## SIEMENS

## Data sheet

## 3RT2018-2AK61



power contactor, AC-3e/AC-3, 7.5 kW/400 V, 1 NO, 110 V AC 50 Hz, 120 V 60 Hz, 3-pole, frame size S00 spring-loaded terminal

product brand name         SIRIUS           product designation         SRT2           Central technical data         SRT2           General technical data         Size of contactor           size of contactor         S00           product stype designation         No           • auxiliary switch         Yes           opwore loss [W] for rated value of the current         3 W           • at AC in hot operating state per pole         1 W           • at AC in hot operating state per pole         1 W           • of main circuit with degree of pollution 3 rated value         690 V           • of main circuit with degree of pollution 3 rated value         64V           • of main circuit with degree of pollution 3 rated value         64V           • of main circuit with degree of pollution 9 rated         64V           • of main circuit with degree of pollution 9 rated         64V           • of main circuit with degree of pollution 9 rated         64V           • of main circuit rated value         6 kV           • of auxiliary circuit rated value         6 kV           • at AC         7,3g / 5 ms, 7,3g / 10 ms           machancial service life (switching cycles)         30 000 000           • of the contactor tybical         9 000 000           • of the contactor tybical<		
product type designation         3RT2           General technical data	product brand name	SIRIUS
General lechnical data     S00       size of contactor product extension     No       • function module for communication     No       • auxiliary switch     Yes       power loss [W] for rated value of the current     3 W       • at AC in hot operating state     3 W       • at AC in hot operating state per pole     1 W       • without load current share typical     5.9 W       insulation voltage     690 V       • of main circuit with degree of pollution 3 rated value     690 V       • of anain circuit with degree of pollution 3 rated value     690 V       • of anain circuit rated value     6 kV       • of anain circuit rated value     6 kV       • of auxiliary switch block typical     7.3g / 5 ms, 4.7g / 10 ms       machanical service life (switching cycles)     30 000 000       • of contactor typical     30 000 000       • of the contactor with added electronically optimized auxiliary switch block typical     10 000 000       • of the contactor with added auxiliary switch block typical     10 000 1000       • of the contactor with added auxiliary switch block typical     10 000 1000       • of the	product designation	Power contactor
size of contactor     S00       product extension     No       • function module for communication     No       • auxiliary switch     Yes       power loss [W] for rated value of the current     3 W       • at AC in hot operating state     3 W       • at AC in hot operating state per pole     1 W       • without load current share typical     5.9 W       insulation voltage     600 V       • of main circuit with degree of pollution 3 rated value     600 V       • of main circuit with degree of pollution 3 rated value     600 V       • of auxiliary circuit with degree of pollution 3 rated value     64 V       • of main circuit rated value     6 kV       • of auxiliary since for soff isolation between coil and main contacts according to EN 6087-11     400 V       shock resistance at rectangular impulse     11,4g / 5 ms, 7,3g / 10 ms       • at AC     11,4g / 5 ms, 7,3g / 10 ms       mechanical service life (switching cycles)     500 000       • of the contactor with added electronically optimized auxiliary switch block typical     10 000 000       • of the contactor with added auxiliary switch block typical     10 000 000       • of the contactor with added auxiliary switch block t	product type designation	3RT2
product extension         No           • function module for communication         No           • auxiliary switch         Yes           power loss [W] for rated value of the current         -           • at AC in hot operating state         3 W           • at AC in hot operating state propie         1 W           • at AC in hot operating state propie         5.9 W           • of nain circuit with degree of pollution 3 rated value         690 V           • of main circuit with degree of pollution 3 rated value         690 V           • of main circuit with degree of pollution 3 rated value         690 V           • of main circuit with degree of pollution 3 rated value         690 V           • of main circuit rated value         6 KV           • of main contrates according to EN 60947-1         600 V           shock resistance at rectangular impulse         4 K           • at AC         7,3g / 5 ms, 4,7g / 10 ms           • at AC         7,3g / 5 ms, 7,3g / 10 ms           • of the contactor with added auxiliary switch block typical         30 000 000           • of the contactor with added auxiliary switch block typical         10 000 000           • of the contactor with added auxiliary switch block typical         10 000 000           • of the contactor with added auxiliary switch block typical         2 000 m <th>General technical data</th> <th></th>	General technical data	
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installation altitude at height above sea level maximum       2 000 m         ambient temperature       -25 +60 °C         • 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 %	Substance Prohibitance (Date)	10/01/2009
ambient temperature       -25 +60 °C         • during storage       -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 %	Ambient conditions	
• 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 %	installation altitude at height above sea level maximum	2 000 m
• during storage -55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum 95 %	ambient temperature	
relative humidity minimum     10 %       relative humidity at 55 °C according to IEC 60068-2-30     95 %       maximum     95 %	<ul> <li>during operation</li> </ul>	-25 +60 °C
relative humidity at 55 °C according to IEC 60068-2-30 95 %	<ul> <li>during storage</li> </ul>	-55 +80 °C
maximum	relative humidity minimum	10 %
Main circuit		95 %
	Main circuit	

