

Contactor, AC-3, 30 kW / 400 V, 1 NO + 1 NC, 110 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
• product extension auxiliary switch	Yes
• power loss [W] for rated value of the current at AC in hot operating state	11.4 W
• power loss [W] for rated value of the current at AC in hot operating state per pole	3.8 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
protection class IP • on the front • of the terminal	IP20 IP00
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 • of the contactor with added electronics-compatible auxiliary switch block typical • of the contactor with added auxiliary switch block typical	10 000 000 5 000 000 10 000 000
reference code acc. to DIN EN 81346-2	Q

Ambient conditions

• installation altitude at height above sea level maximum	2 000 m
• ambient temperature during operation • ambient temperature during storage	-25 ... +60 °C -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
• Operating current at AC-1 at 400 V — at ambient temperature 40 °C rated value	80 A
• Operating current at AC-1 — up to 690 V at ambient temperature 40 °C rated value — up to 690 V at ambient temperature 60 °C rated value	80 A 70 A
• Operating current at AC-2 at 400 V rated value	65 A
• — operating current at AC-3 at 400 V rated value — Operating current at AC-3 at 500 V rated value — Operating current at AC-3 at 690 V rated value	65 A 65 A 47 A
• Operating current at AC-4 at 400 V rated value	55 A

• Operating current at AC-5a up to 690 V rated value	70.4 A
• Operating current at AC-5b up to 400 V rated value	53.9 A
• Operating current 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 690 V for current peak value n=20 rated value	56.9 A 56.9 A 56.9 A 47 A
• Operating current 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 690 V for current peak value n=30 rated value	38 A 38 A 38 A 38 A
Minimum cross-section in main circuit	
• at maximum AC-1 rated value	25 mm²
Operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	28 A
• at 690 V rated value	22 A
Operating current	
• at 1 current path at DC-1 — at 24 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 4.5 A 1 A 0.4 A 0.25 A
• with 2 current paths in series at DC-1 — at 24 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 45 A 5 A 1 A 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
Operating current	
• 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
•	
— operating power at AC-3 at 230 V rated value	18.5 kW
— operating power at AC-3 at 400 V rated value	30 kW
— operating power at AC-3 at 500 V rated value	37 kW
— operating power at AC-3 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 output at AC-6a	
• up to 230 V for current peak value n=20 rated value	22.6 kV·A
• up to 400 V for current peak value n=20 rated value	39.4 kV·A

• up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value	49.2 kV·A 56.1 kV·A
Operating apparent output 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 690 V for current peak value n=30 rated value	15.1 kV·A 26.2 kV·A 32.8 kV·A 45.3 kV·A
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 60 s switching at zero current maximum	1 055 A; Use minimum cross-section acc. to AC-1 rated value 730 A; Use minimum cross-section acc. to AC-1 rated value 520 A; Use minimum cross-section acc. to AC-1 rated value 336 A; Use minimum cross-section acc. to AC-1 rated value 272 A; Use minimum cross-section acc. to AC-1 rated value
No-load switching frequency • at AC	5 000 1/h
• Operating frequency at AC-1 maximum • Operating frequency at AC-2 maximum • operating frequency at AC-3 maximum • Operating frequency at AC-4 maximum	800 1/h 400 1/h 700 1/h 200 1/h
Control circuit/ Control	
Type of voltage of the control supply voltage • Control supply voltage at AC at 50 Hz rated value	AC 110 V
Operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz	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 • at 50 Hz	16 V·A

