

安 装 说 明



Servotronic Motion Control Ltd.

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1. 安装注意事项

1.1 环境要求

工作环境温度: MI-E-10-401-0000 人机界面的设计规范可以保证它能够在 32°F ~122°F (0~50°C) 的大多数工业环境中稳定工作。NEMA 防护规定: MI-E-10-401-0000 人机界面的前面板符合 NEMA1 的防护规定。

请勿在以下场所使用:

- 阳光直射处
- 周围温度和相对湿度超出规格的场所
- 温度急剧变化易引起结露的场所
- 有腐蚀性气体和可燃性气体的场所
- 尘埃、灰尘、盐分、铁粉较多的场所
- 会被溅到水、油、药品等飞沫的场所
- 给主机带来直接振动和冲击的场所

在以下场所使用时请采取屏蔽措施:

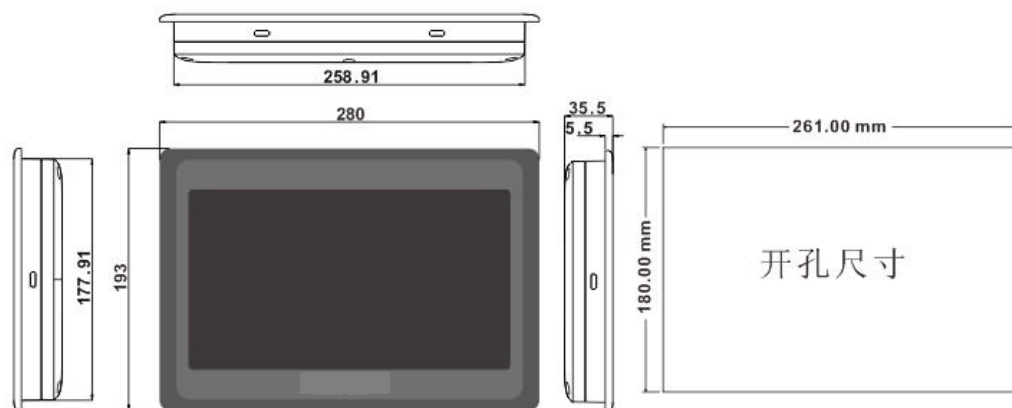
- 有静电或其它形式噪音处
- 有较强电磁场的场所
- 可能暴露于射线的场所
- 靠近于动力电源的场所

1.2 电源要求

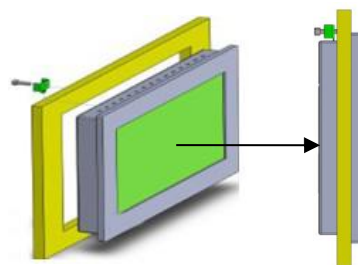
- 输入电压: DC21V~DC28V;
- 特别需要注意与变频调速器和开关电源供应器保持较远的距离, 这类设备的输入和输出电缆都必须采用屏蔽电缆, 并将屏蔽网接到系统的星形接地点;
- 直流电源必须与交流主电源正确的隔离开;
- 不要让 MI-E-10-401-0000 人机界面和感性负载或控制器的输入电路共用电源。
注意: 产品内部的快速熔丝在电源电压过高的时候可以起到保护作用, 但并不能够确保内部电子元件不被损坏。

