支持的设备型号
Supported Models

HCMX-EC01-D HCMXE-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. 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.

出风口 Air outlet
≥50mm
≥20mm ≥20mm
垂直柜壁安装
Install the product perpendicular to the wall
≥50mm
进风口 Air inlet
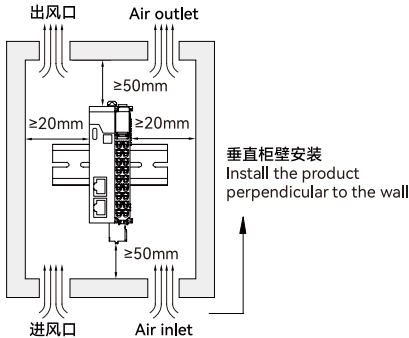
2.2 导轨拆装 1（DIN rail mounting and dismounting I）

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 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)

2.3 导轨拆装 2（DIN rail mounting and dismounting II）

CN	安装模块时，将模块侧面导槽对准耦合器导槽后，向内按压模块，听到"咔哒"声，模块成功安装于 DIN 导轨上（安装前保证双向联动卡扣处于紧锁状态，否则可能导致安装故障）；拆卸模块时，将卡扣向上拉动一定距离，听到"咔哒"声后，取下模块即可。
EN	Before installation, check that the DIN rail mounting latch is in a locked state. During mounting, align the groove of the module to that of the coupler, 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 remove the module.
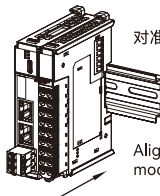
对准导槽后将模块向导轨按压
Align the groove and press the module towards the DIN rail
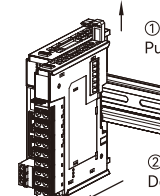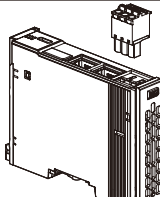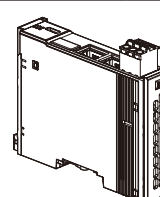
①向上拉动卡扣
Pull the latch upwards

②取下模块
Detach the module

2.4 HCMX-EC01 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。
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

2.5 HCMXE-MD16 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
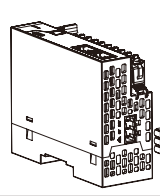Insert the terminal block along the direction indicated by the arrow

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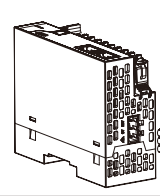Detach the terminal block along the direction indicated by the arrow

2.6 HCMXE-MD16 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
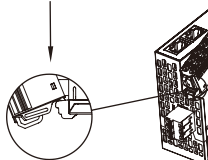
①按压端子顶部弹簧片
Press the lock lever

②取下端子
Detach the terminal block

2.7 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。

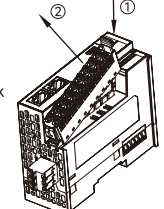**EN** During connecting, insert the flat-blade screwdriver into the unlocking tab with a force of more than 10 N. Then insert a cable into the circular hole. Gently tug the cable after pulling out the screwdriver. If the cable is secured firmly, then the connection is finished. The reverse is the procedure for unplugging the cable. The terminal specifications and wiring diagram are shown in the right figure.

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

剥线长度 Wire stripping length　线径范围 Wire width

模块端子（Terminal）	线径范围：AWG (Wire width)	剥线长度：mm (Wire stripping length)
HCMX-EC01　DC24V电源端子 (DC24V power supply terminal)	28~12	7~8
HCMXE-MD16　DC24V电源端子 (DC24V power supply terminal)	26~12	10~11

2.8 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.

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

剥线长度 Wire stripping length　线径范围 Wire width

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)	24~17	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	Type-C 接口	Type-C interface
4	EtherCAT通讯接口	EtherCAT communication interface
5	DC24V电源端子	DC24V power supply terminal
6	双向联动卡扣	DIN rail mounting latch
7	扩展模块通讯接口	Expansion module communication interface
8	标签	Label
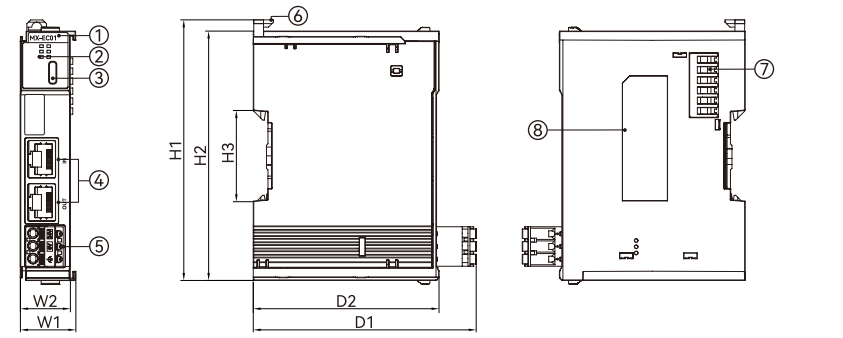
型号（Model）	外形尺寸（Dimension）：mm							重量（Weight）：g
	W1	W2	H1	H2	H3	D1	D2	
HCMX-EC01-D	22.25	20.05	104.50	100.00	35.40	89.40	74.50	80 approx.

