# **SIEMENS**

Data sheet 3RT2037-3AF00



power contactor, AC-3e/AC-3, 65 A, 30 kW / 400 V, 3-pole, 110 V AC, 50 Hz, auxiliary contacts: 1 NO + 1 NC, main circuit: screw terminal, control and auxiliary circuit: spring-loaded terminal, size: S2

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S2
product extension	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	11.4 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	3.8 W
without load current share typical	6 W
insulation voltage	
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	690 V
<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	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 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 (operating cycles)	
of contactor typical	10 000 000
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2014
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul> <li>during operation</li> </ul>	-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	
<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V
at AC-3e rated value maximum	690 V
operational current	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated</li> </ul>	80 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated	80 A
value	70 /
<ul> <li>up to 690 V at ambient temperature 60 °C rated value</li> </ul>	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-5a up to 690 V rated value      at AC-5b up to 400 V rated value	70.4 A 53.9 A
• at AC-6a	55.9 A
	50 O A
— 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
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	38 A
<ul> <li>up to 500 V for current peak value n=30 rated value</li> </ul>	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 <sup>2</sup>
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
	0.20 A
with 2 current paths in series at DC-1     at 24 V rated value.	55 A
— 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
with 3 current paths in series at DC-1	
— at 24 V rated value	55 A
— at 60 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
<ul> <li>at 1 current path at DC-3 at DC-5</li> </ul>	

— at 24 V rated value	35 A
— at 60 V rated value	6 A
— at 220 V rated value	1 A
— at 440 V rated value	0.1 A
— at 600 V rated value	0.06 A
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	55 A
— at 60 V rated value	45 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
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	55 A
— at 60 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	37 KVV
	18.5 kW
— at 230 V rated value	
— 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
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	OO.1 KV/
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  up to 400 V for current peak value n=30 rated value	26.2 kVA
	32.8 kVA
up to 500 V for current peak value n=30 rated value	45.3 kVA
up to 690 V for current peak value n=30 rated value     short-time withstand current in cold operating state up to	7V.0 IV/A
40 °C	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	1 055 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	730 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 10 s switching at zero current maximum	520 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 30 s switching at zero current maximum	336 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited 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 AC	5 000 1/h
operating frequency	
• at AC-1 maximum	800 1/h
• at AC-2 maximum	400 1/h
	700 1/h
at AC 3 maximum	(10)
• at AC-3 maximum	
• at AC-3e maximum	700 1/h

type of voltage of the control supply voltage	AC
control supply voltage at AC	AU .
at 50 Hz rated value	110 V
operating range factor control supply voltage rated value of magnet coil at AC	110 V
• at 50 Hz	0.8 1.1
apparent pick-up power of magnet coil at AC	
• at 50 Hz	190 VA
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 VA
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
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	1A
operational current at DC-12	40.0
<ul> <li>at 24 V rated value</li> <li>at 48 V rated value</li> </ul>	10 A 6 A
at 46 V rated value     at 60 V rated value	6 A
at 110 V rated value     at 110 V rated value	3 A
at 125 V rated value	2 A
at 220 V rated value	1A
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
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	00 ha
— 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	
<ul> <li>for short-circuit protection of the main circuit</li> </ul>	
— 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 +/- $22.5^\circ$ on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
side-by-side mounting	Yes
height	114 mm
width	55 mm
depth	130 mm
required spacing	
<ul> <li>with side-by-side mounting</li> </ul>	
— 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	O THIN
type of electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control circuit	spring-loaded terminals
·	
<ul> <li>at contactor for auxiliary contacts</li> <li>of magnet coil</li> </ul>	Spring-type terminals Spring-type terminals
-	Spring-type terminals
type of connectable conductor cross-sections for main contacts	2v /4 2F mm²) 4v /4 F0 mm²)
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)
connectable conductor cross-section for main contacts	
finely stranded with core end processing	1 35 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 2.5 mm <sup>2</sup>
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 1.5 mm <sup>2</sup>
finely stranded without core end processing	0.5 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0.5 2.5 mm²)
<ul><li>— solid or stranded</li><li>— finely stranded with core end processing</li></ul>	2x (0.5 2.5 mm²) 2x (0.5 1.5 mm²)
— finely stranded with core end processing	2x (0.5 1.5 mm²)
<ul><li>finely stranded with core end processing</li><li>finely stranded without core end processing</li></ul>	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²)
— finely stranded with core end processing     — finely stranded without core end processing     • for AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²)
— finely stranded with core end processing — finely stranded without core end processing  • for AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross section	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)
— finely stranded with core end processing — finely stranded without core end processing  • for AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross section  • for main contacts	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)
— finely stranded with core end processing — finely stranded without core end processing  • for AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross section  • for main contacts • for auxiliary contacts  Safety related data	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)
— finely stranded with core end processing — finely stranded without core end processing  • for AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross section  • for main contacts • for auxiliary contacts	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)

