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Date	2025-01-03
CN	安装说明
EN	Instruction Sheet

禾川科技官方网站

支持的设备型号
Supported Models

HCMXP-MD16-D

⚠ 1. 安全注意事项（Safety precautions）

本说明书涉及产品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 involved are all open-type housing designs. Therefore they should be installed in a control cabinet that is free of airborne dust, humidity, electric shock, and vibration. The cabinet should prevent non-maintenance staff from operating the products or accidents from happening in case danger and damage may occur on the products.

更详细的信息请参考 M 系列说明书及硬件操作手册。
Please refer to the M series instructions or hardware operation manual for more detailed information.

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

2.1 通用电气规格（General electrical specifications）

型号（Model）	额定功率：W	Rated power: W	额定电压	Rated voltage
HCMXP-MD16-D	2	2	DC24V，电压范围：DC20.4~28.8V	DC24V, voltage range: DC20.4~28.8V

* 注：所有型号均为安全特低电压输入产品。
*Note: All models are featured by the SELV input type.

2.2 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	-25~75℃	-25~75℃
环境湿度	Ambient humidity	10~95%RH（无结露）	10~95%RH (non-condensation)
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：如果以制造商未规定的方式使用设备，可能会损坏设备。
*Note: The equipment may be damaged if used in a manner not specified by the manufacturer.

3. 安装说明（Installation instructions）

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

CN 设备冷却方式为自然冷却或通过加装风扇进行冷却，请保证安装方向与柜壁垂直；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 20mm 以上间距。

EN Please install the product perpendicular to the wall and ensure a sufficient cooling effect via natural air or a cooling fan. 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 20 mm on both sides.
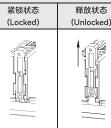
出风口 Air outlet
≥50mm
≥20mm ≥20mm
≥50mm
进风口 Air inlet
垂直柜壁安装
Install the product perpendicular to the wall

3.2 导轨拆装（DIN rail mounting and dismounting）

CN 安装耦合器时，将双向联动卡扣上部紧扣在 DIN 导轨上，并向导轨侧按压模块，听到"咔哒"声，耦合器即成功安装于 DIN 导轨上（安装前应保证双向联动卡扣处于紧锁状态，否则可能导致安装故障）；拆卸耦合器时，将双向联动卡扣向上拉动一定距离，听到"咔哒"声后，取下耦合器即可。

EN Before installation, check that the DIN rail mounting latch is in a locked state. During mounting, position the upper part of the mounting latch of the coupler on the DIN rail, and then press the module towards the DIN rail until a clear click is heard (which indicates the latch is momentarily opened and locked onto the rail). During dismounting, pull the latch upwards until a clear click is heard (which indicates the latch is unlocked), and then directly detach the coupler.

将双向联动卡扣上部紧扣在DIN导轨上，并向导轨侧按压模块
Position the upper part of the mounting latch on the DIN rail, and then press the module towards the DIN rail

①向上拉动双向联动卡扣
Pull up to unlock the DIN rail mounting latch
②取下耦合器
Detach the coupler

紧锁状态 (Locked)

释放状态 (Unlocked)

3.3 可拆卸端子拆装 1（Removable terminal block mounting and dismounting I）

CN 可拆卸端子拆装如右图所示。

EN The mounting and dismounting of the removable terminal block are shown in the figures on the right side.

沿箭头方向插入端子
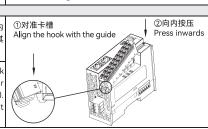Insert the terminal block along the direction indicated by the arrow

沿箭头方向拔出端子
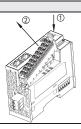Detach the terminal block along the direction indicated by the arrow

3.4 可拆卸端子拆装 2（Removable terminal block mounting and dismounting II）

CN 安装可拆卸端子排时，将端子排底部对准模块底部凹槽并紧扣，上部对齐模块并向内施压，当听到"咔哒"声即完成组装；拆卸端子排时，向下按压端子排顶部卡扣，使其脱离模块本体并以底部卡扣呈圆弧状斜向下施力，将端子排取下。

EN During mounting, align the mounting hook at the bottom of the terminal block to the guide of the module and press inwards on the terminal block until a clear click is heard (which indicates the terminal block has been locked to the module). During dismounting, press the lock lever on the terminal block and then detach it from the module.

①对准卡槽
Align the hook with the guide
②向内按压
Press inwards

①按压端子顶部弹簧片
Press the lock lever
②取下端子
Detach the terminal block

CN	安装线缆时，将赠送的一字螺丝刀垂直插入可拆卸端子压块内，施加超过 10N 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。
EN	During connecting, insert the flat-blade screwdriver into the unlocking tab with a force of more than 10 N. 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.

