

Power contactor, AC-3 40 A, 18.5 kW / 400 V 2 NO + 2 NC 220 V/240 V AC, 50/60 Hz 4-pole size S2 screw terminals 1 NO + 1 NC integrated



Product brand name	SIRIUS
Product designation	contactor
Product type designation	3RT25
<b>General technical data</b>	
Size of contactor	S2
Product extension	
<ul style="list-style-type: none"> <li>function module for communication</li> </ul>	No
<ul style="list-style-type: none"> <li>Auxiliary switch</li> </ul>	Yes
Insulation voltage	
<ul style="list-style-type: none"> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	690 V
<ul style="list-style-type: none"> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	690 V
Surge voltage resistance	
<ul style="list-style-type: none"> <li>of main circuit rated value</li> </ul>	6 kV
<ul style="list-style-type: none"> <li>of auxiliary circuit rated value</li> </ul>	6 kV
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> <li>between coil and main contacts acc. to EN 60947-1</li> </ul>	400 V

<b>Protection class IP</b>	
<ul style="list-style-type: none"> <li>• on the front</li> <li>• of the terminal</li> </ul>	IP20 IP00
<b>Shock resistance at rectangular impulse</b>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	11.8g / 5 ms, 7.4g / 10 ms
<b>Shock resistance with sine pulse</b>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	18.5g / 5 ms, 11.6g / 10 ms
<b>Mechanical service life (switching cycles)</b>	
<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>	10 000 000 5 000 000 10 000 000
<b>Reference code acc. to DIN EN 81346-2</b>	Q

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	2 000 m
<b>Ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> </ul>	-40 ... +70 °C -55 ... +80 °C

### Main circuit

<b>Number of poles for main current circuit</b>	4
<b>Number of NO contacts for main contacts</b>	2
<b>Number of NC contacts for main contacts</b>	2
<b>Operating 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 60 °C rated value</li> </ul> </li> <li>• at AC-2 at AC-3 at 400 V <ul style="list-style-type: none"> <li>— per NO contact rated value</li> <li>— per NC contact rated value</li> </ul> </li> </ul>	60 A 55 A 35 A 35 A
<b>Minimum cross-section in main circuit</b>	
<ul style="list-style-type: none"> <li>• at maximum AC-1 rated value</li> </ul>	16 mm <sup>2</sup>
<b>Operating 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> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> </ul> </li> <li>• with 2 current paths in series at DC-1</li> </ul>	55 A 4.5 A 1 A 0.4 A

— at 24 V rated value	55 A
— at 110 V rated value	45 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
<b>Operating current</b>	
• at 1 current path at DC-3 at DC-5	
— at 24 V per NC contact rated value	35 A
— at 24 V per NO contact rated value	35 A
— at 110 V per NC contact rated value	1.25 A
— at 110 V per NO contact rated value	2.5 A
— at 220 V per NC contact rated value	0.5 A
— at 220 V per NO contact rated value	1 A
— at 440 V per NC contact rated value	0.045 A
— at 440 V per NO contact rated value	0.1 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V per NC contact rated value	55 A
— at 24 V per NO contact rated value	55 A
— at 110 V per NC contact rated value	12.5 A
— at 110 V per NO contact rated value	25 A
— at 220 V per NC contact rated value	2.5 A
— at 220 V per NO contact rated value	5 A
— at 440 V per NC contact rated value	0.135 A
— at 440 V per NO contact rated value	0.27 A
<b>Operating power</b>	
• at AC-1	
— at 230 V rated value	23 kW
— at 400 V rated value	39 kW
• at AC-2 at AC-3	
— at 230 V per NC contact rated value	11 kW
— at 230 V per NO contact rated value	11 kW
— at 400 V per NC contact rated value	18.5 kW
— at 400 V per NO contact rated value	18.5 kW
<b>Short-time withstand current in cold operating state up to 40 °C</b>	
• limited to 1 s switching at zero current maximum	546 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 5 s switching at zero current maximum	443 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 10 s switching at zero current maximum	334 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum	241 A; Use minimum cross-section acc. to AC-1 rated value

<ul style="list-style-type: none"> <li>limited to 60 s switching at zero current maximum</li> </ul>	196 A; Use minimum cross-section acc. to AC-1 rated value
<b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b>	4 W
<b>No-load switching frequency</b> <ul style="list-style-type: none"> <li>at AC</li> </ul>	5 000 1/h
<b>Operating frequency</b> <ul style="list-style-type: none"> <li>at AC-1 maximum</li> </ul>	1 200 1/h

