



power contactor, AC-3e/AC-3, 65 A, 30 kW / 400 V, 3-pole, 24 V DC, 0.8-1.2* U_c, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, main circuit: screw terminal, control and auxiliary circuit: spring-loaded terminal, frame size: S2, suitable for PLC outputs

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	11.4 W
• at AC in hot operating state per pole	3.8 W
• without load current share typical	1 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 Prohibitance (Date)	10/01/2014
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 Melamine - 108-78-1
Net Weight	1.118 kg
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
number of NC contacts for main contacts	0
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-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
• at AC-5a up to 690 V rated value	70.4 A
• at AC-5b up to 400 V rated value	53.9 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	56.9 A
— up to 400 V for current peak value n=20 rated value	56.9 A
— up to 500 V for current peak value n=20 rated value	56.9 A
— up to 690 V for current peak value n=20 rated value	47 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	38 A
— up to 400 V for current peak value n=30 rated value	38 A
— up to 500 V for current peak value n=30 rated value	38 A
— up to 690 V for current peak value n=30 rated value	38 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	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 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

<ul style="list-style-type: none"> • with 3 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	55 A
	55 A
	55 A
	45 A
	2.9 A
	1.4 A
	35 A
	6 A
	1 A
	0.1 A
	0.06 A
	55 A
	45 A
	25 A
	5 A
	0.27 A
	0.16 A
	55 A
	55 A
	55 A
	25 A
	0.6 A
	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
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	22.6 kVA
• up to 400 V for current peak value n=20 rated value	39.4 kVA
• up to 500 V for current peak value n=20 rated value	49.2 kVA
• up to 690 V for current peak value n=20 rated value	56.1 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	15.1 kVA
• up to 400 V for current peak value n=30 rated value	26.2 kVA
• up to 500 V for current peak value n=30 rated value	32.8 kVA
• up to 690 V for current peak value n=30 rated value	45.3 kVA
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

<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • at DC 	1 500 1/h
operating frequency	
<ul style="list-style-type: none"> • at AC-1 maximum 	800 1/h
<ul style="list-style-type: none"> • at AC-2 maximum 	400 1/h
<ul style="list-style-type: none"> • at AC-3 maximum 	700 1/h
<ul style="list-style-type: none"> • at AC-3e — maximum 	700 1/h
<ul style="list-style-type: none"> • at AC-4 maximum 	200 1/h
Control circuit/ Control	
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	
<ul style="list-style-type: none"> • initial value 	0.8
<ul style="list-style-type: none"> • full-scale value 	1.2
design of the surge suppressor	with varistor
inrush current peak	2.6 A
duration of inrush current peak	50 µs
pickup current mean value	0.9 A
pickup current peak	2.1 A
duration of pickup current	230 ms
holding current mean value	40 mA
closing power of magnet coil at DC	21.5 W
holding power of magnet coil at DC	1 W
closing delay	
<ul style="list-style-type: none"> • at DC 	35 ... 80 ms
opening delay	
<ul style="list-style-type: none"> • 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 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	
<ul style="list-style-type: none"> • at 230 V rated value 	10 A
<ul style="list-style-type: none"> • at 400 V rated value 	3 A
<ul style="list-style-type: none"> • at 500 V rated value 	2 A
<ul style="list-style-type: none"> • at 690 V rated value 	1 A
operational current at DC-12	
<ul style="list-style-type: none"> • at 24 V rated value 	10 A
<ul style="list-style-type: none"> • at 48 V rated value 	6 A
<ul style="list-style-type: none"> • at 60 V rated value 	6 A
<ul style="list-style-type: none"> • at 110 V rated value 	3 A
<ul style="list-style-type: none"> • at 125 V rated value 	2 A
<ul style="list-style-type: none"> • at 220 V rated value 	1 A
<ul style="list-style-type: none"> • at 600 V rated value 	0.15 A
operational current at DC-13	
<ul style="list-style-type: none"> • at 24 V rated value 	10 A
<ul style="list-style-type: none"> • at 48 V rated value 	2 A
<ul style="list-style-type: none"> • at 60 V rated value 	2 A
<ul style="list-style-type: none"> • at 110 V rated value 	1 A
<ul style="list-style-type: none"> • at 125 V rated value 	0.9 A
<ul style="list-style-type: none"> • at 220 V rated value 	0.3 A
<ul style="list-style-type: none"> • 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	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	
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
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 coordination 2 required	gG: 125 A (690 V, 100 kA), aM: 63 A (690 V, 100 kA), BS88: 100 A (415 V, 80 kA)
• 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 side-by-side mounting	Yes
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	
• 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 mm ²), 1x (1 ... 50 mm ²)
— finely stranded with core end processing	2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²)
• for AWG cables for main contacts	2x (18 ... 2), 1x (18 ... 1)
connectable conductor cross-section for main contacts	

<ul style="list-style-type: none"> finely stranded with core end processing 	1 ... 35 mm ²
connectable conductor cross-section for auxiliary contacts	
<ul style="list-style-type: none"> solid or stranded 	0.5 ... 2.5 mm ²
<ul style="list-style-type: none"> finely stranded with core end processing 	0.5 ... 1.5 mm ²
<ul style="list-style-type: none"> finely stranded without core end processing 	0.5 ... 2.5 mm ²
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> for auxiliary contacts <ul style="list-style-type: none"> — solid or stranded — finely stranded with core end processing — finely stranded without core end processing for AWG cables for auxiliary contacts 	2x (0.5 ... 2.5 mm ²) 2x (0.5 ... 1.5 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (20 ... 14)
AWG number as coded connectable conductor cross section for main contacts	18 ... 1
AWG number as coded connectable conductor cross section 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
<ul style="list-style-type: none"> positively driven operation according to IEC 60947-5-1 	No
<ul style="list-style-type: none"> 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
proportion of dangerous failures	
<ul style="list-style-type: none"> with low demand rate according to SN 31920 	40 %
<ul style="list-style-type: none"> 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

