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900101000424  
Date 2026-05-09  
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 M100 系列硬件手册。

Please refer to the M100 series hardware operation manual for more detailed information.

⚠ 电池 Battery	M100 系列 CPU 内置 CR2430 的电池，更换的电池需从禾川购买，由专业的电气工程师佩戴绝缘手套在断电情况下参考 5.3 小节描述进行电池更换。 The M100 series CPUs are equipped with built-in CR2430 batteries. Replacement batteries must be purchased from HCFA. A professional electrical engineer, wearing insulated gloves and with power turned off, should replace them as described in Section 5.3.
	Les CPU de la série M100 sont équipés de batteries CR2430 intégrées. Les batteries de remplacement doivent être achetées auprès de HCFA. Un ingénieur électrique professionnel, portant des gants isolants et avec le courant coupé, devrait les remplacer comme décrit dans la section 5.3.

## 2. 命名规则 (Model identification)

**HC M100 - 20MT4 - A - XXXX**

1 2 3 4 5 6 7 8 9 10 11

<b>1</b>	<b>产品名称 (Product name)</b>
HC	禾川控制器 (Hechuan Technology controller)
<b>2</b>	<b>产品系列 (Product series)</b>
M1	M100系列 (M100 series)
<b>3</b>	<b>以太网口数量 (Number of Ethernet ports)</b>
0	无以太网口 (No Ethernet port)
<b>4</b>	<b>型号代码 (Model code)</b>
0	第1类型产品 (Type 1 product)
1	第2类型产品 (Type 2 product)
2	第3类型产品 (Type 3 product)
3	第4类型产品 (Type 4 product)

<b>5</b>	<b>功能代码 (Function code)</b>
空 (N/A)	标准版 (Standard version)
<b>6</b>	<b>总点数 (Total I/O channels)</b>
14	8输入6输出 (8 inputs/6 outputs)
20	12输入8输出 (12 inputs/8 outputs)
30	16输入14输出 (16 inputs/14 outputs)
40	24输入16输出 (24 inputs/16 outputs)
48	28输入20输出 (28 inputs/20 outputs)
60	36输入24输出 (36 inputs/24 outputs)
80	40输入40输出 (40 inputs/40 outputs)
<b>7</b>	<b>说明 (Description)</b>
M	主控单元 (Main control unit)

<b>9</b>	<b>脉冲输出 (Pulse output)</b>
3	3通道脉冲输出 (3-channel pulse output)
4	4通道脉冲输出 (4-channel pulse output)
6	6通道脉冲输出 (6-channel pulse output)
<b>10</b>	<b>电源类型 (Power supply type)</b>
A	交流电源 (AC power supply)
<b>11</b>	<b>管控版本号和非标规格 (Version control &amp; Non-standard specifications)</b>
空 (N/A)	标准机型 (Standard models)
其他 (Other)	管控版本号和非标规格 (Version control & Non-standard specifications)

<b>8</b>	<b>输出类型 (Output type)</b>
T	NPN型晶体管 (NPN transistor)
R	继电器 (Relay)
P	PNP型晶体管 (PNP transistor)

