

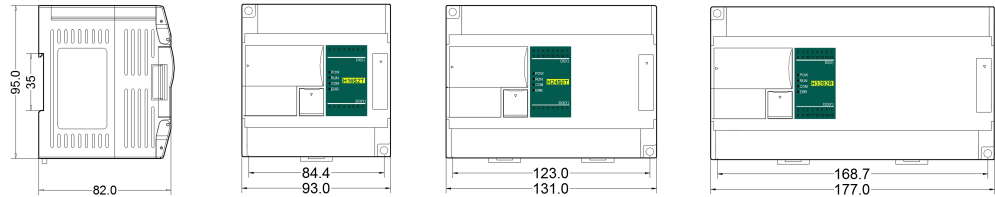


Haiwell PLC C/T 系列主机使用说明书

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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)	外形尺寸	型 号	功率(24VDC)	型 号	功率(220VAC)	外形尺寸
C10S0R-e	0.33A	C10S2R-e	9.4W	93×95×82mm	C10S0R	0.3A	C10S2R	8.8W	93×95×82mm
C10S0T/P-e	0.33A	C10S2T/P-e	9.2W		C10S0T/P	0.3A	C10S2T/P	8.6W	
C16S0R-e	0.34A	C16S2R-e	10.2W		C16S0R	0.31A	C16S2R	9.6W	
C16S0T/P-e	0.34A	C16S2T/P-e	10.3W		C16S0T/P	0.31A	C16S2T/P	9.7W	
T16S0R-e	0.56A	T16S2R-e	10.2W		T16S0R	0.53A	T16S2R	9.6W	
T16S0T/P-e	0.58A	T16S2T/P-e	10.9W		T16S0T/P	0.55A	T16S2T/P	10.3W	
C24S0R-e	0.39A	C24S2R-e	11.5W	131×95×82mm	C24S0R	0.36A	C24S2R	10.9W	131×95×82mm
C24S0T/P-e	0.39A	C24S2T/P-e	11.3W		C24S0T/P	0.36A	C24S2T/P	10.7W	
T24S0R-e	0.6A	T24S2R-e	11.3W		T24S0R	0.57A	T24S2R	10.7W	
T24S0T/P-e	0.62A	T24S2T/P-e	11.7W		T24S0T/P	0.59A	T24S2T/P	11.1W	
C32S0T/P-e	0.43A	C32S2T/P-e	12W		C32S0T/P	0.4A	C32S2T/P	11.4W	
C32S0R-e	0.42A	C32S2R-e	12.2W		C32S0R	0.39A	C32S2R	11.6W	
T32S0R-e	0.64A	T32S2R-e	13.1W	131×95×82mm	T32S0R	0.61A	T32S2R	12.5W	131×95×82mm
T32S0T/P-e	0.66A	T32S2T/P-e	12.7W		T32S0T/P	0.63A	T32S2T/P	12.1W	
C48S0R-e	0.7A	C48S2R-e	15W		C48S0R	0.67A	C48S2R	14.4W	
C48S0T/P-e	0.71A	C48S2T/P-e	14.3W		C48S0T/P	0.68A	C48S2T/P	13.7W	
T48S0R-e	0.72A	T48S2R-e	11.1W		T48S0R	0.69A	T48S2R	10.5W	
T48S0T/P-e	0.74A	T48S2T/P-e	10.7W		T48S0T/P	0.71A	T48S2T/P	10.1W	
C60S0R-e	0.77A	C60S2R-e	16.6W		C60S0R	0.74A	C60S2R	16W	
C60S0T/P-e	0.77A	C60S2T/P-e	17W		C60S0T/P	0.74A	C60S2T/P	16.4W	
T60S0R-e	0.78A	T60S2R-e	17.1W		T60S0R	0.75A	T60S2R	16.5W	
T60S0T/P-e	0.8A	T60S2T/P-e	17.8W		T60S0T/P	0.77A	T60S2T/P	17.2W	



