



Power contactor, AC-3 185 A, 90 kW / 400 V AC (50-60 Hz) / DC operation 200-277 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S6 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>	
• function module for communication	No
• auxiliary switch	Yes
<b>power loss [W] for rated value of the current at AC in hot operating state</b>	39 W
• per pole	13 W
<b>power loss [W] for rated value of the current without load current share typical</b>	2.8 W
<b>surge voltage resistance</b>	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
<b>maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1</b>	690 V
<b>shock resistance at rectangular impulse</b>	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• at DC	8,5g / 5 ms, 4,2g / 10 ms
<b>shock resistance with sine pulse</b>	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 10 ms
<b>mechanical service life (switching cycles)</b>	
• of contactor typical	10 000 000
• of the contactor with added electronically optimized auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
<b>reference code acc. to IEC 81346-2</b>	Q
<b>Substance Prohibition (Date)</b>	01.05.2012 00:00:00
<b>Ambient conditions</b>	
<b>installation altitude at height above sea level maximum</b>	2 000 m
<b>ambient temperature</b>	
• during operation	-25 ... +60 °C
• during storage	-55 ... +80 °C
<b>relative humidity minimum</b>	10 %
<b>relative humidity at 55 °C acc. to IEC 60068-2-30</b>	95 %

<b>maximum</b>	
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3
<b>number of NO contacts for main contacts</b>	3
<b>operating voltage at AC-3 rated value maximum</b>	1 000 V
<b>operational current</b>	
<ul style="list-style-type: none"> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	215 A
<ul style="list-style-type: none"> <li>at AC-1 <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 40 °C rated value</li> </ul> </li> </ul>	215 A
<ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul>	185 A
<ul style="list-style-type: none"> <li>— up to 1000 V at ambient temperature 40 °C rated value</li> </ul>	100 A
<ul style="list-style-type: none"> <li>— up to 1000 V at ambient temperature 60 °C rated value</li> </ul>	100 A
<ul style="list-style-type: none"> <li>at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>	185 A
<ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>	185 A
<ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>	170 A
<ul style="list-style-type: none"> <li>— at 1000 V rated value</li> </ul>	65 A
<ul style="list-style-type: none"> <li>at AC-4 at 400 V rated value</li> </ul>	160 A
<ul style="list-style-type: none"> <li>at AC-5a up to 690 V rated value</li> </ul>	189 A
<ul style="list-style-type: none"> <li>at AC-5b up to 400 V rated value</li> </ul>	153 A
<ul style="list-style-type: none"> <li>at AC-6a <ul style="list-style-type: none"> <li>— up to 230 V for current peak value n=20 rated value</li> </ul> </li> </ul>	157 A
<ul style="list-style-type: none"> <li>— up to 400 V for current peak value n=20 rated value</li> </ul>	157 A
<ul style="list-style-type: none"> <li>— up to 500 V for current peak value n=20 rated value</li> </ul>	157 A
<ul style="list-style-type: none"> <li>— up to 690 V for current peak value n=20 rated value</li> </ul>	157 A
<ul style="list-style-type: none"> <li>— up to 1000 V for current peak value n=20 rated value</li> </ul>	65 A
<ul style="list-style-type: none"> <li>at AC-6a <ul style="list-style-type: none"> <li>— up to 230 V for current peak value n=30 rated value</li> </ul> </li> </ul>	105 A
<ul style="list-style-type: none"> <li>— up to 400 V for current peak value n=30 rated value</li> </ul>	105 A
<ul style="list-style-type: none"> <li>— up to 500 V for current peak value n=30 rated value</li> </ul>	105 A
<ul style="list-style-type: none"> <li>— up to 690 V for current peak value n=30 rated value</li> </ul>	105 A
<ul style="list-style-type: none"> <li>— up to 1000 V for current peak value n=30 rated value</li> </ul>	65 A
minimum cross-section in main circuit at maximum AC-1 rated value	95 mm <sup>2</sup>
<b>operational current for approx. 200000 operating cycles at AC-4</b>	
<ul style="list-style-type: none"> <li>at 400 V rated value</li> </ul>	81 A
<ul style="list-style-type: none"> <li>at 690 V rated value</li> </ul>	65 A
<b>operational current</b>	
<ul style="list-style-type: none"> <li>at 1 current path at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul>	160 A
<ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>	18 A
<ul style="list-style-type: none"> <li>— at 220 V rated value</li> </ul>	3.4 A
<ul style="list-style-type: none"> <li>— at 440 V rated value</li> </ul>	0.8 A
<ul style="list-style-type: none"> <li>— at 600 V rated value</li> </ul>	0.5 A
<ul style="list-style-type: none"> <li>with 2 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul>	160 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> <li>• with 3 current paths in series at DC-1 <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>	160 A 20 A 3.2 A 1.6 A  160 A 160 A 160 A 11.5 A 4 A
<b>operational current</b> <ul style="list-style-type: none"> <li>• at 1 current path at DC-3 at DC-5 <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> <li>• with 2 current paths in series at DC-3 at DC-5 <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> <li>• with 3 current paths in series at DC-3 at DC-5 <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>	160 A 2.5 A 0.6 A 0.17 A 0.12 A  160 A 160 A 2.5 A 0.65 A 0.37 A  160 A 160 A 160 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> </ul>	55 kW 90 kW 132 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>	45 kW 65 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>	60 000 kV·A 100 000 V·A 130 000 V·A 180 000 V·A 110 000 V·A
<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> <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>	40 000 V·A 70 000 V·A 90 000 V·A 120 000 V·A 110 000 V·A
<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> </ul>	2 900 A; Use minimum cross-section acc. to AC-1 rated value 2 084 A; Use minimum cross-section acc. to AC-1 rated value 1 480 A; Use minimum cross-section acc. to AC-1 rated value