2. 产品安装

2.1 尺寸图



2.2 固定螺钉安装说明



将产品放入安装孔中, 从面板背面将安装螺钉卡入产品外壳周围的安装螺钉固定孔, 逐个锁紧螺钉, 直到产品牢靠地固定在面板上。

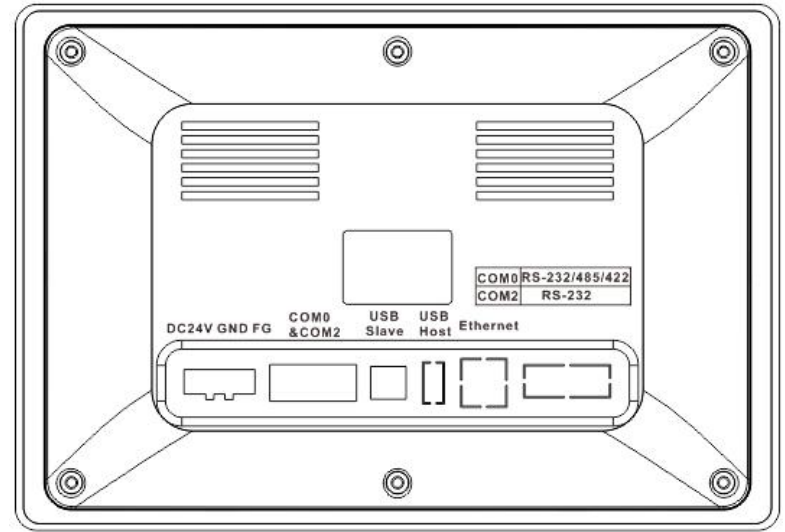
- 为保证符合 NEMA1 的密封规范, 随产品提供的安装螺钉必须全部使用, 并且安装面板的弯曲度不能超过 0.010"。
- 不要过分用力锁紧安装螺钉!

2.3 电源连接

在连接电源前, 请确认符合所有当地和国家的电气标准。电源线缆请选择耐压值和电流值符合安全规定的线缆。

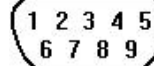
将产品背面接线端子的螺丝按逆时针方向旋松, 插入已经压接了端子的电源电缆, 然后顺时针拧紧接线端子的螺丝。**注意:** 将电源的正极接到标有 '+' 的端子上, 直流的地接到标有 '-' 的端子上, 地线接到标有 'FG' 的端子上。

3. 外部接口



3.1 COM0/COM2

COM0/COM2 通讯端口是 9 针 D 型公座。这个端口用于连接具有 RS232/485/422 通讯端口的控制器。**注意:** COM0 支持 RS232/485/422 通讯功能, COM2 支持 RS232 通讯功能。



管脚	信号	PLC (COM0) [RS-485] 4 wire	PLC (COM0) [RS-485] 2 wire	PLC (COM0) [RS-232]	PC/PLC (COM2) [RS-232]
1	Rx- (B)	RS485 接收	RS485 B		
2	RxD_PLC			RS232 接收	
3	TxD_PLC			RS232 发送	
4	Tx-	RS485 发送			
5	GND	信号地			
6	Rx+ (A)	RS485 接收	RS485 A		
7	RxD_PC				RS232 接收
8	TxD_PC				RS232 发送
9	Tx+	RS485 发送			

3.2 USB SLAVE 接口

连接	通过一条通用的 USB 通讯电缆和 PC 机连接
端口作用	上/下载用户组态程序和设置 HMI 系统参数

3.3 USB HOST 接口

连接	连接 USB 接口设备或 U 盘
端口作用	连接 USB 接口键盘、鼠标、打印机等, 插入 U 盘上传/下载程序以及存储数据

3.4 以太网接口

以太网接口为 10M/100M 自适应以太网端口。

连接	采用标准 RJ45 接口网线与以太网设备连接
端口作用	用于 HMI 组态的上/下载, 系统参数的设置和在线模拟; 构成多 HMI 联机; 与 PLC 等通过以太网通讯; 通过以太网口与 PC 机通讯

4. 工作模式

4.1 进入模式选择界面操作说明

触摸屏上电前用手指按住液晶屏不放, 给触摸屏上电, 待触摸屏自动进入模式选择界面之后方可松手, 根据模式选择界面提示进入相关操作。如果在进入模式选择界面 20S 内没有有效操作或无操作, 系统将自动进入触控校正界面。

4.2 模式选择界面功能菜单说明

进入模式选择界面会弹出一个启动菜单对话框, 详细功能模式说明如下:

系统设置: 单击此按钮, 系统进入设置界面, 在此画面中可以设置开机启动画面, 屏保时间, 蜂鸣器声音, 以及亮度调节, 设置完成后, 可单击 Restart 按钮重启触摸屏。

固件更新: 单击此按钮, 系统进入固件更新画面, 在此画面中可以进行固件更新工作, 一般用户请不要使用此模式。

触控校正: 单击此按钮, 系统进入触摸屏校正画面, 校正成功后会自动重启。

停止倒计时: 单击此按钮, 控制 20S 倒计时启停。

备注: 在模式选择界面的右上角有一个多语言切换按钮, 单击此按钮可进行中英文切换。

5. 售后服务

如您在安装和使用过程中有任何疑问, 敬请联系 Servotronic 技术支持部门
Email: tech.support@servotronic.com

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1. Installation Note

1.1 Environmental Requirement

Operating temperature: MI-E-10-401-0000 HMI can work stably in most industrial environments that the temperature between 32°F to 122°F (0~50°C).