Inductive power factor with the holding power of the coil	
• at 50 Hz	0.37
Closing delay	
• at AC	10 ... 80 ms
Opening delay	
• at AC	10 ... 18 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
Operating current at AC-12 maximum	10 A
Operating 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
• Operating current at DC-12 at 24 V rated value	10 A
• operating current at DC-12 at 48 V rated value	6 A
• Operating current at DC-12 at 60 V rated value	6 A
• operating current at DC-12 at 110 V rated value	3 A
• Operating current at DC-12 at 125 V rated value	2 A
• Operating current at DC-12 at 220 V rated value	1 A
• Operating current at DC-12 at 600 V rated value	0.15 A
• Operating current at DC-13 at 24 V rated value	10 A
• operating current at DC-13 at 48 V rated value	2 A
• Operating current at DC-13 at 60 V rated value	2 A
• operating current at DC-13 at 110 V rated value	1 A
• Operating current at DC-13 at 125 V rated value	0.9 A
• Operating current at DC-13 at 220 V rated value	0.3 A
• Operating current at DC-13 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 three-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 three-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 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)
• Design of the fuse link for short-circuit protection of the main circuit with type of assignment 2 required	gG: 125A (690V,100kA), aM: 63A (690V,100kA), BS88: 100A (415V,80kA)
• design of the fuse link 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
• mounting type	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
• mounting type 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
• type of electrical connection for auxiliary and control current circuit	spring-loaded terminals
• Type of electrical connection at contactor for auxiliary contacts	Spring-type terminals
• Type of electrical connection of magnet coil	Spring-type terminals
• type of connectable conductor cross-sections for main contacts single or multi-stranded	2x (1 ... 35 mm ²), 1x (1 ... 50 mm ²)
• type of connectable conductor cross-sections for main contacts finely stranded with core end processing	2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²)
• type of connectable conductor cross-sections at AWG conductors for main contacts	2x (18 ... 2), 1x (18 ... 1)
connectable conductor cross-section for main contacts	
• finely stranded with core end processing	1 ... 35 mm ²
connectable conductor cross-section for auxiliary contacts	
• single or multi-stranded	0.5 ... 2.5 mm ²
• finely stranded with core end processing	0.5 ... 1.5 mm ²
• finely stranded without core end processing	0.5 ... 2.5 mm ²
• type of connectable conductor cross-sections for auxiliary contacts single or multi-stranded	2x (0.5 ... 2.5 mm ²)
• type of connectable conductor cross-sections for auxiliary contacts finely stranded with core end processing	2x (0.5 ... 1.5 mm ²)
• type of connectable conductor cross-sections for auxiliary contacts finely stranded without core end processing	2x (0.5 ... 2.5 mm ²)
• type of connectable conductor cross-sections at AWG conductors 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

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 against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529
Suitability for use safety-related switching OFF	Yes

Certificates/ approvals

General Product Approval	EMC	Functional Safety/Safety of Machinery
 CCC	 EAC	 RCM
 CSA		Type Examination Certificate
 UL		

Declaration of Conformity	Test Certificates	Marine / Shipping
 EG-Konf.	Miscellaneous Type Test Certificates/Test Report Special Test Certificate	 ABS  BUREAU VERITAS

Marine / Shipping	other
 LRS  PRS  RINA  RMRS  DNV-GL DNVGL.COM/AF	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=3RT2037-3AF00>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2037-3AF00>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-3AF00>

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

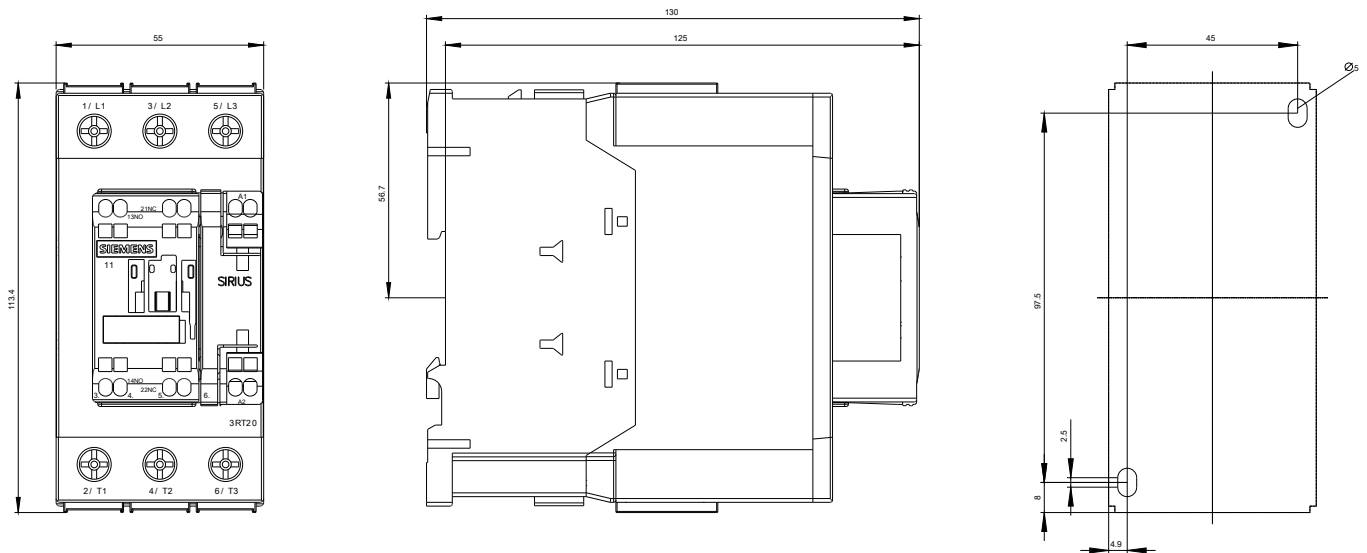
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2037-3AF00&lang=en