①施加超过10N的力 Apply a force of more than 10N
②将线缆插入到圆孔中 Insert the cable into the circular hole

①施加超过10N的力 Apply a force of more than 10N
②将线缆拔出 Unplug the cable

⚠ 3.6 线缆拆装 2（Cable connecting and disconnecting II）

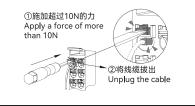| CN	安装线缆时，将赠送的一字螺丝刀垂直插入可拆卸端子压块内，施加超过 10N 的力，此时圆孔打开，将准备好的线缆插入到圆孔中，拔出一字螺丝刀，轻拽线缆，线缆不松动即成功完成配线；反之即可取出线缆。端子规格及配线示意图如右图所示。
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①施加超过10N的力 Apply a force of more than 10N
②将线缆插入到圆孔中 Insert the cable into the circular hole

①施加超过10N的力 Apply a force of more than 10N
②将线缆拔出 Unplug the cable

控制器端子（Terminal）	线径范围：AWG（Wire width）	剥线长度：mm（Wire stripping length）	按压力：N（Pressure）	拔线力：N（Wire pulling force）
DC24V 电源端子（DC24V power supply terminal）	26~12	10~11	10	10
18Pin IO 端子（18Pin IO terminal）	24~17	8~10	10	10

剥线长度 Wire stripping length
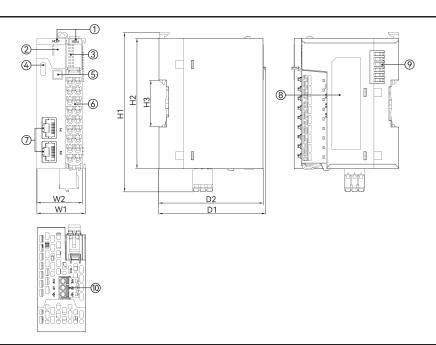线径范围 Wire width

警告：仅使用铜导线。
⚠ Warning: Use copper conductors only.
Attention: Utilisez uniquement des conducteurs en cuivre.

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

序号(No.)	项目	Item
1	产品型号	Product model
2	模块状态指示灯	Module status indicator
3	通道状态指示灯	Channel status indicator
4	Type-C接口	Type-C interface
5	二维码	QR code
6	18Pin IO端子	18Pin IO terminal
7	Profinet通讯接口	Profinet communication interface
8	标签	Label
9	扩展模块通讯接口	Expansion module communication interface
10	DC24V电源端子	DC24V power supply terminal

型号（Model)	外形尺寸（Dimension）:mm							重量（Weight）：g
	W1	W2	H1	H2	H3	D1	D2	
HCMXP-MD16-D	37.30	35.00	122.15	100.00	35.40	81.92	80.20	147 approx.

5. 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
HCMXP-MD16-D						
PWR	电源(Power supply)	绿色(Green)	熄灭	Not lit	供电电压不足或未供电	Insufficient power supply voltage or no power supply
			常亮	Lit	供电正常	Normal power supply
RUN	运行(Run)	绿色(Green)	熄灭	Not Lit	初始化状态	Initialization status
			闪烁	Blinking	本产品处于参数配置模式或等待连接主站设备	The product is in parameter configuration mode or is waiting to connect to the master station device.
			常亮	Lit	通讯正常	Normal communication
ERR	错误(Error)	红色(Red)	熄灭	Not Lit	通讯正常	Normal communication
			单闪	Single blinking	本产品和主站通讯断线	This product has lost communication connection with the master station.
			闪烁	Blinking	本产品实际连接的模块和主站组态软件中配置的模块不一致	The module connected to this product is inconsistent with the module configured in the master station configuration software.
			常亮	Lit	本产品供电电压过低	The power supply voltage of this product is too low.

MXP
PWR
RUN
ERR
EXT

EXT	右侧扩展故障 (Right-side expansion error)	红色 (Red)	熄灭 Not Lit	右侧扩展模块正常	The right-side expansion module is functioning normally.
			闪烁 Blinking	1. 右侧扩展模块报错或掉线 2. 右侧连接的模块为不能识别的模块	The right-side expansion module reports an error or is disconnected. The module connected on the right side is unrecognizable.
I N (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 an input signal
			常亮 Lit	输入通道 N 检测到输入信号	The input channel N has detected an input signal
Q N (0~7)	输出 (Output)	绿色 (Green)	熄灭 Not lit	输出通道 N 无输出信号	The output channel N has no output signal
			常亮 Lit	输出通道 N 有输出信号	The output channel N has an output signal

* 注 1： RUN 指示灯闪烁频率说明。

*Note 1: RUN indicator blinking frequency description.

单闪
Single blinking

ON / 200ms / 1000ms / OFF

闪烁
Blinking

ON / 200ms / 200ms / OFF

* 注 2： ERR 指示灯闪烁频率说明。

*Note 2: ERR indicator blinking frequency description.

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

型号(Model)	类型(Type)	输入（Input）		输出（Output）	
		PNP	NPN	PNP	NPN
HCMXP-MD16-D		○	○	-	○

* 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.

DC24V电源端子说明 (DC24V power supply terminal description)		接线（Wiring）
24V 0V ⏚	[24V] [0V] [⏚]	开关 Switch DC24V + − → 24V / 0V / ⏚ GND

IO端子说明 (IO terminal description)		HCMXP-MD16-D		接线（Wiring）
0	10	I0	Q0	
1	11	I1	Q1	
2	12	I2	Q2	
3	13	I3	Q3	
4	14	I4	Q4	
5	15	I5	Q5	
6	16	I6	Q6	
7	17	I7	Q7	
8	18	S0	COM	

开关 Switch　负载 Load

I0 Q0 / I1 Q1 / I2 Q2 / I7 Q7 / S0 COM

DC24V + − 源型输入 PNP Input
DC24V − + 漏型输入 NPN Input
DC24V − + 漏型输出 NPN Output

MD16
0 1 2 3 4 5 6 7