



<https://www.hcfa.cn>

访问官网或扫描二维码下载最新版安装使用说明书

Download the latest installation sheets via the official website or QR code.

浙江禾川科技股份有限公司
浙江省衢州市龙游县工业园区亲善路 5 号

Zhejiang Hechuan Technology Co.,Ltd
No.5, Qinshan Road, Longyou Industrial Zone, Quzhou City, Zhejiang Province



07060201-0812-001

Date 2025-07-25

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，并且均为开放式外壳设计。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 GXE 系列硬件手册。

Please refer to the GXE series hardware manual for more detailed information.

2. 命名规则 (Model identification)

HC GXE - ID 08 - D - XXXX

1 2 3 4 5 6 7

1	产品名称 (Product name)
HC	禾川 (Hechuan Technology)
2	产品系列 (Product series)
GXE	IP67远程扩展 (IP67 remote expansion)
3	功能模块 (Function module)
ID	数字量输入 (Digital input)
OD	数字量输出 (Digital output)

4	通道数量 (Number of channels)
08	8通道 (8 channels)
5	电源类型 (Power supply type)
D	直流电源 (DC power supply)

6	迭代版本 (Iteration version)
空 (N/A)	第1代 (The 1th generation)
7	软件/固件定制代码 (Customized software/firmware Code)
X	0~9/A~Z/空 (N/A)

3. 适用型号 (Applicable model)

名称 (Name)	型号 (Model)	模块简要说明	Brief description
数字量输入模块 Digital input module	HCGXE-ID08-D	8通道数字量输入，支持NPN	8-channel digital input, supports NPN
	HCGXE-ID08-D-PNP	8通道数字量输入，支持PNP	8-channel digital input, supports PNP
数字量输出模块 Digital output module	HCGXE-OD08-D	8通道数字量输出，芯片输出，支持NPN	8-channel digital output, chip output, supports NPN
	HCGXE-OD08-D-PNP	8通道数字量输出，芯片输出，支持PNP	8-channel digital output, chip output, supports PNP

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

4.1 通用电气规格 (General electrical specifications)

型号 (Model) ^{*1}	额定电压 / 功率 (Rated voltage/power) ^{*2}	数字量输入 / 输出类型	Digital input/output type
HCGXE-ID08-D	24V/3W	数字量输入：DC24V, 4.1mA/Ch	Digital input: DC24V, 4.1mA/Ch
HCGXE-ID08-D-PNP			
HCGXE-OD08-D		数字量输出：DC24V(DC20.4~28.8V) 500mA/Ch, 4A/8Ch ^{*3} 负载类型：电感/电灯负载	Digital output: DC24V(DC20.4~28.8V) 500mA/Ch, 4A/8Ch ^{*3} Load type: Pilot duty/Tungsten
HCGXE-OD08-D-PNP	24V/3.5W		

*注：1. 所有型号仅能在由有限功率电源 (LPS) 提供的安全特低电压 (SELV) 下运行。

2. 此处标识的额定功率为满负载运行时的最大功率。

3. 考虑温升影响，降额使用。

*Note: 1. All models can only operate under the safety extra low voltage (SELV) provided by a limited power source (LPS).

2. The power rating indicated here is the maximum power under full-load operation.

3. Consider the effect of temperature rise and derate during using.

4.2 环境规格 (Environmental requirements)

项目	Item	规格	Specifications
海拔高度	Altitude	≤2000m	≤2000m
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	-25~60℃	-25~60℃
储存温度	Storage temperature	-40~85℃	-40~85℃
环境湿度	Ambient humidity	10~95%RH (无结露)	10~95%RH (non-condensing)
振动耐受	Vibration resistance	5~150Hz (X/Y/Z方向, 1g/3.5mm位移)	5~150Hz (X/Y/Z direction, 1g /3.5mm displacement)
污染等级	Pollution degree	污染度2	Level 2
冷却方式	Cooling method	自然冷却	Natural air cooling
防护等级	IP rating	IP67	IP67
外壳材质	Enclosure material	阻燃材料	Self-extinguishable

