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浙江禾川科技股份有限公司 | Zhejiang Hechuan Technology Co.,Ltd
浙江省衢州市龙游县工业园区亲善路 5 号 | No.5, Qinshan Road, Longyou Industrial Zone, Quzhou City, Zhejiang Province



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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 M 系列硬件手册。
Please refer to the M series hardware manual for more detailed information.

2. 命名规则 (Model identification)

HC MXB - ID04 - □ - BD - XXXX
1 2 3 4 5 6

1	产品名称 (Product name)	4	固定后缀 (Fixed suffix)	5	固定后缀 (Fixed suffix)
HC	禾川 (Hechuan Technology)	空(N/A)	M300/M500/M500S系列选配卡 (M300/M500/M500S series optional card)	BD	BD选配卡 (Optional BD card)
2	选配卡系列 (Expansion card series)	200	M200系列选配卡 (M200 series optional card)	6	软件/固件定制代码和其他标识 (Software/Firmware customized code and other identifiers)
MXB	M系列选配扩展 (M-Series optional expansion)	100	M100系列选配卡 (M100 series optional card)	XXXX	0~9/A~Z/空 (N/A)
3	系列型号 (Series model)	500	M500系列选配卡 (M500 series optional card)	PNP	源型 (Source type)
ID04	4点普通输入 (4-channel standard input)				
OD04	4点普通输出 (4-channel standard output)				

3. 适用型号 (Applicable model)

名称 (Name)	型号 (Model)	适配的主机型号 (Applicable controller model)*	模块简要说明	Brief description
数字量输入扩展卡 Digital input expansion card	HCMXB-ID04-BD	HCM312-32MT6-D HCM511S-32MT4-D	4点数字量输入，支持NPN和PNP	4-channel digital input, supports NPN and PNP
数字量输出扩展卡 Digital output expansion card	HCMXB-OD04-BD	HCM511-32MT4-D HCM512-32MT4-D	4点数字量输出，芯片输出，支持NPN	4-channel digital output, chip output, supports NPN
	HCMXB-OD04-BD-PNP	HCM513-32MT4-D HCM514-32MT4-D	4点数字量输出，芯片输出，支持PNP	4-channel digital output, chip output, supports PNP

* 注：数字量扩展卡可安装在主机扩展卡槽 1 或 2，最多可安装两个（支持单卡槽或双卡槽安装）。
*Note: The digital expansion card can be installed in the host expansion slot 1 or 2, with a maximum of two installable (supporting single-slot or dual-slot installation).

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 *2	Rated voltage/power*2	数字量输入 / 输出类型	Digital input/output type
HCMXB-ID04-BD	DC3.3V/0.1W	DC3.3V/0.1W	数字量输入：DC24V, 5mA/Ch	Digital input: DC24V, 5mA/Ch
HCMXB-OD04-BD			数字量输出：DC24V, 500mA/Ch, 2A/4Ch*3 负载类型：电阻/电感/电灯负载	Digital output: DC24V, 500mA/Ch, 2A/4Ch*3 Load type: Resistive/Inductive/Lamp loads
HCMXB-OD04-BD-PNP			数字量输出：DC24V, 500mA/Ch, 2A/4Ch*3 负载类型：电阻/电感/电灯负载	Digital output: DC24V, 500mA/Ch, 2A/4Ch*3 Load type: Resistive/Inductive/Lamp loads

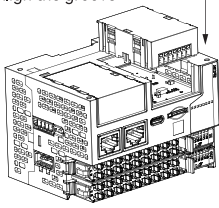
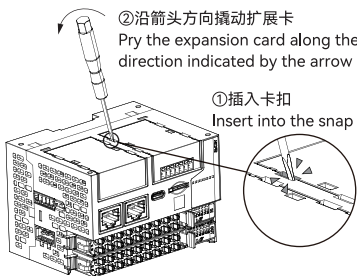
* 注：1. 所有型号仅能在由有限功率电源 (LPS) 提供的安全特低电压 (SELV) 下运行。
2. 此处标识的额定功率为满负载运行时的最大功率。
3. 考虑温升影响，降额使用。
*Note: 1. All models can only operate under the safety extra low voltage (SELV) provided by a limited power source (LPS).
2. The power rating indicated here is the maximum power under full-load operation.
3. Consider 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	0~55℃	0~55℃
储存温度	Storage temperature	-25~70℃	-25~70℃
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 axes, 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	IP20	IP20
外壳材质	Enclosure material	阻燃材料	Self-extinguishable