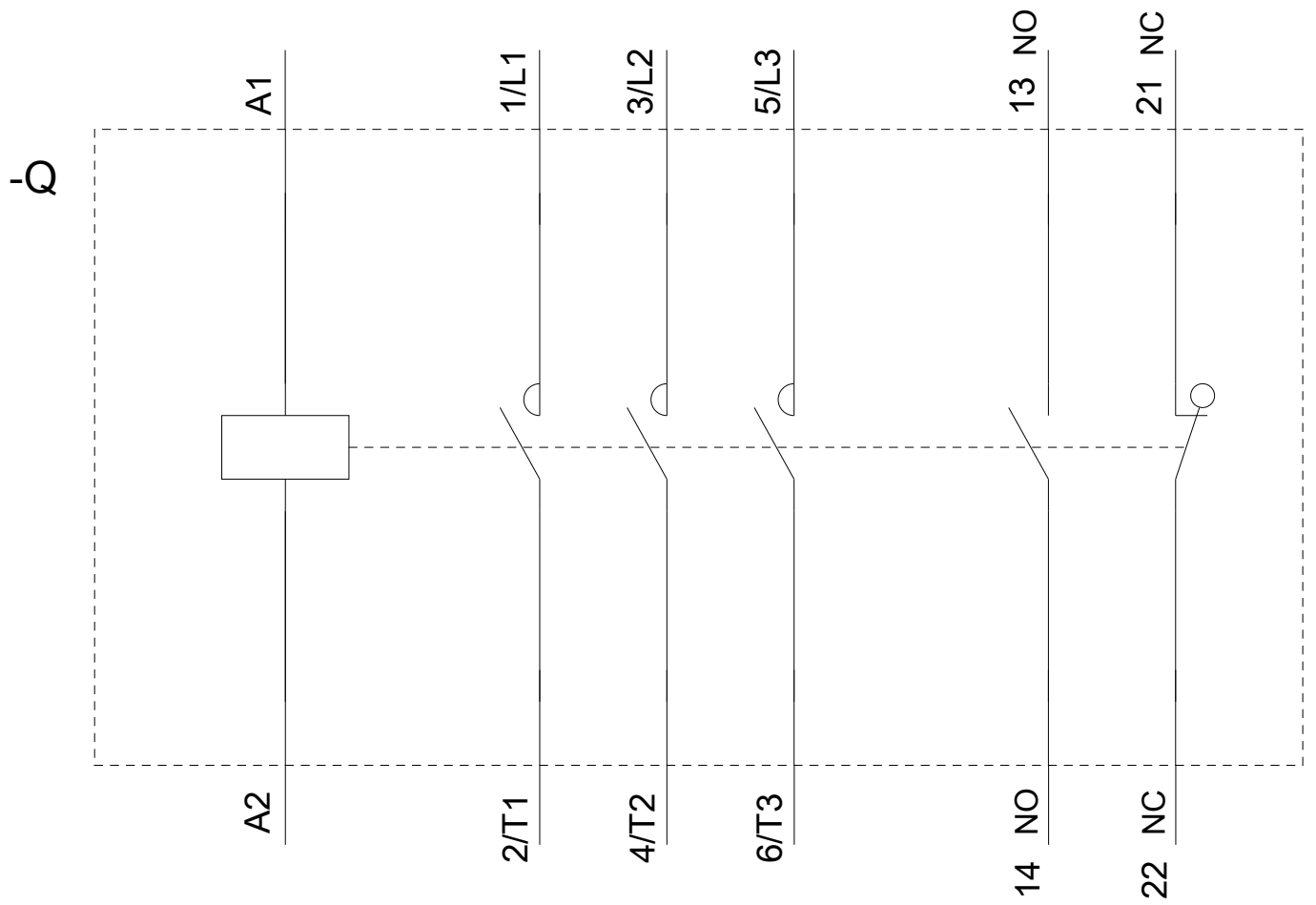
Characteristic: Tripping characteristics, I^2t , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-3AF00/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2037-3AF00&objecttype=14&gridview=view1>





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