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支持的设备型号
Supported Models

HCMXC-MD16-D

禾川科技官方网站

HPPP2090011-00B	
Date	2024-06-18
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。

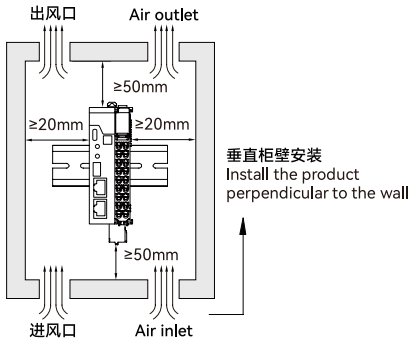
Please refer to the M series instructions or hardware operation manual for more detailed information.

2. 安装说明（Installation instructions）

2.1 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。

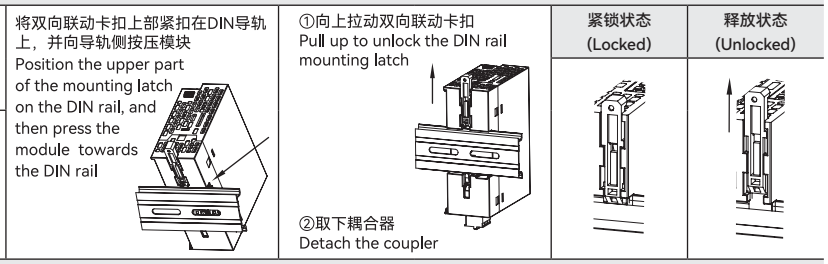
EN Please install the product perpendicular to the wall and ensure a sufficient cooling effect via natural air or a cooling fan. Please leave enough clearance around the product as shown in the right figure. During a side-by-side installation, please leave a horizontal clearance of more than 20 mm on both sides.



2.2 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。

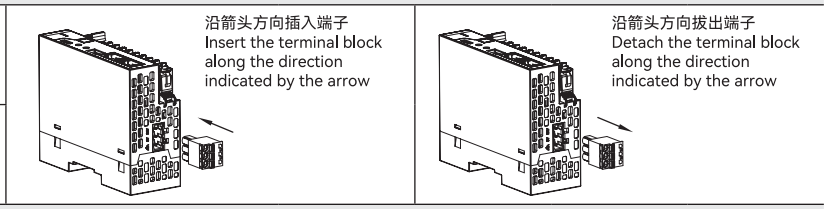
EN Before installation, check that the DIN rail mounting latch is in a locked state. During mounting, position the upper part of the mounting latch of the coupler on the DIN rail, and then press the module towards the DIN rail until a clear click is heard (which indicates the latch is momentarily opened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



2.3 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。

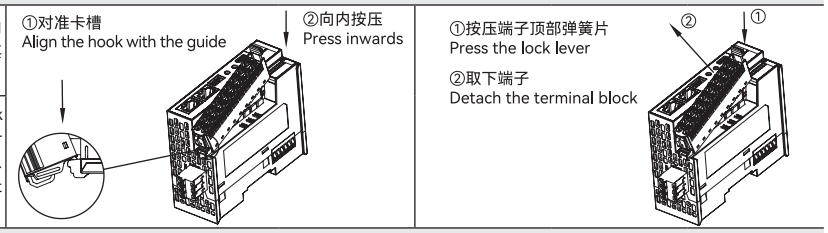
EN The mounting and dismounting of the removable terminal block are shown in the figures on the right side.



2.4 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。

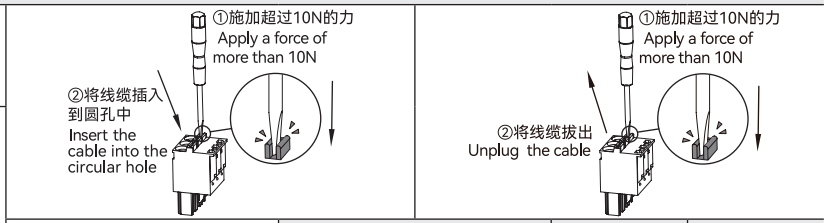
EN During mounting, align the mounting hook at the bottom of the terminal block to the guide of the module and press inwards on the terminal block until a clear click is heard (which indicates the terminal block has been locked to the module). During dismounting, press the lock lever on the terminal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



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

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，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.

