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CN 安装说明

EN Instruction Sheet

1. 安全注意事项 (Safety precautions)

本说明书涉及产品为工业产品，并且均为开放型外壳设计。要求用户使用产品时，务必将产品安装于具有防尘、防潮以及免于电击 / 冲击等意外的控制柜内，并且需要设置保护措施以防止非维护人员不当操作或意外导致设备故障或损坏，造成不可避免的人员危险和财产损失。

The products in this manual are industrial products and are all open-type housing designs. It is essential to install these products within a control cabinet that is safeguarded against dust, moisture, and accidents such as electric shocks or physical impacts. Additionally, protective measures must be taken to prevent malfunctions or damage caused by improper operation or accidents involving non-maintenance personnel. Failure to do so may lead to serious risks to personnel safety and potential loss of property.

更详细的信息请参考 HDv-E605 系列变频器用户手册。

Please refer to the HDv-E605 series VFD user manual.

2. 命名规则 (Model identification)

HDv - E605 - 4T 0.7 B - ***

1	产品名称 (Product name)	4	功率等级 (Power class)	5	制动组件 (Braking component)
HDv	禾川变频器 (HCFA VFD)	0.4	400W	空(N/A)	不含制动单元 (Without brake unit)
		0.7	750W	B	含制动单元 (With brake unit)
2	产品系列 (Product series)	1.5	1.5kW	6 软件/固件定制代码 (Customized software/firmware code)	
E605	E605系列 (E605 series)	2.2	2.2kW		
		3.7	3.7kW		
		4.0	4.0kW		
3	产品电压等级 (Product voltage class)	5.5	5.5kW	X	0~9/A~Z/空 (N/A)
2S	单相 (Single-phase) 220V~240V	7.5	7.5kW		
4T	三相 (Three-phase) 380V~480V				

3. 通用电气及环境规格 (General electrical and environmental specifications)

3.1 通用电气规格 (General electrical specifications)

型号 (Model)	电源容量 (Power supply capacity)	输入电流 (Input current)	输出电流 (Output current)	适配电机 (Compatible motor)	变频器冷却风量 (VFD cooling air flow)	建议制动电阻值 (Recommended braking resistor value)	建议制动电阻功率 (Recommended braking resistor power)	最小电阻值 (Minimum resistor value)
	kVA	A	A	kW	cfm	Ω	W	Ω
单相电源 (Single-phase power supply) : 200VAC ~ 240VAC (-15% ~ +10%) 50/60Hz ±5% (47Hz ~ 63Hz)						125%制动转矩 (10%ED, 最大10s) (125% braking torque (10% ED, Max. 10s))		
HDv-E605-2S0.4	2.5	5.9	2.8	0.4	/	300	90	100
HDv-E605-2S0.7	3.5	8.4	4.0	0.7	22	170	160	100
HDv-E605-2S1.5	6.1	14.7	7.0	1.5		80	340	30
HDv-E605-2S2.2* ¹	8.8	21.1	10.0	2.2	26	55	500	30
HDv-E605-2S4.0* ¹	14.0	34.0	16.0	4.0		40	880	20
三相电源 (Three-phase power supply) : 380V AC ~ 480V AC (-15% ~ +10%) 50/60Hz ±5% (47Hz ~ 63Hz)						125%制动转矩 (10%ED, 最大10s) (125% braking torque (10% ED, Max. 10s))		
HDv-E605-4T0.7	2.3	2.8	2.3	0.7	/	800	140	64
HDv-E605-4T1.5	3.8	4.5	3.7	1.5	22	380	300	64
HDv-E605-4T2.2	5.6	6.7	5.5	2.2		260	440	64
HDv-E605-4T3.7* ¹	9.6	11.6	9.5	3.7	32	150	750	64
HDv-E605-4T5.5* ¹	13.2	15.8	13.0	5.5		100	1100	38
HDv-E605-4T7.5* ¹	17.2	20.7	17.0	7.5		75	1500	38
额定输出电压 (Rated output voltage)	0v~输入电压 (0V ~ input voltage)							
额定输出频率 (Rated output frequency)	0.00Hz~599.00HZ							
载波频率 (Carrier frequency)	VF:1.50kHz~16.00kHz SVC:1.50kHz~10.00kHz							
过载能力 (Overload capacity)	110%额定电流: 60Min 150%额定电流: 60s 180%额定电流: 3s (110% rated current: 60Min 150% rated current: 60s 180% rated current: 3s)							

