识别 / Identification

标准	Standard	**SF4-CD/CExxx-500-0/2**	电抗器类型	Type of choke	**All-Pole Sine Filter**
			系列	Model Family	**SF4**

技术数据/ Technical Data

相数	No. of phase		**3**
防护等级	Protection class		**I**
额定电压	Rated voltage	[V]	**500 AC**
额定频率	Rated frequency	[Hz]	**0 – 150**
额定频率	Ripple Frequency	[kHz]	**4 – 16**
电感偏差	L tolerance	[%]	**± 10 (差模 /** differential mode **)**
			± 20 (共模 / common mode **)**
C1, C2 偏差	C1, C2 tolerance	[%]	**± 20**
测试电压	Test voltage	[kV]	**2.0 DC 相-相 /** Line-Line **2 sec**
			2.0 DC 相-地 / Line-case **2 sec**
负载描述	Description of load		**电机对称负载 /** Symmetrical load of motors

运行条件 / Operating conditions

防护等级	Protection index		**IP XX B**	**SF4-CD006-500-2 - SF4-CD046-500-2**
			IP XX A	**SF4-CE065-500-2**
			IP 00	**SF4-CD006-500-0 - SF4-CE165-500-0**
环境温度	Ambient temperature	[°C]	**-10…. +45**	
储存温度	Storage temperature	[°C]	**-25 …. +70**	**(EN 60721-3-1 ; 1K3)**
储存温度	Transport temperature	[°C]	**-40 …. +85**	**(EN 60721-3-2 ; 2K3)**
过载能力	Overload capability		**1.5 倍额定电流每小时 1 分钟 /** 1.5 times rated current for 1 minute per hour	
气候类别	Climatic category		**25/085/21**	**(EN 60068-1)**
湿度	humidity		**3K3**	**(没有冷凝，中间相应湿度 85%)** (Without condensation, medium relative humidity 85%)
可燃等级	Class of flammability		**UL 94V-2 或更好 /** UL 94V-2 or better	
温度等级 VDE	Class ISO °C VDE		**H (180°C)**	
温度等级 UL	Class ISO °C UL		**Class 180**	
冷却类型	Type of cooling		**AN**	
运行条件	Operating conditions		**DB**	
并联	Parallel connection		**是 /** yes	**(90% 单个负载) /** (90% Single load)
过电压种类	Overvoltage category		**3 >2000m = 2**	**(EN 61800-5-1)**
抗震性	Vibration resistance		**Transport 2M2**	**(IEC/EN 60721-3-2)**
污染度	Degree of pollution		**2**	**(EN 61800-5-1)**
MTBF	MTBF	[h]	**> 500.000 @ 45°C / 400V**	

注意 / Notes

技术规范是典型的 由于材料和生产误差它们可能改变	Technical specifications are typical. They can vary due to material and production tolerances.

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Building 4, No. 665, Jiande Road, Zhangpu Town Kunshan Web: www.block-trafo.cn
City, Jiangsu Province Stand/Edition 11.2021

标准 / Standards

类型 / Type:	日期 / Date	符号 / Signs
EN 61558-1 +AC+A1 EN 61558-2-20	2005 + 2006 + 2009 2011	
UL 508 17th edition CCN: NMTR CSA C22.2 No. 14	2013 2013	E 219022 IND. CONT. EQ 1HD1
EAC	2015	
SJ/T 11363-2006 (China-RoHS)	2006	
RoHS 2011/65/EU RoHS 2015/863/EU	2011 2015	