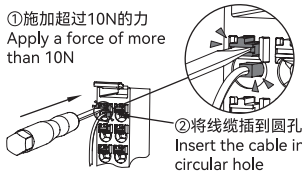


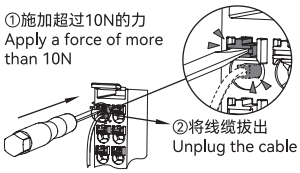
模块端子 (Terminal)	线径范围：AWG (Wire width)	剥线长度：mm (Wire stripping length)
DC24V 电源端子 (DC24V power supply terminal)	26~12	10~11

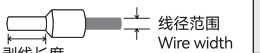
2.6 线缆拆装 2（Cable connecting and disconnecting II）

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，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.



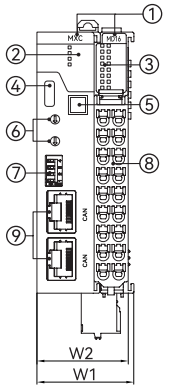


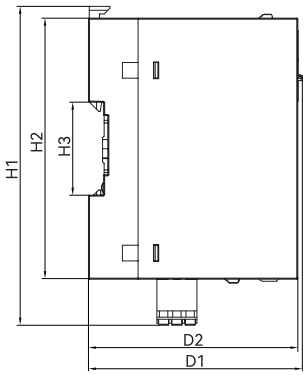


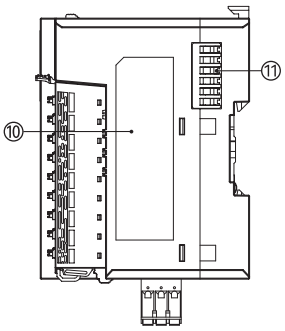
模块端子（Terminal）	线径范围：AWG（Wire width）	剥线长度：mm（Wire stripping length）
18Pin IO端子（18Pin IO terminal）	24~18	8~9

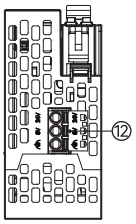
3. 接口和尺寸说明（Interface and dimension description）

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	站号旋钮编码开关	Node ID rotary coded switch
7	拨码开关	DIP switch
8	18Pin IO端子	18Pin IO terminal
9	CAN通讯接口	CAN communication interface
10	标签	Label
11	扩展模块通讯接口	Expansion module communication interface
12	DC24V电源端子	DC24V power supply terminal







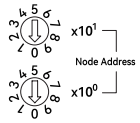


型号（Model）	外形尺寸（Dimension）：mm							重量（Weight）：g
	W1	W2	H1	H2	H3	D1	D2	
HCMXC-MD16-D	37.30	35.00	122.15	100.00	35.40	81.92	80.20	147 approx.

■ 站号旋钮编码开关使用说明（Node ID rotary coded switch usage instructions）

HCMXC-MD16-D 模块的 CANopen 站号由站号旋转编码旋钮开关 $x10^1$ 和 $x10^0$ 组成。
The CANopen node ID of the HCMXC-MD16-D module is decided by two node ID rotary coded rotary switches ($x10^1$ and $x10^0$).

站号旋钮编码开关有效范围说明，请参考下表。
Refer to the following table for the effective range description of the node ID rotary coded switch.

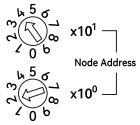


CANopen站号范围（CANopen node ID range）	说明（Description）
1~99	有效 (Valid)
0	无效 (Invalid)

注意事项：
1. 用户在使用站号旋钮编码开关设定 CANopen 站号后，需要将模块重新上电，否则新设置的站号不生效。
2. 请使用一字螺丝刀调节站号旋钮编码开关，避免刮伤。

Note:
1. After setting the CANopen node ID with the node ID rotary coded switch, users need to repower the module. Otherwise, the newly set node ID will not take effect.
2. Please use a flat-blade screwdriver for adjusting the node ID rotary coded switch to prevent scratching.

