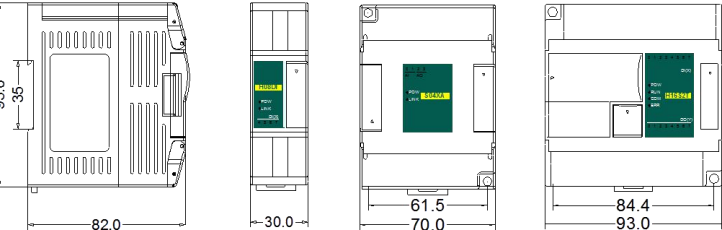


一、产品型号列表

带以太网型号	功率(24VDC)	带以太网型号	功率(220VAC)	型 号	功率(24VDC)	型 号	功率(220VAC)	外形尺寸
				S04AI	0.07A	S04AI2	7W	70×95×82mm
				S04AO	0.15A	S04AO2	8.8W	
				S04XA	0.1A	S04XA2	7.8W	
				H04RC	0.07A	H04RC2	2W	
				H04TC	0.07A	H04TC2	2W	
				H08TC	0.07A	H08TC2	2.2W	
S08AI-e	0.11A	S08AI2-e	7.9W	S08AI	0.08A	S08AI2	7.3W	93×95×82mm
S08AO-e	0.25A	S08AO2-e	12.4W	S08AO	0.22A	S08AO2	11.8W	
S08XA-e	0.18A	S08XA2-e	10.4W	S08XA	0.15A	S08XA2	9.8W	
H08RC-e	0.1A	H08RC2-e	2.9W	H08RC	0.07A	H08RC2	2.3W	



二、指示灯说明

- 1、PWR: 电源指示灯。绿色，常亮 - 电源正常；不亮 - 电源异常。
- 2、LINK: 多状态指示灯。三色（红色、黄色、绿色），如下表：

参考处理方式	模块总线状态	LINK 指示灯状态
正常	模块无通讯	不亮
	主机已识别模块且无通讯	绿色常亮
	串口或并口在通讯	绿色抖动：指示灯亮 30ms 灭 30ms
并行总线供电不足，需接外电源	无并口或串口通讯	黄色闪烁：指示灯亮 0.5s 灭 0.5s
	有并口或串口通讯	黄色暗和抖动交替：指示灯灭 0.5s 抖动 0.5s
	无并口或串口通讯	红色闪烁：指示灯亮 0.5s 灭 0.5s
固件升级失败，重新升级模块固件	有并口或串口通讯	红色暗和抖动交替：指示灯灭 0.5s 抖动 0.5s
	无并口或串口通讯	红色常亮
	有并口或串口通讯	红色快速抖动：指示灯亮 30ms 灭 30ms

三、电源规格

项 目	DC 直流电源	AC 交流电源
输入电压	DC24V -15%~+20%	100~240VAC
电源频率	—	50~60Hz
瞬间电涌	MAX 20A 1.5ms @24VDC	MAX 20A 1.5ms @220VAC
允许瞬间断电时间	10ms 以内	20ms 以内 @220VAC
电源保险丝	0.3A，250VAC	2A，250VAC
24V 输出(输入及外设用)	无	24V,-15%~+15%,200mA(最大)
隔离方式	无电气隔离	变压器/光电隔离,1500VAC/1 分钟
电源保护	直流输入电源极性反接、过压保护	DC24V 输出过流保护

四、产品环境规格

项 目	环境规格
温度/湿度	工作温度：0~+55 ℃ 储存温度：-25~+70 ℃ 湿度：5~95%RH，无凝露
抗振动能力	10~57Hz 振幅 0.075mm，57Hz~150Hz 加速度 1G， X、Y、Z 三轴方向各 10 次
抗冲击能力	15G，持续 11ms，X、Y、Z 三轴方向各 6 次
抗干扰能力	DC EFT：±2500V，浪涌：±1000V
耐压能力	AC 端子对地线端子间 1500VAC，1 分钟 DC 端子对地线端子间 500VAC，1 分钟
绝缘阻抗	AC 端子对地线端子间 500VDC，5MΩ 以上（所有输入/输出点对地间 500VDC）
使用环境	防尘、防潮、防腐蚀、免受电击及外力冲击等环境