其它数据表 / Other Technical Data

	额定电流 @ 400V	额定电流 @ 500V	线性度达到	电感 L1 差模	电感 L2 共模	电容 C1 星接	电容 C2	功率损耗 50Hz @ 100% 负载
	Rated current @ 400V	Rated current @ 500V	Linear up to	Inductance L1 Differential mode	Inductance L2 Common mode	Capacitor C1 Star connection	Capacitor C2	Power Loss 50Hz @ 100% Load
	[A]	[A]	[A]	[mH]	[mH]	[µF]	[µF]	[W]
SF4-CD006-500-0	**6.0**	**5.5**	**15.0**	**8.00**	**16.0**	**2.2**	**3.3**	**50**
SF4-CD006-500-2	**6.0**	**5.5**	**15.0**	**8.00**	**16.0**	**2.2**	**3.3**	**100**
SF4-CD013-500-0	**13.0**	**12.0**	**20.0**	**3.20**	**7.70**	**4.7**	**6.6**	**110**
SF4-CD013-500-2	**13.0**	**12.0**	**20.0**	**3.20**	**7.70**	**4.7**	**6.6**	**125**
SF4-CD024-500-0	**24.0**	**23.0**	**55.0**	**2.00**	**2.50**	**6.8**	**16.4**	**140**
SF4-CD024-500-2	**24.0**	**23.0**	**55.0**	**2.00**	**2.50**	**6.8**	**16.4**	**210**
SF4-CE046-500-0	**46.0**	**43.5**	**70.0**	**1.00**	**2.00**	**8.2**	**24.6**	**240**
SF4-CE046-500-2	**46.0**	**43.5**	**70.0**	**1.00**	**2.00**	**8.2**	**24.6**	**280**
SF4-CE065-500-0	**65.0**	**62.0**	**150.0**	**0.75**	**1.40**	**13.6**	**32.8**	**300**
SF4-CE065-500-2	**65.0**	**62.0**	**150.0**	**0.75**	**1.40**	**13.6**	**32.8**	**290**
SF4-CE110-500-0	**110.0**	**105.0**	**200.0**	**0.40**	**0.80**	**24.6**	**57.4**	**460**
SF4-CE165-500-0	**165.0**	**160.0**	**250.0**	**0.26**	**0.52**	**32.9**	**73.8**	**530**

运行条件 / Operating conditions

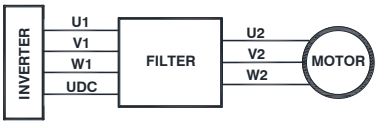
该滤波器是变频器和电机之间的输出滤波器

- 变频器具有直流环节连接器，正、负或中点
- 变频器采用持续的 PWM 波

只有在以下条件下允许运行

- 变频器必须用 U/f, U/f² 或者 VFC 控制
- UDC 必须和直流环节直接相连，直流环节电容和 Uz-连接之间没有直流电抗器

原理 图:



变频器 滤波器 电机

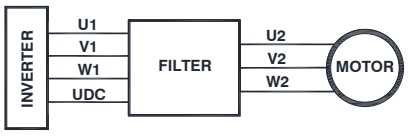
The filter is an output filter between frequency inverter and motor.
The inverter must meet the following requirements:

- inverter has a DC link connector, positive or negative or midpoint
- inverter works with continuous PWM

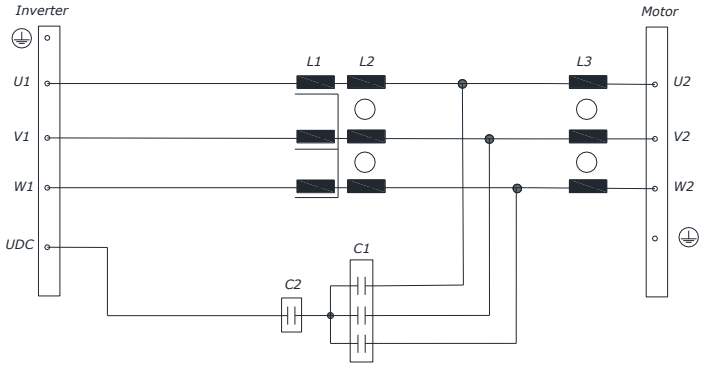
Operation is only allowed with following terms

- inverter must be used with U/f, U/f² or VFC control
- UDC-connection must be connected **directly** to the DC-link. No DC-link choke should be in between the DC-link capacitor and the Uz-connection.

