

Contactor, Size 14, 3-pole, AC-3, 335kW, 400/380 V (690 V)
 Auxiliary switch 44 (4NO+4NC) AC operation 200...240 V AC 50/60 Hz



Figure similar

Product designation	Vacuum contactor
Product type designation	3TF6
General technical data	
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 safe isolation in networks with grounded star point	
• between auxiliary and auxiliary circuit	300 V

<ul style="list-style-type: none"> • between main and auxiliary circuit 	500 V
Protection class IP	
<ul style="list-style-type: none"> • on the front 	IP00
Shock resistance at rectangular impulse	
<ul style="list-style-type: none"> • at AC 	8.1g / 5 ms, 4.7g / 10 ms
Shock resistance with sine pulse	
<ul style="list-style-type: none"> • at AC 	12.8g / 5 ms, 7.4g / 10 ms
Mechanical service life (switching cycles)	
<ul style="list-style-type: none"> • of contactor typical 	5 000 000
Reference code acc. to DIN EN 81346-2	Q

Ambient conditions

Installation altitude at height above sea level	
<ul style="list-style-type: none"> • maximum 	2 000 m
<ul style="list-style-type: none"> • Ambient temperature during operation 	-25 ... +55 °C
<ul style="list-style-type: none"> • Ambient temperature during storage 	-55 ... +80 °C
Relative humidity during operation	10 ... 100 %

Main circuit

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	
<ul style="list-style-type: none"> • at AC <ul style="list-style-type: none"> — at 50 Hz rated value — at 60 Hz rated value 	1 000 V 1 000 V
Operating current	
<ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — up to 690 V at ambient temperature 40 °C rated value • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 1000 V rated value • at AC-4 at 400 V rated value • at AC-6a <ul style="list-style-type: none"> — up to 500 V for current peak value n=20 rated value — up to 690 V for current peak value n=20 rated value — up to 1000 V for current peak value n=20 rated value 	700 A 630 A 630 A 630 A 435 A 610 A 513 A 513 A 435 A

<ul style="list-style-type: none"> • at AC-6a <ul style="list-style-type: none"> — up to 400 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 1000 V for current peak value n=30 rated value 	<p>342 A</p> <p>342 A</p> <p>342 A</p> <p>342 A</p>
Connectable conductor cross-section in main circuit at AC-1 <ul style="list-style-type: none"> • at 40 °C minimum permissible 	480 mm ²
Operating current for approx. 200000 operating cycles at AC-4 <ul style="list-style-type: none"> • at 400 V rated value • at 690 V rated value 	<p>300 A</p> <p>300 A</p>
Operating power <ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 690 V rated value — at 1000 V rated value 	<p>200 kW</p> <p>335 kW</p> <p>600 kW</p> <p>600 kW</p>
Operating apparent output at AC-6a <ul style="list-style-type: none"> • up to 400 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 1000 V for current peak value n=20 rated value 	<p>338 kV·A</p> <p>586 kV·A</p> <p>752 kV·A</p>
Operating apparent output at AC-6a <ul style="list-style-type: none"> • up to 400 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 1000 V for current peak value n=30 rated value 	<p>226 kV·A</p> <p>390 kV·A</p> <p>592 kV·A</p>
Thermal short-time current limited to 10 s	5 040 A
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor	45 W
No-load switching frequency at AC	2 000 1/h
Operating frequency <ul style="list-style-type: none"> • at AC-1 maximum • at AC-2 at AC-3 maximum 	<p>700 1/h</p> <p>200 1/h</p>

Control circuit/ Control

Type of voltage of the control supply voltage	AC
Control supply voltage at AC	
• at 50 Hz rated value	200 ... 240 V
• at 60 Hz rated value	200 ... 240 V
Operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 ... 1.1
• at 60 Hz	0.8 ... 1.1
Apparent pick-up power of magnet coil at AC	
• at 50 Hz	1 200 V·A
• at 60 Hz	1 200 V·A
Inductive power factor with closing power of the coil	
• at 50 Hz	1
• at 60 Hz	1
Apparent holding power of magnet coil at AC	
• at 50 Hz	13.5 V·A
• at 60 Hz	13.5 V·A
Inductive power factor with the holding power of the coil	
• at 50 Hz	0.15
• at 60 Hz	0.15
Closing delay	
• at AC	70 ... 120 ms
Opening delay	
• at AC	70 ... 100 ms
Arcing time	10 ... 15 ms
Control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
Number of NC contacts for auxiliary contacts	
• attachable	4
• instantaneous contact	4
Number of NO contacts for auxiliary contacts	
• attachable	4
• instantaneous contact	4
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
• 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
Operating current at DC-12 at 440 V rated value	0.33 A
Operating current at DC-12	

<ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	<p>10 A</p> <p>10 A</p> <p>3.2 A</p> <p>2.5 A</p> <p>0.9 A</p> <p>0.22 A</p>
Operating current at DC-13 <ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	<p>10 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>
Contact reliability of auxiliary contacts	<p>one incorrect switching operation of 100 million switching operations (17 V, 5 mA)</p>

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor <ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	<p>630 A</p> <p>630 A</p>
Yielded mechanical performance [hp] <ul style="list-style-type: none"> • for three-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value 	<p>231 hp</p> <p>266 hp</p> <p>530 hp</p> <p>664 hp</p>
Contact rating of auxiliary contacts according to UL	<p>A600 / Q600</p>