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、RUN: 运行指示灯，绿色。常亮 - PLC 处于运行状态；不亮 - PLC 处于停机状态。
- 3、COM: 通讯指示灯，绿色。闪烁 - 正在通讯，闪烁频率表示通讯速度的快慢；不亮 - 没有通讯。
- 4、ERR: 错误指示灯，红色。常亮 - 硬件故障；闪烁 - 软故障；不亮 - 正常。

用户需根据错误指示灯的不同状态做出相应的处理，详见下表：

ERR 指示灯状态	指示信息分类	参考处理方式
不亮	无错误	正常
红色闪烁：指示灯亮 0.5s 灭 0.5s	固件异常或用户程序异常，不可运行用户程序	重新升级系统固件或修改用户程序
红色常亮	硬件故障，不可运行用户程序	返厂维修

三、电源规格

项 目	AC 交流电源	DC 直流电源
输入电压	100~240VAC	DC24V -15%~+20%
电源频率	50~60Hz	—
电源出力	MAX 25VA	—
瞬间电涌	MAX 20A 1.5ms @220VAC	MAX 20A 1.5ms @24VDC
允许瞬间断电时间	20ms 以内 @220VAC	10ms 以内
电源保险丝	2A, 250VAC	2A, 250VAC
5V 输出(CPU 用)	5V,-2%~+2%,1.2A(最大)	5V,-2%~+2%,1.2A(最大)
24V 输出(输出及扩展用)	24V,-15%~+15%,500 mA(最大)	24V,-15%~+15%,500mA(最大)
24V 输出(输入及外设用)	24V,-15%~+15%,200mA(最大)	直接取用 24VDC 输入电源
隔离方式	变压器/光电隔离,1500VAC/1 分钟	无电气隔离
电源保护	DC24V 输出过流保护	直流输入电源极性反接、过压保护

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	AC EFT: ±2500V，浪涌: ±2500V 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)
接地	第三种接地（不可与强电系统通用接地）
使用环境	防尘、防潮、防腐蚀、免受电击及外力冲击等环境

五、开关量输入（DI）规格

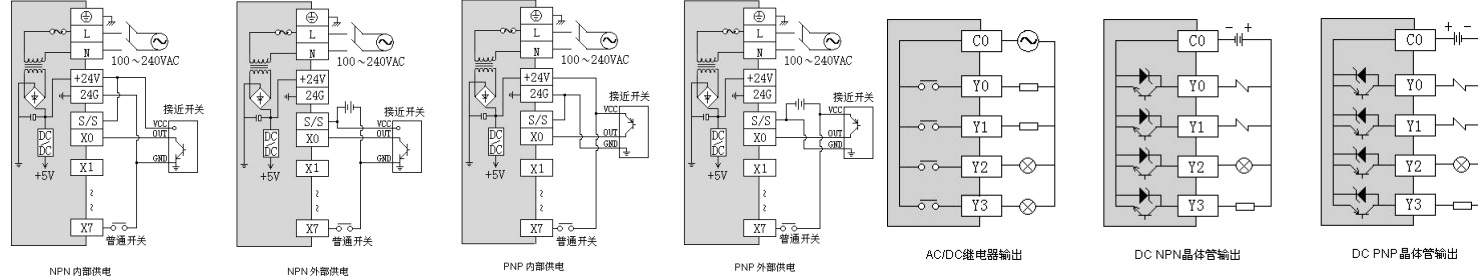
项 目	开关量输入 DI
输入信号	无电压接点或 NPN/PNP
动作驱动	ON: 3.5mA 以上 OFF: 1.5mA 以下
输入阻抗	约 4.3KΩ
输入最大电流	10mA
响应时间	默认 6.4ms，可配置为 0.8~51.2ms
隔离方式	每通道单独光电隔离
输入指示	LED 灯亮表示 ON，不亮表示 OFF
电源输入	PLC 主机内部供电：直流电源（SINK 或 SOURCE）5.3mA@24VDC