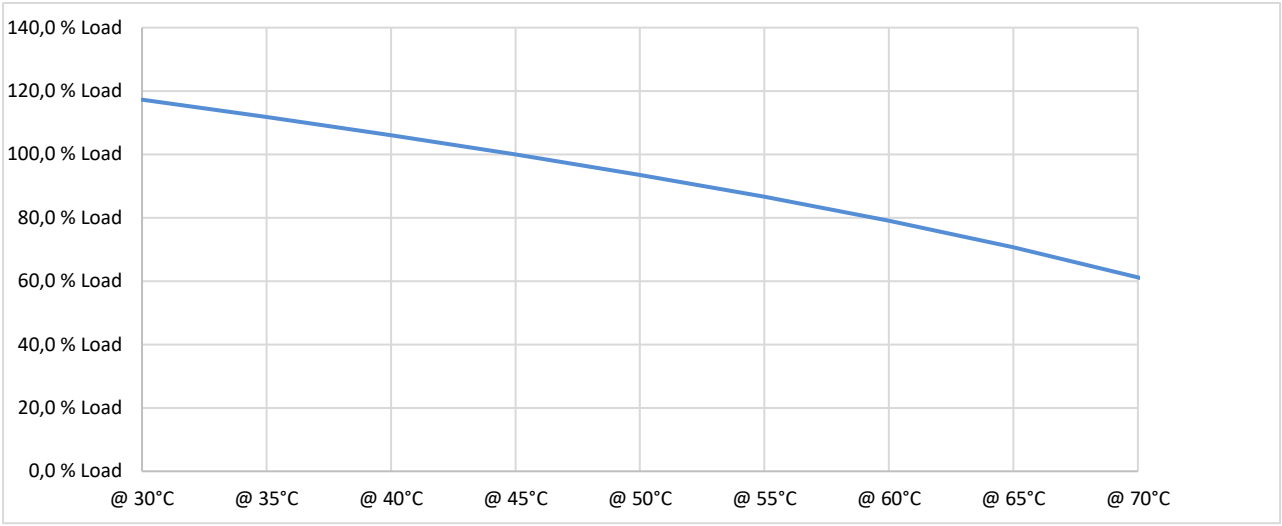
Schematic:



