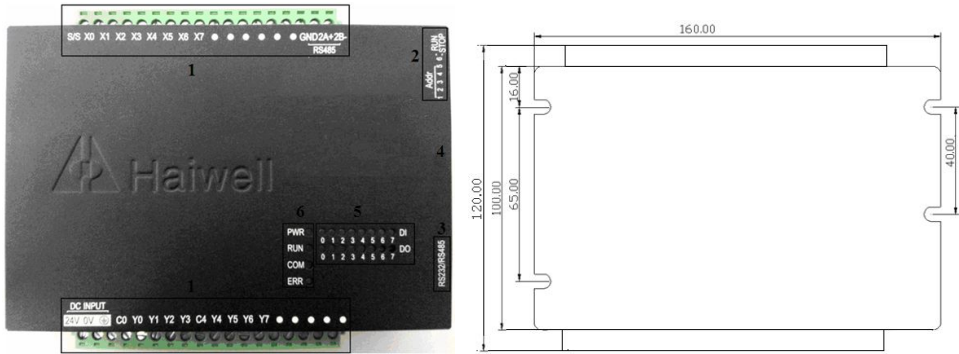




B16S0R/T 使用说明书

一、外观及各部分介绍



- (1): 外接线端子 (5): 开关量输入输出指示灯
(2): 通讯编码开关、运行开关 (6): 电源、运行、通讯、错误指示灯
(3): COM1 (RS232/RS485) 通讯端口

安装尺寸如图 (单位 mm): 长宽高为 160*120*34mm

指示灯说明:

- Power: 电源指示灯 (有电时亮) Run: 运行指示灯 (运行时亮/停止时灭)
Comm: 通讯指示灯 (通讯时闪烁) Err: 错误指示灯 (正常时灭/错误时亮-常亮为硬故障, 闪烁为软故障)

二、电源规格

项目	DC 直流电源
输入电压	DC24V -15%~+20%
瞬间电涌	20A, 24VDC
额定输入功率	10VA (最大)
允许瞬间断电时间	10ms 以内
电源保险丝	0.4A, 250VAC 可恢复
5V 输出 (CPU 用)	5V, -2%~+2%, 0.5A (最大)
24V 输出 (输出及扩展用)	24V, -15%~+15%, 500mA (最大)
电源保护	直流输入电源极性反接、过压保护

三、产品环境规格

项目	环境规格
温度/湿度	工作温度: 0~+55 °C 储存温度: -25~+70 °C 湿度: 5~95%RH, 无凝露
抗干扰能力	DC EFT: ±3000V, 浪涌: ±500V
耐压能力	DC 端子对地线端子间 500VAC, 1 分钟
绝缘阻抗	DC 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

四、开关量输入 (DI) 规格

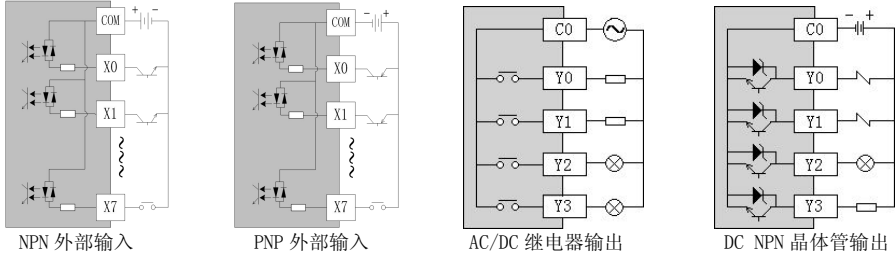
项目	开关量输入 DI
输入信号	无电压接点或 NPN/PNP 开电极晶体管
动作驱动	ON: 3.5mA 以上 OFF: 1.5mA 以下
输入阻抗	约 4.3K Ω
输入最大电流	6.3mA
响应时间	默认 6.4ms, 可配置为 0.8~51.2ms
隔离方式	每通道单独光电隔离
输入指示	LED 灯亮表示 ON, 不亮表示 OFF
电源输入	PLC 主机内部供电: 直流电源 (SINK 或 SOURCE) 5.3mA@24VDC

五、开关量输出 (DO) 规格

项目	继电器输出-R	晶体管 NPN 输出-T
最大负载	电阻性负载 2A/1 点, 8A/4 点共 COM	0.5A/1 点, 2A/4 点共 COM

项目		继电器输出-R	晶体管 NPN 输出-T
	电感性负载	50VA	5W/DC24V
	灯负载	100W	12W/DC24V
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 10us, On→Off 120us
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	

六、开关量输入/出 (DI/DO) 的接线图



七、主机端子配线图

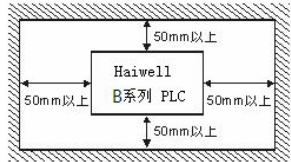


八、PLC 的安装

Haiwell PLC 在安装时 请安装在封闭式之配电柜内, 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。

