## SIEMENS

## Data sheet

## 3RT2015-2AK61



power contactor, AC-3e/AC-3, 7 A, 3 kW / 400 V, 3-pole, 110 V AC, 50 Hz / 120 V, 60 Hz, auxiliary contacts: 1 NO, spring-loaded terminal, size: S00  $\,$ 

Sec. 20	
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
<ul> <li>auxiliary switch</li> </ul>	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	0.6 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	0.2 W
<ul> <li>without load current share typical</li> </ul>	1.2 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	
<ul> <li>of main circuit rated value</li> </ul>	6 kV
<ul> <li>of auxiliary circuit rated value</li> </ul>	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	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	10,5g / 5 ms, 6,6g / 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
<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)	10/01/2009
Weight	0.252 kg
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
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 operation	38.5 kg
global warming potential [CO2 eq] after end of life	-0.155 kg
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
<ul> <li>at AC-3e rated value maximum</li> </ul>	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	18 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	18 A
— up to 690 V at ambient temperature 60 °C rated value	16 A
• at AC-3	7.4
- at 400 V rated value	7 A 6 A
— at 500 V rated value	
<ul> <li>— at 690 V rated value</li> <li>• at AC-3e</li> </ul>	4.9 A
- at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
at AC-4 at 400 V rated value	6.5 A
<ul> <li>at AC-5a up to 690 V rated value</li> </ul>	15.8 A
• at AC-5b up to 400 V rated value	5.8 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	4 A
— up to 400 V for current peak value n=20 rated value	4 A
<ul> <li>— up to 500 V for current peak value n=20 rated value</li> </ul>	3.8 A
— up to 690 V for current peak value n=20 rated value	3.6 A
● at AC-6a	
— up to 230 V for current peak value n=30 rated value	2.7 A
— up to 400 V for current peak value n=30 rated value	2.7 A
— up to 500 V for current peak value n=30 rated value	2.5 A
— up to 690 V for current peak value n=30 rated value	2.4 A
minimum cross-section in main circuit at maximum AC-1 rated value	2.5 mm <sup>2</sup>
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	2.6 A
at 690 V rated value	1.8 A
operational current	
<ul> <li>at 1 current path at DC-1</li> </ul>	
— at 24 V rated value	15 A
— at 60 V rated value	15 A
— at 110 V rated value	1.5 A
— at 220 V rated value	0.6 A
- at 440 V rated value	0.42 A
- at 600 V rated value	0.42 A
with 2 current paths in series at DC-1     at 24 V rated value	15 0
- at 24 V rated value	15 A
- at 60 V rated value	15 A
- at 110 V rated value	8.4 A
- at 220 V rated value	1.2 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.5 A

with 2 compart metho in conice of DC 4	
with 3 current paths in series at DC-1	
— at 24 V rated value	15 A
— at 60 V rated value	15 A
— at 110 V rated value	15 A
— at 220 V rated value	15 A
— at 440 V rated value	0.9 A
— at 600 V rated value	0.7 A
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	15 A
— at 60 V rated value	0.35 A
— at 110 V rated value	0.1 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	15 A
— at 60 V rated value	3.5 A
— at 110 V rated value	0.25 A
• with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	15 A
— at 60 V rated value	15 A
— at 110 V rated value	15 A
— at 220 V rated value	1.2 A
— at 440 V rated value	0.14 A
— at 600 V rated value	0.14 A
operating power	
• at AC-3	
— at 230 V rated value	1.5 kW
— at 400 V rated value	3 kW
— at 500 V rated value	3 kW
— at 690 V rated value	4 kW
• at AC-3e	
— at 230 V rated value	1.5 kW
— at 400 V rated value	3 kW
— at 500 V rated value	3 kW
— at 690 V rated value	4 kW
operating power for approx. 200000 operating cycles at AC- 4	
• at 400 V rated value	1.15 kW
• at 690 V rated value	1.15 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	1.5 kVA
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	2.7 kVA
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	3.3 kVA
<ul> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	4.3 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	1 kVA
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	1.8 kVA
<ul> <li>up to 500 V for current peak value n=30 rated value</li> </ul>	2.2 kVA
<ul> <li>up to 690 V for current peak value n=30 rated value</li> </ul>	2.9 kVA
short-time withstand current in cold operating state up to 40 $^\circ \text{C}$	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	120 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	86 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	67 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	52 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	43 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	10 000 1/h
operating frequency	
● at AC-1 maximum	1 000 1/h
● at AC-2 maximum	750 1/h
• at AC-3 maximum	750 1/h
<ul> <li>at AC-3e maximum</li> </ul>	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	110 V
at 60 Hz rated value	120 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	26.4 VA
• at 60 Hz	26.4 VA
inductive power factor with closing power of the coil	0.91
● at 50 Hz ● at 60 Hz	0.81 0.81
apparent holding power of magnet coil at AC	0.01
• at 50 Hz	4.4 VA
• at 60 Hz	4.4 VA 4.4 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.24
• at 60 Hz	0.24
closing delay	
• 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 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	1 A
operational current at DC-12	40.4
at 24 V rated value     at 48 V rated value	10 A
<ul> <li>at 48 V rated value</li> <li>at 60 V rated value</li> </ul>	6 A 6 A
at 50 V rated value     at 110 V rated value	6 A 3 A
at 125 V rated value	2 A
at 125 V rated value     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	4.8 A
• at 600 V rated value	6.1 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	0.25 hp

