

vacuum contactor AC-3e/AC-3 630 A, 335 kW / 400 V, Ue 690 V, 3-pole, Uc: 125 V  
 DC drive: conventional installed with series resistor with reversing contactor  
 3TC4417-4A DC economy circuit auxiliary contacts 3 NO + 3 NC main circuit:  
 busbar control and auxiliary circuit: screw terminal













product designation	Vacuum contactor
product type designation	3TF6
<b>General technical data</b>	
size of contactor	14
product extension	
• function module for communication	No
• auxiliary switch	No
insulation voltage	
• of main circuit with degree of pollution 3 rated value	1 000 V
• of auxiliary circuit with degree of pollution 3 rated value	690 V
surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation in networks with grounded star point	
• between auxiliary and auxiliary circuit	300 V
• between main and auxiliary circuit	500 V
shock resistance at rectangular impulse	
• at DC	9.5g / 5 ms, 5.7g / 10 ms
shock resistance with sine pulse	
• at DC	14.5 g / 5 ms, 9.1 g / 10 ms
mechanical service life (operating cycles)	
• of contactor typical	5 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	03/01/2017
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-25 ... +55 °C
• during storage	-55 ... +80 °C
relative humidity minimum	10 %
relative humidity during operation	10 ... 95 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
<b>Main circuit</b>	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0
type of voltage for main current circuit	AC
operating voltage	
• at AC-3 rated value maximum	690 V

<ul style="list-style-type: none"> <li>• at AC-3e rated value maximum</li> </ul>	690 V
<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> </ul> </li> </ul>	700 A 630 A
<ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	630 A 630 A 630 A
<ul style="list-style-type: none"> <li>• at AC-3e <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	630 A 630 A 630 A
<ul style="list-style-type: none"> <li>• at AC-4 at 400 V rated value</li> </ul>	610 A
<ul style="list-style-type: none"> <li>• at AC-6a <ul style="list-style-type: none"> <li>— up to 500 V for current peak value n=20 rated value</li> <li>— up to 690 V for current peak value n=20 rated value</li> </ul> </li> </ul>	513 A 513 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> </ul> </li> </ul>	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>operational 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 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>	200 kW 355 kW 434 kW 600 kW
<ul style="list-style-type: none"> <li>• at AC-3e <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> </ul> </li> </ul>	200 kW 355 kW 600 kW
<b>operating apparent power 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> </ul>	338 kVA 586 kVA
<b>operating apparent power 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> </ul>	226 kVA 390 kVA
<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 operational current per conductor</b>	45 W
<b>power loss [W] at AC-3e at 400 V for rated value of the operational current per conductor</b>	45 W
<b>no-load switching frequency at AC</b>	2 000 1/h
<b>operating frequency</b>	
<ul style="list-style-type: none"> <li>• at AC-1 maximum</li> <li>• at AC-3e <ul style="list-style-type: none"> <li>— at 400 V maximum</li> <li>— at 690 V maximum</li> </ul> </li> <li>• at AC-2 at AC-3 maximum</li> <li>• at AC-2 at AC-3e maximum</li> </ul>	700 1/h 500 1/h 500 1/h 200 1/h 200 1/h
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	DC
<b>control supply voltage at DC</b>	

• rated value	125 V
<b>operating range factor control supply voltage rated value of magnet coil at DC</b>	
• initial value	0.8
• full-scale value	1.1
<b>closing power of magnet coil at DC</b>	1 010 W
<b>holding power of magnet coil at DC</b>	28 W
<b>closing delay</b>	
• at DC	76 ... 110 ms
<b>opening delay</b>	
• at DC	10 ... 50 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>	
• attachable	3
• instantaneous contact	3
<b>number of NO contacts for auxiliary contacts</b>	
• attachable	3
• instantaneous contact	3
<b>operational current at AC-12 maximum</b>	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
• at 690 V rated value	2.3 A
<b>operational current at DC-12 at 440 V rated value</b>	0.33 A
<b>operational 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>operational 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)
<b>UL/CSA ratings</b>	
<b>full-load current (FLA) for 3-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 3-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
<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	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		
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back	
fastening method	screw fixing	
• side-by-side mounting	Yes	
height	276 mm	
width	230 mm	
depth	237 mm	
required spacing		
• with side-by-side mounting		
— forwards	20 mm	
— upwards	10 mm	
— downwards	10 mm	
— at the side	10 mm	
• for grounded parts		
— forwards	20 mm	
— upwards	10 mm	
— at the side	10 mm	
— downwards	10 mm	
• for live parts		
— forwards	20 mm	
— upwards	10 mm	
— downwards	10 mm	
— at the side	10 mm	
Connections/ Terminals		
type of electrical connection		
• for main current circuit	Connection bar	
• for auxiliary and control circuit	screw-type terminals	
• at contactor for auxiliary contacts	Screw-type terminals	
width of connection bar	30 mm	
thickness of connection bar	6 mm	
diameter of holes	11 mm	
number of holes	1	
type of connectable conductor cross-sections for main contacts		
• stranded	70 ... 240 mm²	
• finely stranded with core end processing	50 ... 240 mm²	
connectable conductor cross-section for main contacts		
• finely stranded with core end processing	240 ... 50 mm²	
connectable conductor cross-section for auxiliary contacts		
• solid or stranded	0.5 ... 2.5 mm²	
• finely stranded with core end processing	0.5 ... 2.5 mm²	
type of connectable conductor cross-sections		
• for auxiliary contacts		
— solid	2x (0.5 ... 1.0 mm²), 2x (1.0 ... 2.5 mm²)	
— finely stranded with core end processing	2x (0.5 ... 1.0 mm²), 2x (0.75 ... 2.5 mm²)	
• for AWG cables for auxiliary contacts	2x (18 ... 12)	
AWG number as coded connectable conductor cross section		
• for main contacts	500	
• for auxiliary contacts	18 ... 12	
Safety related data		
product function		
• mirror contact according to IEC 60947-4-1	Yes; One NC contact each must be connected in series for the right and left auxiliary switch block respectively	
• positively driven operation according to IEC 60947-5-1	No	
B10 value with high demand rate according to SN 31920	1 000 000	
proportion of dangerous failures		
• with high demand rate according to SN 31920	73 %	
protection class IP on the front according to IEC 60529	IP00	
Certificates/ approvals		
General Product Approval	Functional	Declaration of Con-

