

3RT2025-1AG20

CONTACTOR,AC3:7,5KW 1NO+1NC 110V 50/60HZ

Technical data



CONTACTOR, AC-3, 7.5KW/400V, 1NO+1NC, AC110V 50/60HZ, 3-POLE, SZ S0 SCREW TERMINAL

product brandname	SIRIUS
Product type designation	3RT2
<b>General technical data</b>	
Size of contactor	S0
Product extension	No
<ul style="list-style-type: none"> <li>function module for communication</li> <li>Auxiliary switch</li> </ul>	Yes
Insulation voltage	690 V
<ul style="list-style-type: none"> <li>rated value</li> </ul>	690 V
Degree of pollution	3
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	400 V
<ul style="list-style-type: none"> <li>between coil and main contacts acc. to EN 60947-1</li> </ul>	400 V
Protection class IP	IP20
<ul style="list-style-type: none"> <li>on the front</li> <li>of the terminal</li> </ul>	IP20
Shock resistance	7,5g / 5 ms, 4,7g / 10 ms
<ul style="list-style-type: none"> <li>at rectangular impulse</li> <li>— at AC</li> <li>with sine pulse</li> <li>— at AC</li> </ul>	11,8g / 5 ms, 7,4g / 10 ms
Mechanical service life (switching cycles)	10 000 000
<ul style="list-style-type: none"> <li>of contactor typical</li> <li>of the contactor with added electronics-compatible auxiliary switch block typical</li> <li>of the contactor with added auxiliary switch block typical</li> </ul>	5 000 000 10 000 000
<b>Ambient conditions</b>	
Installation altitude at height above sea level maximum	2 000 m
Ambient temperature	-25 ... +60 °C
<ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> </ul>	-55 ... +80 °C
<b>Main circuit</b>	
Number of poles for main current circuit	3
Number of NO contacts for main contacts	3
Number of NC contacts for main contacts	0
Operating voltage	690 V
<ul style="list-style-type: none"> <li>at AC-3 rated value maximum</li> </ul>	690 V
Operating current	40 A
<ul style="list-style-type: none"> <li>at AC-1 at 400 V</li> <li>— at ambient temperature 40 °C rated value</li> <li>at AC-1</li> <li>— up to 690 V at ambient temperature 40 °C rated value</li> <li>— up to 690 V at ambient temperature 60 °C rated value</li> <li>at AC-2 at 400 V rated value</li> <li>at AC-3</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul>	40 A 40 A 35 A 17 A 17 A 17 A 13 A
Connectable conductor cross-section in main circuit at AC-1	10 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>at 60 °C minimum permissible</li> <li>at 40 °C minimum permissible</li> </ul>	10 mm <sup>2</sup>
Operating current for approx. 200000 operating cycles at AC-4	7.7 A
<ul style="list-style-type: none"> <li>at 400 V rated value</li> <li>at 690 V rated value</li> </ul>	7.7 A
Operating current	35 A
<ul style="list-style-type: none"> <li>at 1 current path at DC-1</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>with 2 current paths in series at DC-1</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>with 3 current paths in series at DC-1</li> </ul>	4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 5 A 1 A 0.8 A

— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
<b>Operating current</b>	
● at 1 current path at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
● with 2 current paths in series at DC-3 at DC-5	
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 24 V rated value	35 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 110 V rated value	35 A
— at 220 V rated value	10 A
— at 24 V rated value	35 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
<b>Operating power</b>	
● at AC-1	
— at 230 V rated value	13.3 kW
— at 230 V at 60 °C rated value	13.3 kW
— at 400 V rated value	23 kW
— at 400 V at 60 °C rated value	23 kW
— at 690 V rated value	40 kW
— at 690 V at 60 °C rated value	40 kW
● at AC-2 at 400 V rated value	7.5 kW
● at AC-3	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 690 V rated value	11 kW
<b>Operating power for approx. 200000 operating cycles at AC-4</b>	
● at 400 V rated value	3.5 kW
● at 690 V rated value	6 kW
<b>Thermal short-time current limited to 10 s</b>	150 A
<b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b>	0.9 W
<b>No-load switching frequency</b>	
● at AC	5 000 1/h
<b>Operating frequency</b>	
● at AC-1 maximum	1 000 1/h
● at AC-2 maximum	1 000 1/h
● at AC-3 maximum	1 000 1/h
● at AC-4 maximum	300 1/h
<b>Control circuit/ Control</b>	
<b>Type of voltage of the control supply voltage</b>	AC
<b>Control supply voltage at AC</b>	
● at 50 Hz rated value	110 V
● at 60 Hz rated value	110 V
<b>Operating range factor control supply voltage rated value of magnet coil at AC</b>	
● at 50 Hz	0.8 ... 1.1
● at 60 Hz	0.85 ... 1.1
<b>Apparent pick-up power of magnet coil at AC</b>	
● at 50 Hz	68 V·A
● at 60 Hz	67 V·A
<b>Inductive power factor with closing power of the coil</b>	
● at 50 Hz	0.72
● at 60 Hz	0.74
<b>Apparent holding power of magnet coil at AC</b>	
● at 50 Hz	7.9 V·A
● at 60 Hz	6.5 V·A
<b>Inductive power factor with the holding power of the coil</b>	
● at 50 Hz	0.25
● at 60 Hz	0.28
<b>Closing delay</b>	
● at AC	9 ... 38 ms
<b>Opening delay</b>	
● at AC	4 ... 16 ms
<b>Arcing time</b>	10 ... 10 ms
<b>Residual current of the electronics for control with signal &lt;0&gt;</b>	
● at AC at 230 V maximum permissible	6 mA
● at DC at 24 V maximum permissible	16 mA
<b>Auxiliary circuit</b>	
<b>Number of NC contacts</b>	
● for auxiliary contacts	
— instantaneous contact	1
<b>Number of NO contacts</b>	
● for auxiliary contacts	
— instantaneous contact	1
<b>Operating current at AC-12 maximum</b>	10 A
<b>Operating current at AC-15</b>	
● 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
<b>Operating current at DC-12</b>	
● at 24 V rated value	10 A
● at 48 V rated value	6 A
● at 60 V rated value	6 A