ISO 13849

device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes

IEC 61508

safety device type according to IEC 61508-2	Type A
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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

Approvals Certificates

Environmental Product Declaration

<ul style="list-style-type: none"> global warming potential [CO2 eq] / during manufacturing 	5.88 kg
<ul style="list-style-type: none"> global warming potential [CO2 eq] / during operation 	102 kg
<ul style="list-style-type: none"> global warming potential [CO2 eq] / after end of life 	-0.988 kg
<ul style="list-style-type: none"> global warming potential [CO2 eq] / total 	107 kg

Environment General Product Approval



[Environmental Confirmations](#)



General Product Approval EMV Test Certificates Maritime application



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Maritime application



other

Railway



[Confirmation](#)

[Special Test Certificate](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RT2037-3KB40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-3KB40>

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

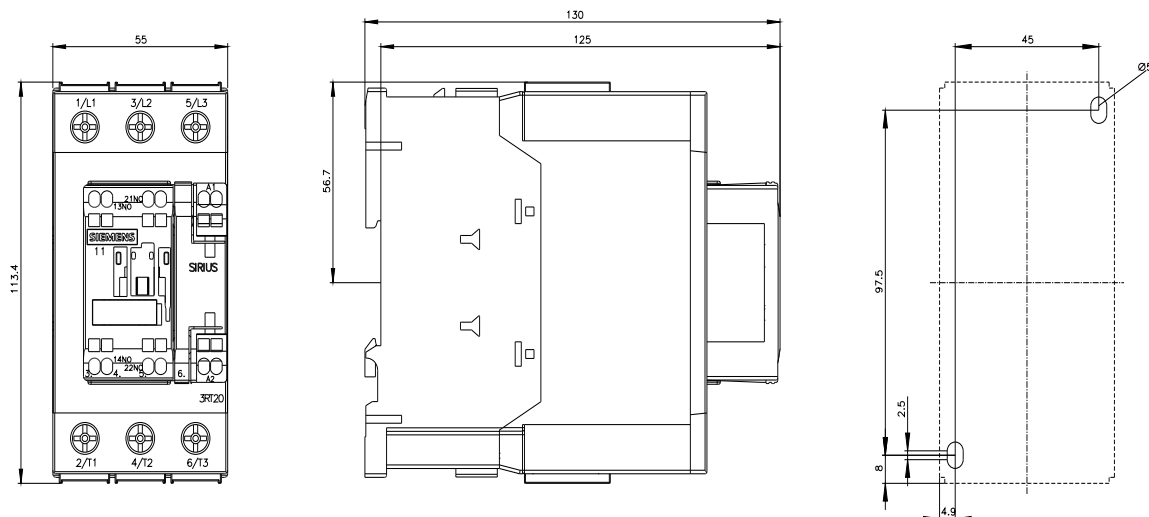
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2037-3KB40&lang=en

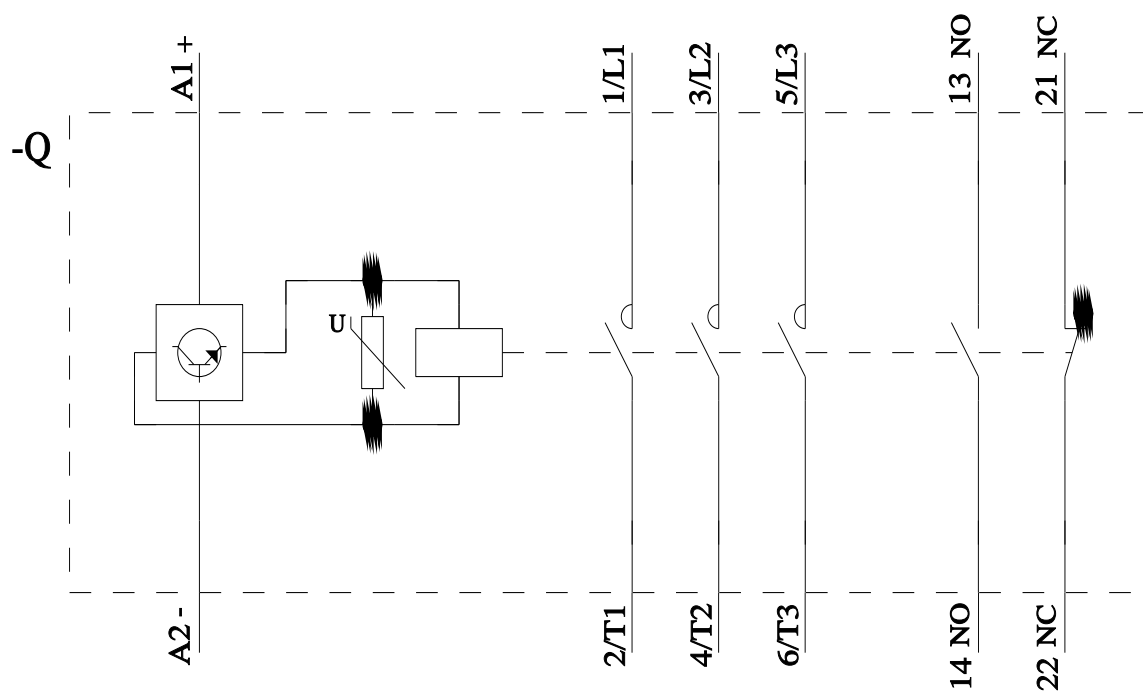
Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2037-3KB40>

Characteristic curves

https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>





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