* 注 1: 产品研发中。

注 2: 不允许用户自行拆装风扇，如遇风扇故障，请联系禾川售后处理。

*Note1: The product is under research and development.

Note2: Users are not allowed to disassemble or reassemble the fan by themselves. If the fan malfunctions, please contact HCFA after-sales service for handling.

3.2 环境规格 (Environmental requirements)

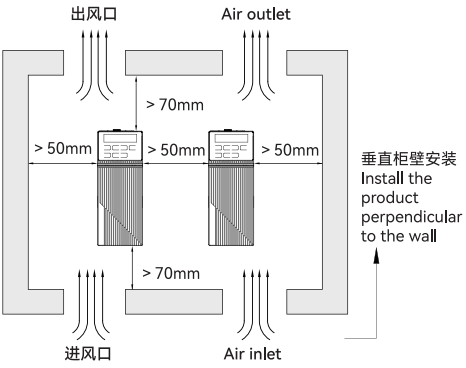
项目	Item	规格	Specifications
海拔高度	Altitude	≤1000m (1000~3000m降额使用, 降额2%/100m)	Altitude ≤ 1000m (For altitudes ranging from 1000 to 3000 meters, a 2% derating is required for every 100 meters.)
使用环境	Operating environment	控制柜内安装, 开放式及室内使用	Installation within a control cabinet, open-type and indoor use
工作温度	Operating temperature	-10~50℃ (40~50℃降额使用, 降额2%/1℃)	-10~50℃ (For temperatures ranging from 40 to 50℃, a 2% derating per degree Celsius is required.)
储存温度	Storage temperature	-40~70℃	-40~70℃
环境湿度	Ambient humidity	20~95%RH (无结露)	20~95%RH (non-condensing)
振动耐受	Vibration resistance	<5.9m/s² (0.6g)	<5.9m/s²(0.6g)
污染等级	Pollution degree	污染度2	Level 2
冷却方式	Cooling method	风冷	Air cooling
防护等级	IP rating	IP20	IP20

* 注: 若设备未依制造商指定方式使用, 设备所提供的保护可能会被减弱。

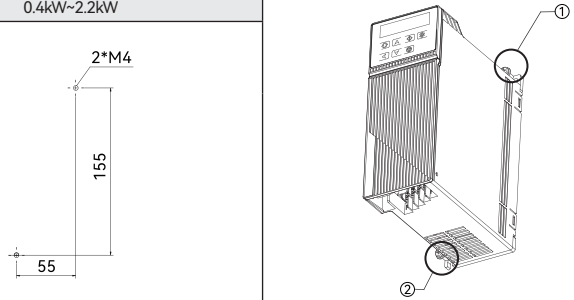
*Note: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

4. 安装说明 (Installation instructions)

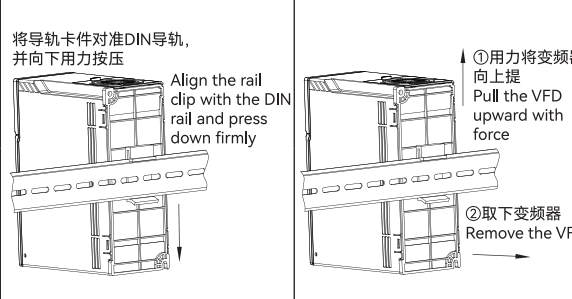
4.1 控制柜安装 (Installation within a control cabinet)

CN	请保证安装方向与墙壁垂直，使用风扇对设备进行冷却，通过螺钉固定安装在控制柜。请参考右侧示意图，在设备周围留有足够的空间。并排安装时，建议横向两侧预留 50mm 以上间距。	 *无线缆状态下建议最小间距 *Recommended minimum clearance in cableless state
EN	Please install the product perpendicular to the wall and ensure a sufficient cooling effect via a cooling fan. Fix and install it in the control cabinet with screws. Please leave enough clearance around the product as shown in the right figure. During a side-by-side installation, please leave a horizontal clearance of more than 50 mm on both sides.	