五、模拟量输入（AI）规格

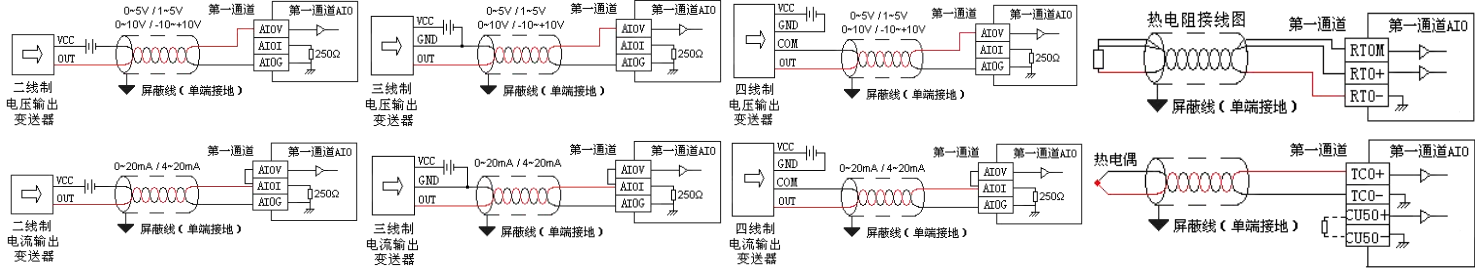
项 目	电压输入				电流输入	热电阻输入	热电偶输入
输入范围	-10V~+10V	0V~+10V	0V~+5V	1V~+5V	0~20mA 4~20mA	Pt100、Pt1000 Cu50、Cu100	S、K、T、E、J、B、N、R、Wre3/25、 Wre5/26、[0.20]mV、[0.50]mV、[0.100]mV
解析度	5mV	2.5mV	1.25mV	1.25mV	5uA	0.1 度	0.1 度
输入阻抗	6MΩ				250Ω	6MΩ	6MΩ
最大输入范围	±13V				±30mA		±5V
输入指示	LED 灯亮指示正常,灭指示外部断开						
响应时间	5ms/4 通道					560ms/4 通道	
数位输入范围	12 位,码值范围：0~32000（H 系列模块 16 位 A/D 转换）					16 位,码值范围：0~32000	
测量精度	0.2% F.S					0.1% F.S	
电源输入	主机为内部供电，扩展模块由外部供电 24VDC ±10% 5VA						
隔离方式	光电隔离，通道间无隔离，模拟与数字光电隔离						
电源消耗	24VDC ±20%，100mA（最大）					24VDC ±20%，50mA（最大）	

六、模拟量输出（AQ）规格

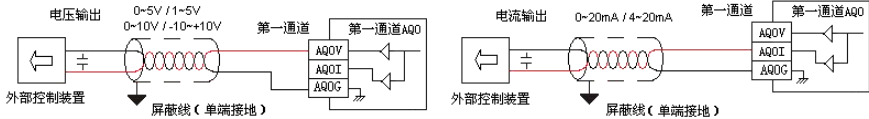
项 目	电压型输出				电流型输出	
输出范围	-10V~+10V	0V~ +10V	0V~+5V	1V~+5V	0~20mA	4~20mA
解析度	5mV	2.5mV	1.25mV	1.25mV	5uA	5uA
外部负载阻抗	1KΩ@10V		≥500Ω@10V		≤500Ω	
输出指示	LED 灯亮指示正常					
驱动能力	10mA					
响应时间	3ms					
数位输入范围	12 位,码值范围：0~32000（H 系列模块 16 位 D/A 转换）					

测量精度	0.2% F.S
电源输入	主机为内部供电，扩展模块由外部供电 24VDC ±10% 5VA
隔离方式	光电隔离，通道间无隔离，模拟与数字光电隔离
电源消耗	24VDC ±20%，100mA（最大）

