SIEMENS

Data sheet

3TF6833-1QL7

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



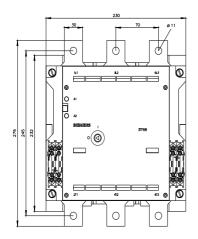
product designation	Vacuum contactor
product type designation	3TF6
General technical data	
size of contactor	14
product extension	
 function module for communication 	No
auxiliary switch	No
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	1 000 V
 of auxiliary circuit with 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 AC	8.1g / 5 ms, 4.7g / 10 ms
shock resistance with sine pulse	
• at AC	12.8g / 5 ms, 7.4g / 10 ms
mechanical service life (switching cycles)	
 of contactor typical 	5 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	03/01/2017
Ambient conditions	
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 %
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

 et AC-3 rated value maximum 600 V et AC-3 rated value maximum 600 V operational current et AC-1 rate of 80 V at ambient temperature 40 °C rated value and AC-1 rated value and AC-1 and BO V rated value and AC-3 and AC-3 and AC-4 at 400 V rated value and AC-4 at 400 V rated value = n=20 rated value and AC-4 at 400 V rated value = n=20 rated value and AC-4 at 400 V rated value = n=20 rated value and AC-4 at 400 V rated value = n=30 rated value and AC-5 at 400 V rated value = n=30 rated value and AC-5 at 400 V rated value = 30 rated value and AC-3 at 400 V rated value = 30 rated value and AC-3 at 400 V rated value = 30 rated value and AC-3 at 400 V rated value = 30 rated value and AC-3 at 400 V rated value = 30 rated value and AC-3 at 400 V rated value = 30 rated value and AC-3 at 400 V rated value = 30 rated value and AC-3 at 400 V rated value = 30 rated value and AC-3 at 400 V rated value = 30 rated value and AC-3	anarating voltage	
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		700 Δ
raide value e at AC-3		700 A
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	— at 500 V rated value	630 A
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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 2 000 1/h		
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 45 W		10 VV
no-load switching frequency at AC 2 000 1/h operating frequency 2 000 1/h	power loss [W] at AC-3e at 400 V for rated value of the	45 W
operating frequency		2 000 1/h
• at AC-1 maximum 700 1/h		700 1/h
• at AC-3e		
— at 400 V maximum 500 1/h	— at 400 V maximum	500 1/h
— at 690 V maximum 500 1/h	— at 690 V maximum	500 1/h

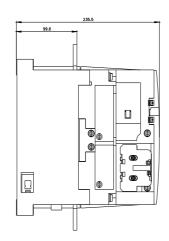
a at AC 2 at AC 2 maximum	200 1/h
 at AC-2 at AC-3 maximum at AC-2 at AC-3e maximum 	200 1/h
• at AC-2 at AC-3e maximum	200 1/11
type of voltage of the control supply voltage	AC
control supply voltage at AC	AC
at 50 Hz rated value	220 240 V
• at 60 Hz rated value	220 240 V
operating range factor control 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	1 000 VA
• at 60 Hz	1 000 VA
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	11 VA
• at 60 Hz	11 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	1
• at 50 Hz	1
closing delay	
• at AC	35 90 ms
opening delay	
• at AC	65 90 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
Auxiliary circuit number of NC contacts for auxiliary contacts	
	3
number of NC contacts for auxiliary contacts	3 3
number of NC contacts for auxiliary contacts attachable 	
number of NC contacts for auxiliary contacts attachable instantaneous contact 	
number of NC contacts for auxiliary contacts attachable instantaneous contact number of NO contacts for auxiliary contacts attachable instantaneous contact instantaneous contact instantaneous contacts instantaneous contact 	3 3 3
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • attachable • instantaneous contact • instantaneous contact • operational current at AC-12 maximum	3 3
number of NC contacts for auxiliary contacts attachable instantaneous contact number of NO contacts for auxiliary contacts attachable attachable instantaneous contact operational current at AC-12 maximum operational current at AC-15	3 3 3 10 A
number of NC contacts for auxiliary contacts attachable instantaneous contact number of NO contacts for auxiliary contacts attachable instantaneous contact operational current at AC-12 maximum operational current at AC-15 at 230 V rated value 	3 3 3 10 A 5.6 A
number of NC contacts for auxiliary contacts attachable instantaneous contact number of NO contacts for auxiliary contacts attachable instantaneous contact instantaneous contact operational current at AC-12 maximum operational current at AC-15 at 230 V rated value at 400 V rated value 	3 3 3 10 A 5.6 A 3.6 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 500 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 500 V rated value • at 690 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value • at 690 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 500 V rated value • at 690 V rated value • at 690 V rated value • at 690 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 500 V rated value • at 690 V rated value • at 690 V rated value • at 24 V rated value • at 24 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value • at 690 V rated value • at 440 V rated value • at 490 V rated value • at 490 V rated value • at 400 V rated value • at 490 V rated value • at 490 V rated value • at 490 V rated value • at 48 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10 A 10 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value • at 690 V rated value operational current at DC-12 at 440 V rated value operational current at DC-12 at 440 V rated value • at 24 V rated value • at 48 V rated value • at 4110 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10 A 10 A 3.2 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 24 V rated value • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10 A 10 A 10 A 10 A 2.5 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value • at 690 V rated value operational current at DC-12 at 440 V rated value operational current at DC-12 at 440 V rated value • at 24 V rated value • at 48 V rated value • at 4110 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10 A 10 A 3.2 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 500 V rated value • at 690 V rated value • at 690 V rated value • at 24 V rated value • at 24 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10 A 10 A 10 A 3.2 A 2.5 A 0.9 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 500 V rated value • at 690 V rated value • at 690 V rated value operational current at DC-12 at 440 V rated value operational current at DC-12 • at 24 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 220 V rated value • at 220 V rated value • at 600 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10 A 10 A 10 A 3.2 A 2.5 A 0.9 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value • at 690 V rated value • at 24 V rated value • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 220 V rated value • at 200 V rated value • at 220 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10 A 10 A 10 A 10 A 0.23 A 2.5 A 0.32 A 2.5 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value • at 690 V rated value operational current at DC-12 at 440 V rated value operational current at DC-12 • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 220 V rated value • at 24 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 24 V rated value • at 24 V rated value • at 125 V rated value • at 120 V rated value • at 24 V rated value • at 24 V rated value • at 24 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 24 V rated value • at 48 V rated value • at 48 V rated value • at 48 V rated value • at 24 V rated value • at 24 V rated value • at 24 V rated value • at 48 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10 A 10 A 3.2 A 2.5 A 0.9 A 0.22 A 10 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 500 V rated value • at 690 V rated value • at 690 V rated value • at 400 V rated value • at 400 V rated value • at 500 V rated value • at 400 V rated value • at 20 V rated value • at 24 V rated value • at 110 V rated value • at 220 V rated value • at 220 V rated value • at 24 V rated value • at 24 V rated value • at 48 V rated value • at 400 V rated value • at 400 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10 A 10 A 10 A 3.2 A 2.5 A 0.9 A 0.22 A 10 A 1.14 A
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 440 V rated value • at 490 V rated value • at 400 V rated value • at 20 V rated value • at 110 V rated value • at 220 V rated value • at 600 V rated value • at 24 V rated value • at 48 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10
number of NC contacts for auxiliary contacts • attachable • instantaneous contact number of NO contacts for auxiliary contacts • attachable • instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value • at 690 V rated value • at 24 V rated value • at 110 V rated value • at 220 V rated value • at 220 V rated value • at 24 V rated value • at 25 V rated value • at 24 V rated value • at 220 V rated value • at 220 V rated value • at 220 V rated value • at 24 V rated value • at 25 V rated value • at 220 V rated value • at 24 V rated value • at 25 V rated value • at 24 V rated value • at 25 V rated value • at 220 V rated value • at 220 V rated value • at 220 V rated value • at 125 V rated value • at 125 V rated value • at 220 V rated value	3 3 3 10 A 5.6 A 3.6 A 2.5 A 2.3 A 0.33 A 10