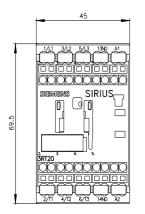
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
at AC-3 rated value maximum	690 V
at AC-3e rated value maximum	690 V
operational current	00.4
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	22 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C	22 A
rated value	
— up to 690 V at ambient temperature 60 °C	20 A
rated value	
• at AC-3	
— at 400 V rated value	16 A
— at 500 V rated value	12.4 A
— at 690 V rated value	8.9 A
• at AC-3e	16 A
— at 400 V rated value — at 500 V rated value	10 A 12.4 A
— at 500 V rated value	12.4 A 8.9 A
<ul> <li>at AC-4 at 400 V rated value</li> </ul>	0.9 A 11.5 A
<ul> <li>at AC-5a up to 690 V rated value</li> </ul>	19.4 A
<ul> <li>at AC-5b up to 400 V rated value</li> </ul>	13.2 A
• at AC-6a	10.27
— up to 230 V for current peak value n=20 rated	9.6 A
value	01071
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	9.6 A
— up to 500 V for current peak value n=20 rated	9.6 A
value	0.07.
<ul> <li>— up to 690 V for current peak value n=20 rated value</li> </ul>	8.9 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated	6.6 A
value	01071
— up to 400 V for current peak value n=30 rated	6.4 A
value — up to 500 V for current peak value n=30 rated	6.4 A
value	
— up to 690 V for current peak value n=30 rated value	6.4 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm <sup>2</sup>
operational current for approx. 200000 operating	
cycles at AC-4	
• at 400 V rated value	5.5 A
<ul> <li>at 690 V rated value</li> </ul>	4.4 A
operational current	
<ul> <li>at 1 current path at DC-1</li> </ul>	
— at 24 V rated value	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	20.4
— at 24 V rated value — at 110 V rated value	20 A 12 A
— at 220 V rated value	12 A 1.6 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.8 A 0.7 A
• with 3 current paths in series at DC-1	0.17
— at 24 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	20 A
— at 440 V rated value	1.3 A

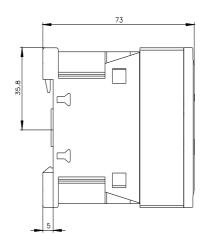
— at 600 V rated value	1 A
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 110 V rated value	0.15 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 110 V rated value	0.35 A
• with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 440 V rated value	0.2 A 0.2 A
— at 600 V rated value	0.2 A
operating power • at AC-3	
• at AC-3 — at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	7.5 kW
— at 690 V rated value	7.5 kW
• at AC-3e	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	7.5 kW
— at 690 V rated value	7.5 kW
operating power for approx. 200000 operating cycles	
at AC-4	
<ul> <li>at 400 V rated value</li> </ul>	2.5 kW
<ul> <li>at 690 V rated value</li> </ul>	3.5 kW
operating apparent power at AC-6a	
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	3.8 kVA
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	6.6 kVA
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	8.3 kVA
<ul> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	10.6 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	2.5 kVA
• up to 400 V for current peak value n=30 rated value	4.4 kVA
• up to 500 V for current peak value n=30 rated value	5.5 kVA
• up to 690 V for current peak value n=30 rated value	7.6 kVA
short-time withstand current in cold operating state up to 40 °C	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	300 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	169 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	128 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	92 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	74 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	36 \/A
• at 50 Hz	36 VA

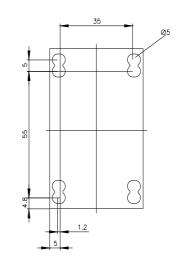
• at 60 Hz	36 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.8
apparent holding power of magnet coil at AC	
• at 50 Hz	5.9 VA
• at 60 Hz	5.9 VA
inductive power factor with the holding power of the	
oil ● at 50 Hz	0.24
• at 60 Hz	0.24
closing delay	0.27
• at AC	9 35 ms
opening delay	5 00 mb
• 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	1
instantaneous 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
<ul> <li>at 500 V rated value</li> </ul>	2 A
<ul> <li>at 690 V rated value</li> </ul>	1 A
operational current at DC-12	
<ul> <li>at 24 V rated value</li> </ul>	10 A
<ul> <li>at 48 V rated value</li> </ul>	6 A
<ul> <li>at 60 V rated value</li> </ul>	6 A
<ul> <li>at 110 V rated value</li> </ul>	3 A
<ul> <li>at 125 V rated value</li> </ul>	2 A
<ul> <li>at 220 V rated value</li> </ul>	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	1 A
at 125 V rated value	0.9 A 0.3 A
<ul> <li>at 220 V rated value</li> <li>at 600 V rated value</li> </ul>	0.3 A 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	14 A
<ul> <li>at 480 V rated value</li> <li>at 600 V rated value</li> </ul>	14 A 11 A
• at 600 v rated value yielded mechanical performance [hp]	
for single-phase AC motor	
- at 110/120 V rated value	1 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	5 hp
— at 460/480 V rated value	10 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>	
— with type of coordination 1 required	gG: 50A (690V,100kA), aM: 25A (690V,100kA), BS88: 50A (415V,80kA)
- with type of assignment 2 required	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)
<ul> <li>for short-circuit protection of the auxiliary switch</li> </ul>	gG: 10 A (500 V, 1 kA)
required	