— at 230 V rated value	0.75 hp
for 3-phase AC motor	
— at 200/208 V rated value	1.5 hp
— at 220/230 V rated value	2 hp
— at 460/480 V rated value	3 hp
— at 575/600 V rated value	5 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
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	
<ul> <li>for short-circuit protection of the main circuit</li> </ul>	
<ul> <li>— with type of coordination 1 required</li> </ul>	gG: 35A (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)
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	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	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
<ul> <li>for grounded parts</li> </ul>	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
<ul> <li>for live parts</li> </ul>	
— 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
<ul> <li>for auxiliary and control circuit</li> </ul>	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	2x (0.5 4 mm²)
— solid or stranded	2x (0,5 4 mm <sup>2</sup> )
— finely stranded with core end processing	2x (0.5 2.5 mm <sup>2</sup> )
— finely stranded without core end processing	2x (0.5 2.5 mm <sup>2</sup> )
<ul> <li>for AWG cables for main contacts</li> </ul>	2x (20 12)
connectable conductor cross-section for main contacts	
• solid	0.5 4 mm²
stranded	0.5 4 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 2.5 mm²
<ul> <li>finely stranded without core end processing</li> </ul>	0.5 2.5 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 4 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 2.5 mm <sup>2</sup>
<ul> <li>finely stranded without core end processing</li> </ul>	0.5 2.5 mm <sup>2</sup>

type of connectable conductor cross-sections	s			
<ul> <li>for auxiliary contacts</li> </ul>				
— solid or stranded		(0,5 4 mm²)		
<ul> <li>finely stranded with core end process</li> </ul>		(0.5 2.5 mm²)		
<ul> <li>finely stranded without core end proc</li> </ul>	0	(0.5 2.5 mm²)		
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>		(20 12)		
AWG number as coded connectable conducto section	or cross			
for main contacts	20	12		
for auxiliary contacts		12		
afety related data	20.	12		
	_			
product function	N/			
mirror contact according to IEC 60947-4-1      positively driven operation according to IEC 60947.5.1		s; with 3RH29		
• positively driven operation according to IEC 60947-5-1				
suitable for safety function		3		
suitability for use safety-related switching OFF	Yes			
service life maximum	20 a			
test wear-related service life necessary	Yes	3		
proportion of dangerous failures				
<ul> <li>with low demand rate according to SN 319</li> </ul>				
with high demand rate according to SN 31				
B10 value with high demand rate according to		00 000		
failure rate [FIT] with low demand rate accord 31920	ling to SN 100	) FIT		
ISO 13849				
	3			
device type according to ISO 13849-1		<b>、</b>		
overdimensioning according to ISO 13849-2 r IEC 61508	necessary Yes			
safety device type according to IEC 61508-2	Turp			
Electrical Safety	Тур			
•				
protection class ID on the trent according to	IEC 60520 ID20	0		
protection class IP on the front according to I			from the front	
touch protection on the front according to IE		0 er-safe, for vertical contact	from the front	
touch protection on the front according to IEC			from the front	_
touch protection on the front according to IE			from the front	
touch protection on the front according to IEC pprovals Certificates General Product Approval			from the front	KC
touch protection on the front according to IEC pprovals Certificates General Product Approval		er-safe, for vertical contact	from the front	КС
touch protection on the front according to IEC pprovals Certificates General Product Approval	C 60529 fing	er-safe, for vertical contact	from the front	KC
touch protection on the front according to IEC pprovals Certificates General Product Approval	C 60529 fing	er-safe, for vertical contact	from the front	KC
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touch protection on the front according to IEC pprovals Certificates General Product Approval	C 60529 fing	er-safe, for vertical contact	(U) UL	KC
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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=3RT2015-2AK61

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2015-2AK61

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-2AK61

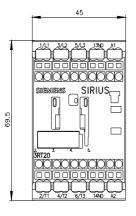
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

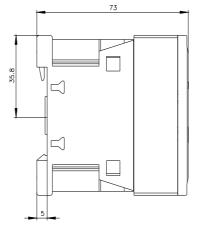
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2015-2AK61&lang=en

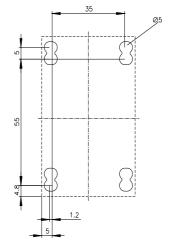
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

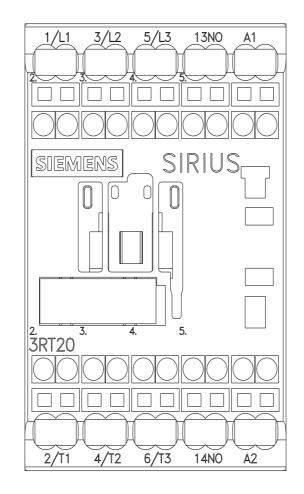
https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-2AK61/char

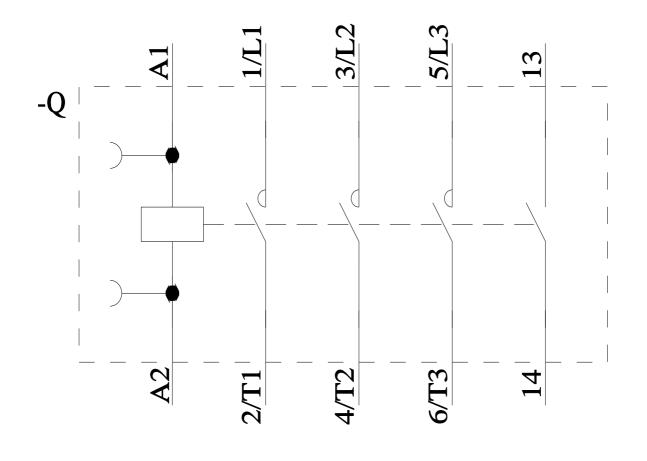
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2015-2AK61&objecttype=14&gridview=view1











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