<ul style="list-style-type: none"> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> </ul>	3 A 2 A 1 A 0.15 A
<b>Operating current at DC-13</b> <ul style="list-style-type: none"> <li>at 24 V rated value</li> <li>at 48 V rated value</li> <li>at 60 V rated value</li> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> </ul>	10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A
<b>Contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)

**UL/CSA ratings**

<b>Full-load current (FLA) for three-phase AC motor</b> <ul style="list-style-type: none"> <li>at 480 V rated value</li> <li>at 600 V rated value</li> </ul>	14 A 17 A
<b>Yielded mechanical performance [hp]</b> <ul style="list-style-type: none"> <li>for single-phase AC motor               <ul style="list-style-type: none"> <li>at 110/120 V rated value</li> <li>at 230 V rated value</li> </ul> </li> <li>for three-phase AC motor               <ul style="list-style-type: none"> <li>at 200/208 V rated value</li> <li>at 220/230 V rated value</li> <li>at 460/480 V rated value</li> <li>at 575/600 V rated value</li> </ul> </li> </ul>	1 hp 3 hp  3 hp 5 hp 10 hp 15 hp
<b>Contact rating of auxiliary contacts according to UL</b>	A600 / Q600

**Short-circuit protection**

<b>Design of the fuse link</b> <ul style="list-style-type: none"> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	fuse gG: 10 A
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**Installation/ mounting/ dimensions**

<b>Mounting position</b>	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
<b>Mounting type</b> <ul style="list-style-type: none"> <li>Side-by-side mounting</li> </ul>	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022 Yes
<b>Height</b>	85 mm
<b>Width</b>	45 mm
<b>Depth</b>	97 mm
<b>Required spacing</b> <ul style="list-style-type: none"> <li>with side-by-side mounting               <ul style="list-style-type: none"> <li>forwards</li> <li>Backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> </li> <li>for grounded parts               <ul style="list-style-type: none"> <li>forwards</li> <li>Backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> </ul> </li> <li>for live parts               <ul style="list-style-type: none"> <li>forwards</li> <li>Backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> </li> </ul>	0 mm 0 mm 0 mm 0 mm 0 mm  0 mm 0 mm 0 mm 6 mm 0 mm  0 mm 0 mm 0 mm 0 mm 6 mm

**Connections/Terminals**

<b>Type of electrical connection</b> <ul style="list-style-type: none"> <li>for main current circuit</li> <li>for auxiliary and control current circuit</li> </ul>	screw-type terminals screw-type terminals
<b>Type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>for main contacts               <ul style="list-style-type: none"> <li>solid</li> <li>single or multi-stranded</li> <li>finely stranded with core end processing</li> </ul> </li> <li>at AWG conductors for main contacts</li> </ul>	2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²) 2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²) 2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm² 2x (16 ... 12), 2x (14 ... 8)
<b>Type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>for auxiliary contacts               <ul style="list-style-type: none"> <li>single or multi-stranded</li> <li>finely stranded with core end processing</li> </ul> </li> <li>at AWG conductors for auxiliary contacts</li> </ul>	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14)

**Safety related data**

<b>B10 value</b> <ul style="list-style-type: none"> <li>with high demand rate acc. to SN 31920</li> </ul>	1 000 000
<b>Proportion of dangerous failures</b> <ul style="list-style-type: none"> <li>with low demand rate acc. to SN 31920</li> <li>with high demand rate acc. to SN 31920</li> </ul>	40 % 73 %
<b>Failure rate [FIT]</b> <ul style="list-style-type: none"> <li>with low demand rate acc. to SN 31920</li> </ul>	100 FIT
<b>Product function</b> <ul style="list-style-type: none"> <li>Mirror contact acc. to IEC 60947-4-1</li> </ul>	Yes
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	20 y
<b>Protection against electrical shock</b>	finger-safe

**Certificates/approvals**

<b>General Product Approval</b>	<b>EMC</b>
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KTL



<b>Functional Safety/Safety of Machinery</b>	<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Shipping Approval</b>
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Baumusterbescheinigung



spezielle Prüfbescheinigungen

Typprüfbescheinigung/Werkszeugnis



## Shipping Approval



## other

Bestätigungen

Umweltbestätigung



## Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2025-1AG20>

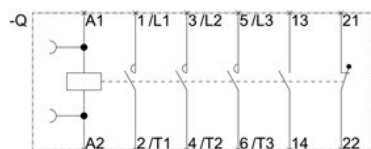
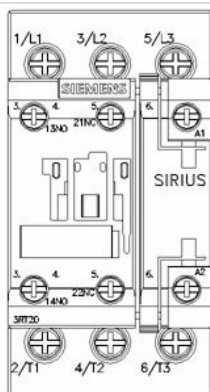
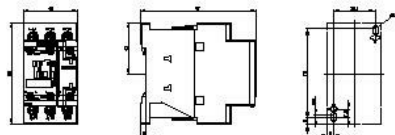
Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2025-1AG20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-1AG20>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2025-1AG20&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2025-1AG20&lang=en)

last modified:

11/23/2016

Last changes: 11/30/2016