<ul style="list-style-type: none"> <li>• limited to 30 s switching at zero current maximum</li> <li>• limited to 60 s switching at zero current maximum</li> </ul>	968 A; Use minimum cross-section acc. to AC-1 rated value 801 A; Use minimum cross-section acc. to AC-1 rated value
<b>no-load switching frequency</b>	
<ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	1 000 1/h 1 000 1/h
<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-4 maximum</li> </ul>	800 1/h 300 1/h 750 1/h 130 1/h
<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>	200 ... 277 V 200 ... 277 V
<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 acc. to IEC 60947-1</b>	Type 2
<b>consumed current at PLC-control input acc. 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>	0.8 1.1
<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>	0.8 ... 1.1 0.8 ... 1.1
<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>	280 V·A 280 V·A
<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>	0.8 0.8
<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>	4.4 V·A 4.4 V·A
<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>	0.5 0.5
<b>closing power of magnet coil at DC</b>	320 W
<b>holding power of magnet coil at DC</b>	2.8 W
<b>closing delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	35 ... 75 ms 35 ... 75 ms
<b>opening delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>	80 ... 90 ms 80 ... 90 ms
<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> <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> </ul>	6 A 3 A 2 A 1 A
<b>operational current at DC-12</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 6 A 6 A 3 A 2 A 1 A 0.15 A
<b>operational 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)
<b>UL/CSA ratings</b>	
<b>full-load current (FLA) for 3-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>	180 A 192 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 230 V rated value</li> </ul> </li> <li>• for 3-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>	30 hp  60 hp 75 hp 150 hp 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> <ul style="list-style-type: none"> <li>• for short-circuit protection of the main circuit             <ul style="list-style-type: none"> <li>— with type of coordination 1 required</li> <li>— with type of assignment 2 required</li> </ul> </li> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>	gG: 355 A (690 V, 100 kA) gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 315 A (415 V, 50 kA) 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> <ul style="list-style-type: none"> <li>• side-by-side mounting</li> </ul>	screw fixing Yes
<b>height</b>	172 mm
<b>width</b>	120 mm
<b>depth</b>	170 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>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts</li> </ul>	20 mm 10 mm 10 mm 0 mm

— 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>width of connection bar</b>	17 mm
<b>thickness of connection bar</b>	3 mm
<b>diameter of holes</b>	9 mm
<b>number of holes</b>	1
<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>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• at AWG cables for main contacts</li> </ul>	4 ... 250 kcmil
<b>connectable conductor cross-section for main contacts</b>	
<ul style="list-style-type: none"> <li>• stranded</li> </ul>	25 ... 120 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 mirror contact acc. to IEC 60947-4-1</b>	Yes
B10 value with high demand rate acc. to SN 31920	1 000 000
product function positively driven operation acc. to IEC 60947-5-1	No
<b>protection class IP on the front acc. to IEC 60529</b>	IP00; IP20 with box terminal/cover
<b>touch protection on the front acc. 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	
<b>General Product Approval</b>	EMC



[KC](#)



Functional Safety/Safety of Machinery	Test Certificates	Marine / Shipping
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[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



other

Railway

[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)

[Miscellaneous](#)

[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?mlfb=3RT1056-6NP36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1056-6NP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6NP36>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1056-6NP36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1056-6NP36&lang=en)

Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6NP36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1056-6NP36&objecttype=14&gridview=view1>