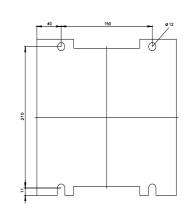
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	630 A
at 600 V rated value	630 A
yielded mechanical performance [hp]	
• for 3-phase AC motor	
– at 200/208 V rated value	231 hp
— at 220/230 V rated value	266 hp
— at 460/480 V rated value	530 hp
— at 575/600 V rated value	664 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the fuse link	
 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	Occurrent to a hor
for main current circuit	Connection bar
for auxiliary and control circuit	screw-type terminals
at contactor for auxiliary contacts width of connection bar	Screw-type terminals
thickness of connection bar	30 mm
diameter of holes	6 mm 11 mm
number of holes	1
type of connectable conductor cross-sections	
for main contacts	
- stranded	70 240 mm²
 — stranded — finely stranded with core end processing 	50 240 mm ²
at AWG cables for main contacts	2/0 500 kcmil
connectable conductor cross-section for main contacts	
finely stranded with core end processing	240 50 mm²
- meny stranded with core end processing	

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 mm ²	
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 mm ²), 2x (0.75 2.5 mm ²)	
at 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 se left auxiliary switch block respectively	eries for the right and
 positively driven operation according to IEC 60947- 5-1 	No	
protection class IP on the front according to IEC 60529	IP00	
Certificates/ approvals		
General Product Approval		Functional Safety/Safety of Machinery
Tool Qualification		
Test Certificates Marine / Ship	oping	
Special Test Certific- ate Miscellaneous		
VERITAS	Ph3 N#R3	DMV-GL DMV-GL
other	FN3 NIMITS	DINV-GL
	PR3 N/4/5	DHV-GL
other	PR3 NIMES	DIVISIL
other		DIWOLCORK
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other Confirmation Confirmation 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/produc Cax online generator http://support.automation.siemens.com/WW/CAXorder/defau Service&Support (Manuals, Certificates, Characteristics, https://support.industry.siemens.com/cs/ww/en/ps/3TF6833-Image database (product images, 2D dimension drawing	- <u>t?mlfb=3TF6833-1QL7</u> <u>lt.aspx?lang=en&mlfb=3TF6833-1QL7</u> , FAQs,) <u>1QL7</u> Is, 3D models, device circuit diagrams, EPLAN mathe <u>ib=3TF6833-1QL7⟨=en</u> current	cros,)

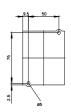


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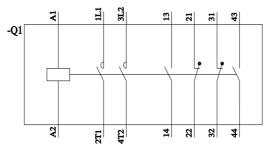




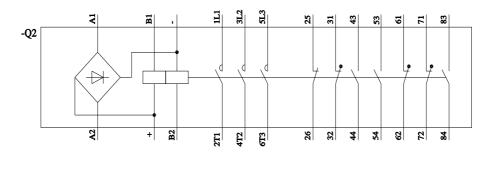




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