3RT2037-3XB44-0LA2

Data sheet



traction contactor, AC-3e/AC-3, 65 A, 30 kW / 400 V, 3-pole, 24 V DC, 0.7-1.25 * Us, electronic drive, with integrated varistor, auxiliary contacts: 2 NO + 2 NC, main circuit: screw terminal, control and auxiliary circuit: spring-loaded terminal, size: S2, removable auxiliary switch

product brand name	SIRIUS
product designation	Power contactor
design of the product	With extended operating range
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 	11.4 W
at AC in hot operating state per pole	3.8 W
type of calculation of power loss depending on pole	quadratic
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 DC	6.1g / 5 ms, 3.7g / 10 ms
shock resistance with sine pulse	
• at DC	9.6g / 5 ms, 5.8g / 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
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
 during operation 	-40 +70 °C
during storage	-55 +80 °C
relative humidity minimum	10 %

relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
Environmental footprint	
Environmental Product Declaration(EPD)	Yes
Global Warming Potential [CO2 eq] total	107 kg
Global Warming Potential [CO2 eq] during manufacturing	5.88 kg
Global Warming Potential [CO2 eq] during operation	102 kg
Global Warming Potential [CO2 eq] after end of life	-0.988 kg
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-3 rated value maximum at AC-3e rated value maximum	690 V
	090 V
operational current	00 A
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	80 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated	80 A
value	
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	70 A
 at AC-2 at 400 V rated value 	65 A
• at AC-3	
— at 400 V rated value	65 A
— at 500 V rated value	65 A
— at 690 V rated value	47 A
• at AC-3e	
— at 400 V rated value	65 A
— at 500 V rated value	65 A
— at 690 V rated value	47 A
at AC-4 at 400 V rated value	55 A
minimum cross-section in main circuit	
at maximum AC-1 rated value	25 mm²
at maximum Ith rated value	25 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	28 A
at 690 V rated value	22 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
	1 A
— at 440 V rated value	
— at 600 V rated value	0.8 A
with 3 current paths in series at DC-1	EE A
— 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
 at 1 current path at DC-3 at DC-5 	
— at 24 V rated value	35 A
— at 110 V rated value	2.5 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 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	30 kW
• at AC-3	
— at 230 V rated value	18.5 kW
— at 400 V rated value	30 kW
— at 500 V rated value	37 kW
— at 690 V rated value	37 kW
• at AC-3e	
— at 230 V rated value	18.5 kW
— at 400 V rated value	30 kW
— at 500 V rated value	37 kW
— at 690 V rated value	37 kW
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	14.7 kW
at 690 V rated value	20 kW
short-time withstand current in cold operating state up to 40 °C	
 limited to 1 s switching at zero current maximum 	1 055 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	730 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	520 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	336 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	272 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at DC	1 500 1/h
operating frequency	
at AC-2 at AC-3e maximum	400 1/h
• at AC-4 maximum	200 1/h
Ratings for railway applications	
thermal current (Ith) up to 690 V	
• up to 40 °C according to IEC 60077 rated value	80 A
	60 A
up to 70 °C according to IEC 60077 rated value Control circuit/ Control	00 A
type of voltage	DC
type of voltage type of voltage of the control supply voltage	DC
control supply voltage at DC rated value	
Supply voltage at DC rated value	24 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.7
• full-scale value	1.25
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
closing power of magnet coil at DC	23 W
holding power of magnet coil at DC	1 W
closing delay	1 VV
• at DC	35 110 ms
opening delay	55 110 IIIS
• at DC	30 55 ms
	10 20 ms
arcing time control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	Statitual ti A 1 - A2
number of NC contacts for auxiliary contacts	2
instantaneous contact	2
number of NO contacts for auxiliary contacts	2
instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	10 A
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 at 690 V rated value	1A
operational current at DC-12	171
• at 24 V rated value	10 A
at 24 V rated value at 48 V rated value	6 A
at 48 V rated value 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 125 V rated value at 220 V rated value	1 A
at 220 V rated value at 600 V rated value	0.15 A
operational current at DC-13	0.13 A
at 24 V rated value	6 A
at 48 V rated value at 48 V rated value	2 A
at 60 V rated value	2 A
	1 A
at 110 V rated value at 125 V rated value	0.9 A
at 220 V rated value	0.3 A
at 600 V rated value III /CSA ratings	0.1 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor • at 480 V rated value	65 A
at 600 V rated value at 600 V rated value	52 A
yielded mechanical performance [hp]	52 A
• for single-phase AC motor	5 hp
— at 110/120 V rated value	5 hp
— at 230 V rated value	10 hp
• for 3-phase AC motor	20 hp
— at 200/208 V rated value	20 hp
— at 220/230 V rated value	20 hp
— at 460/480 V rated value	50 hp
— at 575/600 V rated value	50 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	No
product function short circuit protection	No
design of the fuse link	
for short-circuit protection of the main circuit	~C. 050 A (000 V 400 kA) ~A4 400 A (000 V 400 kA) D000 000 A (417 V 00
 — with type of coordination 1 required 	gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA)
— with type of assignment 2 required	gG: 125A (690V,100kA), aM: 63A (690V,100kA), BS88: 100A (415V,80kA)
for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	3 - · · · · · · · · · · · · · · · · · ·
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
height	114 mm
width	55 mm
depth	178 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)
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)
 for 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	
product function	
 mirror contact according to IEC 60947-4-1 	Yes
 positively driven operation according to IEC 60947-5-1 	No
proportion of dangerous failures	
 with low demand rate according to SN 31920 	40 %
with high demand rate according to SN 31920	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN	100 FIT
31920 IEC 61508	
T1 value	
for proof test interval or service life according to IEC	20 a
61508	Δυ α
Electrical Safety	
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
Communication/ Protocol	
product function bus communication	No
Approvals Certificates	





Confirmation







General Product Approval

EMV

Functional Saftey

Test Certificates

<u>KC</u>





Type Examination Cer**tificate**

Type Test Certificates/Test Report

Special Test Certific-

Marine / Shipping













other

Railway

Environment

Confirmation

Type Test Certificates/Test Report

Special Test Certificate



Environmental Con-firmations

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=3RT2037-3XB44-0LA2

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2037-3XB44-0LA2}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-3XB44-0LA2

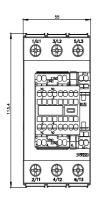
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

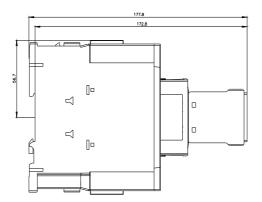
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2037-3XB44-0LA2&lang=en

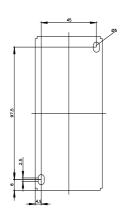
Characteristic: Tripping characteristics, I2t, Let-through current

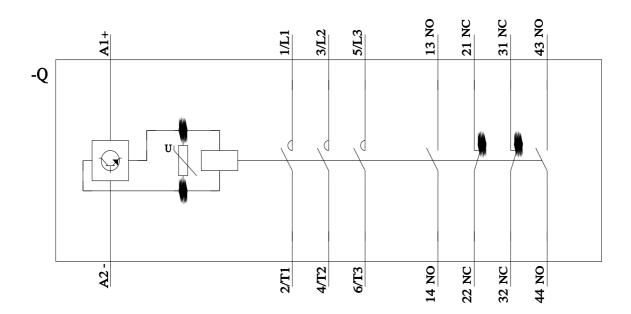
https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-3XB44-0LA2/char

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2037-3XB44-0LA2&objecttype=14&gridview=view1









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