六、开关量输出（DO）规格

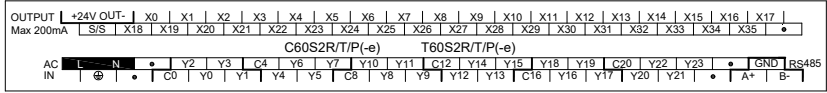
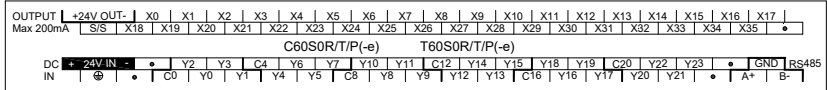
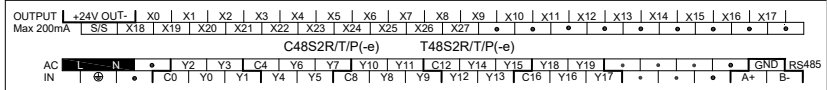
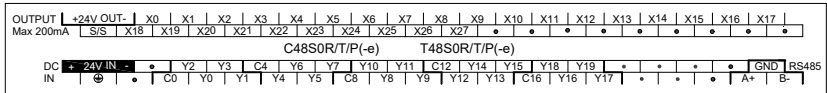
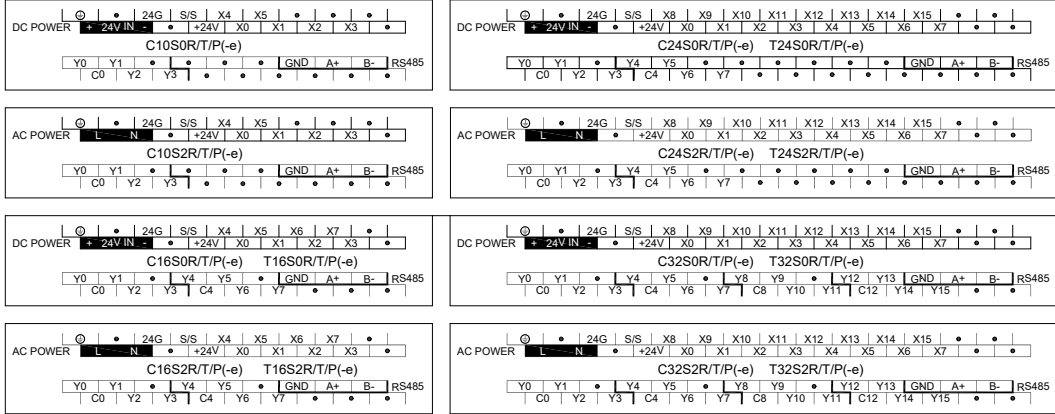
项 目	继电器输出-R	晶体管输出-T
最大负载	电阻性负载	2A/1 点，8A/4 点共 COM
	电感性负载	50VA
	灯负载	100W
最小负载	10mA	2mA
电压规格	250VAC,30VDC 以下	30VDC

驱动能力	最大触点容量：5A/250VAC	MAX 1A 10 秒
响应时间	Off-on 10ms，On-off 5ms	Off→On 10μs，On→Off 120μs
隔离方式	机械隔离	每通道单独光电隔离
输出指示	LED 灯亮表示 ON，不亮表示 OFF	
电源输入	PLC 主机内部供电 24VDC	

七、开关量输入/出（DI/ DO）的接线图



八、主机端子配线图



九、PLC 的安装

请将 PLC 安装在封闭式配电箱内，其四周应与箱体内壁保持一定的空间（如右图所示），以确保 PLC 能良好地散热。

PLC 安装方式分为：导轨安装方式和螺丝安装方式。

导轨安装方式：使用标准 35mm 导轨。

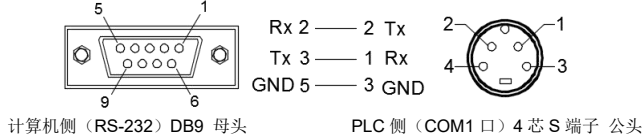
螺丝安装方式：每台主机或扩展模块均有两个螺丝定位孔，孔径为 4.5mm，定位孔的位置及间距请参考产品外型尺寸图。为确保 PLC 能良好地散热，请勿将 PLC 安装在柜内靠近柜壁底部和上部的位置，同时请勿垂直安装 PLC。