4.2 整机拆装 1 (螺钉安装) (VFD mounting and dismounting I (screw installation))

CN	在控制柜背板上按右侧孔位图开孔，安装时，使用 M4 内六角组合螺丝紧固设备，预缩螺丝②，后将设备底部基板卡入螺丝②内，用螺丝①紧固上部为壳体，建议扭矩 2.0N.m。拆卸时，请确保设备断电，使用螺丝刀将螺丝②预松，后拆卸螺丝①，同时用手扶住设备壳体，防止掉落，拆卸螺丝①，然后上提设备即可拆卸。	0.4kW~2.2kW	
EN	Drill holes on the control cabinet backplate according to the right-side hole map. During mounting, use M4 hexagon socket combination screws to fasten the equipment: first, pre-tighten screw ②, then snap the bottom base plate of the equipment into screw ②, and use screw ① to fasten the upper housing with a recommended torque of 2.0N·m. During dismounting, ensure the equipment is powered off first, use a screwdriver to slightly loosen screw ②, then remove screw ① while holding the equipment housing to prevent it from falling, and lift up the equipment after removing screw ①.		

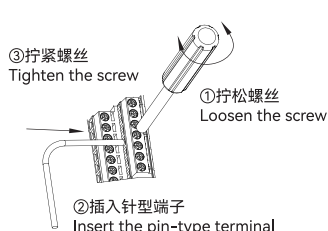
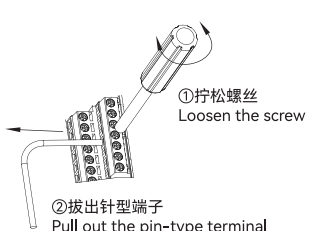
4.3 整机拆装 2 (导轨安装) (VFD mounting and dismounting II (DIN rail mounting and dismounting))

CN	安装时，使用 M3*10 沉头螺丝将导轨卡件 * 紧固在变频器上，然后在机柜背板上安装 DIN 导轨，将导轨卡件对准导轨，向下用力按压即可完成安装。拆卸时，请确保设备断电，然后将变频器用力向上提即可完成拆卸。	M3*10 沉头螺丝 M3*10 countersunk head screw	将导轨卡件对准DIN导轨， 并向下用力按压	
EN	During mounting, use M3 * 10 countersunk screws to fasten the rail clip to the VFD, then install the DIN rail on the control cabinet backplate, align the rail clip with the DIN rail, and press down firmly. During dismounting, ensure the equipment is powered off, then pull the VFD upward with force to remove the VFD.	安装孔间距20mm Distance between mounting holes: 20mm	Align the rail clip with the DIN rail and press down firmly	

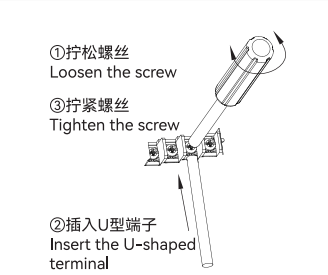
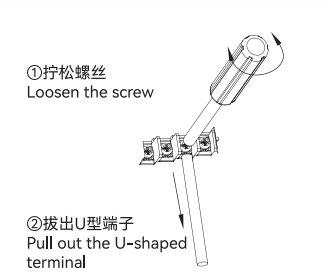
* 注：导轨卡件需选配

Note: The rail clip requires mandatory selection.