*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。

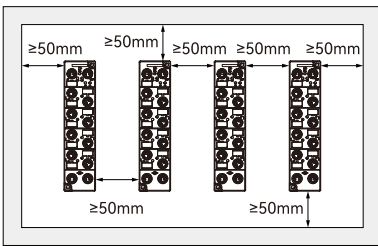
*Note: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

5. 安装说明 (Installation instructions)

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

CN 设备冷却方式为自然冷却，请保证安装方向与相壁垂直；请参考右侧示意图，在设备的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。

EN Please install the product perpendicular to the wall and ensure a sufficient cooling effect via natural air. 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.



垂直柜壁安装
Install the product
perpendicular to the wall

*注：无线缆状态下建议最小间距。

*Note: Recommended minimum clearance in cableless state.

5.2 模块拆装 (Module mounting and dismounting)

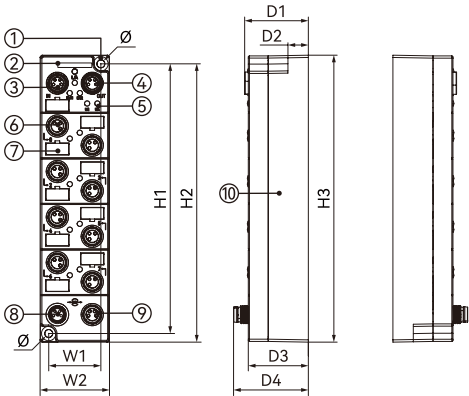
CN	按孔位图在机柜背板上开孔，安装时，使用 M3 内六角组合螺丝紧固设备，建议扭矩 0.5N.m。拆卸时，请确保设备断电，在拆卸螺丝时用手扶住设备壳体，防止掉落。	单位 (Unit): mm		
EN	Drill holes on the cabinet backplane according to the punchdown dimensions. During mounting, secure the device with M3 hex socket combination screws. The recommended torque is 0.5N·m. During dismounting, ensure the device is powered off, and support the housing firmly with hands while removing the screw to prevent dropping.			

5.3 航空接头拆装 (Aircraft connector connection and disconnection)

CN	安装线缆时，对准孔和针后插入 M8 插头，顺时针方向拧紧即可完成配线；反之逆时针方向拧松后，即可拔出 M8 插头。		
EN	During connection, align the holes and pins, insert the M8 plug, and tighten clockwise to complete the wiring. During disconnection, loosen the M8 plug counterclockwise and then pull it out.	对准孔和针插入后顺时针方向拧紧 Align the holes and pins, insert the M8 plug, and tighten clockwise	逆时针方向拧松后拔出 Loosen the M8 plug counter-clockwise and then pull it out

警告：只能使用 75°C 铜导线。
Warning: Use only a copper conductor that is 75° C.
Attention: Utilisez uniquement un conducteur en cuivre à 75° C.

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



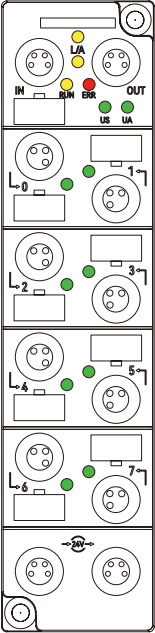
序号(No.)	名称	Name	功能	Function
1	接地金属片	Grounding metal plate	功能性接地 (FE)	Functional grounding (FE)
2	产品型号	Product model	模块型号	Module model numbers
3	通讯输入接口	Input communication interface	EtherCAT 通讯输入	EtherCAT communication input
4	通讯输出接口	Output communication interface	EtherCAT 通讯输出	EtherCAT communication output
5	模块状态指示灯	Module status indicator	显示模块与通道状态	Displays module and channel status
6	IO 端子	IO terminal	输入/输出信号接口	Input/output signal interface
7	标签板	Label board	用于添加标识	Used to add identification
8	电源输入接口	Power input interface	DC24V 电源输入	DC24V power input
9	电源输出接口	Power output interface	支持 DC24V/4A 电源输出	Supports DC24V/4A power output
10	侧边丝印	Side silk screen printing	模块配线图	Module wiring diagram

