



power contactor, AC-3 225 A, 110 kW / 400 V AC (50-60 Hz) / DC operation 200-277 V AC/DC auxiliary contacts 2 NO + 2 NC 3-pole, frame size S10 busbar connections drive: electronic with PLC interface 24 V DC screw terminal

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Power contactor
<b>product type designation</b>	3RT1
<b>General technical data</b>	
<b>size of contactor</b>	S10
<b>product extension</b>	
<ul style="list-style-type: none"> <li>function module for communication</li> <li>auxiliary switch</li> </ul>	<p>No</p> <p>Yes</p>
<b>power loss [W] for rated value of the current</b>	
<ul style="list-style-type: none"> <li>at AC in hot operating state</li> <li>at AC in hot operating state per pole</li> <li>without load current share typical</li> </ul>	<p>51 W</p> <p>17 W</p> <p>3.4 W</p>
<b>insulation voltage</b>	
<ul style="list-style-type: none"> <li>of main circuit with degree of pollution 3 rated value</li> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	<p>1 000 V</p> <p>500 V</p>
<b>surge voltage resistance</b>	
<ul style="list-style-type: none"> <li>of main circuit rated value</li> <li>of auxiliary circuit rated value</li> </ul>	<p>8 kV</p> <p>6 kV</p>
maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1	690 V
<b>shock resistance at rectangular impulse</b>	
<ul style="list-style-type: none"> <li>at AC</li> <li>at DC</li> </ul>	<p>8,5g / 5 ms, 4,2g / 10 ms</p> <p>8,5g / 5 ms, 4,2g / 10 ms</p>
<b>shock resistance with sine pulse</b>	
<ul style="list-style-type: none"> <li>at AC</li> <li>at DC</li> </ul>	<p>13,4g / 5 ms, 6,5g / 10 ms</p> <p>13,4g / 5 ms, 6,5g / 10 ms</p>
<b>mechanical service life (switching cycles)</b>	
<ul style="list-style-type: none"> <li>of contactor typical</li> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> <li>of the contactor with added auxiliary switch block typical</li> </ul>	<p>10 000 000</p> <p>5 000 000</p> <p>10 000 000</p>
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	05/01/2012
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
<ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> </ul>	<p>-25 ... +60 °C</p> <p>-55 ... +80 °C</p>

relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
<b>Main circuit</b>	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
<b>operating voltage</b>	
• at AC-3 rated value maximum	1 000 V
• at AC-3e rated value maximum	1 000 V
<b>operational current</b>	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	275 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	275 A
— up to 690 V at ambient temperature 60 °C rated value	250 A
— up to 1000 V at ambient temperature 40 °C rated value	100 A
— up to 1000 V at ambient temperature 60 °C rated value	100 A
• at AC-3	
— at 400 V rated value	225 A
— at 500 V rated value	225 A
— at 690 V rated value	225 A
— at 1000 V rated value	68 A
• at AC-3e	
— at 400 V rated value	225 A
— at 500 V rated value	225 A
— at 1000 V rated value	68 A
• at AC-4 at 400 V rated value	195 A
• at AC-5a up to 690 V rated value	242 A
• at AC-5b up to 400 V rated value	186 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	225 A
— up to 400 V for current peak value n=20 rated value	225 A
— up to 500 V for current peak value n=20 rated value	225 A
— up to 690 V for current peak value n=20 rated value	225 A
— up to 1000 V for current peak value n=20 rated value	68 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	172 A
— up to 400 V for current peak value n=30 rated value	172 A
— up to 500 V for current peak value n=30 rated value	172 A
— up to 690 V for current peak value n=30 rated value	172 A
— up to 1000 V for current peak value n=30 rated value	68 A
minimum cross-section in main circuit at maximum AC-1 rated value	150 mm <sup>2</sup>
<b>operational current for approx. 200000 operating cycles at AC-4</b>	
• at 400 V rated value	96 A
• at 690 V rated value	85 A
<b>operational current</b>	
• at 1 current path at DC-1	
— at 24 V rated value	200 A