## 3. 适用型号 (Applicable model)

名称 (Name)	型号 (Model)	适配的扩展卡型号 (Applicable expansion card model)	简要说明 (Brief description)
CPU单元 CPU unit	HCM100-14MR-A	HCMXB-CAN-100-BD HCMXB-2RS232-100-BD HCMXB-2RS485-100-BD HCMXB-MA03-100-BD HCMXB-ID04-100-BD HCMXB-OD04-100-BD HCMXB-OD04-100-BD-PNP	继电器输出, 100kHz高速计数器*2, 8输入6输出, RS232*1, RS485*1, USB*1, 1个选配卡 Relay output, 100kHz high-speed counter*2, 8 inputs 6 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-14MT3-A		100kHz高速脉冲输出*3, 100kHz高速计数器*2, 8输入6输出, RS232*1, RS485*1, USB*1, 1个选配卡 100kHz high speed output axis*3, 100kHz high-speed counter*2, 8 inputs 6 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-20MR-A		继电器输出, 100kHz高速计数器*2, 12输入8输出, RS232*1, RS485*1, USB*1, 1个选配卡 Relay output, 100kHz high-speed counter*2, 12 inputs 8 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-20MT4-A		100kHz高速脉冲输出*4, 100kHz高速计数器*2, 12输入8输出, RS232*1, RS485*1, USB*1, 1个选配卡 100kHz high speed output axis*4, 100kHz high-speed counter*2, 12 inputs 8 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-30MR-A		继电器输出, 100kHz高速计数器*2, 16输入14输出, RS232*1, RS485*1, USB*1, 1个选配卡 Relay output, 100kHz high-speed counter*2, 16 inputs 14 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-30MT6-A		100kHz高速脉冲输出*6, 100kHz高速计数器*2, 16输入14输出, RS232*1, RS485*1, USB*1, 1个选配卡 100kHz high speed output axis*6, 100kHz high-speed counter*2, 16 inputs 14 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-40MR-A		继电器输出, 100kHz高速计数器*2, 24输入16输出, RS232*1, RS485*1, USB*1, 1个选配卡 Relay output, 100kHz high-speed counter*2, 24 inputs 16 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-40MT6-A		100kHz高速脉冲输出*6, 100kHz高速计数器*2, 24输入16输出, RS232*1, RS485*1, USB*1, 1个选配卡 100kHz high speed output axis*6, 100kHz high-speed counter*2, 24 inputs 16 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-48MR-A		继电器输出, 100kHz高速计数器*2, 28输入20输出, RS232*1, RS485*1, USB*1, 1个选配卡 Relay output, 100kHz high-speed counter*2, 28 inputs 20 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-48MT6-A		100kHz高速脉冲输出*6, 100kHz高速计数器*2, 28输入20输出, RS232*1, RS485*1, USB*1, 1个选配卡 100kHz high speed output axis*6, 100kHz high-speed counter*2, 28 inputs 20 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-60MR-A		继电器输出, 100kHz高速计数器*2, 36输入24输出, RS232*1, RS485*1, USB*1, 1个选配卡 Relay output, 100kHz high-speed counter*2, 36 inputs 24 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-60MT6-A		100kHz高速脉冲输出*6, 100kHz高速计数器*2, 36输入24输出, RS232*1, RS485*1, USB*1, 1个选配卡 100kHz high speed output axis*6, 100kHz high-speed counter*2, 36 inputs 24 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-80MR-A		继电器输出, 100kHz高速计数器*2, 40输入40输出, RS232*1, RS485*1, USB*1, 1个选配卡 Relay output, 100kHz high-speed counter*2, 40 inputs 40 outputs, RS232*1, RS485*1, USB*1, 1 optional card
	HCM100-80MT6-A		100kHz高速脉冲输出*6, 100kHz高速计数器*2, 40输入40输出, RS232*1, RS485*1, USB*1, 1个选配卡 100kHz high speed output axis*6, 100kHz high-speed counter*2, 40 inputs 40 outputs, RS232*1, RS485*1, USB*1, 1 optional card

## 4. 通用环境规格 (General environmental specifications)

### 4.1 环境要求 (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°C	0~55°C
储存温度	Storage temperature	-25~70°C	-25~70°C
环境湿度	Ambient humidity	10~95%RH (无结露)	10~95%RH (non-condensation)
振动耐受	Vibration resistance	10~150Hz (X/Y/Z方向, 1g/3.5mm位移)	10~150Hz (X/Y/Z direction, 1g/3.5mm displacement)
污染等级	Pollution degree	污染度2	Level 2

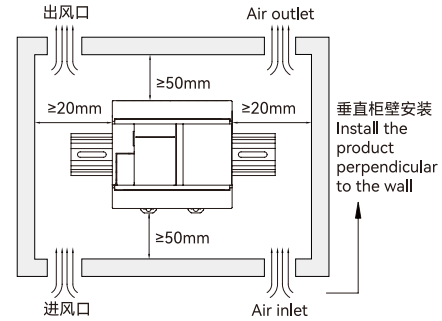
冷却方式	Cooling method	自然冷却	Natural air cooling
防护等级	IP rating	IP20	IP20
外壳材质	Enclosure material	阻燃材料	Self-extinguishable

\*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。

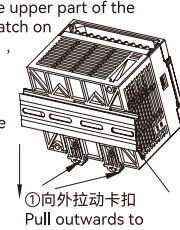
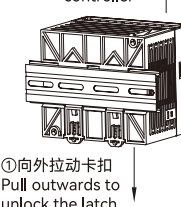


\*Note: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

## 5. 安装说明 (Installation instructions)

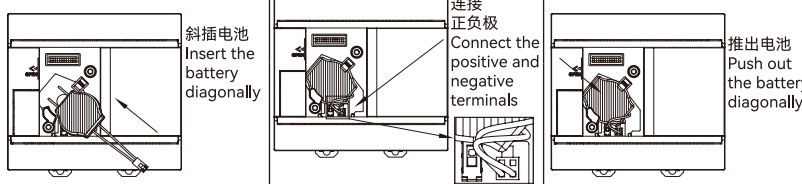
### 5.1 控制柜安装 (Installation within a control cabinet)