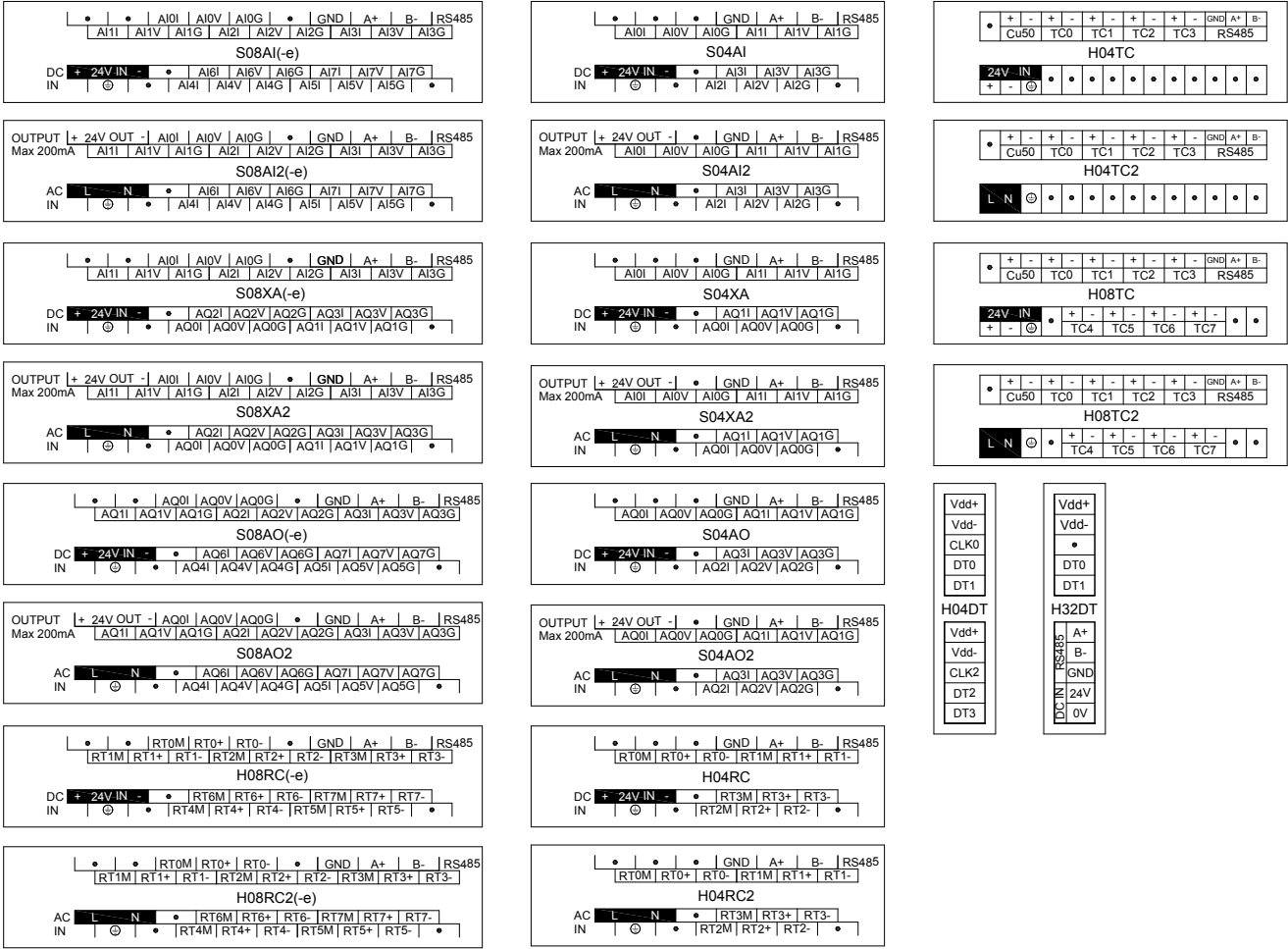
七、模拟量输入 (AI) 的接线图



八、模拟量输出 (AQ) 的接线



九、端子配线



十、扩展模块的安装

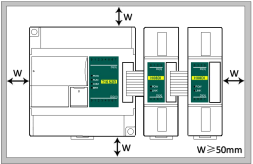
在安装时，请安装在封闭式之配电箱内，其周围应保持一定的空间（如右图所示）以确保 PLC 能良好地进行散热。

导轨安装方式：使用标准 35mm 导轨。

螺丝安装方式：每台主机或扩展模块均有两个螺丝定位孔，其孔径为 4.5mm，定位孔的位置及间距请参考产品外型尺寸图。不管用何种安装方式，为确保 PLC 能正常良好地进行散热，防止温度升高，切勿将 PLC 安装在柜内靠近柜壁的底部、上部及垂直方向安装。

扩展模块的连接方法

扩展模块与主机间或扩展模块与扩展模块间的连接是用总线方式实现，每一个扩展模块在出厂时都自带有一根用于连接到上一个模块的扩展连接线。连接方法：翻开其上一个模块（主机或扩展模块）右侧扩展接口，将扩展连接线插入到扩展接口中，插牢后将扩展接口的小翻盖按下使其复位，此模块右侧的扩展接口作为下一个扩展用。如此依次连接所有的扩展模块。