例：设置 CANopen 站号为 42，用户需将 $x10^1$ 对应的旋转开关旋转到 4，再将 $x10^0$ 对应的旋转开关旋转到 2。
Example: To set the CANopen node ID to 42, users need to rotate the $x10^1$ rotary switch to 4, and then rotate the $x10^0$ rotary switch to 2.



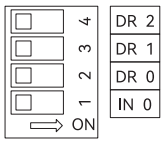
■ 拨码开关使用说明（DIP switch usage instructions）

HCMXC-MD16-D 模块的拨码开关由 IN0、DR0~DR2 组成，其中 DR0~DR2 用于设置模块的波特率，IN0 用于设置 CAN 通讯掉线时，输出值处理模式。

The DIP switch of the HCMXC-MD16-D module consists of IN0 and DR0~DR2, in which DR0~DR2 are used to set the baud rate of the module and IN0 is used to set the handling mode of output values when CAN communication is disconnected.

拨码开关具体含义说明请参考下表。

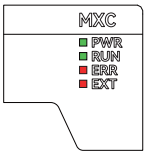
Refer to the following table for the specific DIP switch meaning.

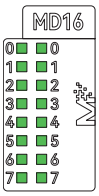


DR0	DR1	DR2	通讯速率：bps (Communication rate)	最大通信距离：m (Maximum communication distance)
OFF	OFF	OFF	10K	5000
ON	OFF	OFF	20K	2500
OFF	ON	OFF	50k	1000
ON	ON	OFF	125K	500
OFF	OFF	ON	250K	250
ON	OFF	ON	500K	100
OFF	ON	ON	800k	50
ON	ON	ON	1M	25
IN0	OFF	CANopen 通讯掉线时，模块本体和右侧扩展模块输出值变为 0。(When the CANopen communication is disconnected, the output values of the module and right-side expansion module change to 0.)		
	ON	CANopen 通讯掉线时，模块本体和右侧扩展模块输出值保持不变。(When the CANopen communication is disconnected, the output values of the module and right-side expansion module remain unchanged.)		

4. 指示灯说明（Indicator description）

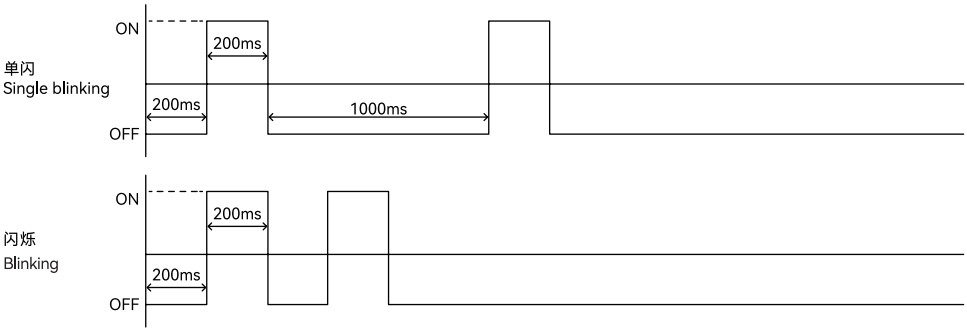
丝印 (Screen printing)	指示灯含义 (Indicator meaning)	颜色 (Color)	状态	Status	说明	Description
HCMXC-MD16-D						
PWR	电源 (Power supply)	绿色 (Green)	熄灭	Not lit	供电电压不足或未供电	Insufficient power supply voltage or no power supply
			常亮	Lit	供电正常	Normal power supply
RUN*1	运行 (Run)	绿色 (Green)	单闪	Single blinking	CAN 总线处于停止状态	CAN bus is in a stopped state
			闪烁	Blinking	CAN 总线处于预运行状态	CAN bus is in a pre-operational state
			常亮	Lit	与其他 CAN 站点通讯正常，处于运行状态	Communication with other CAN stations is normal and is in an operational state
ERR*2	CAN 错误 (CAN Error)	红色 (Red)	熄灭	Not lit	CAN 总线无错误	No error in the CAN bus
			单闪	Single blinking	CAN 总线错误超出警戒值	CAN bus error messages exceed the alarm limit
			双闪	Double blinking	从站掉线	The slave is disconnected
			常亮	Lit	CAN 总线错误过多，无法通讯	Failed communication due to CAN bus errors
EXT	右侧扩展故障 (Right-side expansion error)	红色 (Red)	熄灭	Not lit	通讯正常或供电不足	Communication is normal or no power supply
			闪烁	Blinking	设备配置信息错误 / 模块掉线 / 供电电压过低	Device configuration information error/ Module disconnection/ Low power supply
			常亮	Lit	CANopen 站号无效	Invalid CANopen node ID
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