<p>CN 设备冷却方式为自然冷却，请保证安装方向与墙壁垂直；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。</p>	
<p>EN Please install the product perpendicular to the wall and ensure a sufficient cooling effect via natural air. 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.</p>	

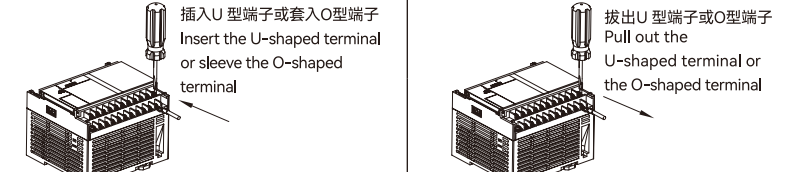
### 5.2 导轨拆装 (DIN rail mounting and dismantling)



<p>CN 安装控制器时，将控制器后方卡扣往外拉直到听到“咔哒”声后停止，然后把设备挂在 DIN 导轨上，并向内按压控制器后方卡扣，听到“咔哒”声，控制器即成功安装于 DIN 导轨上；拆卸控制器时，将卡扣向下拉动一定距离，取下控制器即可。</p>	<p>②将双向联动卡扣上部紧扣在 DIN 导轨上，并向导轨侧按压控制器 Position the upper part of the mounting latch on the DIN rail, and then press the controller towards the DIN rail</p>  <p>①向外拉动卡扣 Pull outwards to unlock the latch</p>	<p>②取下控制器 Detach the controller</p>  <p>①向外拉动卡扣 Pull outwards to unlock the latch</p>	<p>紧锁状态 (Locked)</p> 	<p>释放状态 (Unlocked)</p> 
<p>EN Before mounting, unlock the DIN rail mounting latch at the back of the controller. During mounting, position the upper part of the mounting latch on the DIN rail, and then press the controller against the DIN rail until a clear click is heard. During dismantling, pull the latch downwards and then directly remove the controller.</p>				

### 5.3 电池拆装 (Battery disassembly and assembly)

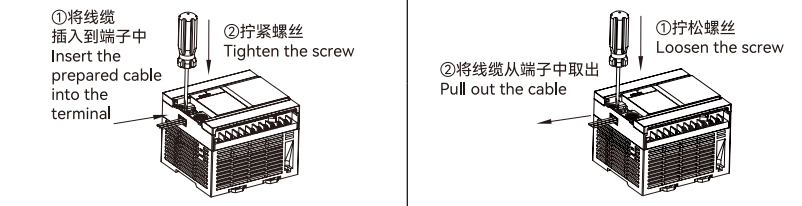


<p>CN 将 CR2430 带线端子的密封电池沿箭头方向斜插进去（40 点以上机型为反向斜插），连接正负极端子即可完成安装；斜着推出电池，拆除正负极端子即可完成拆卸。</p>	 <p>斜插电池 Insert the battery diagonally</p> <p>连接正负极 Connect the positive and negative terminals</p> <p>推出电池 Push out the battery diagonally</p>
<p>EN During assembly, insert the CR2430 battery, which is accompanied with wire and terminal, diagonally along the direction indicated by the arrow (reverse diagonal insertion for models with more than 40 channels). Connect the positive and negative terminals to complete the assembly. During disassembly, push out the battery diagonally and remove the positive and negative terminals.</p>	

### ⚠ 5.4 线缆拆装 1 (Cable connecting and disconnecting I)

<p>CN 安装线缆时，使用十字小螺丝刀将接线螺丝处拧松，插入 U 型端子或套入 O 型端子后再拧紧螺丝，轻拽线缆，线缆不松动即成功完成配线；反之即可取出线缆。</p>	 <p>插入 U 型端子或套入 O 型端子 Insert the U-shaped terminal or sleeve the O-shaped terminal</p> <p>拔出 U 型端子或 O 型端子 Pull out the U-shaped terminal or the O-shaped terminal</p>
<p>EN During connecting, use a small cross screwdriver to loosen the wiring screw, insert the U-shaped terminal or sleeve the O-shaped terminal, and then tighten the screw. 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.</p>	

控制器端子 (Terminal)	线径范围 (Wire width): AWG	剥线长度 (Wire stripping length): mm	线径范围 Wire width	剥线长度 Wire stripping length
IO 端子 (IO terminal)	22~18	6~7		