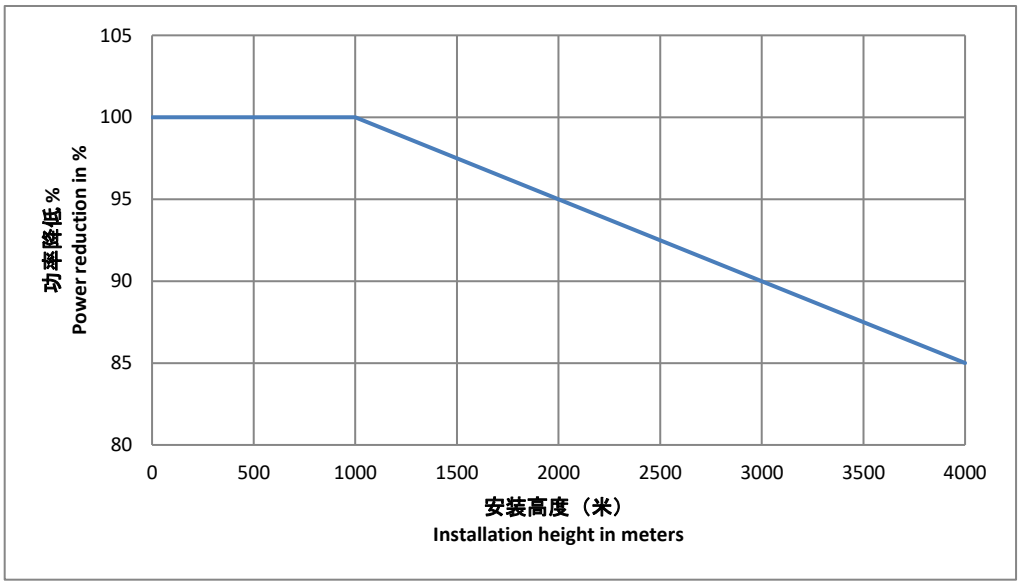
通用电路图 / Typical circuit diagram



降额 / Derating

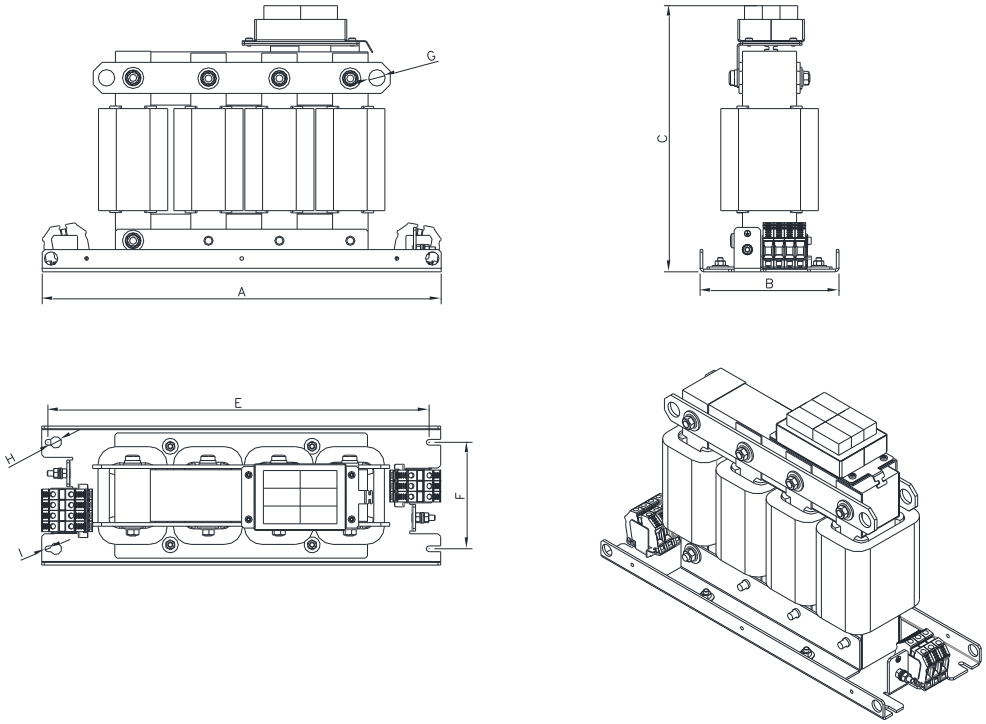


功率降低 / Power reduction

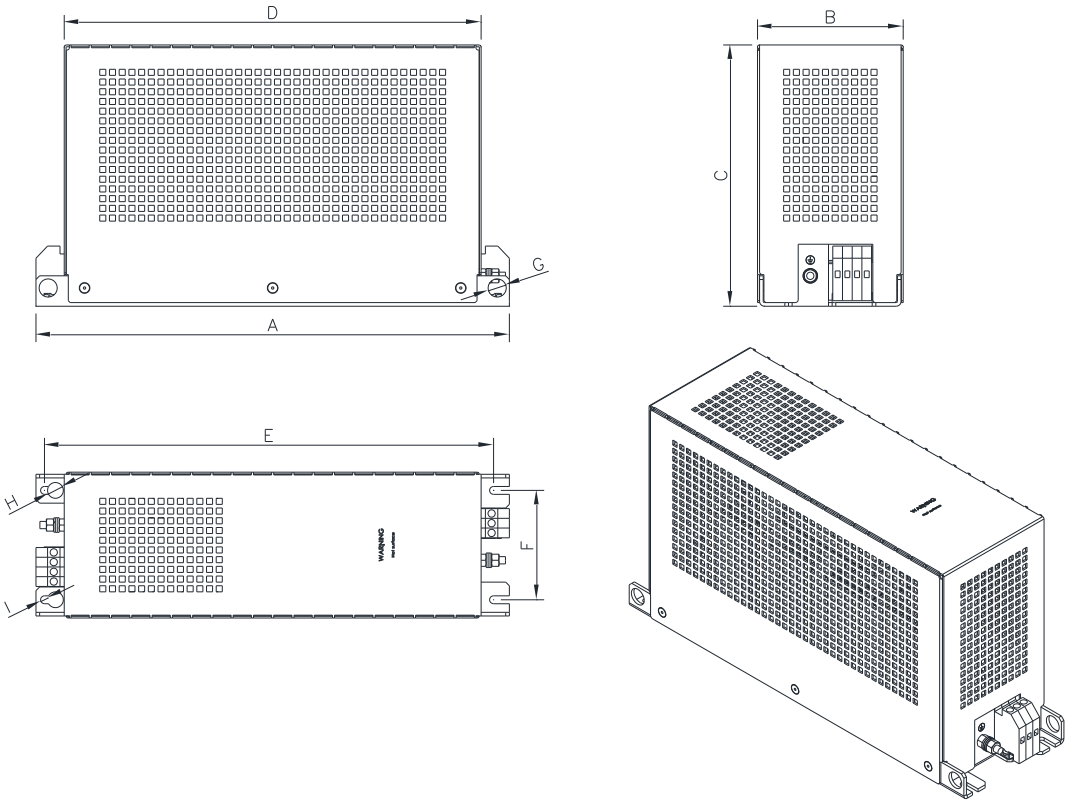


设计图 / Construction drawing

1

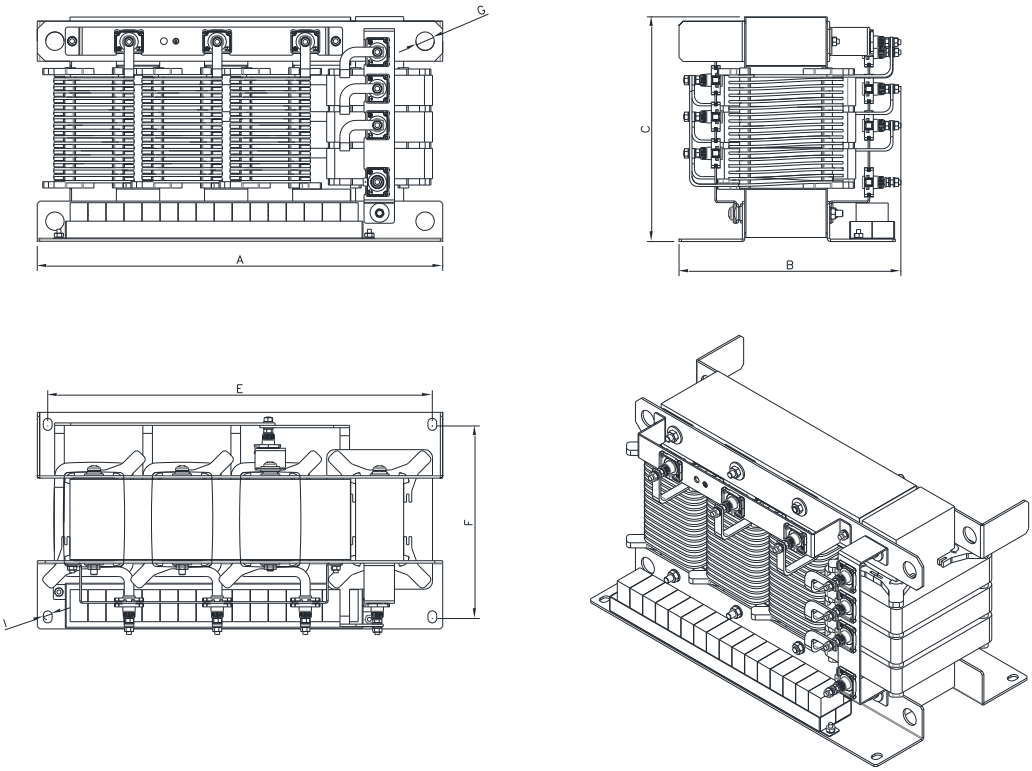


2



设计图 / Construction drawing

3



尺寸/ Dimensions

	设计图 Construction drawing	A	B	C	D	E	F	G	H	I
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Ø]	[Ø]	[Ø]
SF4-CD006-500-0	1	**310**	**101.6**	155	-	290	**75**	**18.5**	**13**	**6.5**
SF4-CD006-500-2	2	**310**	**105**	160	263.5	290	**75**	**15**	**13**	**6.5**
SF4-CD013-500-0	1	**390**	**116.6**	210	-	370	**90**	**18.5**	**13**	**6.5**
SF4-CD013-500-2	2	**390**	**120**	215	343.5	370	**90**	**15**	**13**	**6.5**
SF4-CD024-500-0	1	**450**	**131.6**	255	-	430	**100**	**18.5**	**13**	**6.5**
SF4-CD024-500-2	2	**450**	**135**	270	397.5	430	**100**	**15**	**13**	**6.5**