### Control circuit/ Control

<b>Type of voltage of the control supply voltage</b>	AC
<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>	220 V 240 V
<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>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>	190 V·A 210 V·A 188 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>	0.72 0.69 0.65
<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>	17.2 V·A 17.2 V·A 16.5 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>	0.36 0.36 0.39
<b>Closing delay</b> <ul style="list-style-type: none"> <li>at AC</li> </ul>	12 ... 22 ms
<b>Opening delay</b> <ul style="list-style-type: none"> <li>at AC</li> </ul>	10 ... 18 ms
<b>Arcing time</b>	10 ... 20 ms
<b>Control version of the switch operating mechanism</b>	AC

### Auxiliary circuit

<b>Number of NC contacts for auxiliary contacts</b> <ul style="list-style-type: none"> <li>instantaneous contact</li> </ul>	1
<b>Number of NO contacts for auxiliary contacts</b> <ul style="list-style-type: none"> <li>instantaneous contact</li> </ul>	1
<b>Operating current at AC-12 maximum</b>	10 A

<b>Operating 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>	<p>6 A</p> <p>3 A</p> <p>2 A</p> <p>1 A</p>
<b>Operating 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>	<p>10 A</p> <p>6 A</p> <p>6 A</p> <p>3 A</p> <p>2 A</p> <p>1 A</p> <p>0.15 A</p>
<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>	<p>10 A</p> <p>2 A</p> <p>2 A</p> <p>1 A</p> <p>0.9 A</p> <p>0.3 A</p> <p>0.1 A</p>
<b>Contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)

### UL/CSA ratings

<b>Contact rating of auxiliary contacts according to UL</b>	A600 / P600
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### Short-circuit protection

#### Design of the fuse link

<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>	<p>gG: 125 A (690 V, 100 kA)</p> <p>gG: 63A (690V, 100kA)</p> <p>fuse gG: 10 A</p>
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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>	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
<ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>	Yes
<b>Height</b>	114 mm
<b>Width</b>	75 mm
<b>Depth</b>	130 mm

Required spacing	
<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>	<ul style="list-style-type: none"> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>50 mm</li> <li>10 mm</li> <li>50 mm</li> <li>0 mm</li> <li>0 mm</li> <li>50 mm</li> <li>50 mm</li> <li>10 mm</li> </ul>

### 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>	<ul style="list-style-type: none"> <li>screw-type terminals</li> <li>screw-type terminals</li> </ul>
<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>	<ul style="list-style-type: none"> <li>2x (1 ... 35 mm<sup>2</sup>), 1x (1 ... 50 mm<sup>2</sup>)</li> <li>2x (1 ... 35 mm<sup>2</sup>), 1x (1 ... 50 mm<sup>2</sup>)</li> <li>2x (1 ... 25 mm<sup>2</sup>), 1x (1 ... 35 mm<sup>2</sup>)</li> <li>2x (18 ... 2), 1x (18 ... 1)</li> </ul>
<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>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for auxiliary contacts</li> </ul>	<ul style="list-style-type: none"> <li>2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)</li> <li>2x (0,5 ... 1,5 mm<sup>2</sup>), 2x (0,75 ... 2,5 mm<sup>2</sup>)</li> <li>2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)</li> <li>2x (20 ... 16), 2x (18 ... 14)</li> </ul>
AWG number as coded connectable conductor cross section for main contacts	18 ... 1

### Safety related data

<b>Product function</b> <ul style="list-style-type: none"> <li>• Mirror contact acc. to IEC 60947-4-1</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>
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- positively driven operation acc. to IEC 60947-5-1

No  
finger-safe when touched vertically from front acc. to IEC 60529

Certificates/ approvals

General Product Approval	EMC	Functional Safety/Safety of Machinery
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[Type Examination Certificate](#)

Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping	other
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[Confirmation](#)

Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**  
[www.siemens.com/ic10](http://www.siemens.com/ic10)

**Industry Mall (Online ordering system)**  
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2535-1AP60>

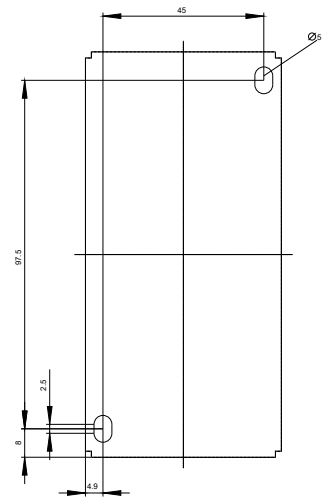
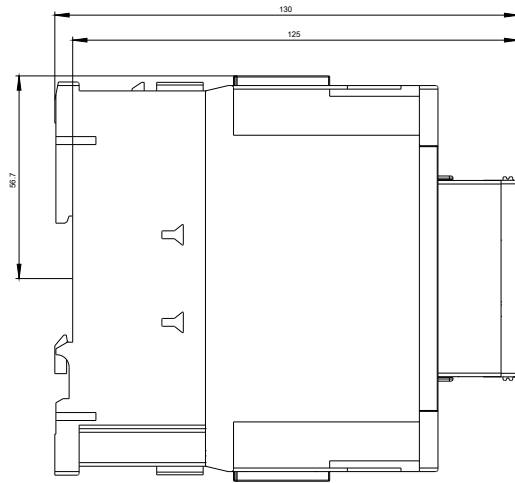
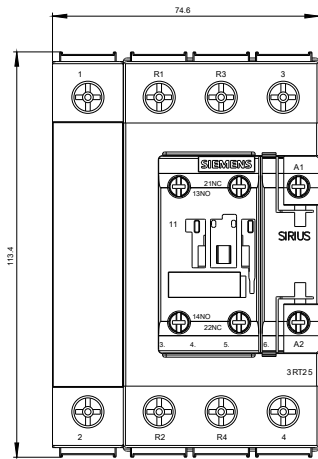
**Cax online generator**  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2535-1AP60>

