



vacuum contactor AC-3e 630 A, 335 kW / 400 V, AC-3 820 A, 450 kW / 400 V, U_e 690 V, 3-pole, U_c: 200-240 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 safe isolation 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	9.5g / 5 ms, 5.7g / 10 ms
shock resistance with sine pulse	
• at AC	13.5g / 5 ms, 7.8g / 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

<ul style="list-style-type: none"> ● at AC-3e rated value maximum 	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 	910 A 850 A 820 A 820 A 820 A 630 A 630 A 630 A 690 A 675 A 675 A 450 A 450 A 450 A
connectable conductor cross-section in main circuit at AC-1	
<ul style="list-style-type: none"> ● at 40 °C minimum permissible 	600 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 	360 A 360 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 	260 kW 450 kW 800 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 	445 kVA 771 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 	297 kVA 514 kVA
thermal short-time current limited to 10 s	7 000 A
power loss [W] at AC-3 at 400 V for rated value of the operational current per conductor	70 W
power loss [W] at AC-3e at 400 V for rated value of the operational current per conductor	70 W
no-load switching frequency at AC	1 000 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 ● at AC-2 at AC-3 maximum ● at AC-2 at AC-3e maximum 	700 1/h 500 1/h 500 1/h 200 1/h 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 • at 60 Hz rated value 	200 ... 240 V 200 ... 240 V
operating range factor control supply voltage rated value of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.8 ... 1.1 0.8 ... 1.1
apparent pick-up power of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	600 VA 600 VA
inductive power factor with closing power of the coil	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	1 1
apparent holding power of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	12.9 VA 12.9 VA
inductive power factor with the holding power of the coil	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.31 0.31
closing delay	
<ul style="list-style-type: none"> • at AC 	80 ... 120 ms
opening delay	
<ul style="list-style-type: none"> • at AC 	70 ... 80 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 • instantaneous contact 	4 4
number of NO contacts for auxiliary contacts	
<ul style="list-style-type: none"> • attachable • instantaneous contact 	4 4
operational current at AC-12 maximum	10 A
operational current at AC-15	
<ul style="list-style-type: none"> • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value 	5.6 A 3.6 A 2.5 A 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 • 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 	10 A 10 A 3.2 A 2.5 A 0.9 A 0.22 A
operational 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 	10 A 5 A 1.14 A 0.98 A 0.48 A 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 	820 A 820 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 	290 hp 350 hp 700 hp

— at 575/600 V rated value	860 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: 1250 A (690 V, 100 kA) gG: 630 A (690 V, 50 kA), aM: 630 A (690 V, 50 kA), BS88: 630 A (690 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	295 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	40 mm
thickness of connection bar	6 mm
diameter of holes	13.5 mm
number of holes	1
type of connectable conductor cross-sections for main contacts	
<ul style="list-style-type: none"> • stranded • finely stranded with core end processing 	50 ... 240 mm ² 50 ... 240 mm ²
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

- mirror contact according to IEC 60947-4-1
- positively driven operation according to IEC 60947-5-1

protection class IP on the front according to IEC 60529

touch protection on the front according to IEC 60529

Yes; One NC contact each must be connected in series for the right and left auxiliary switch block respectively
No
IP00; IP20 with cover
finger-safe, for vertical contact from the front with cover

Certificates/ approvals

General Product Approval

Functional Safety/Safety of Machinery

Declaration of Conformity



[Type Examination Certificate](#)



Declaration of Conformity

Test Certificates

Marine / Shipping



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Miscellaneous](#)



Marine / Shipping

other



[Confirmation](#)

[Miscellaneous](#)

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=3TF6944-0CM7>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TF6944-0CM7>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3TF6944-0CM7>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

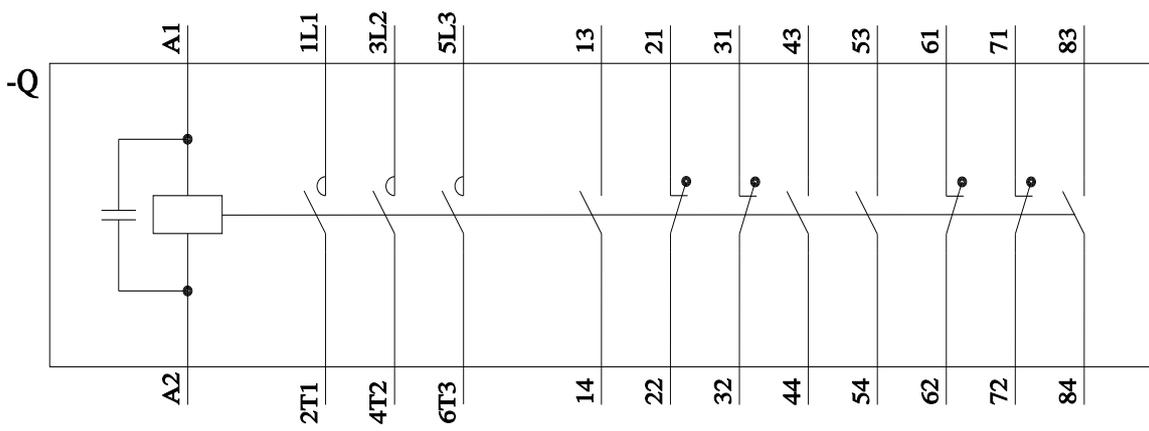
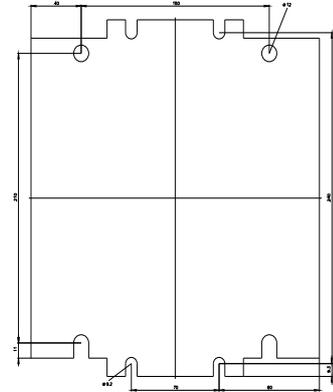
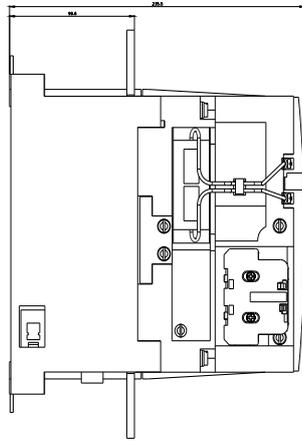
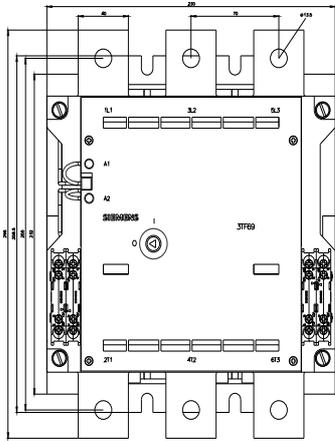
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TF6944-0CM7&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3TF6944-0CM7/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TF6944-0CM7&objecttype=14&gridview=view1>



last modified:

8/2/2022