<ul style="list-style-type: none"> <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> </ul>	18 A 3.4 A 0.8 A 0.5 A
<ul style="list-style-type: none"> <li>● <b>with 2 current paths in series at DC-1</b> <ul style="list-style-type: none"> <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> </ul> </li> </ul>	200 A 200 A 20 A 3.2 A 1.6 A
<ul style="list-style-type: none"> <li>● <b>with 3 current paths in series at DC-1</b> <ul style="list-style-type: none"> <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> </ul> </li> </ul>	200 A 200 A 200 A 11 A 4 A
<ul style="list-style-type: none"> <li>● <b>at 1 current path at DC-3 at DC-5</b> <ul style="list-style-type: none"> <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> </ul> </li> </ul>	200 A 2.5 A 0.6 A 0.17 A 0.12 A
<ul style="list-style-type: none"> <li>● <b>with 2 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <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> </ul> </li> </ul>	200 A 200 A 2.5 A 0.65 A 0.37 A
<ul style="list-style-type: none"> <li>● <b>with 3 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <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> </ul> </li> </ul>	200 A 200 A 200 A 1.4 A 0.75 A
<b>operating power</b> <ul style="list-style-type: none"> <li>● at AC-3               <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> <li>— at 1000 V rated value</li> </ul> </li> <li>● at AC-3e               <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 1000 V rated value</li> </ul> </li> </ul>	55 kW 110 kW 160 kW 200 kW 90 kW  55 kW 110 kW 160 kW 90 kW
<b>operating power for approx. 200000 operating cycles at AC-4</b> <ul style="list-style-type: none"> <li>● at 400 V rated value</li> <li>● at 690 V rated value</li> </ul>	54 kW 82 kW
<b>operating apparent power at AC-6a</b> <ul style="list-style-type: none"> <li>● up to 230 V for current peak value n=20 rated value</li> <li>● up to 400 V for current peak value n=20 rated value</li> <li>● up to 500 V for current peak value n=20 rated value</li> <li>● up to 690 V for current peak value n=20 rated value</li> <li>● up to 1000 V for current peak value n=20 rated value</li> </ul>	90 000 kVA 150 000 VA 190 000 VA 260 000 VA 110 000 VA
<b>operating apparent power at AC-6a</b> <ul style="list-style-type: none"> <li>● up to 230 V for current peak value n=30 rated value</li> <li>● up to 400 V for current peak value n=30 rated value</li> <li>● up to 500 V for current peak value n=30 rated value</li> </ul>	60 000 VA 110 000 VA 140 000 VA

<ul style="list-style-type: none"> <li>• up to 690 V for current peak value n=30 rated value</li> <li>• up to 1000 V for current peak value n=30 rated value</li> </ul>	<p>200 000 VA</p> <p>110 000 VA</p>
<b>short-time withstand current in cold operating state up to 40 °C</b> <ul style="list-style-type: none"> <li>• limited to 1 s switching at zero current maximum</li> <li>• limited to 5 s switching at zero current maximum</li> <li>• limited to 10 s switching at zero current maximum</li> <li>• limited to 30 s switching at zero current maximum</li> <li>• limited to 60 s switching at zero current maximum</li> </ul>	<p>4 000 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>2 807 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>2 082 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>1 397 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>1 144 A; Use minimum cross-section acc. to AC-1 rated value</p>
<b>no-load switching frequency</b> <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	<p>1 000 1/h</p> <p>1 000 1/h</p>
<b>operating frequency</b> <ul style="list-style-type: none"> <li>• at AC-1 maximum</li> <li>• at AC-2 maximum</li> <li>• at AC-3 maximum</li> <li>• at AC-3e maximum</li> <li>• at AC-4 maximum</li> </ul>	<p>750 1/h</p> <p>250 1/h</p> <p>500 1/h</p> <p>500 1/h</p> <p>130 1/h</p>
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	AC/DC
<b>control supply voltage at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>	<p>200 ... 277 V</p> <p>200 ... 277 V</p>
<b>control supply voltage at DC</b> <ul style="list-style-type: none"> <li>• rated value</li> </ul>	200 ... 277 V
<b>type of PLC-control input according to IEC 60947-1</b>	Type 2
<b>consumed current at PLC-control input according to IEC 60947-1 maximum</b>	20 mA
<b>voltage at PLC-control input rated value</b>	24 V
<b>operating range factor of the voltage at PLC-control input</b>	0.8 ... 1.1
<b>operating range factor control supply voltage rated value of magnet coil at DC</b> <ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>	<p>0.8</p> <p>1.1</p>
<b>operating range factor control supply voltage rated value of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	<p>0.8 ... 1.1</p> <p>0.8 ... 1.1</p>
<b>design of the surge suppressor</b>	with varistor
<b>apparent pick-up power of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	<p>530 VA</p> <p>530 VA</p>
<b>inductive power factor with closing power of the coil</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	<p>0.8</p> <p>0.8</p>
<b>apparent holding power of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	<p>5 VA</p> <p>5 VA</p>
<b>inductive power factor with the holding power of the coil</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	<p>0.5</p> <p>0.5</p>
<b>closing power of magnet coil at DC</b>	580 W
<b>holding power of magnet coil at DC</b>	3.4 W
<b>closing delay</b> <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	<p>45 ... 80 ms</p> <p>45 ... 80 ms</p>
<b>opening delay</b> <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	<p>80 ... 100 ms</p> <p>80 ... 100 ms</p>