型号 (Model)	外形尺寸 (Dimension) : mm										重量 (Weight) : g
	W1	W2	H1	H2	H3	D1	D2	D3	D4	Ø	
HCGXE-ID08-D	23.0	30.6	119.0	122.8	126.6	28.1	9.0	26.5	33.0	3.5	164 approx.
HCGXE-ID08-D-PNP											
HCGXE-OD08-D											
HCGXE-OD08-D-PNP											

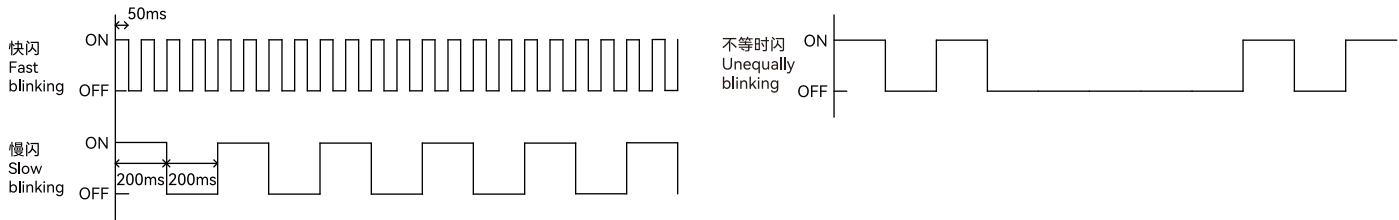
7. 指示灯说明 (Indicator description)

丝印 (Screen printing)	指示灯含义 (Indicator meaning)	颜色 (Color)	状态	Status	说明	Description
RUN	运行 (Run)	黄色 (Yellow)		熄灭	Not lit	Init (初始化状态)
				慢闪	Slow blinking	Preop (预操作状态)
				不等时闪	unequally blinking	Safeop (安全操作状态)
				快闪	Fast blinking	OP (可操作状态)
				常亮	Lit	Boot (引导程序状态)
ERR	错误 (Error)	红色 (Red)		熄灭	Not lit	无故障
				常亮	Lit	过流 / 短路 / 过温报警

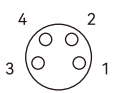
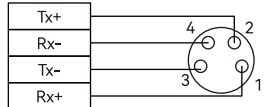
US	系统电源 (System power supply)	绿色 (Green)		熄灭	Not lit	模块未上电	Power off
			常亮	Lit	电源正常	Power on	
		红色 (Red)		常亮	Lit	电源大于 DC24V 或小于 DC18V	Power supply voltage greater than DC24V or less than DC18V
UA	辅助输出电源 (Auxiliary output power supply)	绿色 (Green)		熄灭	Not lit	模块未上电	Power off
			常亮	Lit	电源正常	Power on	
		红色 (Red)		常亮	Lit	电源大于 DC24V 或小于 DC18V	Power supply voltage greater than DC24V or less than DC18V
IN L/A	EtherCAT 通讯输入 (EtherCAT communication input)	黄色 (Yellow)		熄灭	Not lit	未建立物理连接 / 无数据传输	No physical connection / without communication data
			闪烁	Blinking	数据正在传输	Data is being sent	
			常亮	Lit	已建立物理连接	Physical connection	
OUT L/A	EtherCAT 通讯输出 (EtherCAT communication output)	黄色 (Yellow)		熄灭	Not lit	未建立物理连接 / 无数据传输	No physical connection / without communication data
			闪烁	Blinking	数据正在传输	Data is being sent	
			常亮	Lit	已建立物理连接	Physical connection	
HCGXE-ID08-D/ HCGXE-ID08-D-PNP							
0~7	输入 (Input)	绿色 (Green)		熄灭	Not lit	输入通道 N 未检测到输入信号	The input channel N has not detected input signals
			常亮	Lit	输入通道 N 检测到输入信号	The input channel N has detected input signals	
HCGXE-OD08-D/ HCGXE-OD08-D-PNP							
0~7	输出 (Output)	绿色 (Green)		熄灭	Not lit	输出通道 N 无信号输出	There is no output signal in this channel
			常亮	Lit	输出通道 N 有信号输出	There are output signals in this channel	

