

Contactor, size 12, 2-pole, DC-3 and 5, 400 A Auxiliary switch 4  
NO+4 NC 125 V DC DC operation DC operation



<b>Product designation</b>	Contactor
<b>Product type designation</b>	3TC
<b>General technical data</b>	
<b>Size of contactor</b>	12
<b>Product extension</b>	
• function module for communication	No
• Auxiliary switch	No
<b>Insulation voltage rated value</b>	1 500 V
<b>Surge voltage resistance rated value</b>	8 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	630 V
• <b>Protection class IP</b>	IP00
• protection class IP on the front	IP00
• Protection class IP of the terminal	IP00
<b>Mechanical service life (switching cycles)</b>	
• of contactor typical	30 000 000
• of the contactor with added auxiliary switch block typical	30 000 000
<b>Reference code acc. to DIN EN 81346-2</b>	Q

Ambient conditions	
<b>Ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> </ul>	<p style="margin-left: 20px;">-25 ... +55 °C</p> <p style="margin-left: 20px;">-50 ... +80 °C</p>
Main circuit	
<b>number of poles</b>	2
<b>Number of poles for main current circuit</b>	2
<b>Number of NO contacts for main contacts</b>	2
<b>Number of NC contacts for main contacts</b>	0
<b>type of voltage</b>	DC
<b>Operating current</b>	
<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> <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>	<p style="margin-left: 20px;">500 A</p> <p style="margin-left: 20px;">500 A</p> <p style="margin-left: 20px;">500 A</p> <p style="margin-left: 20px;">500 A</p> <p style="margin-left: 20px;">500 A</p>
<b>Operating current</b>	
<ul style="list-style-type: none"> <li>• at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>— at 750 V rated value</li> <li>— at 1500 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> </ul>	<p style="margin-left: 20px;">400 A</p> <p style="margin-left: 20px;">400 A</p> <p style="margin-left: 20px;">400 A</p> <p style="margin-left: 20px;">400 A</p> <p style="margin-left: 20px;">400 A</p> <p style="margin-left: 20px;">400 A</p> <p style="margin-left: 20px;">400 A</p> <p style="margin-left: 20px;">400 A</p> <p style="margin-left: 20px;">400 A</p>
<b>Operating power</b>	
<ul style="list-style-type: none"> <li>• at DC-1 <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 750 V rated value</li> <li>— at 1500 V rated value</li> </ul> </li> <li>• at DC-3 at DC-5 <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> </ul> </li> </ul>	<p style="margin-left: 20px;">55 kW</p> <p style="margin-left: 20px;">110 kW</p> <p style="margin-left: 20px;">220 kW</p> <p style="margin-left: 20px;">375 kW</p> <p style="margin-left: 20px;">750 kW</p> <p style="margin-left: 20px;">35 kW</p> <p style="margin-left: 20px;">70 kW</p> <p style="margin-left: 20px;">140 kW</p>

— at 600 V rated value	200 kW
— at 750 V rated value	250 kW
— at 1200 V rated value	400 kW
— at 1500 V rated value	500 kW
<b>Operating frequency</b>	
• at DC-1 maximum	1 000 1/h
• at DC-3 maximum	500 1/h
• at DC-5 maximum	500 1/h

Control circuit/ Control	
<b>Type of voltage of the control supply voltage</b>	DC
<b>Control supply voltage at DC</b>	
• rated value	110 V
<b>Operating range factor control supply voltage rated value of magnet coil at AC</b>	
• at 50 Hz	0.8 ... 1.2
<b>Closing power of magnet coil at DC</b>	92 W
<b>Holding power of magnet coil at DC</b>	92 W
Closing delay at DC	60 ... 100 ms
Opening delay at DC	20 ... 35 ms
<b>Arcing time</b>	40 ... 70 ms