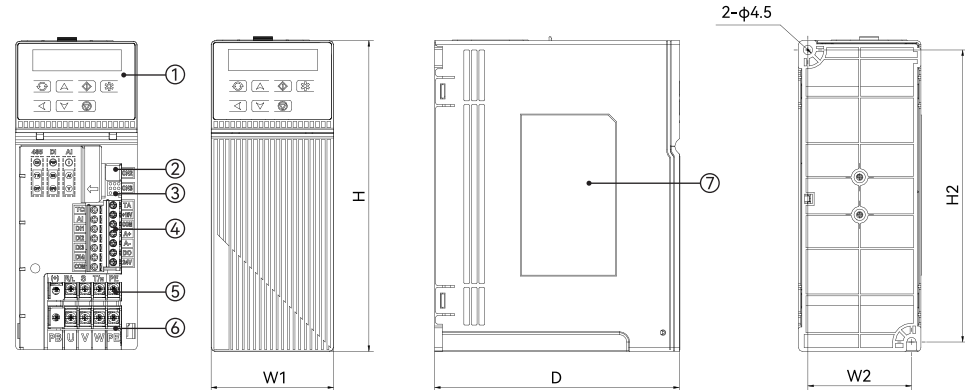
4.4 线缆拆装 1 (Cable connecting and disconnecting I)

CN	安装线缆时，使用十字螺丝刀将端子锁附螺丝松开，将准备好的线缆插入对应的螺丝孔中，使用螺丝刀将锁附螺丝紧固，轻拽线缆，线缆不松动即成功完成配线；反之即可取出线缆。		
EN	During connection, use a Phillips screwdriver to loosen the terminal locking screws, then insert the prepared cable into the corresponding screw hole. Tighten the locking screw with a screwdriver. Pull the cable gently. If it does not loosen, the wiring is complete. The reverse is the procedure for disconnecting the cable.		

4.5 线缆拆装 2 (Cable connecting and disconnecting II)

CN	安装线缆时，使用十字螺丝刀将端子锁附螺丝松开，将准备好的线缆插入对应的螺丝孔中，使用螺丝刀将锁附螺丝紧固，轻拽线缆，线缆不松动即成功完成配线；反之即可取出线缆。		
EN	During connection, use a Phillips screwdriver to loosen the terminal locking screws, then insert the prepared cable into the corresponding screw hole. Tighten the locking screw with a screwdriver. Pull the cable gently. If it does not loosen, the wiring is complete. The reverse is the procedure for disconnecting the cable.		

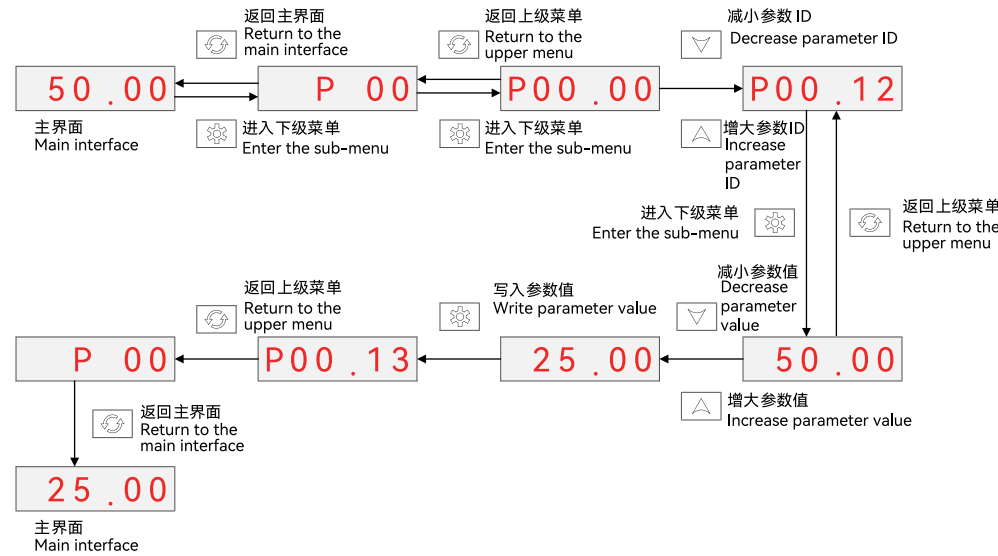
5. 接口和尺寸说明 (Interface and dimension description)