螺丝安装方式: 每块主板均有 4 个螺丝定位孔, 其孔径为 5.4mm, 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。



九、通讯地址的设定

如右图所示, 为位于 PLC 右上角的 6 位拨码开关, 拨码开关的前五位 1~5 为用于设定 PLC 的站号, **拨码开关第六位为程序运行开关, 当拨到 ON 时, 便运行程序。**

当用户要设定 PLC 的站号时, 修改 PLC 站号的方法如下: 图中黑色部分表示拨码开关的位置, 把其中的一位拨到 ON 时表示该位为 1, 拨到 OFF 时表示该位为 0, 上图中第 1 位为 ON, 2~5 位为 OFF, 反映到 PLC 站号时, 用二进制表示; 拨码开关的第 1 位表示二进制的第 0 位 (b0), 拨码开关的第 5 位表示二进制的第 4 位 (b4), 由此, 拨码开关前 5 位可用于表示二进制的数从 00000 ~ 11111, 把二进制数转化为十进制数后即为 PLC 的站号。如上图所示的拨码开关的位置表示 00001, 即十进制数为 1, 表示 PLC 的站号为 1 (Haiwell PLC 出厂默认设置); 软地址设定, 在“PLC”菜单“设置 PLC 参数”窗口中选择“使用 PLC 软地址”。**合法的 PLC 硬地址为 1~31, 软地址为 1~247。**



十、供电电源的接线

供电电源为直流输入:

注: 自动控制系统设计时要考虑的几点建议: 1、直流电源供电时其回路保护用保险丝以 2A 为好; 2、供电电源进入 PLC 前请使用可同时切断两根电源线的设备 (如空开等); 3、有系统紧急停止按钮: 为预防突发状况发生, 设置一紧急停止按钮, 可在状况发生时, 切断系统电源; 4、系统控制回路隔离装置: 使用电磁接触器、继电器等开关作为系统电源回路隔离装置, 可防止电源断供应时, 造成系统的不稳定; 5、接地阻抗 100 Ω 以下。

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!

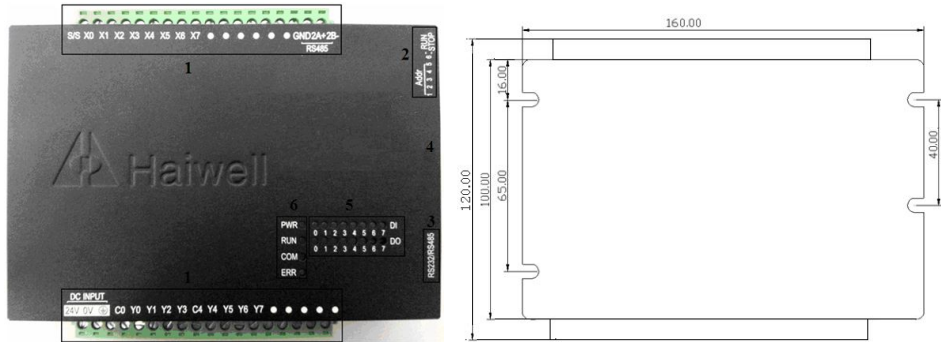
网址: <http://www.haiwell.com> <http://www.haiwell.cn>

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User's manual of B16S0R/T MPU

1. Appearance and introduce



- (1): Terminal Wiring (5): DI/DO indicator
(2): Communication coding switch, Run the switch (6): Power, Running, Communication, Error indicator
(3): COM1 (RS232 / RS485)communication port

Installation dimensions as shown in figure (unit:mm): 160*120*34mm

Indicator Description:

- Power: Power indicator(Continuous ON - Power good)
Run: Running indicator (Continuous ON - PLC is in running state; OFF – PLC was shutdown)
Comm: Communication indicator (Flickering - PLC is in communicating state)
Err: Error indicator (Continuous ON - Hardware failure; Flickering - Software failure; OFF - Normal state)

2. Power Supply Specification

Item	DC Power Supply
Power Supply Voltage	DC24V -15%~+20%
Instantaneous Surge	20A, 24VDC
Power Consumption	10VA(MAX)
Power Loss Time	10ms or less
Fuse	0.4A, 250VAC
5V Output Voltage (for CPU)	5V, -2%~+2%, 0.5A(MAX)
24V Output Voltage (for output and extension)	24V, -15%~+15%, 500mA(MAX)
Power Protection	DC input power polarity reverse, over voltage

3.Environmental specifications for Product

Item	Environment Specification
Temperature/Humidity	Operating temperature:0~+55℃ Storage temperature:-25~+70℃ Humidity: 5~95%RH, No condensation
Interference Immunity	DC EFT:±2500V Anti surge: ±500V
Over Voltage Resistance	500VAC/1min between DC terminal and PE terminal
Insulation Impedance	≧5MΩbetween DC terminal and all input/output points to PE terminal @500VDC
Operating environment	Avoid dust, moisture, corrosion, electric shock and external shocks