Auxiliary circuit	
<b>Number of NC contacts for auxiliary contacts</b>	4
• instantaneous contact	4
<b>Number of NO contacts for auxiliary contacts</b>	4
• instantaneous contact	4
<b>Number of CO contacts</b>	
• for auxiliary contacts	0
<b>Identification number and letter for switching elements</b>	44
Operating current at AC-12 maximum	10 A
<b>Operating current at AC-15</b>	
• at 230 V rated value	5.6 A
• at 400 V rated value	3.6 A
• at 500 V rated value	2.5 A
<b>Operating current at DC-12</b>	
• at 24 V rated value	10 A
• at 48 V rated value	10 A
• at 60 V rated value	10 A
• at 110 V rated value	3.2 A
• at 125 V rated value	2.5 A
• at 220 V rated value	0.9 A
• at 600 V rated value	0.22 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>	<p>10 A</p> <p>5 A</p> <p>5 A</p> <p>1.14 A</p> <p>0.98 A</p> <p>0.48 A</p> <p>0.07 A</p>
<b>contact reliability of auxiliary contacts</b>	one incorrect switching operation of 100 million switching operations (17 V, 5 mA)

### Short-circuit protection

<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>	<p>gG: 630 A (690 V, 100 kA)</p> <p>gG: 500 A (690 V, 100 kA)</p> <p>gG: 16 A (500 V, 1 kA)</p>

### Installation/ mounting/ dimensions



<b>mounting position</b>	+/-22,5° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface; standing, on horizontal mounting surface
<b>Mounting type</b>	screw fixing
<ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>	Yes
<b>Height</b>	375 mm
<b>Width</b>	160 mm
<b>Depth</b>	290 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> </ul> </li> </ul>	<p>20 mm</p> <p>0 mm</p> <p>25 mm</p> <p>10 mm</p> <p>10 mm</p> <p>50 mm</p> <p>0 mm</p> <p>25 mm</p> <p>10 mm</p> <p>10 mm</p> <p>50 mm</p> <p>0 mm</p>

— upwards	25 mm
— downwards	10 mm
— at the side	10 mm

### Connections/ Terminals

<ul style="list-style-type: none"> <li>• <b>type of electrical connection</b></li> </ul>	screw-type terminals
<ul style="list-style-type: none"> <li>• Type of electrical connection for main current circuit</li> </ul>	screw-type terminals
<ul style="list-style-type: none"> <li>• Type of electrical connection for auxiliary and control current circuit</li> </ul>	screw-type terminals
<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> </ul>	2x (1 ... 2,5 mm <sup>2</sup> ) 2x (0.75 ... 2.5 mm <sup>2</sup> )

### Certificates/ approvals

General Product Approval	Functional Safety/Safety of Machinery	Test Certificates	other
		<a href="#">Type Examination Certificate</a>	<a href="#">Special Test Certificate</a>
		<a href="#">Miscellaneous</a>	<a href="#">Confirmation</a>

### 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=3TC7814-0EF>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TC7814-0EF>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TC7814-0EF>

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

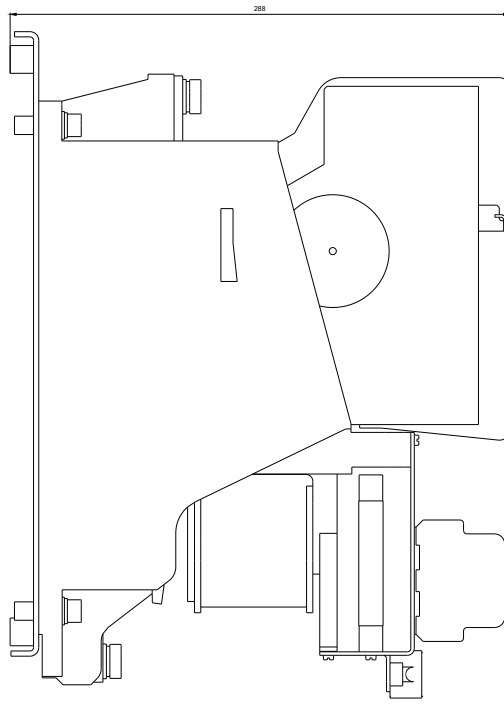
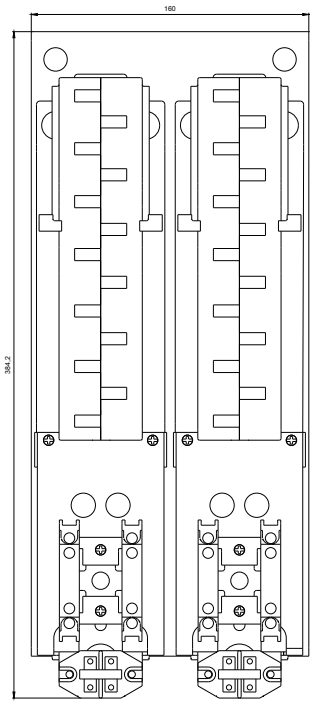
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3TC7814-0EF&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TC7814-0EF&lang=en)