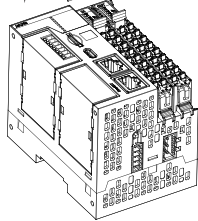
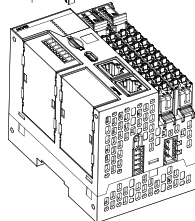
* 注：若设备未依制造商指定方式使用，设备所提供的保护可能会被减弱。
*Note: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

5. 安装说明 (Installation instructions)

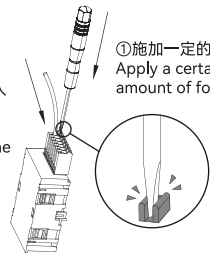
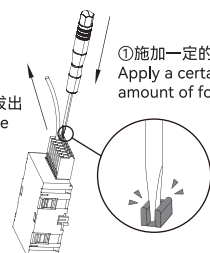
5.1 扩展卡拆装 (Expansion card mounting and dismounting)

	将扩展卡沿卡槽放入水平放置控制器卡槽中，并向下载压扩展卡，听到“咔哒”声后确认表面平齐即完成安装；将一字螺丝刀插入卡扣处，按箭头方向撬动扩展卡使其控制器脱离，将扩展卡垂直取出即可完成拆卸。	①对准卡槽 Align the groove ②向下按压 Press downwards 	②沿箭头方向撬动扩展卡 Pry the expansion card along the direction indicated by the arrow ①插入卡扣 Insert into the snap 
CN	During mounting, place the controller horizontally, then align the groove of the expansion card with that of the controller and press the expansion card downwards. After hearing the "click" sound, check whether the junction surface is flush, if it is then the installation is completed. During dismounting, insert a screwdriver into the card snap, pry the expansion card along the direction indicated by the arrow to disengage it from the controller, and then remove the expansion card vertically to complete the dismounting process.		
EN			

5.2 可拆卸端子拆装 (Removable terminal block mounting and dismounting)

CN	可拆卸端子拆装如右图所示。	沿箭头方向插入端子 Insert the terminal block along the direction indicated by the arrow 	沿箭头方向拔出端子 Detach the terminal block along the direction indicated by the arrow 
EN	The mounting and dismounting of the removable terminal block are shown in the figures on the right side.		

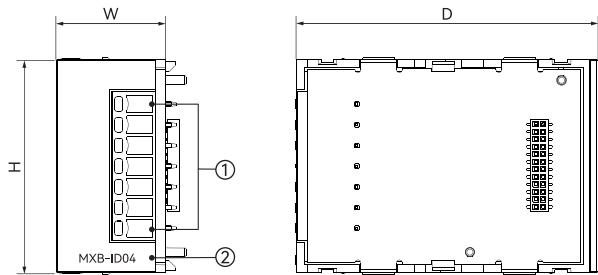
5.3 线缆拆装 (Cable connecting and disconnecting)

CN	安装线缆时，将一字螺丝刀垂直插入可拆卸端子压块内，施加一定的力，此时圆孔打开，将准备好的线缆插入到圆孔中，拔出一字螺丝刀，轻拽线缆，线缆不松动即成功完成配线；反之即可取出线缆。端子规格及配线示意图如右图所示。	①施加一定的力 Apply a certain amount of force ②将线缆插入到圆孔中 Insert the cable into the circular hole 		①施加一定的力 Apply a certain amount of force ②将线缆拔出 Unplug the cable 	
EN	During connecting, insert the flat-blade screwdriver into the unlocking tab of the terminal with a certain amount of force. Then insert a cable into the circular hole. Gently tug the cable after pulling out the screwdriver. If the cable is secured firmly, then the connection is finished. The reverse is the procedure for unplugging the cable. The terminal specifications and wiring diagram are shown in the right figure.				