Short-circuit protection

Design of the fuse link <ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required 	<p>gG: 1000 A (690 V, 100 kA)</p> <p>gG: 500 A (690 V, 100 kA), aM: 630 A (690 V, 50 kA), BS88: 500 A (415 V, 50 kA)</p> <p>fuse gG: 10 A</p>
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Installation/ mounting/ dimensions

Mounting position	<p>with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back</p>
Mounting type <ul style="list-style-type: none"> • Side-by-side mounting 	<p>screw fixing</p> <p>Yes</p>
Height	<p>232 mm</p>
Width	<p>230 mm</p>

Depth	237 mm
Required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — downwards 10 mm — at the side 10 mm • for grounded parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — at the side 10 mm — downwards 10 mm • for live parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — downwards 10 mm — at the side 10 mm 	


Connections/ Terminals	
Width of connection bar	30 mm
Thickness of connection bar	6 mm
Diameter of holes	11 mm
Number of holes	1
Type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit • for auxiliary and control current circuit • at contactor for auxiliary contacts 	Connection bar screw-type terminals Screw-type terminals
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — stranded 70 ... 240 mm² — finely stranded with core end processing 50 ... 240 mm² • at AWG conductors for main contacts 2/0 ... 500 kcmil 	
Connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> • finely stranded with core end processing 240 ... 50 mm² 	
Connectable conductor cross-section for auxiliary contacts	
<ul style="list-style-type: none"> • single or multi-stranded 0.5 ... 2.5 mm² • finely stranded with core end processing 0.5 ... 2.5 mm² 	
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — 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) 	



<ul style="list-style-type: none"> at AWG conductors for auxiliary contacts 	2x (18 ... 12)
AWG number as coded connectable conductor cross section	
<ul style="list-style-type: none"> for main contacts 	500
<ul style="list-style-type: none"> for auxiliary contacts 	18 ... 12



Safety related data

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

Certificates/ approvals

General Product Approval	Functional Safety/Safety of Machinery
    	Type Examination Certificate

Declaration of Conformity	Test Certificates	Marine / Shipping
 EG-Konf.	Miscellaneous Type Test Certificates/Test Report Special Test Certificate Miscellaneous	

Marine / Shipping	other	Railway
 	Miscellaneous Confirmation	Special Test Certificate

Further information

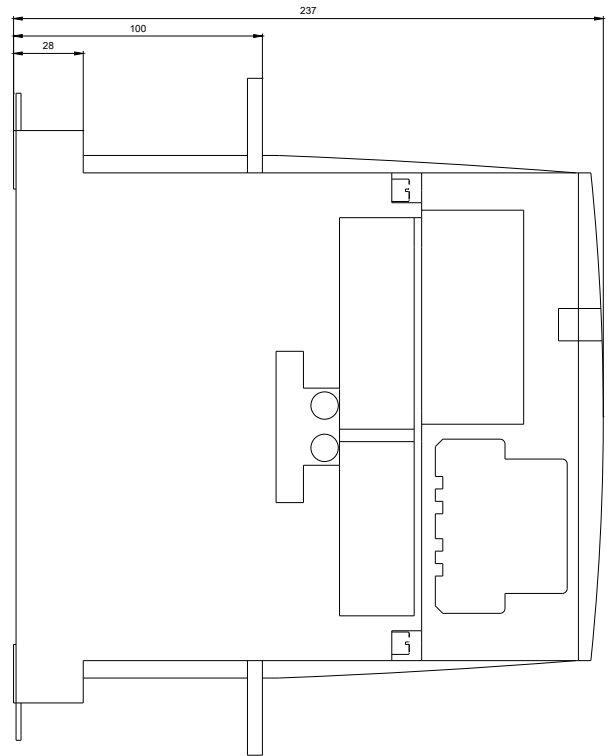
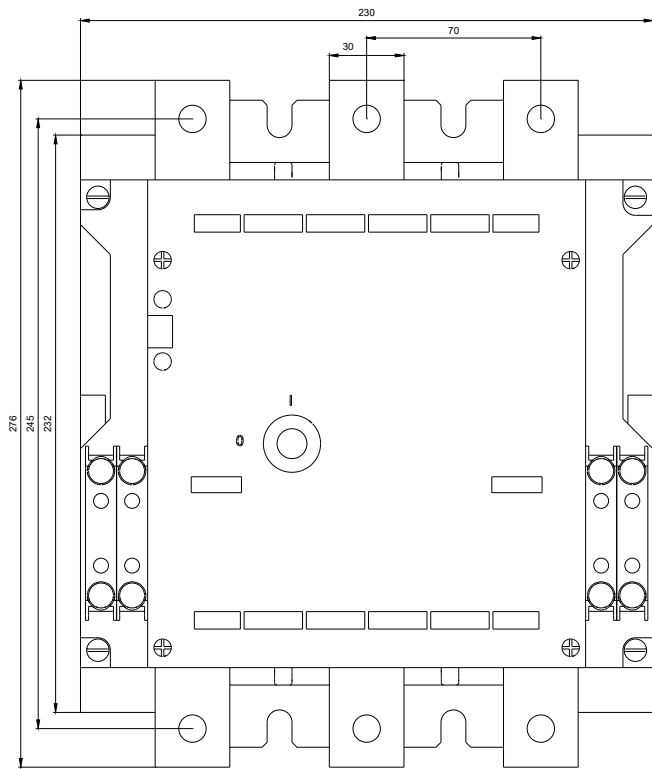
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- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TF6844-0CM7&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3TF6844-0CM7/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TF6844-0CM7&objecttype=14&gridview=view1>



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