suitability for use safety-related switching OFF	Yes
B10 value with high demand rate according to SN 31920	1 000 000
proportion of dangerous failures	
<ul> <li>with low demand rate according to SN 31920</li> </ul>	40 %
<ul> <li>with high demand rate according to SN 31920</li> </ul>	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
T1 value for proof test interval or service life according to IEC 61508	20 a
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

Certificates/ approvals

#### **General Product Approval**



Confirmation





<u>KC</u>



Functional Safety/Safet chinery	y of Ma- Declaration of Conformity	Test Certificates
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Type Examination Cer**tificate** 





Type Test Certificates/Test Report

Special Test Certificate

### Marine / Shipping













	Marine / Shipping	other	Railway	Dangerous Good	Environment
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Confirmation

Confirmation

Vibration and Shock

**Transport Information** 

**Environmental Confirmations** 

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RT2037-3AF00

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2037-3AF00}$ 

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, ...)

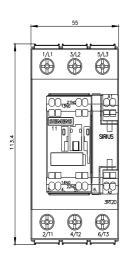
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2037-3AF00&lang=en

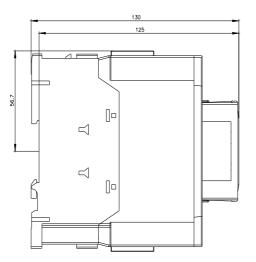
Characteristic: Tripping characteristics, I2t, Let-through current

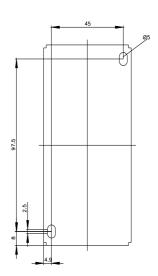
https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-3AF00/char

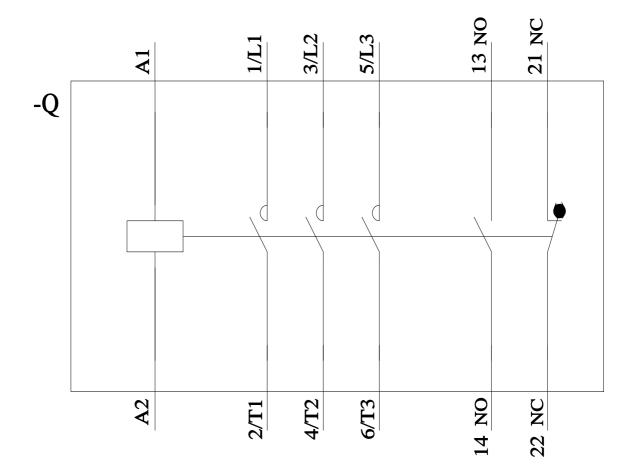
Further characteristics (e.g. electrical endurance, switching frequency)

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



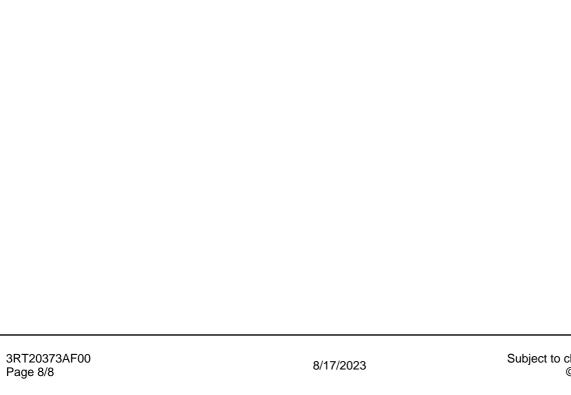






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