SIEMENS

Data sheet

3TF6933-1DB4

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



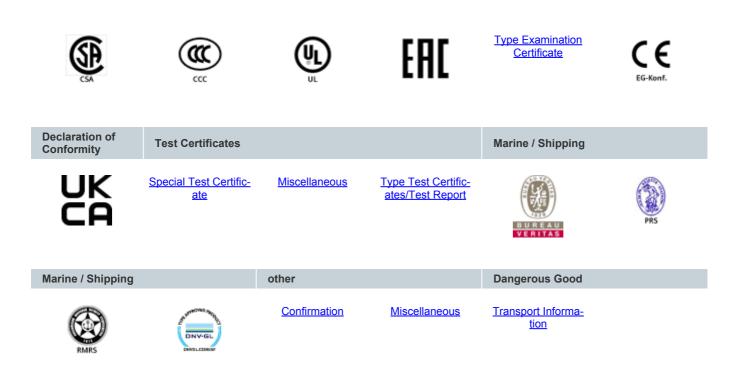
product designation	Vacuum contactor		
product type designation	3TF6		
General technical data			
size of contactor	14		
product extension			
 function module for communication 	No		
 auxiliary switch 	No		
insulation voltage			
 of main circuit with degree of pollution 3 rated value 	1 000 V		
 of auxiliary 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 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		

 at AC-3e rated value maximum 	690 V
operational current	
• at AC-1	
— up to 690 V at ambient temperature 40 °C	910 A
rated value	
— up to 690 V at ambient temperature 55 °C	850 A
rated value	
• at AC-3	
— at 400 V rated value	820 A
— at 500 V rated value	820 A
— at 690 V rated value	820 A
• at AC-3e	
- at 400 V rated value	630 A
— at 500 V rated value	630 A
— at 690 V rated value	630 A
 at AC-4 at 400 V rated value 	690 A
● at AC-6a	
 — up to 500 V for current peak value n=20 rated 	675 A
value	
 up to 690 V for current peak value n=20 rated 	675 A
value	
• at AC-6a	
 up to 400 V for current peak value n=30 rated 	450 A
value	
 up to 500 V for current peak value n=30 rated 	450 A
value	
 up to 690 V for current peak value n=30 rated 	450 A
value	
connectable conductor cross-section in main circuit at AC-1	
	600 mm ²
• at 40 °C minimum permissible	000 11111
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	360 A
at 690 V rated value	360 A
	500 A
operating power	
• at AC-3	
— at 230 V rated value	260 kW
— at 400 V rated value	450 kW
— at 690 V rated value	800 kW
• at AC-3e	
— at 230 V rated value	200 kW
— at 400 V rated value	335 kW
— at 690 V rated value	600 kW
operating apparent power at AC-6a	
• up to 400 V for current peak value n=20 rated value	445 kVA
• up to 690 V for current peak value n=20 rated value	771 kVA
operating apparent power at AC-6a	
• up to 400 V for current peak value n=30 rated value	297 kVA
• up to 690 V for current peak value n=30 rated value	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	70 W
operational current per conductor	
power loss [W] at AC-3e at 400 V for rated value of the	70 W
operational current per conductor	
no-load switching frequency at AC	1 000 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-3 maximum at AC-2 at AC-3e maximum 	
	200 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC	