4.Digital Input (DI)Specification

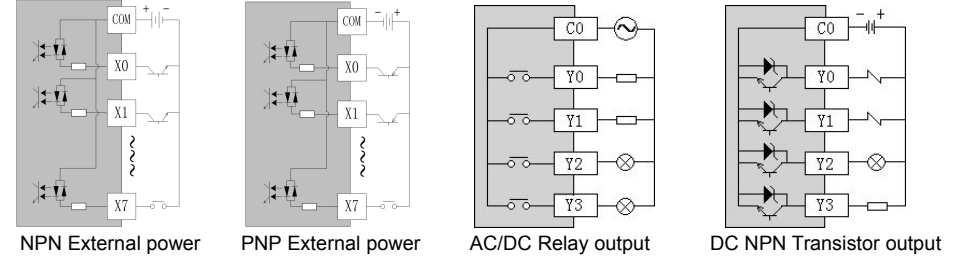
Item	Digital Input (DI)
Input Signal	No voltage contact or NPN/PNP
Action driving	ON>3.5mA OFF<1.5mA
Input Impedance	Input Impedance≈4.3K Ω
Maximum Input Current	6.3mA
Reaction Time	6.4ms DEFAULT, can be configured to 0.8~51.2ms
Insulation Type	Optoelectronic isolation for each channel
Input Indication	LED's lighting indicates ON, no light indicates OFF
Power supply	MPU internal power supply:DC power supply (SINK or SOURCE) 5.3mA@24VDC

5.Digital Output (DO) Specification

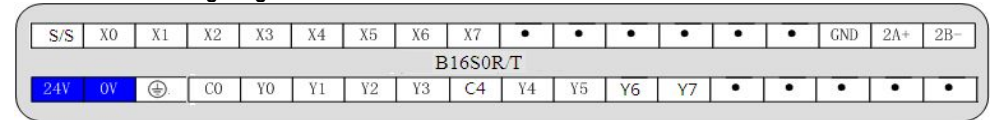
Item	Output point type : Relay - R	Output point type :Transistor - T
Maximum load	Resistive Load	2A/1 point, 8A/4 points COM
	Inductive Load	50VA

Item	Output point type : Relay - R	Output point type :Transistor - T
Lamp load	100W	12W/DC24V
Minimum Load	10mA	2mA
Voltage Specification	Below 250VAC, 30VDC	30VDC
Drive Capability	Maximum contact capacity: 5A/250VAC	1A MAX, 10 seconds
Reaction Time	Off→On 10ms, On→off 5ms	Off→On 10us, On→Off 120us
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	

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



7.MPU Terminal Wiring Diagram

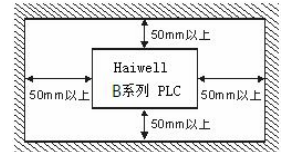


8.Mounting and installation

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.)

Screw Mounting: Each MPU or extension module has four positioning screw holes, the diameter of the hole is 5.4mm. 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.



9.Set the Address

As shown in the right picture, is the PLC's six positions DIP switches, The top five positions of DIP switches(1-5) is used for setting the station number, the DIP switches sixth position is program operation switch, when dialed to "ON", run the program.

When users want to set the station number, as follows: The black part in the picture represents the position of the DIP switch, dialed one of them to "ON" indicates this bit is 1 while toggled to "OFF" indicates the bit is 0. In the above picture the first one is "ON", 2 ~ 5 is "OFF", reflected to the Station number, in binary: DIP switch first position represents LSB(b0), the 5th represents MSB (b4). Thus, The top five represent a binary number from 00000 ~ 11111, converted the binary number to decimal to obtain the network Station number. The DIP switch positions in the picture above indicates 00001, that is decimal number 1, indicating that the network Station number is 1 (Factory default settings); Soft address setting :Select "Set PLC Parameters" in the "PLC" menu, then in the pop window, select "Use PLC soft address". Legitimate hard address is from 1 to 31, soft address is 1 to 247.



10.power supply wiring

DC input power supply:

Note:

Suggestions on automatic control system:

- The DC power supply system the best choice of the fuse is 2A.
- Before the power supply entering the PLC use devices can simultaneously off the two power cords (such as Air switch, etc) emergency stop button.
- Use emergency stop button: To prevent the occurrence of unexpected situations, set up an emergency stop button when the situation occurs, power off the system in time.
- System control circuit isolation devices: Use electromagnetic contactor and the relay as the system power supply circuit isolation devices, prevent discontinuous power supply, resulting in an unstable system.
- Grounding resistance 100Ω or less.

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

Haiwell website: <http://www.haiwell.com> <http://www.haiwell.cn>