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

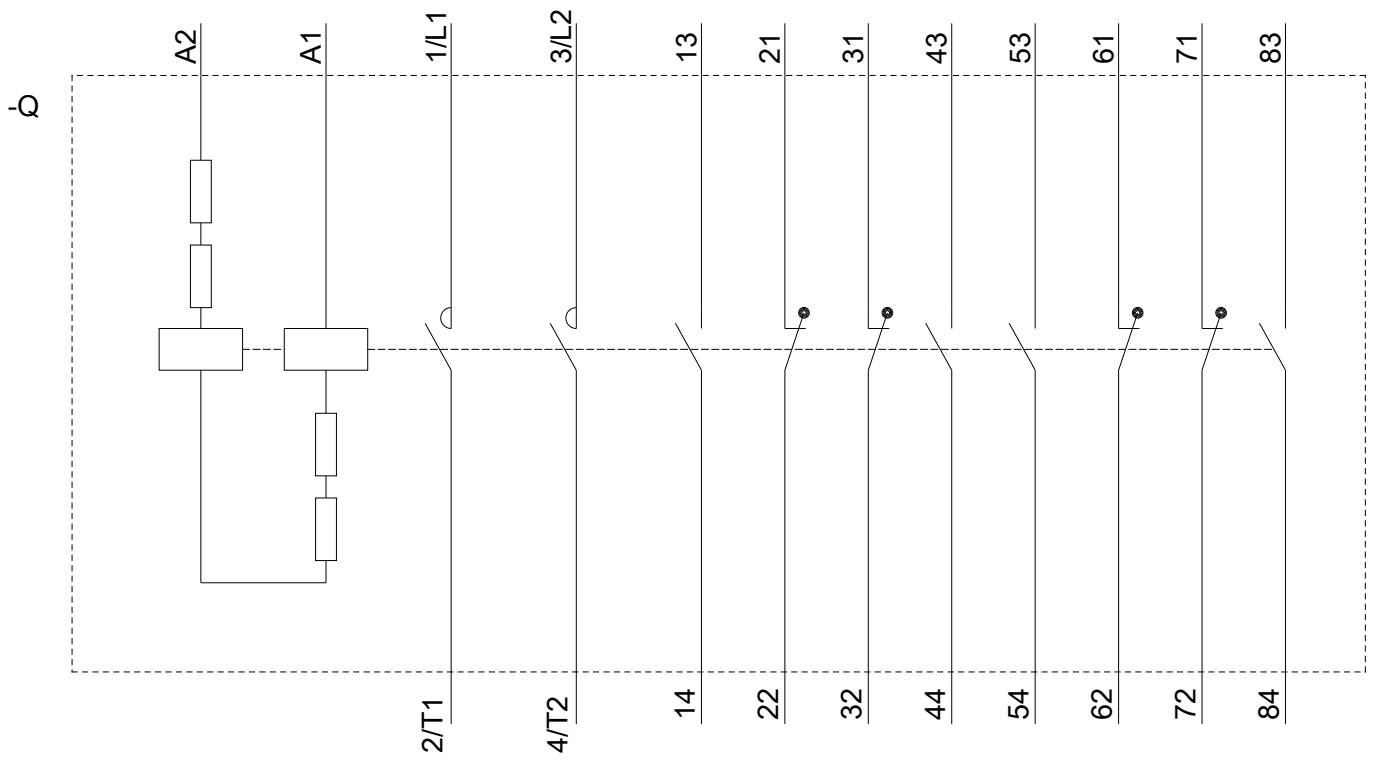
<https://support.industry.siemens.com/cs/ww/en/ps/3TC7814-0EF/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TC7814-0EF&objecttype=14&gridview=view1>



3TC7814-0E1,ALL



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