扩展卡端子 (Terminal)	线径范围: AWG (Wire width)	剥线长度: mm (Wire stripping length)	按压力: N (Pressure)	剥线长度 Wire stripping length
7 Pin 接线端子 (7 Pin terminal block)	28~16	8~9	25	线径范围 Wire width

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)



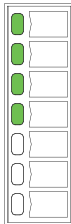
序号 (No.)	名称	Name	功能	Function
1	IO端子	IO terminal	输入/输出信号接口	Input/Output signal interface
2	产品型号	Product model	显示扩展卡型号	Display expansion card model

型号 (Model)	外形尺寸 (Dimension) : mm			重量 (Weight) : g
	W	H	D	
HCMXB-ID04-BD	18.6	36.1	51.1	19 approx.
HCMXB-OD04-BD				
HCMXB-OD04-BD-PNP				

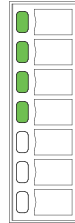
7. 指示灯说明 (Indicator description)

丝印 (Screen printing)	指示灯含义 (Indicator meaning)	颜色 (Color)	状态	Status	说明	Description
HCMXB-ID04-BD						
N (0~3)	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
HCMXOD04-BD/HCMXB-OD04-BD-PNP						
N (0~3)	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 for this channel
			 常亮	Lit	输出通道 N 有信号输出	There are output signals for this channel

0
1
2
3
■
SS
SS



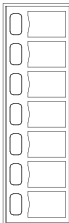
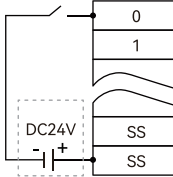
0
1
2
3
■
24V
COM

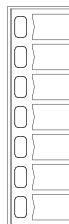
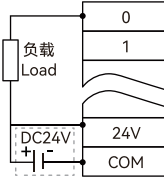
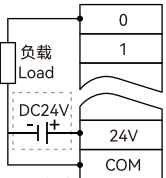


8. 端子及配线说明 (Terminal and wiring description)

型号 (Model)		HCMXB-ID04-BD	HCMXB-OD04-BD	HCMXB-OD04-BD-PNP
输入 (Input)	NPN	○	-	-
	PNP	○	-	-
输出 (Output)	NPN	-	○	-
	PNP	-	-	○

* 注：○：代表支持该类型；-：代表不支持该类型。
*Note: The symbol "○" indicates that the type is supported. The symbol "-" indicates that the type is not supported.

HCMXB-ID04-BD 端子说明 (Terminal description)			接线 (Wiring)	
数字量输入通道0 (Digital input channel 0)	0	0 1 2 3 ■ SS SS 	开关 Switch  源型输入 PNP input 漏型输入 NPN input	
数字量输入通道1 (Digital input channel 1)	1			
数字量输入通道2 (Digital input channel 2)	2			
数字量输入通道3 (Digital input channel 3)	3			
预留 (Reserved)	■			
公共端 (Common terminal)	SS			
	SS			

HCMXB-OD04-BD / HCMXB-OD04-BD-PNP 端子说明 (Terminal description)			接线 (Wiring)	
数字量输出通道0 (Digital output channel 0)	0	0 1 2 3 ■ 24V COM 	HCMXB-OD04-BD	HCMXB-OD04-BD-PNP
数字量输出通道1 (Digital output channel 1)	1		负载 Load  漏型输出 NPN output	负载 Load  源型输出 PNP output
数字量输出通道2 (Digital output channel 2)	2			
数字量输出通道3 (Digital output channel 3)	3			
预留 (Reserved)	■			
DC24V	24V			
公共端 (Common terminal)	COM			