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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 - AB - 500 - 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 (Customized software/firmware code)
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)		
AB	1*AB相差分编码器 (1*AB-phase differential encoder)				
2AB	2*AB相差分编码器 (2*AB-phase differential encoders)				

3. 适用型号 (Applicable model)

名称 (Name)	型号 (Model)	适配的主机型号 (Applicable controller model)*	扩展卡简要说明	Brief description of expansion card
编码器扩展卡 Encoder expansion card	HCMXB-AB-500-BD	HCM511-32MT4-D HCM512-32MT4-D HCM513-32MT4-D	支持1路AB相差分编码器，最大计数频率为1MHz	Support 1-channel AB-phase differential encoder, with a maximum counting frequency of 1MHz
	HCMXB-2AB-500-BD	HCM514-32MT4-D	支持2路AB相差分编码器，最大计数频率为1MHz	Support 2-channel AB-phase differential encoder, with a maximum counting frequency of 1MHz

* 注：编码器扩展卡仅支持安装在主机卡槽 1 的位置。
*Note: The encoder expansion card is only supported to be installed in slot 1 of the host.

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	计数类型	Counting type
HCMXB-AB-500-BD	DC5V/0.5W	DC5V/0.5W	AB相	AB-phase
HCMXB-2AB-500-BD				

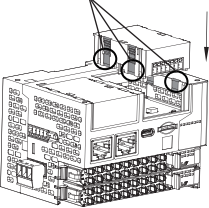
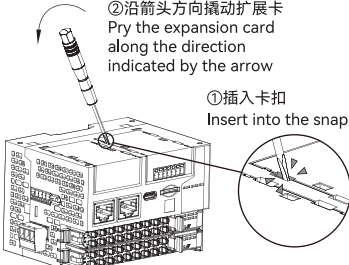
* 注：1. 所有型号仅能在由有限功率电源 (LPS) 提供的安全特低电压 (SELV) 下运行。
2. 此处标识的额定功率为满负载运行时的最大功率。
*Note: 1. All models can only operate under the safety extra low voltage (SELV) provided by a limited power source (LPS).
2. The power rating indicated here is the maximum power under full-load operation.

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 direction, 1g /3.5mm displacement)
污染等级	Pollution degree	污染度II	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

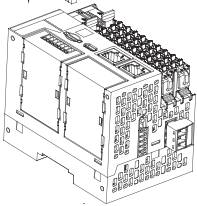
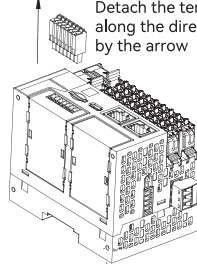
* 注：若设备未依制造商指定方式使用，设备所提供的保护可能会被减弱。
*Note: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

5. 安装说明 (Installation instructions)

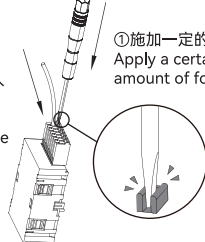
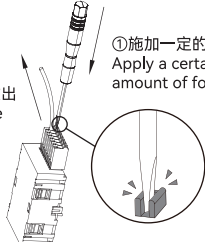
5.1 扩展卡拆装 (Expansion card mounting and dismounting)


CN	将扩展卡沿卡槽放入水平放置控制器卡槽中，并向下按压扩展卡，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
EN	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.		

5.2 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)	
7 Pin 接线端子 (7-Pin terminal block)	28~16	8~9	25	 剥线长度 Wire stripping length
10 Pin 接线端子 (10-Pin terminal block)				


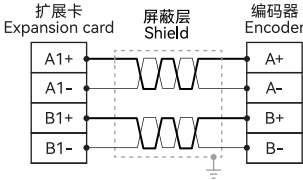
警告：只能使用 75°C铜导线。
Warning: Use only a copper conductor that is 75° C.
Attention: Utilisez uniquement un conducteur en cuivre à 75° C.


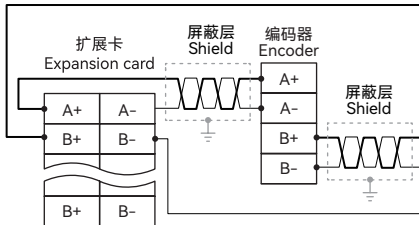
6. 接口和尺寸说明 (Interface and dimension description)

序号 (No.)	名称	Name	功能	Function
1	A相信号	A-phase signal	A相差分信号输入	A-phase differential signal input
2	B相信号	B-phase signal	B相差分信号输入	B-phase differential signal input
3	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-AB-500-BD	18.6	36.1	51.1	19 approx.
HCMXB-2AB-500-BD				21 approx.

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

HCMXB-AB-500-BD 端子说明 (Expansion card terminal description)			接线 (Wiring)
A相信号 + (A-phase signal +)	A1+		
A相信号 - (A-phase signal -)	A1-		
B相信号 + (B-phase signal +)	B1+		
B相信号 - (B-phase signal -)	B1-		
预留 (Reserved)	■		
预留 (Reserved)	■		
预留 (Reserved)	■		

HCMXB-2AB-500-BD 端子说明 (Expansion card terminal description)					接线 (Wiring)	
通道1 (Channel 1)	A相信号 + (A-phase signal +)	A+		A-		
	B相信号 + (B-phase signal +)	B+		B-		
-	预留 (Reserved)	-	-	预留 (Reserved)		
通道2 (Channel 2)	A相信号 + (A-phase signal +)	A+	A-			
	B相信号 + (B-phase signal +)	B+	B-			

注：脉冲输入信号为差分信号，脉冲输入频率每相可达 250kHz。
Note: The pulse input signal is differential signal, and the pulse input frequency can be up to 250kHz per phase.