power of the coil	0.0 1.1
at 50 Hz	0.8
• at 60 Hz	0.8
closing power of magnet coil at DC	360 W
holding power of magnet coil at DC	5.2 W

closing delay	
• at AC	20 95 ms
• at DC	20 95 ms
opening delay	
• at AC	40 60 ms
• at DC	40 60 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
at 230 V rated value	6 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 at 60 V rated value	6 A
at 110 V rated value	3 A
at 125 V rated value	2 A
at 125 V rated value at 220 V rated value	1 A
	0.15 A
at 600 V rated value	0.15 A
operational current at DC-13	40.4
• 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	156 A
at 600 V rated value	144 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 230 V rated value	30 hp
• for 3-phase AC motor	
— at 200/208 V rated value	50 hp
— at 220/230 V rated value	60 hp
— at 460/480 V rated value	125 hp
— at 575/600 V rated value	150 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the fuse link	
for short-circuit protection of the main circuit	
with type of coordination 1 required	gG: 355 A (690 V, 100 kA)
with type of assignment 2 required	gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 315 A (415 V, 50 kA)
for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	90. 10 A (000 V, 1 IA)
	with vertical mounting surface ±/ 00° rotatable, with vertical mounting surface
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method	screw fixing
height	172 mm
width	120 mm

depth	170 mm
required spacing	
with side-by-side mounting	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
for grounded parts	
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
Connections/ Terminals	
type of electrical connection	
• for main current circuit	Connection bar
for auxiliary and control circuit	spring-loaded terminals
at contactor for auxiliary contacts	Spring-topaded terminals Spring-type terminals
of magnet coil	Spring-type terminals Spring-type terminals
width of connection bar	17 mm
thickness of connection bar	3 mm
diameter of holes	9 mm
number of holes	1
type of connectable conductor cross-sections	1
for AWG cables for main contacts	4 250 kcmil
	4 250 KCITIII
connectable conductor cross-section for main contacts	OF 400 mm²
• stranded	25 120 mm²
connectable conductor cross-section for auxiliary contacts • solid or stranded	0.05 0.5
	0.25 2.5 mm ²
finely stranded with core end processing	0.25 1.5 mm ²
finely stranded without core end processing	0.25 2.5 mm²
type of connectable conductor cross-sections	
• for auxiliary contacts	0 (0.05 0.5
— solid	2x (0.25 2.5 mm²)
— solid or stranded	2x (0,25 2,5 mm²)
— finely stranded with core end processing	2x (0.25 1.5 mm²)
— finely stranded without core end processing	2x (0.25 2.5 mm²)
for AWG cables for auxiliary contacts	2x (24 14)
AWG number as coded connectable conductor cross section	
for auxiliary contacts	24 14
Safety related data	
product function	
mirror contact according to IEC 60947-4-1	Yes
 positively driven operation according to IEC 60947-5-1 	No
suitable for safety function	Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a
test wear-related service life necessary	Yes
	160
proportion of dangerous failures	40.97
with low demand rate according to SN 31920 with high demand rate according to SN 31920	40 %
 with high demand rate according to SN 31920 	
D40 value with high descendants and 11 4 0M 04000	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN	
failure rate [FIT] with low demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN	1 000 000

overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
T1 value	
 for proof test interval or service life according to IEC 61508 	20 a
Electrical Safety	
protection class IP on the front according to IEC 60529	IP00; IP20 with box terminal/cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover
Approvals Certificates	

General Product Approval





Confirmation





<u>KC</u>

General Product Approval

EMV

Functional Saftey

Test Certificates

Marine / Shipping





Type Examination Certificate

Type Test Certificates/Test Report

Special Test Certificate



Marine / Shipping









Confirmation

other

Miscellaneous

other Railway

<u>Confirmation</u> <u>Special Test Certificate</u>



Environment





Environmental Confirmations

Further information

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=3RT1055-2AB36

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT1055-2AB36}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-2AB36

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

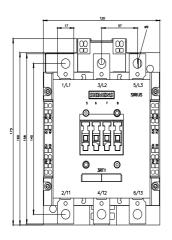
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1055-2AB36&lang=en

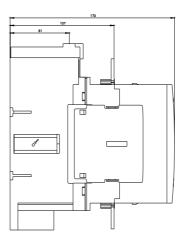
Characteristic: Tripping characteristics, I2t, Let-through current

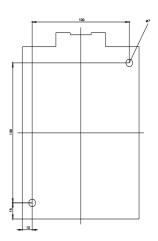
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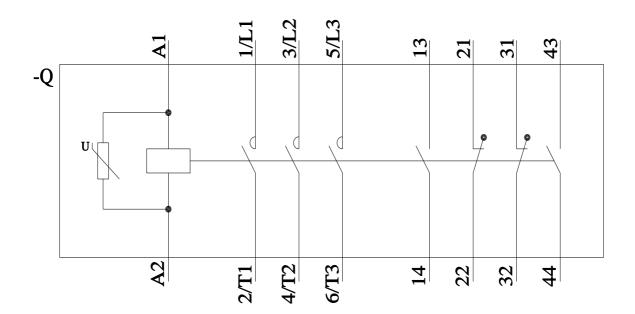
Further characteristics (e.g. electrical endurance, switching frequency)

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last modified:

7/19/2024

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