SF4-CE046-500-0	1	**450**	**156.6**	300	-	430	**120**	**18.5**	**13**	**6.5**
SF4-CE046-500-2	2	**450**	**160**	310	397.5	430	**120**	**15**	**13**	**6.5**
SF4-CE065-500-0	1	**680**	**196**	310	-	655	**150**	**18.5**	**13**	**6.5**
SF4-CE065-500-2	2	**680**	**200**	335	598.5	655	**150**	**15**	**13**	**6.5**
SF4-CE110-500-0	3	**506**	**270**	279.5	-	480	240	23	-	11
SF4-CE165-500-0	3	**600**	**345**	340	-	550	270	23	-	11

备注 / Notes

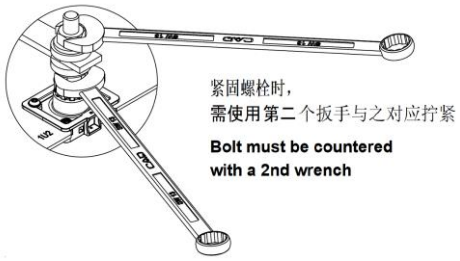
图纸中的技术规范不具有约束力.
通用公差符合 DIN 2768-c.
保留更改权力

Technical specifications in the drawing are not binding.
General tolerance to DIN 2768-c.
Subject to change.

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Stand/Edition 11.2021

额外信息 / Additional Information

	端子 / Terminals			扭矩 / Torque			-	
	螺钉端子	螺栓连接	PE-端子	螺栓端子	螺栓连接	PE-端子	重量	线圈材料
	Screw terminal	Bolt connection	PE Terminal	Screw terminal	Bolt connection	PE Terminal	Weight (Net)	Winding material