扩展模块的连接方法

扩展模块与主机或者扩展模块与扩展模块之间使用总线方式连接，每一个扩展模块在出厂时均配有一根模块扩展连接线。

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，插入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。如此依次连接所有扩展模块。

十、编程电缆接线图



十一、地址设定

带以太网接口 PLC，缺省 IP 地址为：192.168.1.111，子网掩码：255.255.255.0，网关：192.168.1.1。硬件 DIP 拨码开关地址设置范围 1-15，缺省地址为 1。

如需设置更大地址范围，可将 PLC 联机后在编程软件菜单栏-PLC-设置 PLC 参数-勾选使用软地址。

范围 1-254（软地址较硬件拨码地址具有优先级）。

十二、供电电源的接线

PLC 电源输入分为交流输入和直流输入两种，在使用上应注意下列事项：

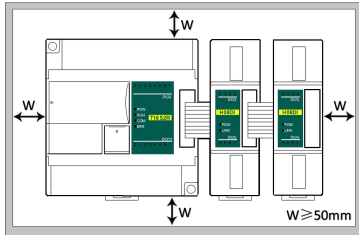
- 交流电源输入的电压为 100~240VAC 50/60Hz，电源的两根线（火线与零线）请接于主机上侧接线端子的 L、N 两个端子上；在接线时，虽可把交流电源的任意一根线接到 L 或 N 端子上，但为安全起见，请将火线（L）连接到 L 端子上，同时将零线接到 N 端子上。

- 如果将 AC110V 或 AC220V 接至+24V 端或者输入点端，将导致 PLC 损坏，请使用者特别注意。
- 主机的接地端使用线径为 2.5mm 以上的导线接地。

感谢您选用 Haiwell PLC，若您对我们的产品或服务有问题或不足之处，敬请告诉我们！。

网址：http://www.haiwell.com http://www.haiwell.cn

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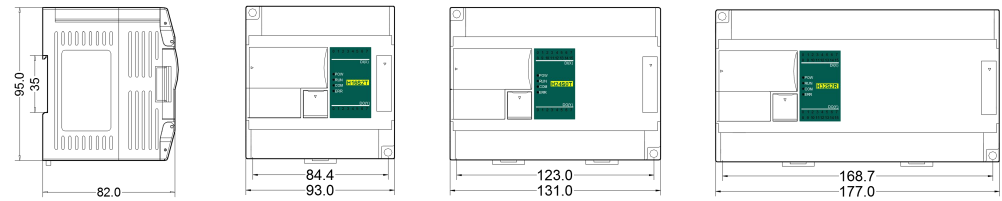


