

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 220 to 240 V AC 50/60 Hz



product designation	Vacuum contactor
product type designation	3TF6
General technical data	
size of contactor	14
product extension	
<ul style="list-style-type: none"> function module for communication auxiliary switch 	No No
insulation voltage	
<ul style="list-style-type: none"> of main circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value 	1 000 V 690 V
surge voltage resistance	
<ul style="list-style-type: none"> of main circuit rated value of auxiliary circuit rated value 	8 kV 6 kV
maximum permissible voltage for protective separation in networks with grounded star point	
<ul style="list-style-type: none"> between auxiliary and auxiliary circuit between main and auxiliary circuit 	300 V 500 V
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 according to IEC 81346-2	Q
Substance Prohibition (Date)	03/01/2017
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul style="list-style-type: none"> during operation during storage 	-25 ... +55 °C -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 %
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-3 rated value maximum ● at AC-3e rated value maximum 	690 V 690 V
operational 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 — up to 690 V at ambient temperature 55 °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 AC-3e <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 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 ● 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 	700 A 630 A 630 A 630 A 630 A 630 A 630 A 610 A 513 A 513 A 342 A 342 A 342 A
connectable conductor cross-section in main circuit at AC-1	
<ul style="list-style-type: none"> ● at 40 °C minimum permissible 	480 mm ²
operational 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 	300 A 300 A
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 AC-3e <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 690 V rated value 	200 kW 335 kW 600 kW 200 kW 335 kW 600 kW
operating apparent power 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 	338 kVA 586 kVA
operating apparent power 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 	226 kVA 390 kVA
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 operational current per conductor	45 W
power loss [W] at AC-3e at 400 V for rated value of the operational 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-3e <ul style="list-style-type: none"> — at 400 V maximum — at 690 V maximum 	700 1/h 500 1/h 500 1/h

<ul style="list-style-type: none"> • at AC-2 at AC-3 maximum 	200 1/h
<ul style="list-style-type: none"> • at AC-2 at AC-3e maximum 	200 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
<ul style="list-style-type: none"> • at 50 Hz rated value 	220 ... 240 V
<ul style="list-style-type: none"> • at 60 Hz rated value 	220 ... 240 V
operating range factor control supply voltage rated value of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz 	0.8 ... 1.1
<ul style="list-style-type: none"> • at 60 Hz 	0.8 ... 1.1
apparent pick-up power of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz 	1 000 VA
<ul style="list-style-type: none"> • at 60 Hz 	1 000 VA
inductive power factor with closing power of the coil	
<ul style="list-style-type: none"> • at 50 Hz 	1
<ul style="list-style-type: none"> • at 60 Hz 	1
apparent holding power of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz 	11 VA
<ul style="list-style-type: none"> • at 60 Hz 	11 VA
inductive power factor with the holding power of the coil	
<ul style="list-style-type: none"> • at 50 Hz 	1
<ul style="list-style-type: none"> • at 60 Hz 	1
closing delay	
<ul style="list-style-type: none"> • at AC 	35 ... 90 ms
opening delay	
<ul style="list-style-type: none"> • at AC 	65 ... 90 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	
<ul style="list-style-type: none"> • attachable 	3
<ul style="list-style-type: none"> • instantaneous contact 	3
number of NO contacts for auxiliary contacts	
<ul style="list-style-type: none"> • attachable 	3
<ul style="list-style-type: none"> • instantaneous contact 	3
operational current at AC-12 maximum	10 A
operational current at AC-15	
<ul style="list-style-type: none"> • at 230 V rated value 	5.6 A
<ul style="list-style-type: none"> • at 400 V rated value 	3.6 A
<ul style="list-style-type: none"> • at 500 V rated value 	2.5 A
<ul style="list-style-type: none"> • at 690 V rated value 	2.3 A
operational current at DC-12 at 440 V rated value	0.33 A
operational current at DC-12	
<ul style="list-style-type: none"> • at 24 V rated value 	10 A
<ul style="list-style-type: none"> • at 48 V rated value 	10 A
<ul style="list-style-type: none"> • at 110 V rated value 	3.2 A
<ul style="list-style-type: none"> • at 125 V rated value 	2.5 A
<ul style="list-style-type: none"> • at 220 V rated value 	0.9 A
<ul style="list-style-type: none"> • at 600 V rated value 	0.22 A
operational current at DC-13	
<ul style="list-style-type: none"> • at 24 V rated value 	10 A
<ul style="list-style-type: none"> • at 48 V rated value 	5 A
<ul style="list-style-type: none"> • at 110 V rated value 	1.14 A
<ul style="list-style-type: none"> • at 125 V rated value 	0.98 A
<ul style="list-style-type: none"> • at 220 V rated value 	0.48 A
<ul style="list-style-type: none"> • at 600 V rated value 	0.07 A
contact reliability of auxiliary contacts	one incorrect switching operation of 100 million switching operations (17 V, 5 mA)

UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
<ul style="list-style-type: none"> ● at 480 V rated value ● at 600 V rated value 	630 A 630 A
yielded mechanical performance [hp]	
<ul style="list-style-type: none"> ● for 3-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 	231 hp 266 hp 530 hp 664 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
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 	gG: 1000 A (690 V, 100 kA) gG: 500 A (690 V, 100 kA), aM: 630 A (690 V, 50 kA), BS88: 500 A (415 V, 50 kA) 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
<ul style="list-style-type: none"> ● side-by-side mounting 	Yes
height	276 mm
width	230 mm
depth	237 mm
required spacing	
<ul style="list-style-type: none"> ● with side-by-side mounting <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side ● for grounded parts <ul style="list-style-type: none"> — forwards — upwards — at the side — downwards ● for live parts <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side 	20 mm 10 mm 10 mm 10 mm 20 mm 10 mm 10 mm 10 mm 20 mm 10 mm 10 mm 10 mm
Connections/ Terminals	
type of electrical connection	
<ul style="list-style-type: none"> ● for main current circuit ● for auxiliary and control circuit ● at contactor for auxiliary contacts 	Connection bar screw-type terminals 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	
<ul style="list-style-type: none"> ● for main contacts <ul style="list-style-type: none"> — stranded — finely stranded with core end processing ● at AWG cables for main contacts 	70 ... 240 mm ² 50 ... 240 mm ² 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 mm ²

connectable conductor cross-section for auxiliary contacts <ul style="list-style-type: none"> • solid or stranded • finely stranded with core end processing 	0.5 ... 2.5 mm ² 0.5 ... 2.5 mm ²
type of connectable conductor cross-sections <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid — finely stranded with core end processing • at AWG cables for auxiliary contacts 	2x (0.5 ... 1.0 mm ²), 2x (1.0 ... 2.5 mm ²) 2x (0.5 ... 1.0 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (18 ... 12)
AWG number as coded connectable conductor cross section <ul style="list-style-type: none"> • for main contacts • for auxiliary contacts 	500 18 ... 12

Safety related data

product function <ul style="list-style-type: none"> • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1 	Yes; One NC contact each must be connected in series for the right and left auxiliary switch block respectively No
protection class IP on the front according to IEC 60529	IP00

Certificates/ approvals

General Product Approval	Functional Safety/Safety of Machinery
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Test Certificates **Marine / Shipping**