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

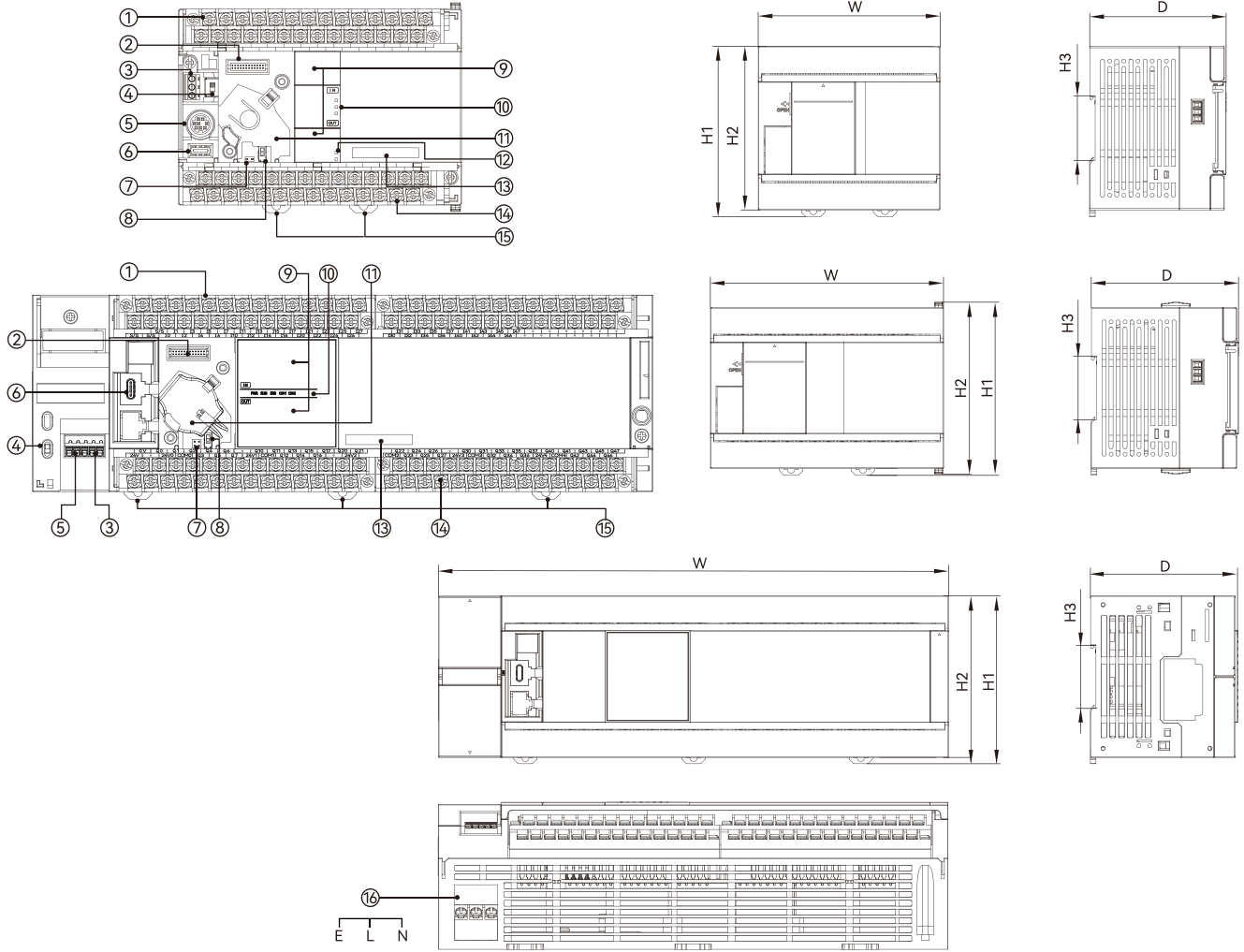
<p>CN 安装线缆时，使用一字螺丝刀垂直插入 RS485 通讯端子螺丝处，拧松螺丝后，将准备好的线缆插入到设备左侧的 RS485 通讯端子中，拧紧螺丝，轻拽线缆，线缆不松动即成功完成配线；反之即可取出线缆。端子规格及配线示意图如右图所示。</p>	 <p>①将线缆插入到端子中 Insert the prepared cable into the terminal</p> <p>②拧紧螺丝 Tighten the screw</p> <p>①拧松螺丝 Loosen the screw</p> <p>②将线缆从端子中取出 Pull out the cable</p>			
<p>EN During connecting, use a slotted screwdriver to loosen the screw of the RS485 communication terminal first. Insert the prepared cable into the RS485 communication terminal and then tighten the screw. Gently tug the cable, 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.</p>				
控制器端子 (Terminal)	线径范围 (Wire width): AWG	剥线长度 (Wire stripping length): mm	线径范围 Wire width	剥线长度 Wire stripping length
串口通讯端子 (Serial communication terminal)	30~16	5~6		