NEMA rating: This Series HMI frontpanel is NEMA 1 rated.

Please do not use in the following places:

- Places direct in sunlight
- Surrounding temperature and humidity beyond the specifications
- Places of temperature changes sharply and easily cause condensation
- Places that exist corrosive gas and combustible gas
- Places of much dust, dirt, salt and iron powder
- Places that will be splashed water, oil and drugs

Please take shielding measures in the following places:

- Places that exist electrostatic or other kinds of noise
- Places of strong electromagnetic
- Places that may be exposed to rays

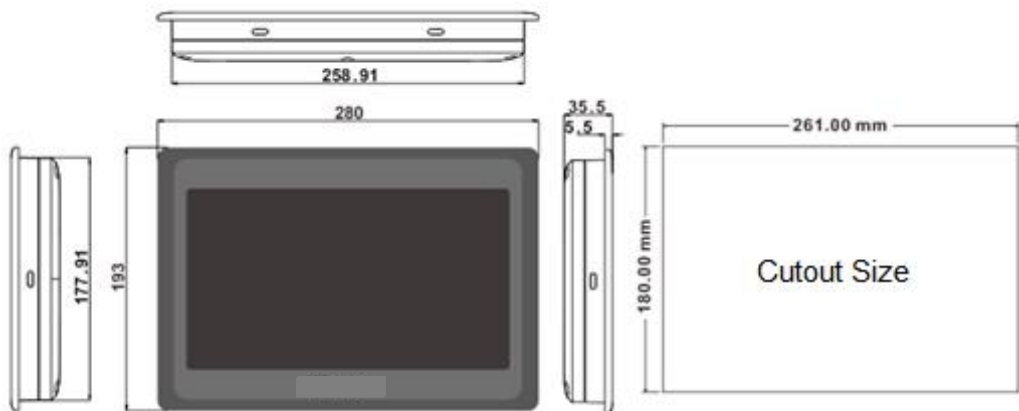
1.2 Power Requirement

- Input voltage: DC21V~DC28V:
- Particularly note that there must be enough distance between this product and converters or switch mode power supply. Make sure that the input and output cables of that kind equipment are shield cable and the shielding network is connected with the ground.
- Make sure that the DC power and AC power is isolated.
- Do not use common power with perceptual load or input circuit of the controller.

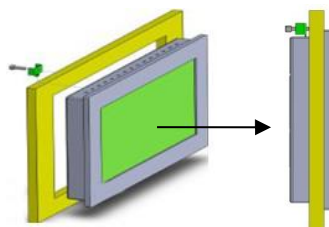
Note: An Internal fuse will prevent damage for over voltage condition, however it isn't guaranteed the internal electronic components are not damaged.

2. Installation Description

2.1 Dimensional Drawing



2.2 Fixed Screw Installation Instructions



Put the unit through the panel cut out. Slide the clamps into the 4 holes provided around the case. Tighten the clamping screws in an even pattern until the unit is secured in the panel.



- To seal to NEMA1 specifications, all supplied mounting clamps must be used and panel cannot flex more than 0.010".
- Do not over-tighten mounting clamps!