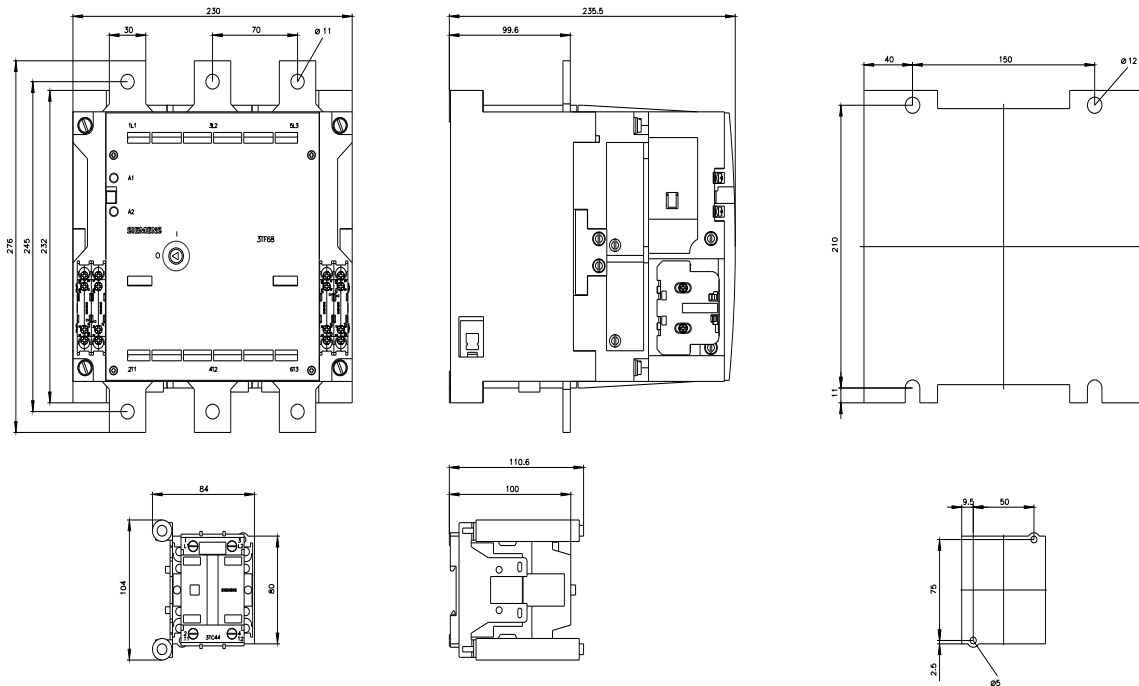


other

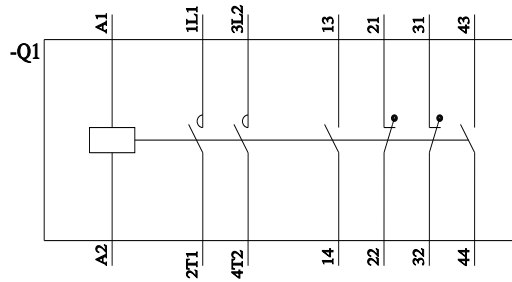
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Further information

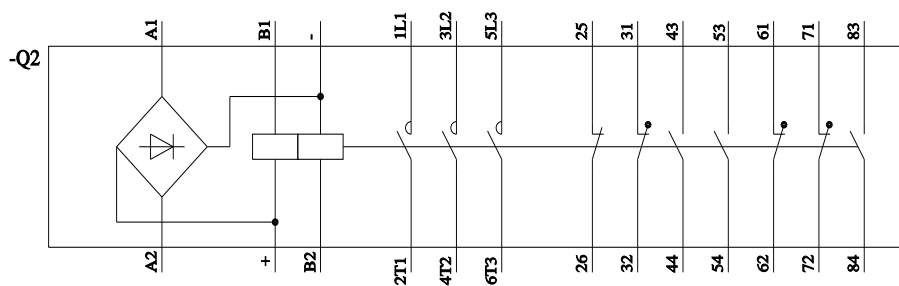
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http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TF6833-1QL7&lang=en
Characteristic: Tripping characteristics, I^t, Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3TF6833-1QL7/char>
Further characteristics (e.g. electrical endurance, switching frequency)
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TF6833-1QL7&objecttype=14&gridview=view1>



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3TF(68,69)33-(1Q,8Q)xx



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