



Contactor, AC-1, 275 A/690 V/40 °C, S6, 3-pole, 110-127 V AC/DC, with varistor, 2 NO+2 NC, Connection rail/ screw terminal

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Contactor
<b>product type designation</b>	3RT14
<b>General technical data</b>	
<b>size of contactor</b>	S6
<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>86.4 W</p> <p>28.8 W</p> <p>5.2 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>
<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 Prohibitation (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>
<b>relative humidity minimum</b>	10 %
<b>relative humidity at 55 °C according 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>number of NC contacts for main contacts</b>	0
<b>type of voltage for main current circuit</b>	AC
<b>operational current</b>	
<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> <li>— up to 690 V at ambient temperature 55 °C rated value</li> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul> </li> <li>● at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	275 A 250 A 250 A 97 A 97 A
minimum cross-section in main circuit at maximum AC-1 rated value	140 mm <sup>2</sup>
<b>no-load switching frequency</b>	
<ul style="list-style-type: none"> <li>● at AC</li> <li>● at DC</li> </ul>	2 000 1/h 2 000 1/h
operating frequency at AC-1 maximum	600 1/h
<b>Control circuit/ Control</b>	
<b>type of voltage</b>	AC/DC
<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>	110 ... 127 V 110 ... 127 V
<b>control supply voltage at DC</b>	
<ul style="list-style-type: none"> <li>● rated value</li> </ul>	110 ... 127 V
<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> </ul>	300 VA
<b>inductive power factor with closing power of the coil</b>	
<ul style="list-style-type: none"> <li>● at 50 Hz</li> </ul>	0.9
<b>apparent holding power of magnet coil at AC</b>	
<ul style="list-style-type: none"> <li>● at 50 Hz</li> </ul>	5.8 VA
<b>inductive power factor with the holding power of the coil</b>	
<ul style="list-style-type: none"> <li>● at 50 Hz</li> </ul>	0.8
<b>closing power of magnet coil at DC</b>	360 W
<b>holding power of magnet coil at DC</b>	5.2 W
<b>closing delay</b>	
<ul style="list-style-type: none"> <li>● at AC</li> <li>● at DC</li> </ul>	20 ... 95 ms 20 ... 95 ms
<b>opening delay</b>	
<ul style="list-style-type: none"> <li>● at AC</li> <li>● at DC</li> </ul>	40 ... 60 ms 40 ... 60 ms
<b>arcing time</b>	10 ... 15 ms
<b>control version of the switch operating mechanism</b>	Standard A1 - A2
<b>Auxiliary circuit</b>	
<b>number of NC contacts for auxiliary contacts</b>	2

<ul style="list-style-type: none"> <li>• attachable</li> <li>• instantaneous contact</li> </ul>	4
<b>number of NO contacts for auxiliary contacts</b>	2
<ul style="list-style-type: none"> <li>• attachable</li> <li>• instantaneous contact</li> </ul>	4
operational current at AC-12 maximum	2
<b>operational current at AC-15</b>	10 A
<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-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
design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required	gG: 10 A (230 V, 400 A)
<b>contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)
<b>Short-circuit protection</b>	
<b>product function short circuit protection</b>	No
<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) gR: 350 A (690 V, 100 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>	screw fixing
<ul style="list-style-type: none"> <li>• side-by-side mounting</li> </ul>	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 <ul style="list-style-type: none"> <li>— forwards</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>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul>	20 mm
	10 mm
	10 mm
	0 mm
	20 mm
	10 mm
	10 mm
	10 mm
	20 mm
	10 mm
	10 mm
	10 mm
<b>Connections/ Terminals</b>	
<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>	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 connectable conductor cross-sections</b> • at AWG cables for main contacts	4 ... 250 kcmil
<b>connectable conductor cross-section for main contacts</b> • solid or stranded • stranded	25 ... 120 mm <sup>2</sup> 25 ... 120 mm <sup>2</sup>
<b>connectable conductor cross-section for auxiliary contacts</b> • solid or stranded • finely stranded with core end processing	0.5 ... 4 mm <sup>2</sup> 0.5 ... 2.5 mm <sup>2</sup>
<b>type of connectable conductor cross-sections</b> • for auxiliary contacts — solid — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts	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

### Safety related data

<b>product function</b> • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1	Yes No
<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

### Certificates/ approvals

#### General Product Approval



[Confirmation](#)



[KC](#)



<b>EMC</b>	<b>Functional Safety/Safety of Machinery</b>	<b>Declaration of Conformity</b>	<b>Test Certificates</b>
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[Type Examination Certificate](#)



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

#### Marine / Shipping



[Confirmation](#)

#### other

[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=3RT1456-6AF36>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1456-6AF36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1456-6AF36>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1456-6AF36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1456-6AF36&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1456-6AF36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1456-6AF36&objecttype=14&gridview=view1>

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