

contactor, DC-3/DC-5, 400 A, 2-pole, 220 V AC, 50 Hz, auxiliary contacts: 4 NO + 4 NC, connecting bar

<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 protective separation between coil and main contacts according to EN 60947-1	630 V
<b>mechanical service life (operating cycles)</b>	
• of contactor typical	30 000 000
• of the contactor with added auxiliary switch block typical	30 000 000
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	03/01/2017
<b>SVHC substance name</b>	Lead - 7439-92-1
<b>Weight</b>	22.87 kg
<b>Ambient conditions</b>	
<b>ambient temperature</b>	
• during operation	-25 ... +55 °C
• during storage	-50 ... +80 °C
<b>relative humidity minimum</b>	10 %
<b>relative humidity at 55 °C according to IEC 60068-2-30 maximum</b>	95 %
<b>Main circuit</b>	
<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>operational current</b>	
• at 1 current path at DC-1	
— at 24 V rated value	500 A
— at 110 V rated value	500 A
— at 220 V rated value	500 A
— at 440 V rated value	500 A
— at 600 V rated value	500 A
— at 750 V rated value	500 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> <li>— at 750 V rated value</li> <li>— at 1500 V rated value</li> </ul> </li> <li>● <b>at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 220 V rated value</li> <li>— at 600 V rated value</li> <li>— at 750 V rated value</li> </ul> </li> <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> <li>— at 750 V rated value</li> </ul> </li> <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> <li>— at 750 V rated value</li> <li>— at 1500 V rated value</li> </ul> </li> </ul>	<p>500 A</p> <p>500 A</p> <p>500 A</p> <p>500 A</p> <p>500 A</p> <p>500 A</p> <p>500 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>400 A</p> <p>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> <li>— at 600 V rated value</li> <li>— at 750 V rated value</li> <li>— at 1200 V rated value</li> <li>— at 1500 V rated value</li> </ul> </li> </ul>	<p>55 kW</p> <p>110 kW</p> <p>220 kW</p> <p>375 kW</p> <p>750 kW</p> <p>35 kW</p> <p>70 kW</p> <p>140 kW</p> <p>200 kW</p> <p>250 kW</p> <p>400 kW</p> <p>500 kW</p>
<b>operating frequency</b>	
<ul style="list-style-type: none"> <li>● at DC-1 maximum</li> <li>● at DC-3 maximum</li> <li>● at DC-5 maximum</li> </ul>	<p>1 000 1/h</p> <p>500 1/h</p> <p>500 1/h</p>
<b>Control circuit/ Control</b>	
<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> </ul>	220 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> </ul>	0.8 ... 1.2
<b>apparent pick-up power of magnet coil at AC</b>	160 VA
<ul style="list-style-type: none"> <li>● at 50 Hz</li> </ul>	160 VA
<b>inductive power factor with closing power of the coil</b>	0.95
<ul style="list-style-type: none"> <li>● at 50 Hz</li> </ul>	0.95
<b>apparent holding power of magnet coil at AC</b>	160 VA
<ul style="list-style-type: none"> <li>● at 50 Hz</li> </ul>	160 VA

<b>inductive power factor with the holding power of the coil</b>	0.95
• at 50 Hz	0.95
<b>arcing time</b>	40 ... 70 ms
<b>Auxiliary circuit</b>	
<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
number of CO contacts for auxiliary contacts	0
<b>identification number and letter for switching elements</b>	44
operational current at AC-12 maximum	10 A
<b>operational 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>operational 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>operational current at DC-13</b>	
• at 24 V rated value	10 A
• at 48 V rated value	5 A
• at 60 V rated value	5 A
• at 110 V rated value	1.14 A
• at 125 V rated value	0.98 A
• at 220 V rated value	0.48 A
• at 600 V rated value	0.07 A
<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	2 x 3NE1330-5E (315 A) parallel (1500 V, 12 kA)
— with type of coordination 2 required	2 x 3NE1330-5E (315 A) parallel (1500 V, 12 kA)
• for short-circuit protection of the auxiliary switch required	gG: 16 A (500 V, 1 kA)
<b>Installation/ mounting/ dimensions</b>	
<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
fastening method side-by-side mounting	Yes
<b>fastening method</b>	screw fixing
<b>height</b>	375 mm
<b>width</b>	160 mm
<b>depth</b>	290 mm
<b>required spacing</b>	
• with side-by-side mounting	
— forwards	20 mm
— backwards	0 mm
— upwards	25 mm
— downwards	10 mm
— at the side	10 mm
• for grounded parts	
— forwards	50 mm
— backwards	0 mm
— upwards	25 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	

— forwards	50 mm
— backwards	0 mm
— upwards	25 mm
— downwards	10 mm
— at the side	10 mm

#### Connections/ Terminals

<b>type of electrical connection</b>	screw terminal
• for main current circuit	screw-type terminals
• for auxiliary and control circuit	screw-type terminals

<b>type of connectable conductor cross-sections</b>	
• for auxiliary contacts	
— solid or stranded	2x (1 ... 2.5 mm <sup>2</sup> )
— finely stranded with core end processing	2x (0.75 ... 1.5 mm <sup>2</sup> )

#### Safety related data


product function mirror contact according to IEC 60947-4-1	Yes; 1 auxiliary NC contact each of the right and left current path must be connected in series
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#### Electrical Safety

<b>protection class IP on the front according to IEC 60529</b>	IP00
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#### Approvals Certificates

General Product Approval	Functional Safety	Test Certificates
   	<a href="#">Type Examination Certificate</a>	<a href="#">Miscellaneous</a>

Test Certificates	other	Dangerous goods	Environment
<a href="#">Special Test Certificate</a>		<a href="#">Confirmation</a>	<a href="#">Transport Information</a>
			<a href="#">Environmental Confirmations</a>

#### Further information

**Information on the packaging**  
<https://support.industry.siemens.com/cs/ww/en/view/109813875>

**Information for data generation and storage**  
<https://support.industry.siemens.com/cs/ww/en/view/109995012>

**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=3TC7814-1CM>

**Cax online generator**  
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TC7814-1CM>

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3TC7814-1CM>

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**  
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3TC7814-1CM&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TC7814-1CM&lang=en)

**Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current**  
<https://support.industry.siemens.com/cs/ww/en/ps/3TC7814-1CM/char>

**Further characteristics (e.g. electrical endurance, switching frequency)**  
<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TC7814-1CM&objecttype=14&gridview=view1>