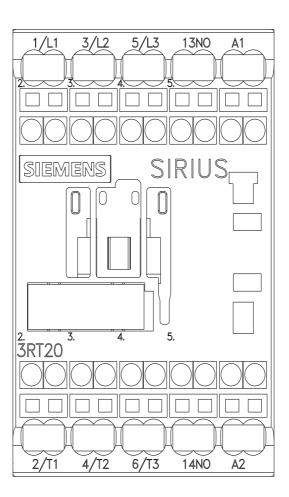
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted
	forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
<ul> <li>side-by-side mounting</li> </ul>	Yes
height	70 mm
width	45 mm
depth	73 mm
required spacing	
with side-by-side mounting	
— 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
for live parts	10
— forwards	10 mm
— upwards	10 mm
— downwards — at the side	10 mm 6 mm
Connections/ Terminals	6 11111
type of electrical connection	
for main current circuit	spring-loaded terminals
<ul> <li>for auxiliary and control circuit</li> </ul>	spring-loaded terminals
<ul> <li>at contactor for auxiliary contacts</li> </ul>	Spring-type terminals
<ul> <li>of magnet coil</li> </ul>	Spring-type terminals
type of connectable conductor cross-sections	
<ul> <li>for main contacts</li> </ul>	
— solid	2x (0.5 4 mm²)
<ul> <li>— solid or stranded</li> </ul>	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 mm <sup>2</sup> )
at 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>
<ul> <li>finely stranded with core end processing</li> </ul>	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	
<ul> <li>solid or stranded</li> </ul>	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 mm <sup>2</sup>
type of connectable conductor cross-sections	
<ul> <li>for auxiliary contacts</li> </ul>	
— solid or stranded	2x (0,5 4 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 2.5 mm <sup>2</sup> )
— finely stranded without core end processing	2x (0.5 2.5 mm <sup>2</sup> )
at AWG cables for auxiliary contacts	2x (20 12)
AWG number as coded connectable conductor cross section	
for main contacts	20 12
for auxiliary contacts	20 12
Safety related data	
product function	
mirror contact according to IEC 60947-4-1	Yes; with 3RH29
B10 value with high demand rate according to SN 31920	1 000 000
proportion of dangerous failures	

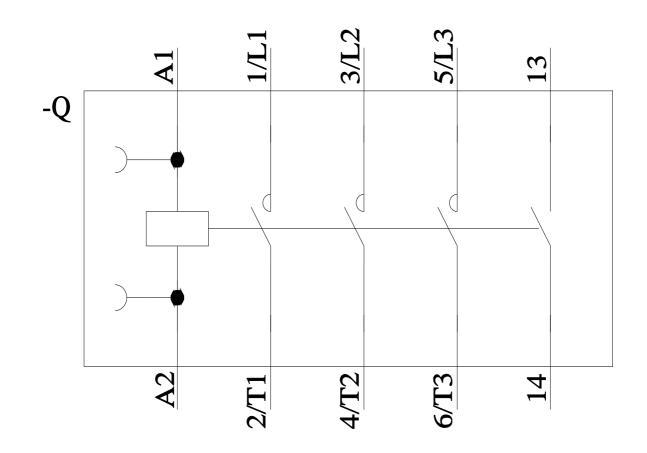
• with high dem failure rate [FIT] wit 31920 T1 value for proof te IEC 61508 protection class IF 60529	als	N 31920 ding to SN according to g to IEC	40 % 73 % 100 FIT 20 y IP20 finger-safe, for vertical cont Yes	act from the front		
CEA		<u>Confirmatic</u>		<u>KC</u>	EAC	
EMC	Functional Safety/Safety of Machinery	Declaration of	of Conformity	Test Certificates		
RCM	<u>Type Examination</u> <u>Certificate</u>	UK CA	CE EG-Konf.	<u>Special Test Certific-</u> <u>ate</u>	<u>Type Test Certific-</u> ates/Test Report	
Marine / Shipping						
ABS	DUREAU VERITAS		Llovd's Register us	PRS	RINA	
Marine / Shipping	other			Railway		
RMRS	<u>Confirmation</u>	DE	<u>Confirmation</u>	Vibration and Shock		
https://www.siemen Industry Mall (Onli https://mall.industry Cax online genera http://support.autom Service&Support ( https://support.indu: Image database (p http://www.automat Characteristic: Tri https://support.indu: Further characteri	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=3RT2018-2AK61         Cax online generator         http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2018-2AK61         Service&Support (Manuals, Certificates, Characteristics, FAQs,)         https://support.industry.siemens.com/cs/ww/en/ps/3RT2018-2AK61         Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,)         http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2018-2AK61⟨=en         Characteristic: Tripping characteristics, I*t, Let-through current         https://support.industry.siemens.com/cs/ww/en/ps/3RT2018-2AK61/char         Further characteristics (e.g. electrical endurance, switching frequency)         http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2018-2AK61&objecttype=14&gridview=view1					











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