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)

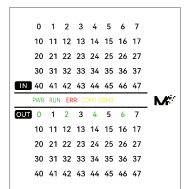
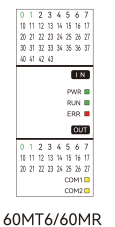
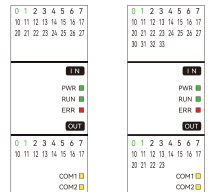
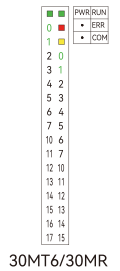
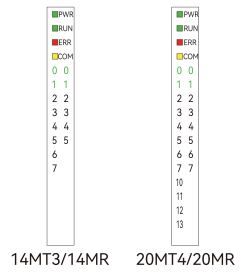


序号 (No.)	名称	Name	功能	Function
1	输入端子	Input terminal	数字量输入点及公共端子	Digital input channels and common terminal blocks
2	扩展卡连接接口	Expansion card interface	主机和IO模块通讯及供电接口, 不支持热插拔	The interface for the communication and power supply of the host and IO modules, does not support hot-swapping
3	RS485通讯接口	RS485 communication interface	支持做 Modbus主站或从站, 支持自定义通讯协议	Supports Modbus master or slave, and custom communication protocols
4	RUN/STOP开关	RUN/STOP DIP switch	启动或停止控制器各程序运行, 拨向RUN为启动, 拨向STOP为停止	Starts/stops the operation of each controller program; toggle the switch to RUN to start and to STOP to stop
5	RS232通讯接口	RS232 communication interface	支持做 Modbus主站或从站, 支持自定义通讯协议	Supports Modbus master or slave, and custom communication protocols
6	Type-C接口	Type-C interface	USB 2.0接口, 支持连接上位机后进行用户程序下载、固件升级等	USB 2.0 interface, supports user program upload/download, firmware upgrade, etc., when connected to a host computer
7	RTC电池接口	RTC battery interface	用于连接RTC (万年历) 电池	Used for connecting the RTC (Real-Time Clock/Calendar) battery
8	烧录开关	Burn switch	烧录固件使用开关	Used for firmware programming
9	通道状态指示灯	Channel status indicator	指示当前通道状态	Indicates the current channel status
10	系统状态指示灯	System status indicator	显示控制器系统运行状态	Displays the operating status of the controller system
11	电池安装区域	Battery compartment	存放RTC (万年历) 电池	Used for housing the RTC (Real-Time Clock) battery
12	RS232/485通讯指示灯	RS232/485 communication indicator	用于显示RS232/485 通讯口通讯状态	Used for displaying RS232/485 communication port status
13	产品名称	Product name	产品型号	Product model
14	输出端子	Output terminal	数字量输出点及公共端子	Digital output channels and common terminals
15	双向联动卡扣	DIN rail mounting latch	固定控制器在DIN导轨上	Mounts the controller onto a DIN rail
16	电源接口	Power supply interface	AC 220V电源接口	AC 220V power supply interface

型号 (Model)	外形尺寸 (Dimension) : mm					重量 (Weight) : g				
	W	H1	H2	H3	D					
HCM100-14MR-A	60.50	93.70	90	35.50	75	300				
HCM100-14MT3-A						320				
HCM100-20MR-A	75.50					330				
HCM100-20MT4-A						380				
HCM100-30MR-A	100					400				
HCM100-30MT6-A						430				
HCM100-40MR-A	130	96.54	95.82	35.50	82.10	540				
HCM100-40MT6-A						560				
HCM100-48MR-A	175					620				
HCM100-48MT6-A						650				
HCM100-60MR-A	175					93.5	90	35.40	82	650
HCM100-60MT6-A										710
HCM100-80MR-A	284.5	1029.2								
HCM100-80MT6-A		915.8								