	[mm²]	-	-	[Nm]	[Nm]	[Nm]	[kg]	-
SF4-CD006-500-0	**10**	-	**M6**	**1.2 – 2.0**	-	**6.0**	**6.5**	**CU**
SF4-CD006-500-2	**10**	-	**M6**	**1.2 – 2.0**	-	**6.0**	**7.2**	**CU**
SF4-CD013-500-0	**10**	-	**M6**	**1.2 – 2.0**	-	**6.0**	**16.5**	**CU**
SF4-CD013-500-2	**10**	-	**M6**	**1.2 – 2.0**	-	**6.0**	**18.0**	**CU**
SF4-CD024-500-0	**16**	-	**M6**	**2.0 – 4.0**	-	**6.0**	**23.0**	**CU**
SF4-CD024-500-2	**16**	-	**M6**	**2.0 – 4.0**	-	**6.0**	**25.0**	**CU**
SF4-CE046-500-0	**16**	-	**M6**	**2.0 – 4.0**	-	**6.0**	**38.0**	**CU**
SF4-CE046-500-2	**16**	-	**M6**	**2.0 – 4.0**	-	**6.0**	**40.0**	**CU**
SF4-CE065-500-0	**50**	-	**M8**	**3.5 – 6.0**	-	**12.0**	**51.0**	**CU**
SF4-CE065-500-2	**50**	-	**M8**	**3.5 – 6.0**	-	**12.0**	**53.0**	**CU**
SF4-CE110-500-0	-	**M6**	**M8**	-	**4.0**	**12.0**	**81.0**	**CU**
SF4-CE165-500-0	-	**M8**	**M8**	-	**4.5**	**12.0**	**142.0**	**CU**



