

Contactor, Size 14, 3-pole, AC-3, 335kW, 400/380 V (690 V)  
 Auxiliary switch 33 (3NO+3NC) Rectifier bridge built-in with reversing  
 contactor 3TC44 AC operation 380 to 420 V AC 50/60 Hz



<b>Product designation</b>	Vacuum contactor
<b>Product type designation</b>	3TF6
<b>General technical data</b>	
<b>Size of contactor</b>	14
<b>Product extension</b>	
<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>	No
<ul style="list-style-type: none"> <li>• Insulation voltage of main circuit with degree of pollution 3 rated value</li> </ul>	1 000 V
<ul style="list-style-type: none"> <li>• Insulation voltage of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	690 V
<b>Surge voltage resistance</b>	
<ul style="list-style-type: none"> <li>• of main circuit rated value</li> </ul>	8 kV
<ul style="list-style-type: none"> <li>• of auxiliary circuit rated value</li> </ul>	6 kV
<b>maximum permissible voltage for safe isolation in networks with grounded star point</b>	
<ul style="list-style-type: none"> <li>• between auxiliary and auxiliary circuit</li> </ul>	300 V
<ul style="list-style-type: none"> <li>• between main and auxiliary circuit</li> </ul>	500 V
<ul style="list-style-type: none"> <li>• protection class IP on the front</li> </ul>	IP00

<b>Shock resistance at rectangular impulse</b>	
• at AC	8.1g / 5 ms, 4.7g / 10 ms
<b>Shock resistance with sine pulse</b>	
• at AC	12.8g / 5 ms, 7.4g / 10 ms
<b>Mechanical service life (switching cycles)</b>	
• of contactor typical	5 000 000
<b>Reference code acc. to DIN EN 81346-2</b>	Q

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
• maximum	2 000 m
<b>Ambient temperature</b>	
• during operation	-25 ... +55 °C
• during storage	-55 ... +80 °C
Relative humidity during operation	10 ... 100 %

### Main circuit

<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>Operating voltage</b>	
• at AC	
— at 50 Hz rated value	1 000 V
— at 60 Hz rated value	1 000 V
<b>Operating current</b>	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	700 A
— up to 690 V at ambient temperature 55 °C rated value	630 A
— up to 1000 V at ambient temperature 55 °C rated value	450 A
• at AC-3	
— at 400 V rated value	630 A
— at 500 V rated value	630 A
— at 690 V rated value	630 A
— at 1000 V rated value	435 A
• at AC-4 at 400 V rated value	610 A
• at AC-6a	
— up to 500 V for current peak value n=20 rated value	513 A
— up to 690 V for current peak value n=20 rated value	513 A

<ul style="list-style-type: none"> <li>— up to 1000 V for current peak value n=20 rated value</li> </ul>	435 A
<ul style="list-style-type: none"> <li>• at AC-6a <ul style="list-style-type: none"> <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> </li> </ul>	342 A
	342 A
	342 A
	342 A
<b>Connectable conductor cross-section in main circuit at AC-1</b>	
<ul style="list-style-type: none"> <li>• at 40 °C minimum permissible</li> </ul>	480 mm <sup>2</sup>
<b>Operating current 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>	300 A
	300 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 690 V rated value</li> <li>— at 1000 V rated value</li> </ul> </li> </ul>	200 kW
	335 kW
	600 kW
	600 kW
<b>Operating apparent output at AC-6a</b>	
<ul style="list-style-type: none"> <li>• up to 400 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>	338 kV·A
	586 kV·A
	752 kV·A
<b>Operating apparent output at AC-6a</b>	
<ul style="list-style-type: none"> <li>• up to 400 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>	226 kV·A
	390 kV·A
	592 kV·A
<b>Thermal short-time current limited to 10 s</b>	5 040 A
<b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b>	45 W
No-load switching frequency at AC	2 000 1/h
<b>Operating frequency</b>	
<ul style="list-style-type: none"> <li>• at AC-1 maximum</li> </ul>	700 1/h

- at AC-2 at AC-3 maximum

200 1/h

### Control circuit/ Control

<b>Type of voltage of the control supply voltage</b>	AC
<b>Control supply voltage at AC</b>	
• at 50 Hz rated value	380 ... 420 V
• at 60 Hz rated value	380 ... 420 V
<b>Operating range factor control supply voltage rated value of magnet coil at AC</b>	
• at 50 Hz	0.8 ... 1.1
• at 60 Hz	0.8 ... 1.1
<b>Apparent pick-up power of magnet coil at AC</b>	
• at 50 Hz	1 000 V·A
• at 60 Hz	1 000 V·A
<b>Inductive power factor with closing power of the coil</b>	
• at 50 Hz	1
• at 60 Hz	1
<b>Apparent holding power of magnet coil at AC</b>	
• at 50 Hz	11 V·A
• at 60 Hz	11 V·A
<b>Inductive power factor with the holding power of the coil</b>	
• at 50 Hz	1
• at 60 Hz	1
<b>Closing delay</b>	
• at AC	35 ... 90 ms
<b>Opening delay</b>	
• at AC	65 ... 90 ms
<b>Arcing time</b>	10 ... 15 ms
<b>Control version of the switch operating mechanism</b>	Standard A1 - A2

