## **SIEMENS**

Data sheet 3RT2017-2AP62



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 220 V AC, 50 Hz / 240 V, 60 Hz, auxiliary contacts: 1 NC, spring-loaded terminal, size: S00

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S00
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>	1.5 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	0.5 W
without load current share typical	1.7 W
type of calculation of power loss depending on pole	quadratic
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	7,3g / 5 ms, 4,7g / 10 ms
shock resistance with sine pulse	
• at AC	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (operating cycles)	
<ul> <li>of contactor typical</li> </ul>	30 000 000
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	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)	10/01/2009
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 %
Environmental footprint	

Environmental Product Declaration/EPD\	Yes
Environmental Product Declaration(EPD)  Global Warming Potential [CO2 eq] total	39.6 kg
Global Warming Potential [CO2 eq] during manufacturing	1.18 kg
Global Warming Potential [CO2 eq] during mandiacturing  Global Warming Potential [CO2 eq] during operation	38.5 kg
Global Warming Potential [CO2 eq] after end of life	-0.155 kg
Main circuit	0.100 kg
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	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	22 A
• at AC-1	
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	22 A
— up to 690 V at ambient temperature 60 °C rated value	20 A
• at AC-3	40.4
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value • at AC-3e	6.7 A
at AC-3e  — at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value	6.7 A
• at AC-4 at 400 V rated value	8.5 A
at AC-5a up to 690 V rated value	19.4 A
at AC-5b up to 400 V rated value	9.9 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	7.2 A
— up to 400 V for current peak value n=20 rated value	7.2 A
— up to 500 V for current peak value n=20 rated value	7.2 A
— up to 690 V for current peak value n=20 rated value	6.7 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	4.8 A
— up to 400 V for current peak value n=30 rated value	4.8 A
— up to 500 V for current peak value n=30 rated value	4.8 A
— up to 690 V for current peak value n=30 rated value	4.8 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	4.1 A
at 690 V rated value	3.3 A
operational current	
at 1 current path at DC-1     at 24 V rated value.	20 Δ
— at 24 V rated value — at 60 V rated value	20 A 20 A
— at 110 V rated value	2.1 A
— at 220 V rated value	0.8 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
with 2 current paths in series at DC-1	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	
	12 A
— at 220 V rated value	12 A 1.6 A
<ul><li>— at 220 V rated value</li><li>— at 440 V rated value</li></ul>	
	1.6 A

<ul> <li>— at 60 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>2</li> </ul>	20 A 20 A 20 A
<ul><li>— at 110 V rated value</li><li>— at 220 V rated value</li><li>2</li></ul>	
— at 220 V rated value	20 A
at 440 V/ materilling	20 A
— at 440 V rated value	1.3 A
— at 600 V rated value	1 A
at 1 current path at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 60 V rated value 0	0.5 A
— at 110 V rated value 0	0.15 A
with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 60 V rated value 5	5 A
— at 110 V rated value 0	0.35 A
with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 440 V rated value 0	0.2 A
— at 600 V rated value	0.2 A
operating power	
	5.5 kW
• at AC-3	
— at 230 V rated value	3 kW
— at 400 V rated value 5	5.5 kW
— at 500 V rated value 5	5.5 kW
— at 690 V rated value 5	5.5 kW
• at AC-3e	
— at 230 V rated value	3 kW
— at 400 V rated value 5	5.5 kW
— at 500 V rated value 5	5.5 kW
— at 690 V rated value 5	5.5 kW
operating power for approx. 200000 operating cycles at AC-	
4	
• at 400 V rated value	2 kW
at 690 V rated value     2	2.5 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value 2	2.8 kVA
• up to 400 V for current peak value n=20 rated value 4	4.9 kVA
• up to 500 V for current peak value n=20 rated value 6	6.2 kVA
• up to 690 V for current peak value n=20 rated value 8	8 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value 1	1.9 kVA
• up to 400 V for current peak value n=30 rated value 3	3.3 kVA
• up to 500 V for current peak value n=30 rated value 4	4.1 kVA
• up to 690 V for current peak value n=30 rated value 5	5.7 kVA
short-time withstand current in cold operating state up to 40 °C	
• limited to 1 s switching at zero current maximum 2	200 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 5 s switching at zero current maximum	123 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 10 s switching at zero current maximum 9	96 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum 7	74 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum 6	61 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC 1	10 000 1/h
operating frequency	
• at AC-1 maximum 1	1 000 1/h
• at AC-2 maximum 7	750 1/h
• at AC-3 maximum 7	750 1/h
	750 1/h

• at AC-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 Hz rated value	220 V
at 60 Hz rated value	240 V
operating range factor control supply voltage rated value of	
magnet coil at AC	
● at 50 Hz	0.8 1.1
• at 60 Hz	0.8 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	36 VA
• at 60 Hz	36 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.8
apparent holding power of magnet coil at AC	
• at 50 Hz	5.9 VA
• at 60 Hz	5.9 VA
inductive power factor with the holding power of the coil	0.24
• at 50 Hz	0.24
• at 60 Hz	0.24
closing delay	0 35 mc
• at AC	9 35 ms
opening delay  • at AC	4 15 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous	1
contact	
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	1A
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	11 A
at 600 V rated value	11 A
yielded mechanical performance [hp]	
• for single-phase AC motor	0.F.ha
— at 110/120 V rated value	0.5 hp