型号 (Model)	外形尺寸 (Dimension) : mm					孔径Φ (Hole diameter Φ):mm	重量 (Weight) : g
	W1	H1	D1	W2	H2		
HDv-E605-2S0.4	65	165	130	55	155	4.5	850 approx.
HDv-E605-2S0.7							
HDv-E605-2S1.5							
HDv-E605-4T0.7							
HDv-E605-4T1.5							
HDv-E605-4T2.2							

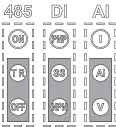
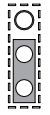
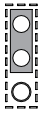
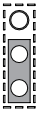
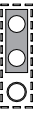
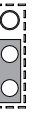
序号(No.)	名称	Name	功能	Function
1	LED操作面板*1	LED operation panel*1	显示用户界面、用于操作控制、状态监测	Displays user interface, supports operation control, and status monitoring
2	CN2: 保留	CN2: Reserved	保留	Reserved
3	CN3: 跳线帽*2	CN3: Jumper cap*2	用于选择AI输入类型、DI输入类型、485终端电阻	For selecting AI input types, DI input types, and 485 terminal resistors
4	功能IO接口	Functional IO interface	数字量I/O、模拟量、继电器、公共端等多种功能接口, 具体说明请参考: 功能I/O接口说明	Supports multiple function interfaces: digital I/O, analog, relay, and common terminal (refer to "Functional I/O interface description")
5	主回路接口	Main circuit interface	电源输入接口, 具体请参考: 主回路接口说明	Power input interface (refer to "Main circuit interface description" for details)
6	电机动力输出接口	Motor power output interface	电机动力输出接口, 具体请参考: 主回路接口说明	Motor power output interface (refer to "Main circuit interface description" for details)
7	标签	Label	显示变频器型号、规格参数、内部序列号等基本信息	Displays basic information, including VFD model, specifications, and internal serial number

* 注 1: LED 操作面板详细使用说明
Note 1: Detailed usage instructions for LED operation panel



按键符号 (Key symbol)	名称	Name	详细说明	Description
	运行按键	Run key	面板控制方式下, 用于控制变频器运行操作	Controls the operation of the VFD in the panel control mode
	多功能按键	Multifunction key	默认初始功能为参数界面退出功能 正反转点动、正反转切换、操作面板与远程切换	Default initial function: Exit parameter interface; Supports forward/reverse jog, forward/reverse rotation switching, and local/remote control switching
	复位/停机按键	Reset/Stop key	故障报警时, 用于复位故障 运行状态下, 停止电机运行	Resets faults when an alarm occurs; Stops the motor during operation
	移位按键	Shift key	在0级菜单切换显示参数, 在2、3级菜单下, 向左循环移动光标	Switches displayed parameters in level 0 menu; Moves cursor left cyclically in level 2/3 menus
	UP按键	Up key	增大参数ID、参数值	Increases parameter ID and parameter value
	Down按键	Down key	减小参数ID、参数值	Decreases parameter ID and parameter value
	参数设置/退出按键	Parameter setting/ Exit key	短按按键, 进入下一级界面 长按按键, 返回上一级界面 在3级菜单界面下, 短按按键, 参数保存	Short press: Enters next-level interface; Long press: Returns to previous-level interface; Short press in level 3 menu: Saves parameters

* 注 2: CN3 跳线帽功能说明
*Note 2: Functional description of CN3 jumper cap

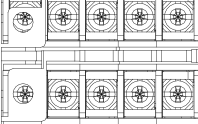
CN3图示 (CN3 illustration)	485		DI		AI	
						
	120Ω终端电阻OFF (120Ω termination resistor: OFF)	120Ω终端电阻ON (120Ω termination resistor: ON)	DI端子: NPN输入 (DI terminal: NPN input)	DI端子: PNP输入 (DI terminal: PNP input)	电压输入: 0~10V (Voltage input: 0~10V)	电流输入: 4~20mA (Current input: 4~20mA)