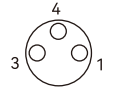
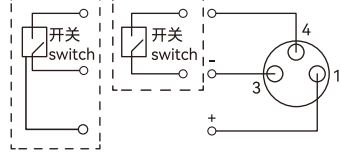
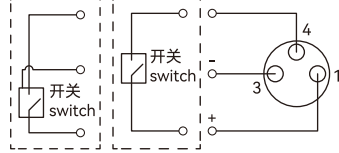


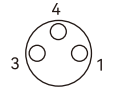
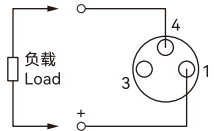
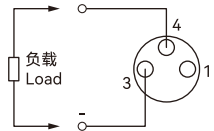
* 指示灯闪烁频率如下图所示:
*The indicator blinking frequency is shown below.

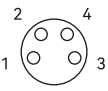
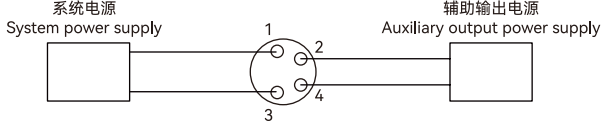


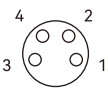
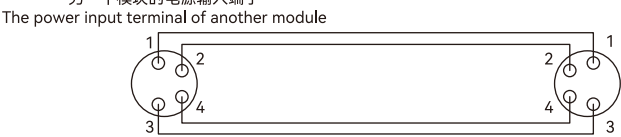
8. 端子及配线说明 (Terminal and wiring description)

通讯输入/输出端子说明 (Communication input/output terminal description)				
	引脚 (Pin)	说明	Description	接线 (Wiring)
	1	发送数据正信号	Transmit data positive signal	EtherCAT通讯设备 EtherCAT communication device 
	2	接收数据正信号	Receive data positive signal	
	3	发送数据负信号	Transmit data negative signal	
	4	接收数据负信号	Receive data negative signal	

输入端子说明 (Input terminal description)				
	引脚 (Pin)	说明	Description	接线 (Wiring)
	1	系统电源DC24V	System power supply DC24V	漏型输入 (NPN input) 三线制 Three-wire 两线制 Two-wire  源型输入 (PNP input) 三线制 Three-wire 两线制 Two-wire 
	3	系统电源GND	System power supply GND	
	4	输入信号	Input signal	

输出端子说明 (Output terminal description)				
	引脚 (Pin)	说明	Description	接线 (Wiring)
	1	辅助输出电源DC24V	Auxiliary output power supply DC24V	漏型输出 (NPN output)  源型输出 (PNP output) 
	3	辅助输出电源GND	Auxiliary output power supply GND	
	4	输出信号	Output signal	

电源输入端子说明 (Power input terminal description) *				
	引脚 (Pin)	说明	Description	接线 (Wiring)
	1	系统电源DC24V	System power supply DC24V	
	2	辅助输出电源DC24V	Auxiliary output power supply DC24V	
	3	系统电源GND	System power supply GND	
	4	辅助输出电源	Auxiliary output power supply	

电源输出端子说明 (Power output terminal description)*				
	引脚 (Pin)	说明	Description	接线 (Wiring)
	1	系统电源DC24V	System power supply DC24V	
	2	辅助输出电源DC24V	Auxiliary output power supply DC24V	
	3	系统电源GND	System power supply GND	
	4	辅助输出电源	Auxiliary output power supply	

* 注：建议系统电源与辅助输出电源独立供电，系统总电流及各模块总电流（含执行器电源菊花链时）均不得超过 4A。
 *Note: It is advised that the system power supply and auxiliary output power supply be powered independently. Additionally, both the total system current and the total current of each module (including when the actuator power supply is connected in a daisy chain) shall not exceed 4A.