SIEMENS

Data sheet 3TF6844-0CQ7

Contactor, Size 14, 3-pole, AC-3, 335kW, 400/380 V (690 V)
Auxiliary switch 44 (4NO+4NC) AC operation 380...460 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 safe isolation in networks with grounded star point	
• between auxiliary and auxiliary circuit	300 V
• between main and auxiliary circuit	500 V

protection class IP	
• on the front	IP00
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 acc. to IEC 81346-2	Q

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 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	
• at AC	
— at 50 Hz rated value	1 000 V
— at 60 Hz rated value	1 000 V
operational current	
• 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
— up to 1000 V for current peak value n=20 rated value	435 A
• at AC-6a	
— up to 400 V for current peak value n=30 rated value	342 A
— up to 500 V for current peak value n=30 rated value	342 A
— up to 690 V for current peak value n=30 rated value	342 A
— up to 1000 V for current peak value n=30 rated value	342 A
connectable conductor cross-section in main circuit at AC-1	
• at 40 °C minimum permissible	480 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	300 A
• at 690 V rated value	300 A
operating power	
• at AC-3	
— at 230 V rated value	200 kW
— at 400 V rated value	335 kW
— at 690 V rated value	600 kW
— at 1000 V rated value	600 kW
operating apparent power at AC-6a	
• up to 400 V for current peak value n=20 rated value	338 kV·A
• up to 690 V for current peak value n=20 rated value	586 kV·A
• up to 1000 V for current peak value n=20 rated value	752 kV·A
operating apparent power at AC-6a	
• up to 400 V for current peak value n=30 rated value	226 kV·A
• up to 690 V for current peak value n=30 rated value	390 kV·A
• up to 1000 V for current peak value n=30 rated value	592 kV·A
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
no-load switching frequency at AC	2 000 1/h

operating frequency	
• at AC-1 maximum	700 1/h
• at AC-2 at AC-3 maximum	200 1/h

Control circuit/ Control

type of voltage of the control supply voltage	AC
control supply voltage at AC	
• at 50 Hz rated value	380 ... 460 V
• at 60 Hz rated value	380 ... 460 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
operational current at AC-12 maximum	10 A
operational 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
operational current at DC-12 at 440 V rated value	0.33 A
operational current at DC-12	
• 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
operational current at DC-13	
• 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
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	
• 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	232 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	
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	
• for main current circuit	Connection bar
• for auxiliary and control circuit	screw-type terminals
• at contactor for auxiliary contacts	Screw-type terminals
type of connectable conductor cross-sections	
• for main contacts	
— stranded	70 ... 240 mm²
— finely stranded with core end processing	50 ... 240 mm²
• 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
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)
• type of connectable conductor cross-sections 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 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
• positively driven operation acc. to IEC 60947-5-1	No

Certificates/ approvals

General Product Approval					Declaration of Conformity
CSA	CCC	UR	UL	EAC	EG-Konf.

Declaration of Conformity	Test Certificates			Marine / Shipping	
Miscellaneous	Special Test Certificate	Type Test Certificates/Test Report	Miscellaneous	BUREAU VERITAS	RMRS

Marine / Shipping	other		Railway
DNV·GL DNVGL.COM/AF	Miscellaneous	Confirmation	Special Test Certificate

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=3TF6844-0CQ7

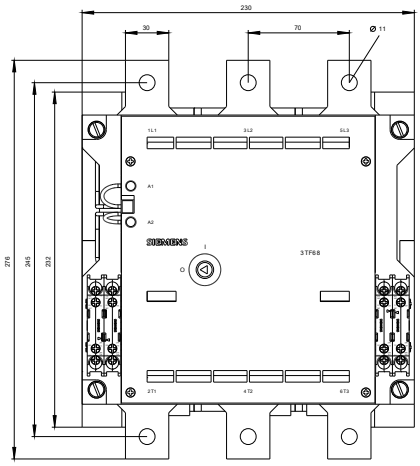
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TF6844-0CQ7

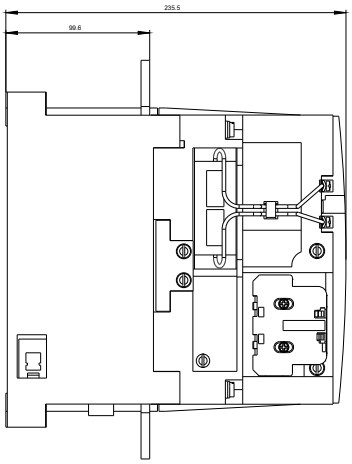
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3TF6844-0CQ7

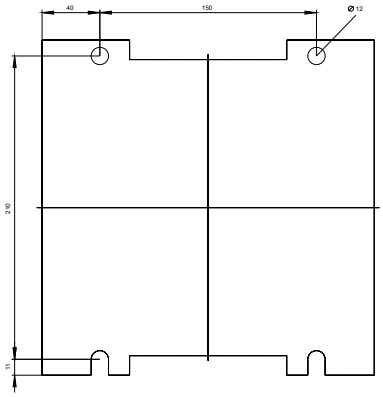
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TF6844-0CQ7&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3TF6844-0CQ7/char

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TF6844-0CQ7&objecttype=14&gridview=view1







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