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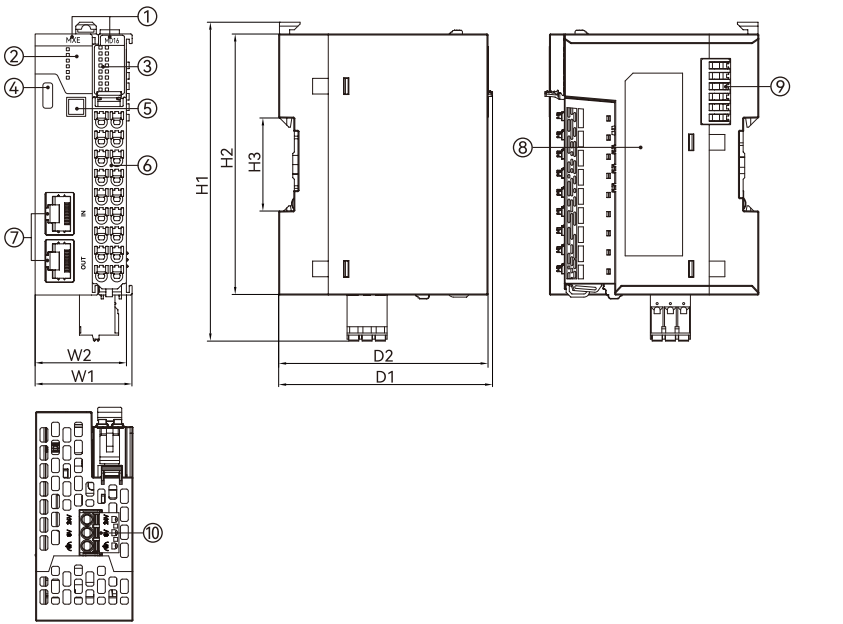
型号（Model）	外形尺寸（Dimension）：mm							重量（Weight）：g
	W1	W2	H1	H2	H3	D1	D2	
HCMXE-MD16-D	37.30	35.00	122.15	100.00	35.40	81.92	80.20	147 approx.

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
HCMX-EC01-D / HCMXE-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
			快闪	Fast blinking	预运行状态	Pre operational
			慢闪	Slow blinking	安全运行状态	Safe operational
			常亮	Lit	运行状态	Operational
ERR	EtherCAT错误 (EtherCAT error)	红色 (Red)	熄灭	Not Lit	通讯正常或无供电	Communication is normal or no power supply
			闪烁	Blinking	连接中断或通讯异常	Interrupted connection or abnormal communication
			常亮	Lit	供电电压过低或芯片初始化失败	Low supply voltage or chip initialization failure
EXT	右侧扩展故障 (Right-side expansion error)	红色 (Red)	熄灭	Not Lit	右侧扩展正常或无供电	Right-side expansion is normal or has 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	右侧无扩展模块	No expansion module on the right side
Link1	EtherCAT IN 连接 (EtherCAT IN connection)	绿色 (Green)	熄灭	Not Lit	IN通讯口无物理连接	The IN communication port has no physical connection
			闪烁	Blinking	IN通讯口有物理连接及数据交互	The IN communication port has a physical connection and data exchange
			常亮	Lit	IN通讯口有物理连接但无数据交互	The IN communication port has a physical connection but no data exchange
Link2	EtherCAT OUT 连接 (EtherCAT OUT connection)	绿色 (Green)	熄灭	Not Lit	OUT通讯口无物理连接	The OUT communication port has no physical connection
			闪烁	Blinking	OUT通讯口有物理连接和数据交互	The OUT communication port has a physical connection and data exchange
			常亮	Lit	OUT通讯口有物理连接但无数据交互	The OUT communication port has a physical connection but no data exchange
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

MX-EC01

PWR		EXT
RUN		Link1
ERR		Link2

MXE

- PWR
- RUN
- ERR
- EXT
- Link1
- Link2

MD16

0		0
1		1
2		2
3		3
4		4
5		5
6		6
7		7
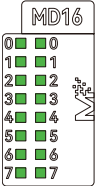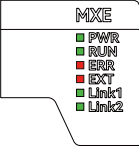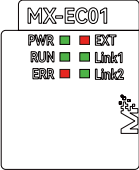
5. 端子及配线说明（Terminal and wiring description）

型号(Model)	类型(Type)	输入（Input）		输出（Output）	
		PNP	NPN	PNP	NPN
HCMXE-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)	HCMXE-MD16		接线（Wiring）
0 1 2 3 4 5 6 7 8	10 I0 11 I1 12 I2 13 I3 14 I4 15 I5 16 I6 17 I7 18 S0	Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7 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