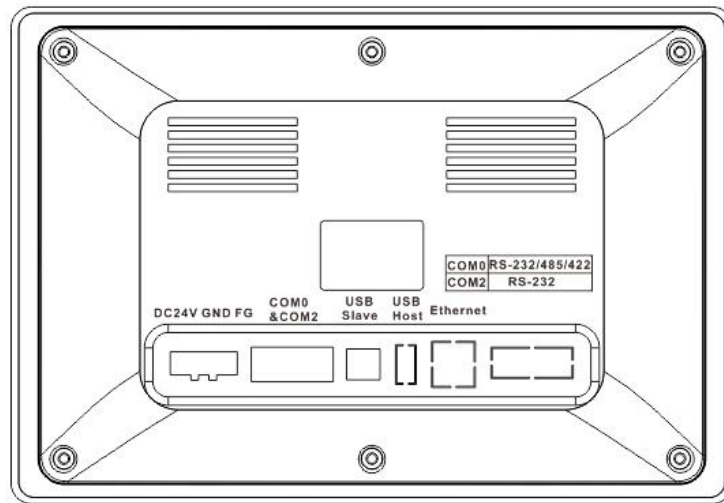
2.3 Power Connection

Before connecting the power, please make sure all local and national electrical standards are met. For power cables, please select cables with their dielectric strength values and current values in compliance with the safety specifications.

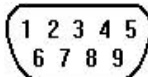
First find the power terminal at the back of the product and loosen the screw according to counterclockwise, then insert the power cables and tighten the screw up.

Connect positive DC line to the '+' terminal, the DC ground to the '-' terminal and the ground line to the 'FG' terminal.

3. External Interface



3.1 COM0/COM2



Pin assignment of the 9-pin male, D-SUB, COM0. This port is used to connect the controller with RS-232/485/422 port. **Note:** RS232/485/422 communication functions are supported by COM0. COM2 supports RS232 communication function.

Pin	Signal	PLC (COM0) [RS-485] 4 wire	PLC (COM0) [RS-485] 2 wire	PLC (COM0) [RS-232]	PC/PLC (COM2) [RS-232]
1	Rx- (B)	RS485 Rx	RS485 B		
2	RxD_PLC			RS232 Rx	
3	TxD_PLC			RS232 Tx	
4	Tx-	RS485 Tx			
5	GND	Signal ground			
6	Rx+ (A)	RS485 Rx	RS485 A		
7	RxD_PC				RS232 Rx
8	TxD_PC				RS232 Tx
9	Tx+	RS485 Tx			

3.2 USB SLAVE

Connection	USB Slave port can be connected with a PC
Port Function	The port is only used to download user configuration program to the HMI and to set HMI system parameters.

3.3 USB HOST

Connection	Connect with USB interface devices or U disks
Port Function	This interface can be connected with USB keyboard, mouse and printers, and the U disk can be used for user's configuration uploading/ downloading as well as data storage.

3.4 Ethernet

Ethernet interface can adaptive 10 M/ 100 M.

Connection	With a standard RJ45 interface cable connected to the Ethernet device.
Port Function	The port can be used for upload/download of HMI configuration, setting of system parameters and online simulations of configurations. It can connect multiple HMIs via the Ethernet to form an HMI network. Furthermore, it can implement communications between HMI and PLC via the Ethernet, as well as communications with a PC via the Ethernet port.

4. Operation Mode

4.1 Instructions for entering Operation Mode selection window

Press and hold the touch panel before power on HMI, then power on HMI. Release your help after HMI enter operation mode selection window, then select the operation mode. If no any operation in 20s after entering operation mode selection window, HMI will enter application mode automatically.

4.2 Descriptions of functions in Operation Mode selection window

After entering operation mode selection window, it will popup a menu. Follows are the descriptions of the functions in the menu:

System Setup: Press this button to enter system setup window. This window is used to set initial window, screen saver time, buzzer and brightness adjustment. After setting, press Restart button to restart HMI.

Firmware Update: Press this button to enter firmware update window. This window is used to update firmware. Normally this mode is not advised to use without guiding by manufacturer.

Touch Calibration: Press this button to enter touch calibration window. It will restart HMI automatically after calibration successful. There is a timer in this button, it will enter application window if there is no operation within 20s.

Stop timer: Press this button to stop the 20s timer.

Note: There is a multi-languages button, it is used to switch the English and Chinese.

5. After-sales Service

If you need assistance with the installation and configuration of the softMI HMI, contact Servotronic Technical Support, Email: tech.support@servotronic.com