User's Manual of AI/AQ Extension Module

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1.Product Model List

Type with ethernet	24VDC power supply	Type with ethernet	220VAC power supply	Type	24VDC power supply	Type	220VAC power supply	Dimension
				S04AI	0.07A	S04AI2	7W	70×95×82mm
				S04AO	0.15A	S04AO2	8.8W	
				S04XA	0.1A	S04XA2	7.8W	
				H04RC	0.07A	H04RC2	2W	
				H04TC	0.07A	H04TC2	2W	
				H08TC	0.07A	H08TC2	2.2W	93×95×82mm
S08AI-e	0.11A	S08AI2-e	7.9W	S08AI	0.08A	S08AI2	7.3W	
S08AO-e	0.25A	S08AO2-e	12.4W	S08AO	0.22A	S08AO2	11.8W	
S08XA-e	0.18A	S08XA2-e	10.4W	S08XA	0.15A	S08XA2	9.8W	
H08RC-e	0.1A	H08RC2-e	2.9W	H08RC	0.07A	H08RC2	2.3W	



2. Indicator Description

- ①PWR:power indicator ,green,constant light -Power normal;Not light - Power error.
②LINK:many state indicator ,three colors(Red. Yellow. Green),as follow:

Consult manage	Module bus state	LINK the state of the indicator
Normal	Module no communication	Not light
	MPU identification the module but have not communication	Green constant light
	Serial or parallel communicating	Green flicker:indicator light 30ms not light 30ms
parallel power supply not enough,must connect to external power supply	Without serial or parallel communicate	Yellow flicker:indicator light 0.5s not light0.5s
	With serial or parallel communicate	Yellow dark and shake alternately:indicator not light 0.5s shark 0.5s
	Without serial or parallel communicate	Red flicker:indicator light 0.5s not light 0.5s
Upgrade the fireware fail,reupgrade the fireware of the module	With serial or parallel communicate	Red dark and shake alternately:indicator not dark 0.5s shark 0.5s
	Without serial or parallel communicate	Red constant light
Maintain	Without serial or parallel communicate	Red constant light
	With serial or parallel communicate	Red shark quickly:indicator light 30ms not light 30ms

3.Power Supply Specification

Item	DC Power Supply	AC Power Supply
Power Supply Voltage	DC24V -15%~+20%	100~240VAC
Power Supply Frequency	—	50~60Hz
Instantaneous Surge	MAX 20A 1.5ms @24VDC	20A 1.5ms MAX @220VAC
Power Loss Time	10ms or less	20ms or less @220VAC
Fuse	0.3A, 250VAC	2A, 250VAC
24V Output Voltage (for output and extension)	None	24V, -15%~+15%, 200mA (Max)
Insulation Type	No Electrical isolation	Transformer isolation or optoelectronic isolation,1500VAC/1 minute
Power Protection	DC input power polarity reverse, over voltage	DC24V output over current

4. Environmental specifications for Product

Item	Environment Specification
Temperature/Humidity	Operating temperature:0~+55℃ Storage temperature:-25~+70℃ Humidity: 5~95%RH, No condensation
Vibration Resistance	10~57 HZ, amplitude=0.075mm, 57HZ~150HZ acceleration=1G, 10 times each for X-axis, Y-axis and Z-axis
Impact Resistance	15G, duration=11ms, 6 times each for X-axis, Y-axis and Z-axis
Interference Immunity	DC EFT:±2500V Surge:±1000V
Over Voltage Resistance	1500VAC/1min between AC terminal and PE terminal, 500VAC/1min between DC terminal and PE terminal
Insulation Impedance	≧5MΩbetween AC terminal and all input/output points to PE terminal @500VDC
Operating environment	Avoid dust, moisture, corrosion, electric shock and external shocks