<b>arcing time</b>	10 ... 15 ms
<b>control version of the switch operating mechanism</b>	PLC-IN or Standard A1 - A2 (adjustable)
<b>Auxiliary circuit</b>	
number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
<b>operational current at AC-15</b>	
• at 230 V rated value	6 A
• at 400 V rated value	3 A
• at 500 V rated value	2 A
• at 690 V rated value	1 A
<b>operational 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
• 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
<b>operational current at DC-13</b>	
• 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
<b>contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)
<b>UL/CSA ratings</b>	
<b>full-load current (FLA) for 3-phase AC motor</b>	
• at 480 V rated value	180 A
• at 600 V rated value	192 A
<b>yielded mechanical performance [hp]</b>	
• for 3-phase AC motor	
— at 200/208 V rated value	60 hp
— at 220/230 V rated value	75 hp
— at 460/480 V rated value	150 hp
— at 575/600 V rated value	200 hp
<b>contact rating of auxiliary contacts according to UL</b>	A600 / Q600
<b>Short-circuit protection</b>	
<b>design of the fuse link</b>	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 500 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 A (415 V, 50 kA)
• for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
<b>fastening method</b>	screw fixing
• side-by-side mounting	Yes
<b>height</b>	210 mm
<b>width</b>	145 mm
<b>depth</b>	202 mm
<b>required spacing</b>	
• with side-by-side mounting	
— forwards	20 mm
— upwards	10 mm

— downwards	10 mm
— at the side	0 mm
• for grounded parts	
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 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 circuit</li> <li>• at contactor for auxiliary contacts</li> <li>• of magnet coil</li> </ul>	Connection bar screw-type terminals Screw-type terminals Screw-type terminals
<b>width of connection bar</b>	25 mm
<b>thickness of connection bar</b>	6 mm
<b>diameter of holes</b>	11 mm
<b>number of holes</b>	1
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• at AWG cables for main contacts</li> </ul>	2/0 ... 500 kcmil
<b>connectable conductor cross-section for main contacts</b>	
<ul style="list-style-type: none"> <li>• stranded</li> </ul>	70 ... 240 mm <sup>2</sup>
<b>connectable conductor cross-section for auxiliary contacts</b>	
<ul style="list-style-type: none"> <li>• solid or stranded</li> <li>• finely stranded with core end processing</li> </ul>	0.5 ... 4 mm <sup>2</sup> 0.5 ... 2.5 mm <sup>2</sup>
<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>— solid</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG cables for auxiliary contacts</li> </ul>	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), max. 2x (0.75 ... 4 mm <sup>2</sup> ) 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), max. 2x (0,75 ... 4 mm <sup>2</sup> ) 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) 2x (20 ... 16), 2x (18 ... 14), 1x 12
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>	18 ... 14

#### Safety related data

<b>product function</b>	
<ul style="list-style-type: none"> <li>• mirror contact according to IEC 60947-4-1</li> <li>• positively driven operation according to IEC 60947-5-1</li> </ul>	Yes No
B10 value with high demand rate according to SN 31920	1 000 000
<b>protection class IP on the front according to IEC 60529</b>	IP00; IP20 with box terminal/cover
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front with box terminal/cover
<b>suitability for use</b>	
<ul style="list-style-type: none"> <li>• safety-related switching OFF</li> </ul>	Yes

#### Certificates/ approvals

##### General Product Approval



[Confirmation](#)



[KC](#)



EMC

Functional

Declaration of Conformity

Test Certificates

	Safety/Safety of Machinery			
--	----------------------------	--	--	--



[Type Examination Certificate](#)



EG-Konf.



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

Marine / Shipping					other
-------------------	--	--	--	--	-------



[Miscellaneous](#)

other				Railway
-------	--	--	--	---------

[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)

[Special Test Certificate](#)

### 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?mfb=3RT1064-6NP36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RT1064-6NP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1064-6NP36>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mfb=3RT1064-6NP36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RT1064-6NP36&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1064-6NP36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mfb=3RT1064-6NP36&objecttype=14&gridview=view1>

last modified:

6/25/2022