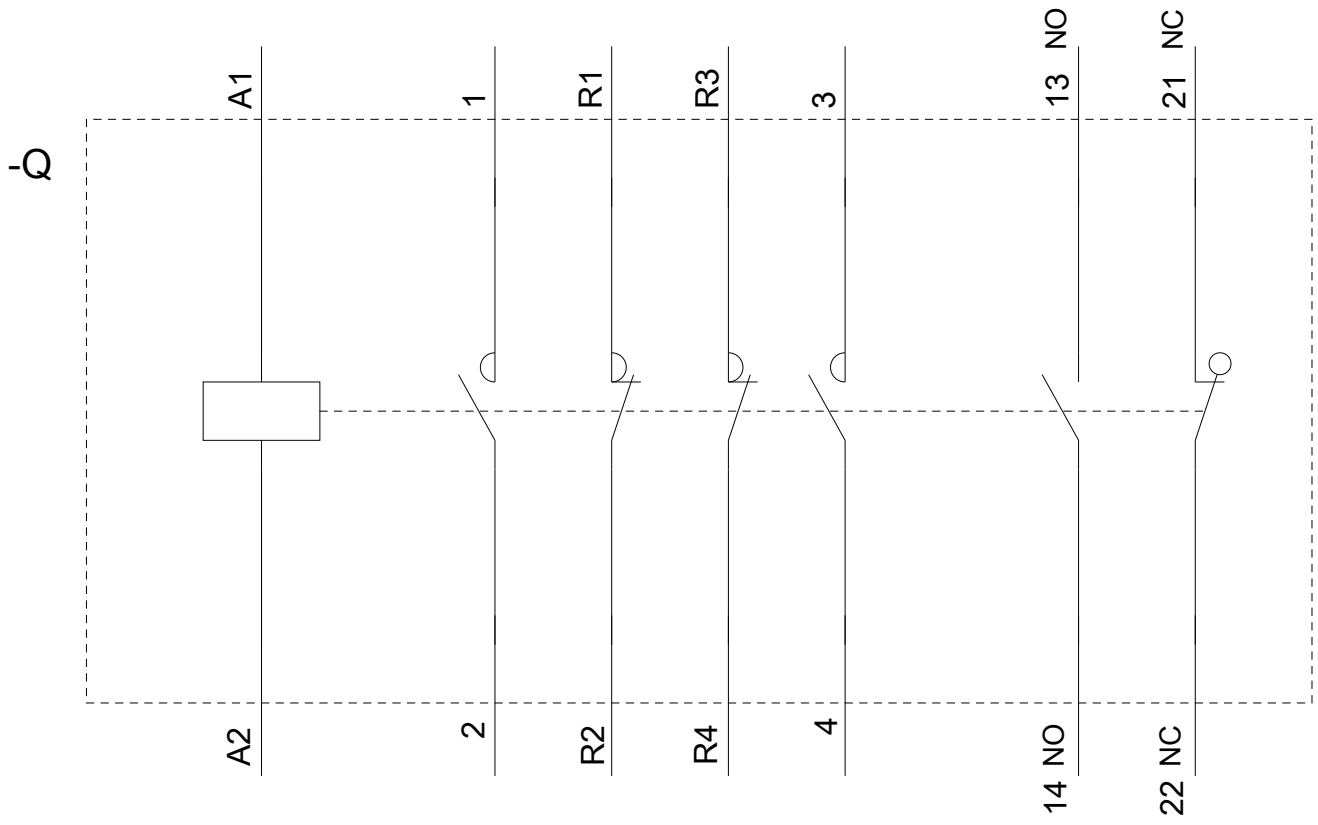
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2535-1AP60>

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2535-1AP60&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2535-1AP60&lang=en)

**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**  
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2535-1AP60/char>

**Further characteristics (e.g. electrical endurance, switching frequency)**  
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2535-1AP60&objecttype=14&gridview=view1>





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01/16/2020