				Safety/Safety of Machinery	formity
				<a href="#">Type Examination Certificate</a>	
Declaration of Conformity	Test Certificates			Marine / Shipping	
	<a href="#">Miscellaneous</a>	<a href="#">Special Test Certificate</a>	<a href="#">Type Test Certificates/Test Report</a>		
Marine / Shipping		other			
		<a href="#">Confirmation</a>			

#### Further information

Siemens has decided to exit the Russian market (see here).

<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3TF6833-1DG4>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TF6833-1DG4>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TF6833-1DG4>

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

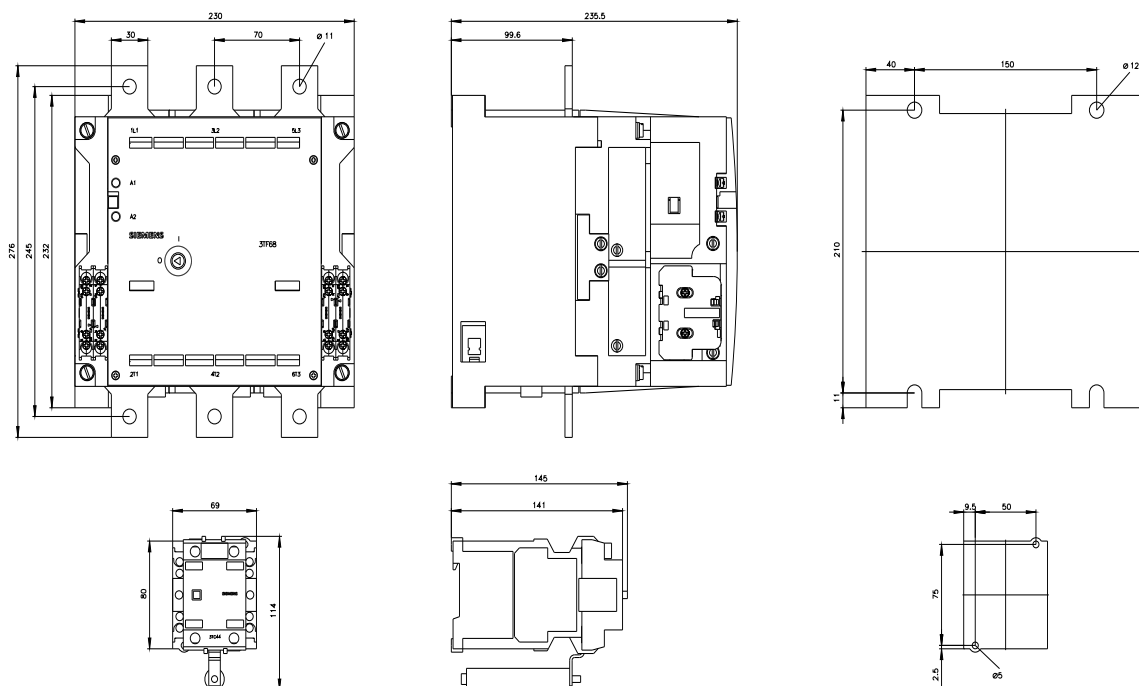
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3TF6833-1DG4&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TF6833-1DG4&lang=en)

Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

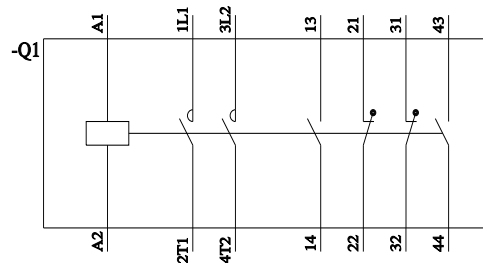
<https://support.industry.siemens.com/cs/ww/en/ps/3TF6833-1DG4/char>

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

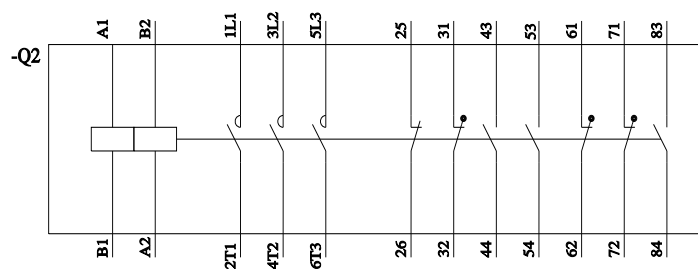
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TF6833-1DG4&objecttype=14&gridview=view1>



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