5. Analog Input (AI)Specification

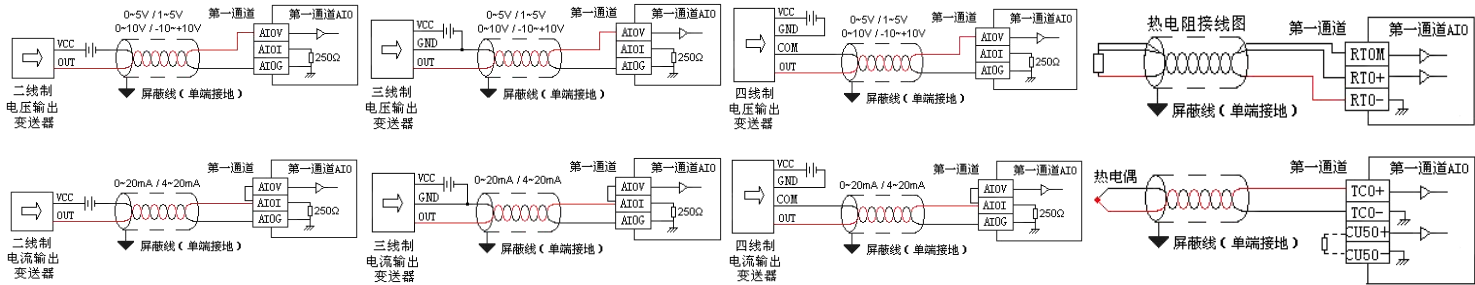
Item	Voltage input				Current input	RTD input	Thermocouple Input
Input range	-10V~+10V	0V~+10V	0V~+5V	1V~+5V	0~20mA 4~20mA	Pt100、Pt1000 Cu50、Cu100	S、K、T、E、J、B、N、R、Wre3/25、 Wre5/26、[0,20]mV、[0,50]mV、[0,100]mV
Resolution	5mV	2.5mV	1.25mV	1.25mV	5uA	0.1℃	0.1℃
Input impedance	6MΩ				250Ω	6MΩ	6MΩ
Maximum input range	±13V				±30mA		±5V
Input indication	LED light means normal ,dark means break OFF						
Response time	5ms/4 Channel					560ms/4 Channel ,880ms/8 Channel	
Digital input range	12 bits,Code range:0~32000(H series module 16 bits A/D convert)					16 bits,Code range:0~32000	
Precision	0.2% F.S					0.1% F.S	
Power supply	MPU use internal power supply, extend module use external power supply 24VDC ±10% 5VA						
Isolation mode	Opto-electric isolation,Non-isolation between Channel ,between analog and digital is opto-electricisolation						
Power consumption	24VDC ±20%,100mA(maximum)					24VDC ±20%,50mA(maximum)	

6. Analog Output (AQ) Specification

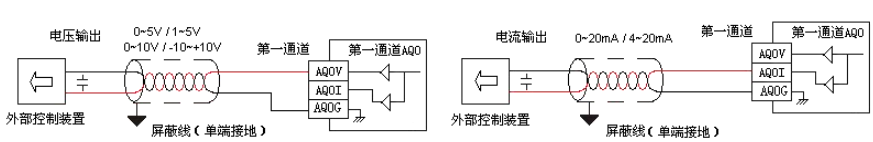
Item	Voltage output				Current output	
Output range	-10V~+10V	0V~ +10V	0V~+5V	1V~+5V	0~20mA	4~20mA
Resolution	5mV	2.5mV	1.25mV	1.25mV	5uA	5uA
Output load impedance	1KΩ@10V		≥500Ω@10V		≤500Ω	
Output indication	LED light means normal					

Drive capabilit	10mA
Response time	3ms
Digital output range	12 bits,Code range:0~32000(H series module 16 bits D/A convert)
Precision	0.2% F.S
Power supply	MPU use internal power supply, extend module use external power supply 24VDC ±10% 5VA
Isolation mode	Opto-electric isolation,Non-isolation between Channel ,between analog and digital is opto-electricisolation
Power consumption	24VDC ±20%,100mA(maximum)

7. Analog Input (AI) Wiring



8. Analog Output (AQ) Wiring



9. MPU Terminal Wiring Diagram



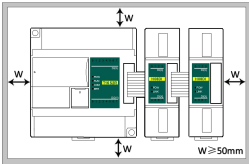
10.Mounting and installation

The PLC should be secured to an enclosed cabinet while mounting. For heat dissipation, make sure to provide a minimum clearance of 50mm between the unit and all sides of the cabinet. (See the figure.)

Rail Mounting: Use standard 35 mm rail.

Screw Mounting: Each MPU or extension module has two positioning screw holes, the diameter of the hole is 4.5mm. Please refer to the dimension figure for the location of the positioning holes and their spacing. To avoid over temperature and for a better heat dissipation, do not mount PLC to a position near to the bottom/top of the cabinet. Do not mount PLC in vertical direction.

Extension Module Wiring: Connections between extension modules and connections between module and MPU are achieved through bus.A extension cable will be configured to every extension module, for the connection between two different modules.Connection methods: turn the right side of extended interface(the last MPU or extension module) over, plug the extension cable in the extended interface, then press down the cover of the extended interface to reset the interface, the extended interface at the right side of the module will be reserved for extension of the next module. Connect all extension modules in turn in the same way.



Thanks for choosing Haiwell PLC, If you have any questions about our products or services, please let us know!

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