User’s manual of Haiwell C/T series MPU

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1.Product Model List

Type with ethernet	24VDC power supply	Type with ethernet	220VAC power supply	Dimension	Type	24VDC power supply	Type	220VAC power supply	Dimension
C10S0R-e	0.33A	C10S2R-e	9.4W	93×95×82mm	C10S0R	0.3A	C10S2R	8.8W	93×95×82mm
C10S0T/P-e	0.33A	C10S2T/P-e	9.2W		C10S0T/P	0.3A	C10S2T/P	8.6W	
C16S0R-e	0.34A	C16S2R-e	10.2W		C16S0R	0.31A	C16S2R	9.6W	
C16S0T/P-e	0.34A	C16S2T/P-e	10.3W		C16S0T/P	0.31A	C16S2T/P	9.7W	
T16S0R-e	0.56A	T16S2R-e	10.2W		T16S0R	0.53A	T16S2R	9.6W	
T16S0T/P-e	0.58A	T16S2T/P-e	10.9W	131×95×82mm	T16S0T/P	0.55A	T16S2T/P	10.3W	131×95×82mm
C24S0R-e	0.39A	C24S2R-e	11.5W		C24S0R	0.36A	C24S2R	10.9W	
C24S0T/P-e	0.39A	C24S2T/P-e	11.3W		C24S0T/P	0.36A	C24S2T/P	10.7W	
T24S0R-e	0.6A	T24S2R-e	11.3W		T24S0R	0.57A	T24S2R	10.7W	
T24S0T/P-e	0.62A	T24S2T/P-e	11.7W		T24S0T/P	0.59A	T24S2T/P	11.1W	
C32S0T/P-e	0.43A	C32S2T/P-e	12W	131×95×82mm	C32S0T/P	0.4A	C32S2T/P	11.4W	131×95×82mm
C32S0R-e	0.42A	C32S2R-e	12.2W		C32S0R	0.39A	C32S2R	11.6W	
T32S0R-e	0.64A	T32S2R-e	13.1W		T32S0R	0.61A	T32S2R	12.5W	
T32S0T/P-e	0.66A	T32S2T/P-e	12.7W		T32S0T/P	0.63A	T32S2T/P	12.1W	
C48S0R-e	0.7A	C48S2R-e	15W		C48S0R	0.67A	C48S2R	14.4W	
C48S0T/P-e	0.71A	C48S2T/P-e	14.3W	131×95×82mm	C48S0T/P	0.68A	C48S2T/P	13.7W	131×95×82mm
T48S0R-e	0.72A	T48S2R-e	11.1W		T48S0R	0.69A	T48S2R	10.5W	
T48S0T/P-e	0.74A	T48S2T/P-e	10.7W		T48S0T/P	0.71A	T48S2T/P	10.1W	
C60S0R-e	0.77A	C60S2R-e	16.6W		C60S0R	0.74A	C60S2R	16W	
C60S0T/P-e	0.77A	C60S2T/P-e	17W		C60S0T/P	0.74A	C60S2T/P	16.4W	
T60S0R-e	0.78A	T60S2R-e	17.1W	131×95×82mm	T60S0R	0.75A	T60S2R	16.5W	131×95×82mm
T60S0T/P-e	0.8A	T60S2T/P-e	17.8W		T60S0T/P	0.77A	T60S2T/P	17.2W	



2.Indicator Description

- ① PWR:Power indicator,green. Continuous ON - Power good; OFF - Power error.
 - ② RUN:Running indicator,green. Continuous ON - PLC is in running state; OFF - PLC was shutdown.
 - ③ COM:Communication indicator,green. Flickering - PLC is in communicating state, the flicker frequency indicates the speed of the communication; OFF - No communication.
 - ④ ERR:Error indicator,red. Continuous ON - Hardware failure; Flickering - Software failure; OFF - Normal state.
- According to the different states of the Error indicator, users are recommended to take the following actions:

State of the Error Indicator	Indication Information	Actions to Take
OFF	No error	Nothing
Flicker as below: 0.5 second's on with 0.5 second's off	Firmware abnormal or program error, keep running program is not recommended	Re-upgrade firmware or modify program
Continuous ON	Hardware failure, program is unable to run	Send the PLC back to us for repair

3.Power Supply Specification

Item	AC Power Supply	DC Power Supply
Power Supply Voltage	100~240VAC	DC24V -15%~+20%
Power Supply Frequency	50~60Hz	—
Power Consumption	25VA MAX	—
Instantaneous Surge	20A 1.5ms MAX @220VAC	20A 1.5ms MAX @24VDC
Power Loss Time	20ms or less @220VAC	10ms or less
Fuse	2A, 250VAC	2A, 250VAC
5V Output Voltage (for CPU)	5V, -2%~+2%, 1.2A MAX	5V, -2%~+2%, 1.2A MAX
24V Output Voltage (for output and extension)	24V, -15%~+15%, 500mA MAX	24V, -15%~+15%, 500mA MAX
24V Output Voltage (for input and peripheral)	24V, -15%~+15%, 200mA MAX	Use external 24VDC power supply
Insulation Type	Transformer isolation or optoelectronic isolation ,1500VAC/1 minute	No Electrical isolation
Power Protection	DC24V output over current	DC input power polarity reverse, over voltage