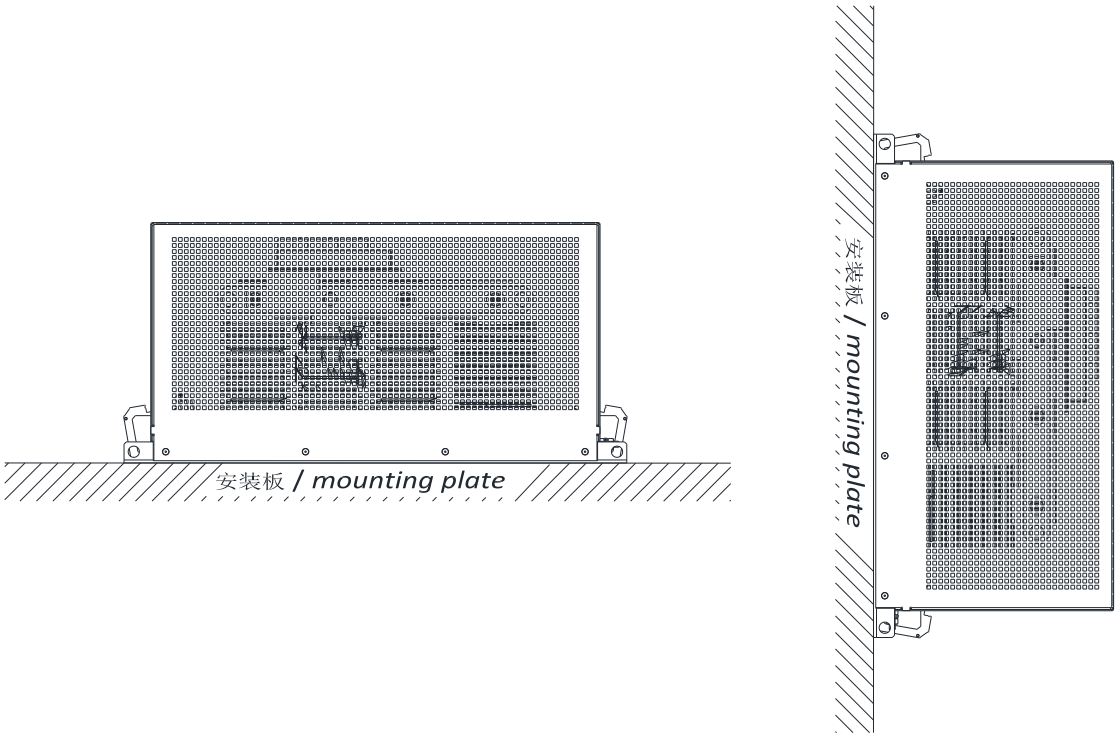
端子额外信息/ Additional Information Terminals

端子	Terminal	[mm²]	10	16	50	**螺钉端子 /** Screw Terminal
输入 输出	Input Output	[mm²]	**0.2 – 10**	**2.5 – 25**	**10 – 70** 10 – 50	**单根线 (固体) / 标准的 (灵活的)** Singe wire (solid) / stranded (flexible)
		[mm²]	**0.2 – 10**	**2.5 – 16**	**10 - 50**	**灵活的 / 带电缆和套管灵活的** Flexible / flexible with cable and sleeves
		AWG	**22 – 8**	**10 – 6**	**8**	
		[mm]	**12**	**15**	**24**	**剥离长度 /** Stripping length
		-	**有槽得/** Slotted	**有槽得/** Slotted	**内六角头/** Hexagon socket	**螺钉头 /** Screw head
		-	**M4**	**M5**	**M6**	**螺纹/** Screw threading

