

Contactor, Size 14, 3-pole, AC-3, 450 kW, 400/380 V (690 V) Auxiliary switch 33 (3 NO+3 NC) with reversing contactor 3TC4417-4A and series resistor DC economy circuit 24 V DC



product designation
product type designation

Vacuum contactor
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 DC	8.6g / 5 ms, 5.1g / 10 ms
shock resistance with sine pulse	
• at DC	13.5 g / 5 ms, 7.8 g / 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	DC
control supply voltage at DC	

<ul style="list-style-type: none"> • rated value 	24 V
operating range factor control supply voltage rated value of magnet coil at DC	
<ul style="list-style-type: none"> • initial value 	0.8
<ul style="list-style-type: none"> • full-scale value 	1.1
closing power of magnet coil at DC	960 W
holding power of magnet coil at DC	20.6 W
closing delay	
<ul style="list-style-type: none"> • at DC 	86 ... 280 ms
opening delay	
<ul style="list-style-type: none"> • at DC 	19 ... 25 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 	820 A
<ul style="list-style-type: none"> • at 600 V rated value 	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 — at 575/600 V rated value 	290 hp 350 hp 700 hp 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

Subject to change without notice
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EG-Konf.

Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other	Dangerous Good
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[Confirmation](#)

[Miscellaneous](#)

[Transport Information](#)

Further information

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=3TF6933-1DB4>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TF6933-1DB4>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TF6933-1DB4>

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

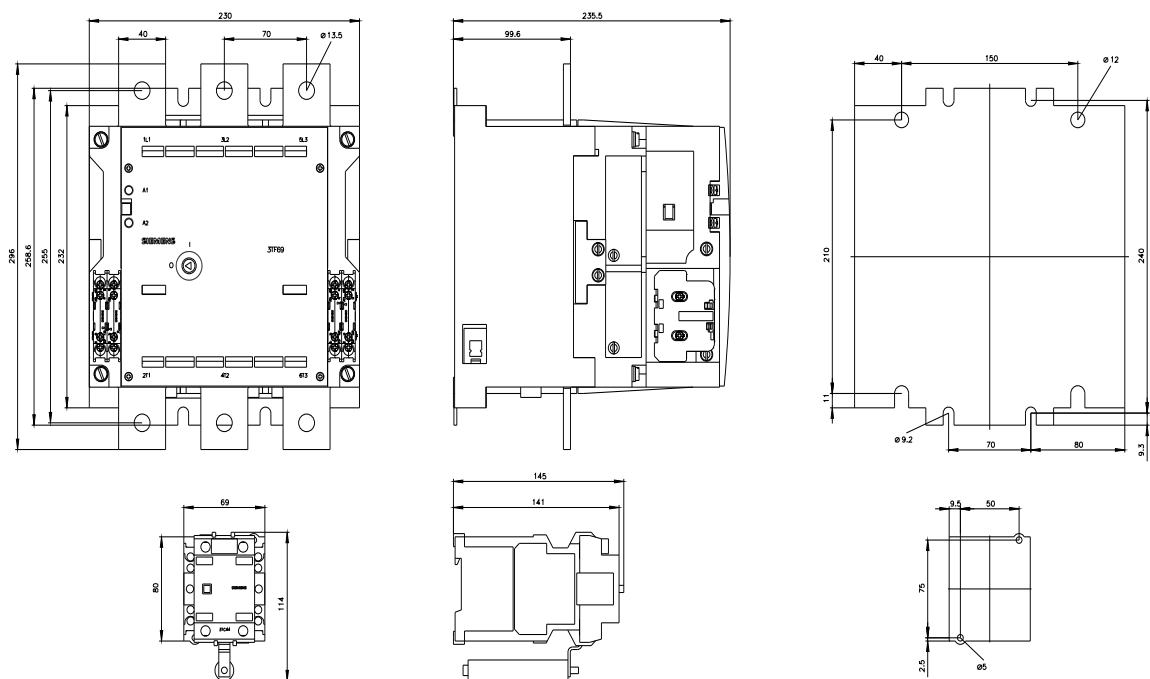
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TF6933-1DB4&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

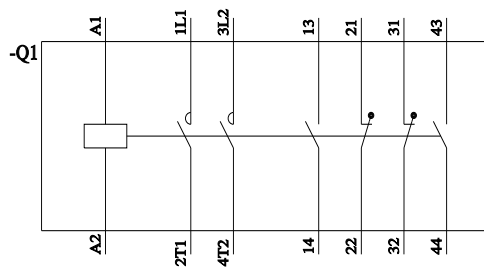
<https://support.industry.siemens.com/cs/ww/en/ps/3TF6933-1DB4/char>

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

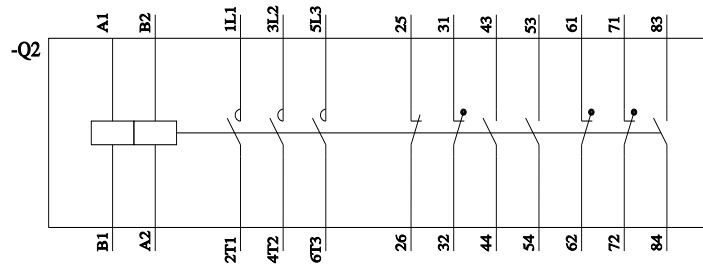
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TF6933-1DB4&objecttype=14&gridview=view1>



3TC4417-0Axx



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



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