## 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	
PWR	电源 (Power)	绿色 (Green)		熄灭	Not lit	电源未接通	Power off
				常亮	Lit	电源接通	Power on
RUN	运行 (Run)	绿色 (Green)		熄灭	Not lit	停止状态	Stop
				常亮	Lit	正常运行	Run
ERR	系统故障 (System error)	红色 (Red)		熄灭	Not lit	无故障发生	No error
				常亮	Lit	发生故障	Error
COM	RS485/RS232 通讯 (RS485/RS232 communication)	黄色 (Yellow)		熄灭	Not lit	未进行通讯	No communication
				闪烁	Blinking	正在进行通讯	Communication in progress
<b>14MT3/14MR</b>							
IN 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 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
OUT N (0~5)	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 in this channel
				常亮	Lit	输出通道 N 有信号输出	There are output signals in this channel
<b>20MT4/20MR</b>							
IN N (0~7, 10~13)	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
OUT N (0~7)	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 in this channel
				常亮	Lit	输出通道 N 有信号输出	There are output signals in this channel
<b>30MT6/30MR</b>							
IN N (0~7, 10~17)	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
OUT N (0~7, 10~15)	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 in this channel
				常亮	Lit	输出通道 N 有信号输出	There are output signals in this channel
<b>40MT6/40MR</b>							
IN N (0~7, 10~17, 20~27)	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
OUT N (0~7, 10~17)	输出 (Output)	绿色 (Green)		熄灭	Not lit	输出通道 N 无输出信号	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 in this channel
<b>48MT6/48MR</b>							
IN N (0~7, 10~17, 20~27, 30~33)	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
OUT N (0~7, 10~17, 20~23)	输出 (Output)	绿色 (Green)		熄灭	Not lit	输出通道 N 无输出信号	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 in this channel
<b>60MT6/60MR</b>							
IN N (0~7, 10~17, 20~27, 30~37, 40~43)	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
OUT N (0~7, 10~17, 20~27)	输出 (Output)	绿色 (Green)		熄灭	Not lit	输出通道 N 无输出信号	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 in this channel
<b>80MT6/80MR</b>							
IN N (0~7, 10~17, 20~27, 30~37, 40~47)	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



OUT N (0~7,10~17,20~27, 30~37,40~47)	输出 (Output)	绿色 (Green)		熄灭 Not lit	输出通道 N 无输出信号	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 in this channel

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

IO端子说明 (IO terminal description)		型号 (Model)	14MR/MT3	20MR/MT4	30MR/MT6	40MR/MT6	48MR/MT6	60MR/MT6	80MR/MT6
输入 (Input)	普通输入点 (General input)		8	12	16	24	28	36	40
	高速输入通道 (High-speed input channels)					2 (I0~I3)			
输出 (Output)	普通输出点 (General output)		6	8	14	16	20	24	40
	高速输出通道* (High-speed output channels)		3 (Q0~Q5)	4 (Q0~Q7)			6 (Q0~Q7, Q10~Q13)		

\*注: HCM100-MR 系列不支持高速输出通道。

\*Note: The HCM100-MR series does not support high-speed output.

类型 (Type)	通用IO接线 (General IO wiring)	高速IO接线 (High-speed IO wiring)
输入 (Input)	漏型输入 (NPN input) 	编码器 (Encoder) 
	源型输入 (PNP input) 	编码器 (Encoder) 
输出 (Output)	HCM100-80MT6-A	
	晶体管类型 (Transistor type) 	
	HCM100-14MT3-A / HCM100-20MT4-A / HCM100-30MT6-A / HCM100-40MT6-A / HCM100-48MT6-A / HCM100-60MT6-A	
继电器类型 (Relay type)	直流电负载接线图 (DC load wiring diagram)	
	交流电负载接线图 (AC load wiring diagram)	
	<p>浪涌吸收器*2 Surge absorber*2  <math>0.1\mu\text{F} \leq C \leq 0.47\mu\text{F}</math>, 250VAC  <math>47\Omega \leq R \leq 200\Omega</math>, 2W</p>	

\*注 1: 晶体管型或继电器类型输出接直流回路的感性负载时, 建议外部增加并联续流二极管; 如果不并联续流二极管, 继电器使用寿命会明显降低。续流二极管推荐使用 1N4004。

2: 继电器类型输出接交流回路的感性负载时, 建议外部增加 RC 电路吸收负载关断时的尖峰电压, 如此可增加继电器的使用寿命。

3: 输出点作为高速输出时, 建议在输出点和 24V 之间接入约 500Ω 的电阻。

\*Note 1: When connecting transistor or relay-type outputs to inductive loads in DC circuits, it is recommended to add a parallel freewheeling diode externally; otherwise, the relay's service life will be significantly reduced. The recommended freewheeling diode is the 1N4004.

2: When connecting relay-type outputs to inductive loads in AC circuits, it is recommended to add an external RC circuit to absorb surge voltage when the load is turned off, thereby extending the relay's service life.