— at 230 V rated value	2 hp
• for 3-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	7.5 hp
— at 575/600 V rated value	10 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the fuse link	
<ul> <li>for short-circuit protection of the main circuit</li> </ul>	
<ul> <li>— with type of coordination 1 required</li> </ul>	gG: 50A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
<ul> <li>— with type of assignment 2 required</li> </ul>	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (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	70 mm
width	45 mm
depth	73 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	
type of electrical connection	
for main current circuit	spring-loaded terminals
for auxiliary and control circuit	spring-loaded terminals
<ul> <li>at contactor for auxiliary contacts</li> </ul>	Spring-type terminals
of magnet coil	Spring-type terminals
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (0.5 4 mm²)
— solid or stranded	2x (0,5 4 mm²)
— finely stranded with core end processing	2x (0.5 2.5 mm²)
— finely stranded without core end processing	2x (0.5 2.5 mm²)
for AWG cables for main contacts	2x (20 12)
connectable conductor cross-section for main contacts	
• solid	0.5 4 mm <sup>2</sup>
• stranded	0.5 4 mm <sup>2</sup>
finely stranded with core end processing	0.5 2.5 mm <sup>2</sup>
finely stranded without core end processing	0.5 2.5 mm²
connectable conductor cross-section for auxiliary contacts	
• solid or stranded	0.5 4 mm²
finely stranded with core end processing	0.5 2.5 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 4 mm²)

<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 2.5 mm²)
<ul> <li>finely stranded without core end processing</li> </ul>	2x (0.5 2.5 mm²)
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (20 12)
AWG number as coded connectable conductor cross section	
• for main contacts	20 12
<ul> <li>for auxiliary contacts</li> </ul>	20 12
Safety related data	
product function	
<ul> <li>mirror contact according to IEC 60947-4-1</li> </ul>	Yes
<ul> <li>positively driven operation according to IEC 60947-5-1</li> </ul>	No
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> <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 %
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
T1 value	
<ul> <li>for proof test interval or service life according to IEC 61508</li> </ul>	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
Approvals Certificates	

General Product Approval







Confirmation



<u>KC</u>

General Product Approval

EMV

**Functional Saftey** 

**Test Certificates** 

Marine / Shipping





Type Examination Certificate Type Test Certificates/Test Report

Special Test Certificate



Marine / Shipping











Miscellaneous

other

other

Railway

Environment

Confirmation

Confirmation

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=3RT2017-2AP62

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-2AP62

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2AP62

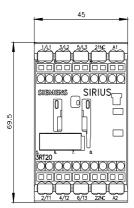
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2017-2AP62&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2017-2AP62&lang=en</a>

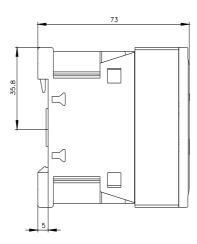
Characteristic: Tripping characteristics, I²t, Let-through current

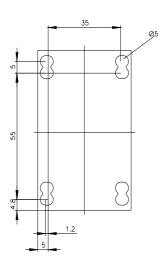
https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2AP62/char

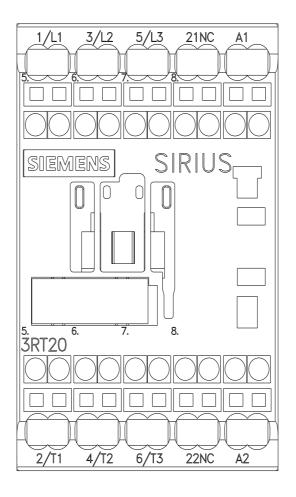
Further characteristics (e.g. electrical endurance, switching frequency)

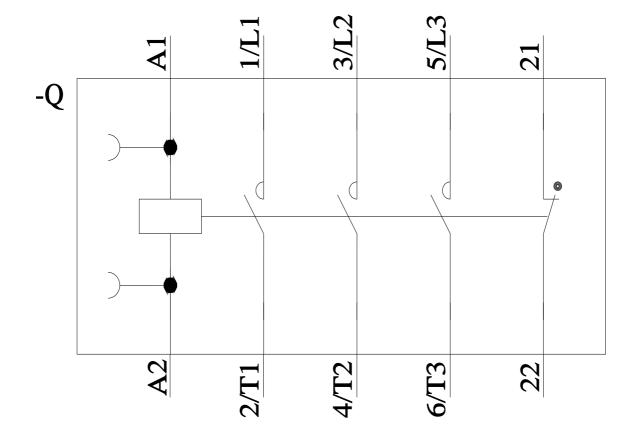
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-2AP62&objecttype=14&gridview=view1











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