### Auxiliary circuit

<b>Number of NC contacts for auxiliary contacts</b>	
• attachable	3
• instantaneous contact	3
<b>Number of NO contacts for auxiliary contacts</b>	
• attachable	3
• instantaneous contact	3
<b>Operating current at AC-12 maximum</b>	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
• at 690 V rated value	2.3 A

<b>Operating current at DC-12 at 440 V rated value</b>	0.33 A
<b>Operating current at DC-12</b>	
• at 24 V rated value	10 A
• at 48 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>	
• at 24 V rated value	10 A
• at 48 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>contact reliability of auxiliary contacts</b>	one incorrect switching operation of 100 million switching operations (17 V, 5 mA)

### UL/CSA ratings

<b>Full-load current (FLA) for three-phase AC motor</b>	
• at 480 V rated value	630 A
• at 600 V rated value	630 A
<b>Yielded mechanical performance [hp]</b>	
• for three-phase AC motor	
— at 200/208 V rated value	231 hp
— at 220/230 V rated value	266 hp
— at 460/480 V rated value	530 hp
— at 575/600 V rated value	664 hp
<b>Contact rating of auxiliary contacts according to UL</b>	A600 / Q600

### Short-circuit protection

<b>Design of the fuse link</b>	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 1000 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 500 A (690 V, 100 kA), aM: 630 A (690 V, 50 kA), BS88: 500 A (415 V, 50 kA)
• for short-circuit protection of the auxiliary switch required	fuse gG: 10 A

### Installation/ mounting/ dimensions

• <b>mounting position</b>	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
<b>Mounting type</b>	screw fixing
• Side-by-side mounting	Yes

<b>Height</b>	232 mm
<b>Width</b>	230 mm
<b>Depth</b>	237 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 20 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 10 mm</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards 20 mm</li> <li>— upwards 10 mm</li> <li>— at the side 10 mm</li> <li>— downwards 10 mm</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards 20 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 10 mm</li> </ul> </li> </ul>	

### Connections/ Terminals

<b>Width of connection bar</b>	30 mm
<b>Thickness of connection bar</b>	6 mm
<b>Diameter of holes</b>	11 mm
<b>Number of holes</b>	1
<ul style="list-style-type: none"> <li>• Type of electrical connection for main current circuit</li> <li>• Type of electrical connection for auxiliary and control current circuit</li> <li>• Type of electrical connection at contactor for auxiliary contacts</li> </ul>	<p>Connection bar</p> <p>screw-type terminals</p> <p>Screw-type terminals</p>
<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>— stranded 70 ... 240 mm<sup>2</sup></li> <li>— finely stranded with core end processing 50 ... 240 mm<sup>2</sup></li> </ul> </li> <li>• at AWG conductors for main contacts 2/0 ... 500 kcmil</li> </ul>	
<b>Connectable conductor cross-section for main contacts</b>	
<ul style="list-style-type: none"> <li>• finely stranded with core end processing 240 ... 50 mm<sup>2</sup></li> </ul>	
<b>Connectable conductor cross-section for auxiliary contacts</b>	
<ul style="list-style-type: none"> <li>• single or multi-stranded 0.5 ... 2.5 mm<sup>2</sup></li> <li>• finely stranded with core end processing 0.5 ... 2.5 mm<sup>2</sup></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>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for auxiliary contacts</li> </ul>	2x (0.5 ... 1.0 mm <sup>2</sup> ), 2x (1.0 ... 2.5 mm <sup>2</sup> ) 2x (0.5 ... 1.0 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) 2x (18 ... 12)
<b>AWG number as coded connectable conductor cross section</b> <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary contacts</li> </ul>	500 18 ... 12

### Safety related data

<b>Product function</b> <ul style="list-style-type: none"> <li>• Mirror contact acc. to IEC 60947-4-1</li> <li>• positively driven operation acc. to IEC 60947-5-1</li> </ul>	Yes; One NC contact each must be connected in series for the right and left auxiliary switch block respectively  No
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### Certificates/ approvals

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

Test Certificates	Marine / Shipping	other
<a href="#">Special Test Certificate</a>	<a href="#">Miscellaneous</a>	<a href="#">Confirmation</a>

### Railway

<a href="#">Special Test Certificate</a>
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### 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=3TF6833-1QV7>
- Cax online generator**  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TF6833-1QV7>