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	AC EFT:±2500V Surge:±2500V 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
Ground	The third kind of grounding(Connecting to the ground of high voltage system is prohibited)
Operating environment	Avoid dust, moisture, corrosion, electric shock and external shocks

5.Digital Input (DI)Specification

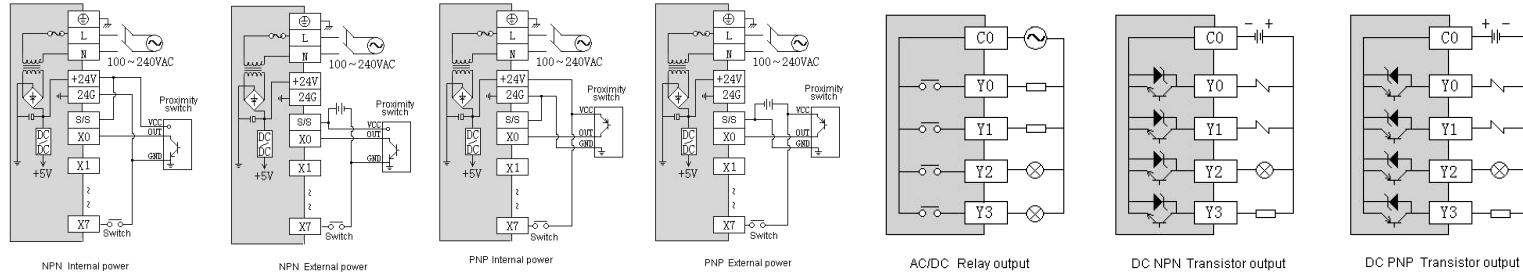
Item	Digital Input (DI)
Input Signal	No voltage contact or NPN/PNP
Action driving	ON>3.5mA OFF<1.5mA
Input Impedance	Input Impedance=4.3KΩ
Maximum Input Current	10mA
Reaction Time	6.4ms DEFAULT, can be configured to 0.8~51.2ms
Insulation Type	Optoelectronic isolation for each channel
Input Indication	LED's lighting indicates ON, no light indicates OFF
Power supply	MPU internal power supply:DC power supply (SINK or SOURCE) 5.3mA@24VDC

6.Digital Output (DO) Specification

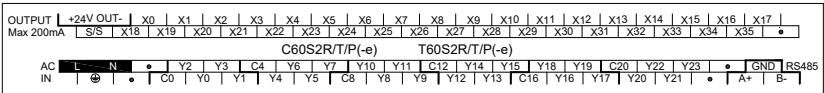
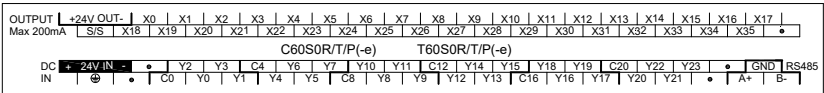
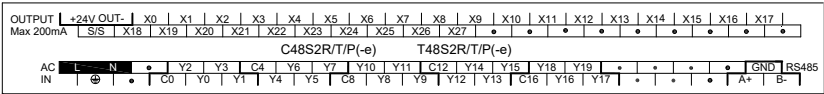
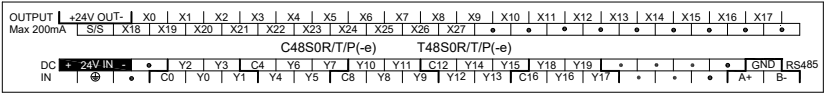
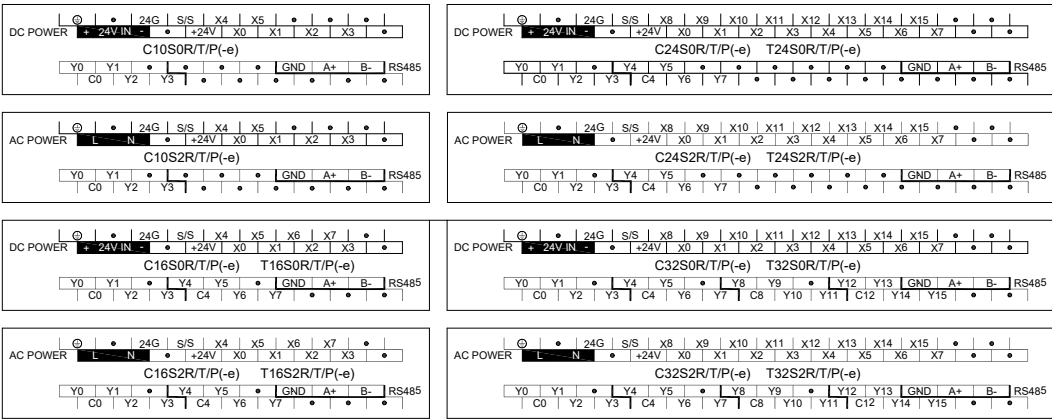
Item	Output point type : Relay - R	NPN or PNP transistor output T/P
Maximum load	Resistive Load	2A/1 point, 8A/4 points COM
	Inductive Load	0.5A/1 point, 2A/4 points COM
	Lamp load	5W/DC24V
Minimum Load		100W
		12W/DC24V
Minimum Load		10mA
Voltage Specification		2mA
		30VDC

