SIEMENS

Data sheet 3TF6844-0CQ7

vacuum contactor AC-3e/AC-3 630 A, 335 kW / 400 V, Ue 690 V, 3-pole, Uc: 380-460 V AC(50/60 Hz) drive: conventional auxiliary contacts 4 NO + 4 NC main circuit: busbar control and auxiliary circuit: screw terminal

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 (operating 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
operating voltage	
● at AC-3 rated value maximum	690 V

● at AC-3e rated value maximum	690 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
● 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-3e	
— at 400 V rated value	552 A
— at 500 V rated value	552 A
— at 690 V rated value	552 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
● 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
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	355 kW
— at 500 V rated value	434 kW
— at 690 V rated value	600 kW
— at 1000 V rated value	600 kW
● at AC-3e	
— at 230 V rated value	160 kW
— at 400 V rated value	315 kW
— at 690 V rated value	560 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 kVA
● up to 690 V for current peak value n=20 rated value	586 kVA
operating apparent power at AC-6a	
● up to 400 V for current peak value n=30 rated value	226 kVA
● up to 690 V for current peak value n=30 rated value	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	
● at AC-1 maximum	700 1/h
● at AC-3e	
— at 400 V maximum	500 1/h
— at 690 V maximum	500 1/h
● at AC-2 at AC-3 maximum	200 1/h

● 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	
● 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	
● at minimum rated control supply voltage at AC	
— at 50 Hz	1 200 VA
— at 60 Hz	1 200 VA
● at maximum rated control supply voltage at AC	
— at 60 Hz	1 850 VA
— at 50 Hz	1 850 VA
apparent pick-up power of magnet coil at AC	
● at 50 Hz	1 200 VA
● at 60 Hz	1 200 VA
inductive power factor with closing power of the coil	
● at 50 Hz	1
● at 60 Hz	1
apparent holding power	
● at minimum rated control supply voltage at AC	
— at 50 Hz	13.5 VA
— at 60 Hz	13.5 VA
● at maximum rated control supply voltage at AC	
— at 50 Hz	49 VA
— at 60 Hz	49 VA
apparent holding power of magnet coil at AC	
● at 50 Hz	13.5 VA
● at 60 Hz	13.5 VA
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	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; IP20 with cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with cover

Certificates/ approvals

General Product Approval				Functional Safety/Safety of Machinery	Declaration of Conformity
CSA	CCC	UL	EAC	Type Examination Certificate	EG-Konf.

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

Marine / Shipping		other		
RMRS	DNV·GL	Miscellaneous	Confirmation	Confirmation

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=3TF6844-0CQ7

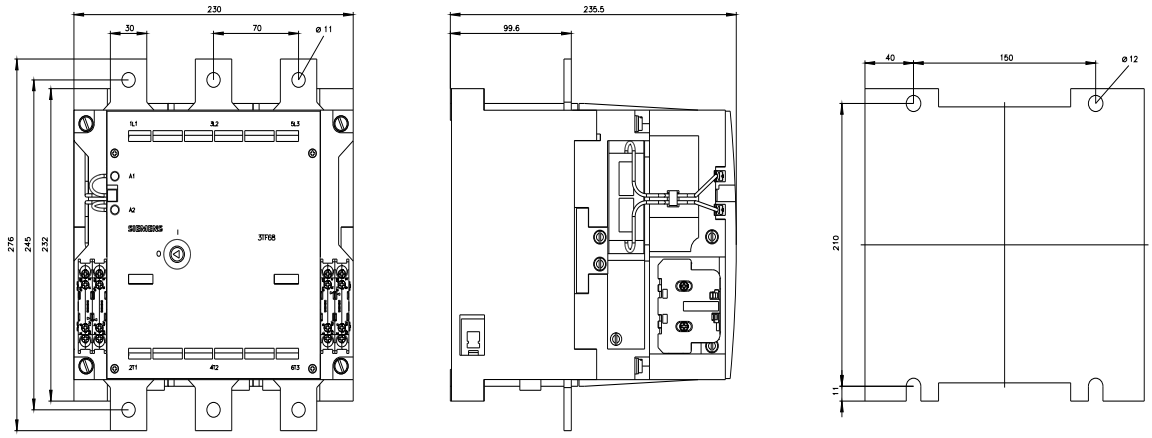
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TF6844-0CQ7

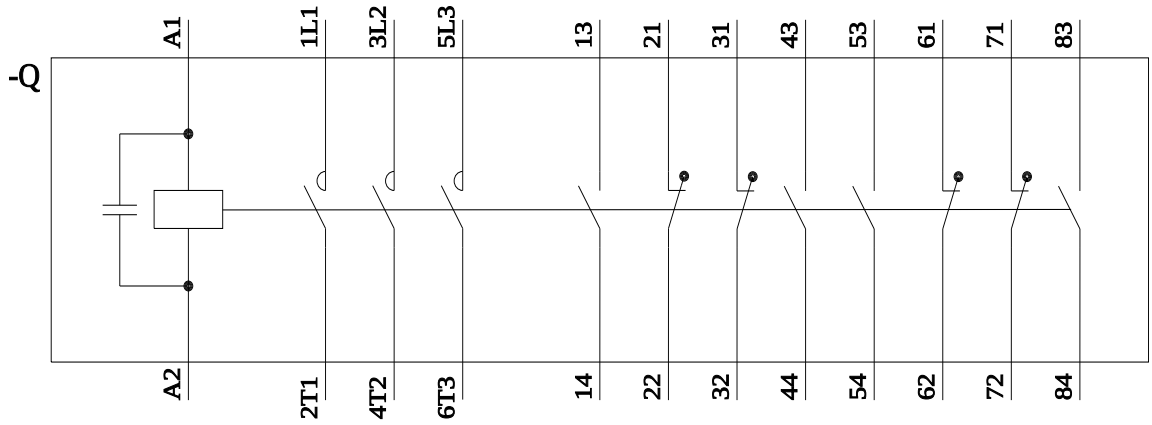
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3TF6844-0CQ7

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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