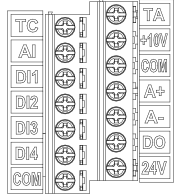
6. 指示灯和面板说明 (Indicator and LED panel description)

丝印 (Screen printing)	指示灯含义 (Indicator meaning)	颜色 (Color)	状态	Status	说明	Description
RUN	运行 (Running)	红色 (Red)		熄灭 Not lit	停止状态	Stopped state
				常亮 Lit	正常运行	Normal operation
ALM	故障 (Fault)	红色 (Red)		熄灭 Not lit	无故障发生	No fault occurs
				常亮 Lit	发生故障	Fault occurs
REV	反转 (Reverse rotation)	红色 (Red)		熄灭 Not lit	无反转指令	No reverse rotation command
				常亮 Lit	停机状态: 停机前有反转指令 运行状态: 反转运行中	Stopped state: Reverse command before shutdown Running state: Reverse rotation in progress
FWD	正转 (Forward rotation)	红色 (Red)		熄灭 Not lit	无正转指令	No forward rotation command
				常亮 Lit	停机状态: 停机前有正转指令 运行状态: 正转运行中	Stopped state: Forward rotation command before shutdown Running state: Forward rotation in progress
A	电流单位 (Current unit)	红色 (Red)		熄灭 Not lit	-	-
				常亮 Lit	当前显示参数单位为电流	Current display parameter unit: Current
V	电压单位 (Voltage unit)	红色 (Red)		熄灭 Not lit	-	-
				常亮 Lit	当前显示参数单位为电压	Current display parameter unit: Voltage
Hz	频率单位 (Frequency unit)	红色 (Red)		熄灭 Not lit	-	-
				常亮 Lit	当前显示参数单位为频率	Current display parameter unit: Frequency
%	百分比单位 (Percentage unit)	红色 (Red)		熄灭 Not lit	-	-
				常亮 Lit	当前显示参数单位为百分比	Current display parameter unit: Percentage



7. 端子及配线说明 (Terminal and wiring description)

主回路接口说明 (Main circuit interface description)									
(+) R/L S T/N PE  PB U V W PE									
引脚 (Pin)	R/L	S	T/N	U	V	W	(+)	PB	PE
说明 (Description)	R、S、T :主回路三相电源接口 (R, S, T: Main circuit three-phase power supply interface)			电机动力输出接口 (Motor power output interface)			制动电阻接口 (仅带“B”机型支持) (Braking resistor interface (supported only by models with "B" suffix))		保护接地 (Protective grounding)
	L、N:主回路单相电源接口 (L, N: Main circuit single-phase power supply interface)								

功能I/O接口说明 (Functional I/O interface description)						
TC	AI	DI1	DI2	DI3	DI4	COM
						
TA	+10V	COM	A+	A-	DO	24V

类型 (Type)	引脚 (Pin)	说明 (Description)	
电源(Power supply)	COM	DC0V内部电源	DC 0V internal power supply
	+10V	DC10V内部电源	DC 10V internal power supply
	24V	DC24V内部电源 (24V端子最大输出100mA)	DC 24V internal power supply (max. output from 24V terminal: 100mA)
模拟量输入(Analog input)	AI	模拟量输入1	Analog input 1
数字量输入(Digital input)	DI1	数字量输入1	Digital input 1
	DI2	数字量输入2	Digital input 2
	DI3	数字量输入3	Digital input 3
	DI4	数字量输入4	Digital input 4
数字量输出(Digital output)	DO	数字量输出	Digital output
继电器输出(Relay output)	TC	继电器常开输出	Relay normally open output
继电器公共端(Relay common terminal)	TA	继电器公共端	Relay common terminal
RS485通讯(RS485 communication)	A+	RS485通讯信号A+	RS485 communication signal A+
	A-	RS485通讯信号A-	RS485 communication signal A-

* 注: COM 端内部短接
*Note : The COM terminals are internally shorted.