3: When the output channel is used for high-speed output, it is recommended that a resistor of about 500Ω be connected between the output channel and 24V.

端子配置IO (Terminal configuration)

HCM100-14MR-A

E	S/S	I1	I3	I5	I7
L*	N	I0	I2	I4	I6
0V	Q0	Q1	Q2	Q4	•
24V	COM0*	COM1	COM2	Q3	Q5

HCM100-14MT3-A

E	S/S	I1	I3	I5	I7
L	N	I0	I2	I4	I6
0V	Q0	Q1	Q2	Q4	•
24V	COM0	COM1	COM2	Q3	Q5

HCM100-20MR-A

E	S/S	I1	I3	I5	I7	I11	I13
L	N	I0	I2	I4	I6	I10	I12
0V	Q0	Q1	Q2	Q3	Q4	Q6	•
24V	COM0	COM1	COM2	COM3	COM4	Q5	Q7

HCM100-20MT4-A

E	S/S	I1	I3	I5	I7	I11	I13
L	N	I0	I2	I4	I6	I10	I12
0V	Q0	Q1	Q2	Q3	Q4	Q6	•
24V	COM0	COM1	COM2	COM3	COM4	Q5	Q7

HCM100-30MR-A

E	S/S	S/S	I1	I3	I5	I7	I11	I13	I15	I17
L	N	S/S	I0	I2	I4	I6	I10	I12	I14	I16
0V	Q0	Q1	Q2	Q4	COM3	Q7	Q11	Q12	Q14	•
24V	COM0	COM1	COM2	Q3	Q5	Q6	Q10	COM4	Q13	Q15

HCM100-30MT6-A

E	S/S	S/S	I1	I3	I5	I7	I11	I13	I15	I17
L	N	S/S	I0	I2	I4	I6	I10	I12	I14	I16
0V	Q0	Q1	Q2	Q4	COM3	Q7	Q11	Q12	Q14	•
24V	COM0	COM1	COM2	Q3	Q5	Q6	Q10	COM4	Q13	Q15

HCM100-40MR-A

E	S/S	I1	I3	I5	I7	I11	I13	I15	I17	I21	I23	I25	I27
L	N	I0	I2	I4	I6	I10	I12	I14	I16	I20	I22	I24	I26
0V	Q0	Q1	Q2	•	Q4	Q6	•	Q10	Q12	•	Q14	Q16	•
24V	COM0	COM1	COM2	Q3	COM3	Q5	Q7	COM4	Q11	Q13	COM5	Q15	Q17

HCM100-40MT6-A

E	S/S	I1	I3	I5	I7	I11	I13	I15	I17	I21	I23	I25	I27
L	N	I0	I2	I4	I6	I10	I12	I14	I16	I20	I22	I24	I26
0V	Q0	Q1	Q2	•	Q4	Q6	•	Q10	Q12	•	Q14	Q16	•
24V	COM0	COM1	COM2	Q3	COM3	Q5	Q7	COM4	Q11	Q13	COM5	Q15	Q17

HCM100-48MR-A

E	S/S	I1	I3	I5	I7	I11	I13	I15	I17	I21	I23	I25	I27	I31	I33	•	•	•	•
L	N	I0	I2	I4	I6	I10	I12	I14	I16	I20	I22	I24	I26	I30	I32	•	•	•	•
0V	Q0	Q1	Q2	•	Q4	Q6	•	Q10	Q12	•	Q14	Q16	•	Q20	Q22	•	•	•	•
24V	COM0	COM1	COM2	Q3	COM3	Q5	Q7	COM4	Q11	Q13	COM5	Q15	Q17	COM6	Q21	Q23	•	•	•

HCM100-48MT6-A

E	S/S	I1	I3	I5	I7	I11	I13	I15	I17	I21	I23	I25	I27	I31	I33	•	•	•	•
L	N	I0	I2	I4	I6	I10	I12	I14	I16	I20	I22	I24	I26	I30	I32	•	•	•	•
0V	Q0	Q1	Q2	•	Q4	Q6	•	Q10	Q12	•	Q14	Q16	•	Q20	Q22	•	•	•	•
24V	COM0	COM1	COM2	Q3	COM3	Q5	Q7	COM4	Q11	Q13	COM5	Q15	Q17	COM6	Q21	Q23	•	•	•