Drive Capability	Maximum contact capacity: 5A/250VAC	1A MAX, 10 seconds
Reaction Time	Off→On 10ms, On→off 5ms	Off→On 10μs, On→Off 120μs
Insulation Type	Mechanical isolation	Optoelectronic isolation for each channel
Output Indication	LED's lighting indicates ON, no light indicates OFF	
Power Supply	MPU internal 24VDC power supply	

7.Digital Input/Output (DI/DO) Wiring



MPU Terminal Wiring Diagram



8.Mounting and installation

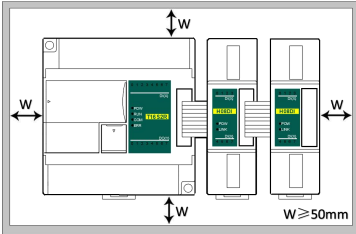
The PLC should be secured to an enclosed cabinet while mounting. For heat dissipation, make sure to provide a minimum clearance of 50mm between the unit and all sides of the cabinet. (See the figure.)

Rail Mounting: Use standard 35 mm rail.

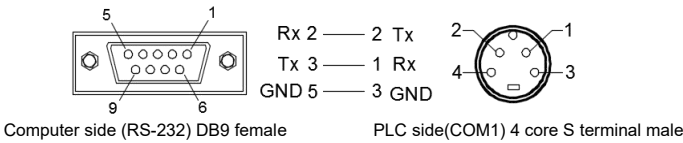
Screw Mounting: Each MPU or extension module has two positioning screw holes, the diameter of the hole is 4.5mm. Please refer to the dimension figure for the location of the positioning holes and their spacing.

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.An 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.



10.Programming Cable Wiring



11. Address Setting

Haiwell PLC with Ethernet port,the default IP address is : 192.168.1.111,subnet mask: 255.255.255.0, gateway: 192.168.1.1.Hardware DIP dial switch address range: 1-15, the default address is 1. If you need to set a bigger address range, you can set on the software after connection with PLC, it can be set on the PLC parameter option in the software menu by checking on the "soft address" with the range of 1-254(the soft address is prior to the hardware dial address).



12. Power Supply Wiring

There are two kinds of power supplies for PLC: AC input and DC input. Please pay particular attention to the following notes:

- AC input voltage is 100~240VAC 50/60Hz unless otherwise stated. Connecting any one of the AC input wires to the terminal-L and terminal-N on the MPU will be OK, but for safety's sake, please connect the two wires (Live Wire & Neutral Wire) of AC input to terminal-L and terminal-N respectively.
- Any AC110V or AC220V connected to the +24V terminal or input points will permanently damage the PLC.
- Please use wires of 2.5mm or above for the grounding of the MPU.

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

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