rated value	24 V		
operating range factor control supply voltage rated			
value of magnet coil at DC	0.0		
initial value	0.8		
• full-scale value	1.1		
closing power of magnet coil at DC	960 W		
holding power of magnet coil at DC	20.6 W		
elosing delay • at DC	00 000		
• at DC opening delay	86 280 ms		
• at DC	10		
	19 25 ms		
arcing time	10 15 ms Standard A1 - A2		
control version of the switch operating mechanism	Stanuaru AT - Az		
Auxiliary circuit			
number of NC contacts for auxiliary contacts			
attachable	3		
• instantaneous contact	3		
number of NO contacts for auxiliary contacts			
attachable	3		
instantaneous contact	3		
operational current at AC-12 maximum	10 A		
operational current at AC-15	5.6.4		
at 230 V rated value	5.6 A 3.6 A		
at 400 V rated value			
 at 500 V rated value at 690 V rated value 	2.5 A 2.3 A		
	2.3 A 0.33 A		
operational current at DC-12 at 440 V rated value operational current at DC-12	0.55 A		
at 24 V rated value	10 A		
at 24 V rated value at 48 V rated value	10 A 10 A		
at 40 V rated value at 110 V rated value	3.2 A		
at 125 V rated value	2.5 A		
at 220 V rated value	2.5 A 0.9 A		
at 600 V rated value	0.22 A		
operational current at DC-13	0.22 A		
at 24 V rated value	10 A		
at 24 V rated value 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		
contact renability of duxinary contacto	V, 5 mA)		
UL/CSA ratings			
full-load current (FLA) for 3-phase AC motor			
at 480 V rated value	820 A		
at 600 V rated value	820 A		
yielded mechanical performance [hp]			
• for 3-phase AC motor			
— at 200/208 V rated value	290 hp		
- at 220/230 V rated value	350 hp		
— at 460/480 V rated value	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			
for short-circuit protection of the main circuit			
- with type of coordination 1 required	gG: 1250 A (690 V, 100 kA)		
— with type of assignment 2 required	gG: 630 A (690 V, 50 kA), aM: 630 A (690 V, 50 kA), BS88: 630 A (690		
man type of doorgnmont 2 required	V, 50 kA)		
 for short-circuit protection of the auxiliary switch 	fuse gG: 10 A		
required			
Installation/ mounting/ dimensions			
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting		

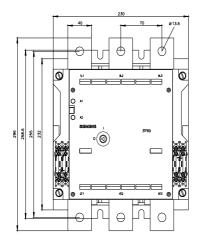
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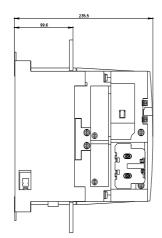
	surface +/- 22.5° tiltable to the	ne front and back	
fastening method	screw fixing		
 side-by-side mounting 	Yes		
height	295 mm		
width	230 mm		
depth	237 mm		
required spacing			
 with side-by-side mounting 			
— forwards	20 mm		
— upwards	10 mm		
— downwards	10 mm		
— at the side	10 mm		
 for grounded 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	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			
 stranded 	50 240 mm²		
 finely stranded with core end processing 	50 240 mm²		
connectable conductor cross-section for main contacts			
 finely stranded with core end processing connectable conductor cross-section for auxiliary contacts 	240 50 mm²		
 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 mm²), 2x (0.75	,	
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 series for the right and left auxiliary switch block respectively		
 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	Declaration of Conformity

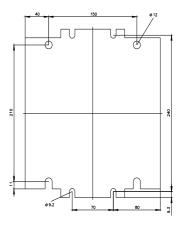


Further information
Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information- and Downloadcenter (Catalogs, Brochures,)
https://www.siemens.com/ic10
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3TF6933-1DB4
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⟨=en
Characteristic: Tripping characteristics, I ² t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3TF6933-1DB4/char
Further characteristics (e.g. electrical endurance, switching frequency)

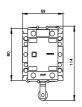
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TF6933-1DB4&objecttype=14&gridview=view1

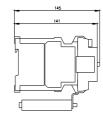




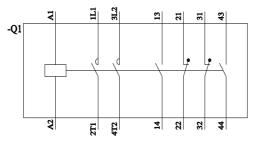




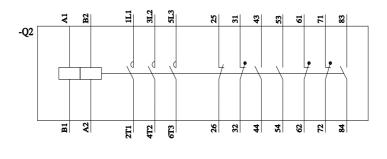




3TC4417-0Axx



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