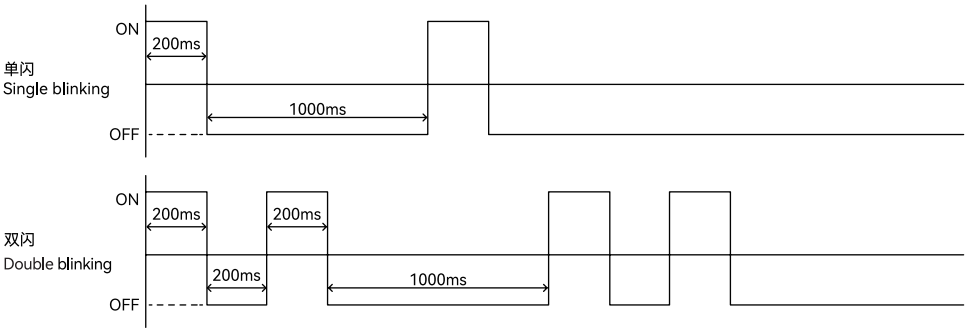
* 注 1：RUN 指示灯闪烁频率说明。

*Note1：RUN indicator blinking frequency description.



* 注 2：ERR 指示灯闪烁频率说明。

*Note2：ERR indicator blinking frequency description.

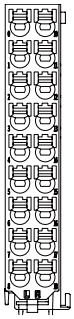
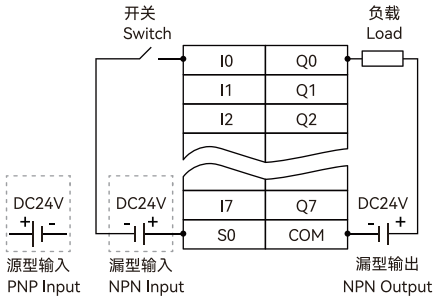


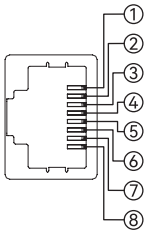
5. 端子及配线说明（Terminal and wiring description）

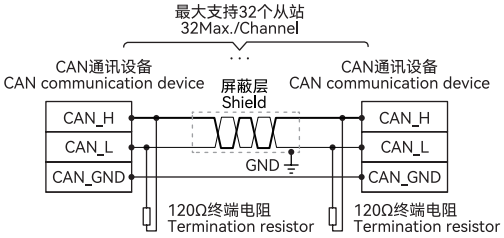
型号(Model) \ 类型(Type)	输入（Input）		输出（Output）	
	PNP	NPN	PNP	NPN
HCMXC-MD16-D	○	○	-	○

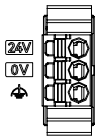
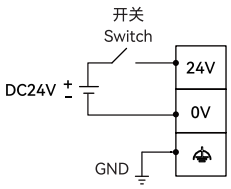
* 注：○：代表支持该类型；-：代表不支持该类型。

*Note: The symbol " ○ " indicates that the type is supported. The symbol "-" indicates that the type is not supported.

IO端子说明 (IO terminal description)			HCMXC-MD16		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	

CAN通讯接口说明（CAN communication interface description）				接线（Wiring）
	引脚（Pin）	名称（Name）	说明	Description
	1	CAN_H	CAN通讯信号（高）	CAN communication signal (high)
	2	CAN_L	CAN通讯信号（低）	CAN communication signal (low)
	3	CAN_GND	CAN通讯信号参考地	CAN communication signal reference ground
	4	保留（Reserved）	保留	Reserved
	5			
	6			
	7	CAN_GND	CAN通讯信号参考地	CAN communication signal reference ground
	8	保留（Reserved）	保留	Reserved



DC24V电源端子说明（DC24V power supply terminal description）		接线（Wiring）
24V		
0V		
⏚		