HCM100-60MR-A

E	S/S	I1	I3	I5	I7	I11	I13	I15	I17	I21	I23	I25	I27	I31	I33	I35	I37	I41	I43
L	N	I0	I2	I4	I6	I10	I12	I14	I16	I20	I22	I24	I26	I30	I32	I34	I36	I40	I42
0V	Q0	Q1	Q2	•	Q4	Q6	•	Q10	Q12	•	Q14	Q16	•	Q20	Q22	•	Q24	Q26	•
24V	COM0	COM1	COM2	Q3	COM3	Q5	Q7	COM4	Q11	Q13	COM5	Q15	Q17	COM6	Q21	Q23	COM7	Q25	Q27

HCM100-60MT6-A

E	S/S	I1	I3	I5	I7	I11	I13	I15	I17	I21	I23	I25	I27	I31	I33	I35	I37	I41	I43
L	N	I0	I2	I4	I6	I10	I12	I14	I16	I20	I22	I24	I26	I30	I32	I34	I36	I40	I42
0V	Q0	Q1	Q2	•	Q4	Q6	•	Q10	Q12	•	Q14	Q16	•	Q20	Q22	•	Q24	Q26	•
24V	COM0	COM1	COM2	Q3	COM3	Q5	Q7	COM4	Q11	Q13	COM5	Q15	Q17	COM6	Q21	Q23	COM7	Q25	Q27

HCM100-80MR-A

S/S	S/S	I1	I3	I5	I7	I11	I13	I15	I17	I21	I23	I25	I27	I31	I33	I35	I37	I41	I43	I45	I47	•	•	•	•	•	•	
S/S	S/S	I0	I2	I4	I6	I10	I12	I14	I16	I20	I22	I24	I26	I30	I32	I34	I36	I40	I42	I44	I46	•	•	•	•	•	•	
0V	Q0	Q1	Q3	Q4	Q6	Q10	Q11	Q13	Q14	Q16	Q20	Q21	Q23	Q24	Q26	Q30	Q31	Q33	Q34	Q36	Q40	Q41	Q43	Q44	Q46	•	•	
24V	COM0	COM1	Q2	COM2	Q5	Q7	COM3	Q12	COM4	Q15	Q17	COM5	Q22	COM6	Q25	Q27	COM7	Q32	COM8	Q35	Q37	COM9	Q42	COM10	Q45	Q47	•	•

HCM100-80MT6-A

S/S	S/S	I1	I3	I5	I7	I11	I13	I15	I17	I21	I23	I25	I27	I31	I33	I35	I37	I41	I43	I45	I47	•	•	•	•	•	•
S/S	S/S	I0	I2	I4	I6	I10	I12	I14	I16	I20	I22	I24	I26	I30	I32	I34	I36	I40	I42	I44	I46	•	•	•	•	•	•
0V	Q0	Q1	Q2	Q4	Q6	•	Q10	Q11	Q13	Q15	Q17	Q20	Q21	Q22	Q24	Q26	•	Q30	Q31	Q33	Q35	Q37	Q40	Q41	Q43	Q45	Q47
24V	•	24V0	COM0	Q3	Q5	Q7	24V1	COM1	Q12	Q14	Q16	•	24V2	COM2	Q23	Q25	Q27	24V3	COM3	Q32	Q34	Q36	24V4	COM4	Q42	Q44	Q46

\* 注 1: 输入端中 L 接火线, N 接零线, E 接地线, S/S 为公共端。

2: 输出端中, COM 为公共端, 24V 与 0V 之间为直流输出; 粗线隔离区内为一组, 且隔离区内的 COM 相互导通。

\* Note 1: In the input terminal, L connects to the fire wire, N connects to the zero wire, E connects to the earth wire, and S/S is the common terminal.

2: In the output terminal, COM is the common terminal, and the DC output is between 24V and 0V. The thick line isolation area is a group, with the COMs in the isolation area conducting to each other.

通讯接口 (Serial communication interface)				接线 (Wiring)							
COM端口说明 (Terminal description)				接线 (Wiring)							
总点数 (Total I/O channels)				总点数 (Total I/O channels)							
20~60				RS232				80			
-	-	1						Tx	串行数据 (Serial data)		
串行数据 (Serial data)	Rx	4		Rx							
-	-	3		Tx							
串行数据 (Serial data)	Tx	5		Rx							
-	-	6		SG							
-	-	7		SG							
信号地 (Signal ground)	SG	8		SG							
20~60				RS485				80			
串行数据 (Serial data)	D+						SG	信号地 (Signal ground)			
串行数据 (Serial data)	D-		D+	D-	D+	D-	D+	D-		D+	串行数据 (Serial data)
信号地 (Signal ground)	SG		SG	SG	SG	SG	SG	SG		SG	D-