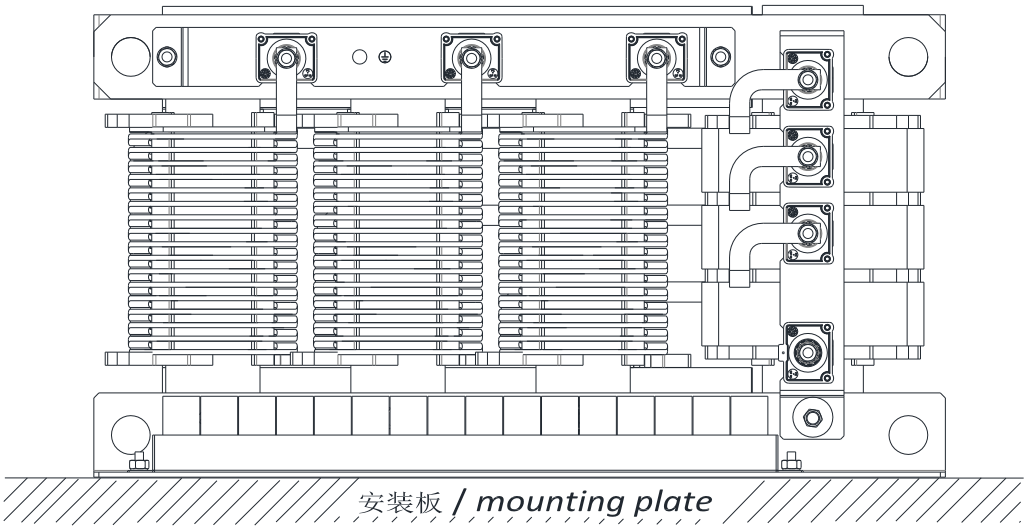
安装指导 / Mounting directions

SF4-CD006-500-0 – SF4-CE065-500-0

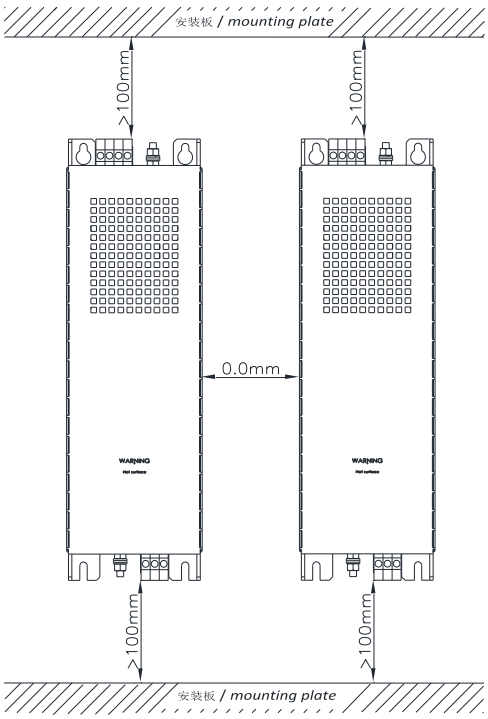
SF4-CD006-500-2 – SF4-CE065-500-2



SF4-CE110-500-0 – SF4-CE165-500-0



可用空间 / Free spaces



备注 / Notes

在操作设备之前，请仔细阅读这些警告和安全注意事项。本设备的安装仅供合格人员使用。当设备出现故障或损坏时，应立即切断电源电压，送生产车间检查。设备不包含任何服务部件。指定的数据仅服务于产品描述，不被理解为法律意义上的授权特征。

正确使用

该设备设计用于安装在接线柜中，并于工业控制系统，机床，风机和电梯等变频器配套使用。请勿在飞机，火车或是核设施控制系统中使用此设备，因为故障可能导致严重的伤害或是死亡。

安装

安装应按当地条件、有关规定、国家事故预防规定和工程技术规程进行。这电气设备是为安装在电气系统或机器上而设计的部件,它满足低电压指令要求（2014/35/EU）。必须保持与相邻部件之间所需的最小距离防止冷却系统受到阻碍!

Please read these warnings and safety notices carefully before operating the device. Installation of the device is reserved for competent and qualified personnel. In the event of malfunctions or damage to the device, switch off the supply voltage immediately and send to the production plant for inspection. The device does not contain any service parts. The specified data serve the product description alone and are not understood as warranted characteristics in the legal sense.

Proper use

This device is designed for installation in a wiring cabinet and for general use with a frequency inverter such as industrial control systems, machine tools, wind turbines and elevators for example. Do not use this device in the control systems of aircraft, trains, or nuclear facilities where malfunction may result in severe injury or death.

Installation

Installation should be performed in accordance with local conditions, relevant provisions, national accident prevention regulations and the accepted rules of engineering. This electrical equipment is a component designed for installation in electrical systems or machines and it satisfies the requirements of the Low Voltage Directive (2014/35/EU). The required minimum distance from the adjacent parts must be maintained in order to prevent the cooling system from being impeded!