



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: 1 NO + 1 NC, screw terminal, size: S2

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	7.7g / 5 ms, 4.5g / 10 ms
shock resistance with sine pulse	
• 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 Prohibition (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-3e rated value maximum	690 V
operational current	
• 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 value	80 A
— up to 690 V at ambient temperature 60 °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 mm ²
• at maximum Ith rated value	25 mm ²
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
— 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 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 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 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-4	
● 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 (I_{th}) up to 690 V	
● up to 40 °C according to IEC 60077 rated value	80 A
● up to 70 °C according to IEC 60077 rated value	60 A
Control circuit/ Control	
type of voltage	DC
type of voltage of the control supply voltage	DC
control 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	
• at DC	35 ... 110 ms
opening delay	
• 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	1
• instantaneous contact	1
number of NO contacts for auxiliary contacts	1
• 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
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	65 A
• at 600 V rated value	52 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	5 hp
— at 230 V rated value	10 hp
• for 3-phase AC motor	
— 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 / P600
Short-circuit protection	
product function short circuit protection	No
design of the fuse link	
• for short-circuit protection of the main circuit	
— 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	
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	130 mm
required spacing	
<ul style="list-style-type: none"> ● with side-by-side mounting <ul style="list-style-type: none"> — forwards 10 mm — upwards 10 mm — downwards 10 mm — at the side 0 mm ● for grounded parts <ul style="list-style-type: none"> — forwards 10 mm — upwards 10 mm — at the side 6 mm — downwards 10 mm ● for live parts <ul style="list-style-type: none"> — forwards 10 mm — upwards 10 mm — downwards 10 mm — at the side 6 mm 	
Connections/ Terminals	
type of electrical connection	
<ul style="list-style-type: none"> ● 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	
<ul style="list-style-type: none"> ● 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	
<ul style="list-style-type: none"> ● for auxiliary contacts <ul style="list-style-type: none"> — 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 2x (20 ... 16), 2x (18 ... 14) 	
AWG number as coded connectable conductor cross section	
<ul style="list-style-type: none"> ● for main contacts 18 ... 1 ● for auxiliary contacts 20 ... 14 	
Safety related data	
product function	
<ul style="list-style-type: none"> ● mirror contact according to IEC 60947-4-1 Yes ● positively driven operation according to IEC 60947-5-1 No 	
proportion of dangerous failures	
<ul style="list-style-type: none"> ● 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 31920	100 FIT
IEC 61508	
T1 value	
<ul style="list-style-type: none"> ● 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	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	
General Product Approval	



[Confirmation](#)



General Product Approval

EMV

Functional Safety

Test Certificates

[KC](#)



[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

Marine / Shipping



other

Railway

Environment

[Confirmation](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



[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=3RT2037-1XB40-0LA2>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2037-1XB40-0LA2>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-1XB40-0LA2>

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

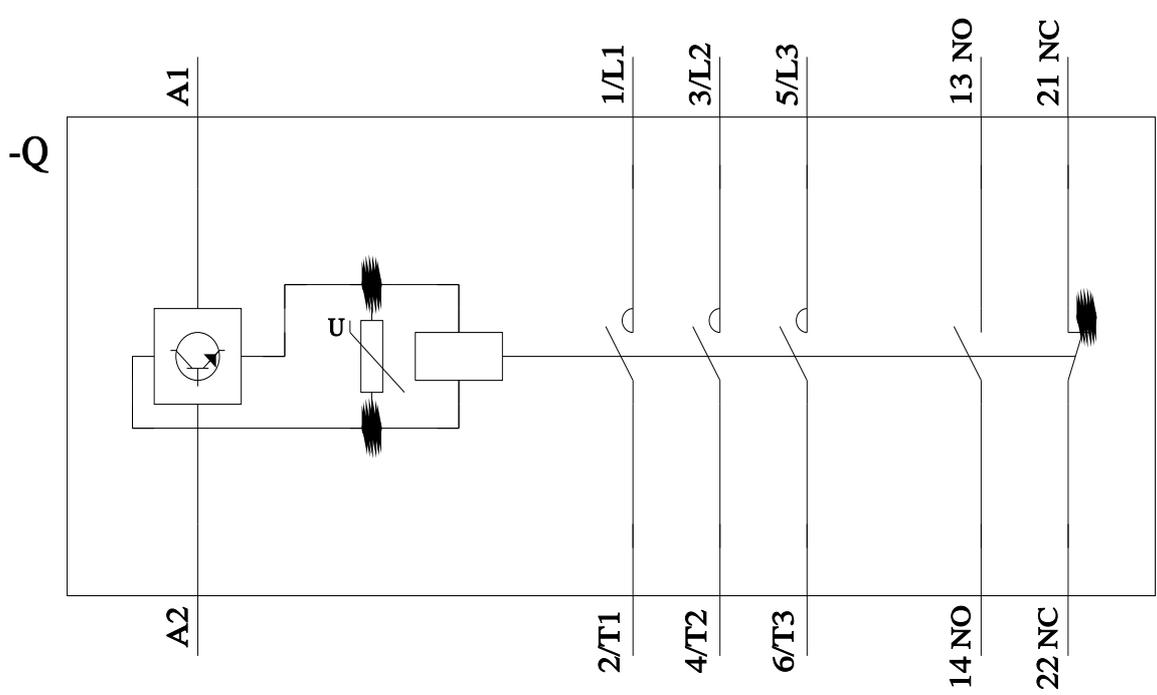
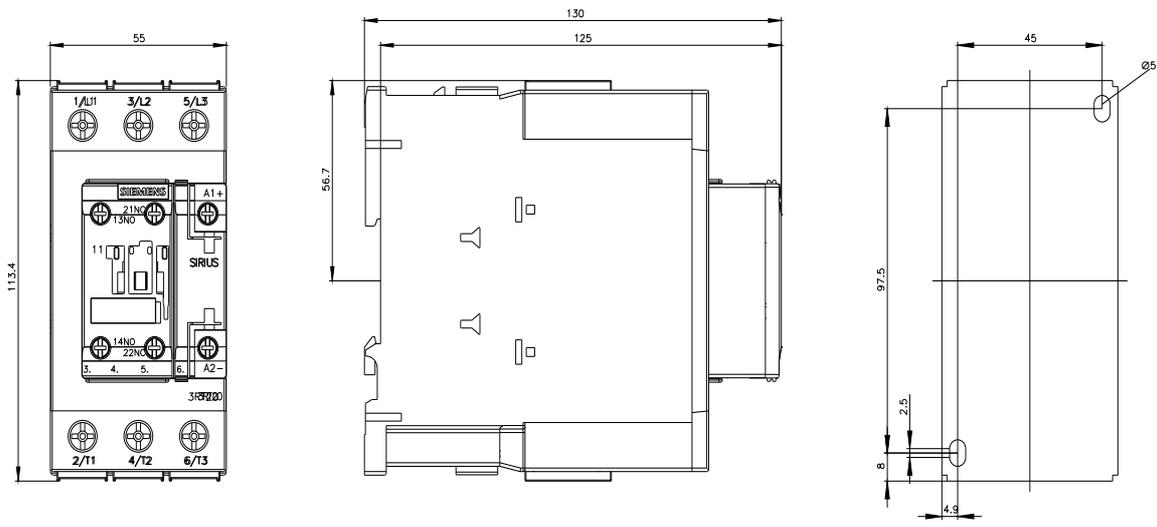
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2037-1XB40-0LA2&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-1XB40-0LA2/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2037-1XB40-0LA2&objecttype=14&gridview=view1>



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