4.3吋系列人机界面安装说明书

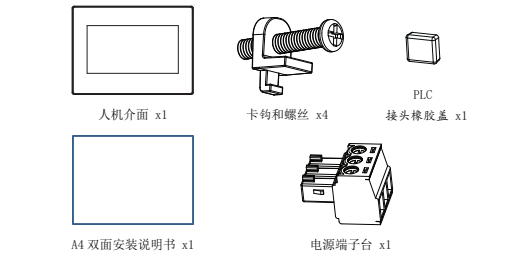感谢您购买人机界面，在安装或操作设备前，请仔细阅读本安装说明书以确保正确使用。

1. 安全注意事项 （使用前先阅读这些注意事项）

1.1 一般说明

- 打开包装并检查货件是否损坏，如果发现有任何损坏或变形的情形，请联络您的供应商。
- 自行拆解、更改或修改设备，供应商概不负责。
- 不要让液体或任何导电粒子进入到人机界面内。否则可能会损坏装置，引起火灾或故障。
- 只有合格的人员才可以安装、检查和进行维护此设备。
- LCD面板内的液晶是一种有害的物质，如果面板损坏，请避免接触泄漏的液晶。如果液晶溅到衣服或皮肤上，请用肥皂彻底洗掉。若是眼睛接触泄漏的液晶，请保持眼睛睁开，用大量清水冲洗并尽快就医。
- 电源上电中不要触摸任何端子，否则可能会造成触电引起人身伤害。
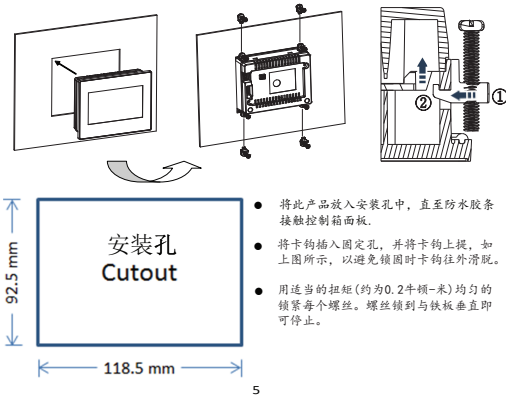- 从事安装、接线作业，进行维修或设备检查之前，请先断开电源。否则，可能会造成损坏或触电。

1.2 安装期间

- 只有合格的人员才可以安装此产品。
- 请依照安装程序安装此产品。
- 连接此产品前，请检查电源极性正确并且电压是否在规定范围内。
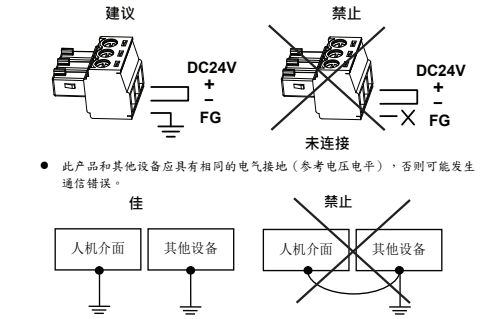- 使信号线和电源线远离高电压或大电流传输的电缆。

建议　　禁止

DC24V +／FG　　DC24V +／FG

未连接

- 此产品和其他设备应具有相同的电气接地（参考电压电平），否则可能发生通信错误。

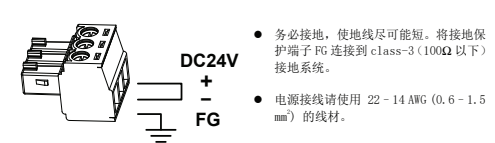佳　　禁止

人机介面　其他设备　　人机介面　其他设备

1.3 操作期间

- 不要用尖锐物体或过度用力按压触控式荧幕，这可能会损坏显示荧幕。
- 不要使用此产品的输出信号作为任何安全功能或系统紧急的停止。如果触控功能发生故障可能会导致人身伤害或设备损坏。

1.4 服务与维护

- 适用于合约保固。
- 在进行清洁或维护前，请先断开电源设备。
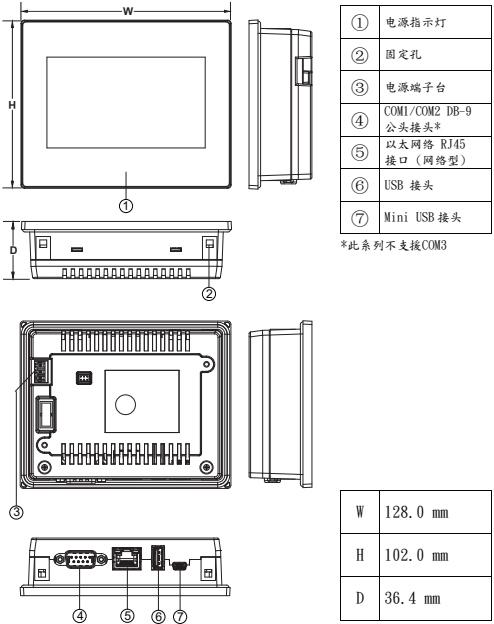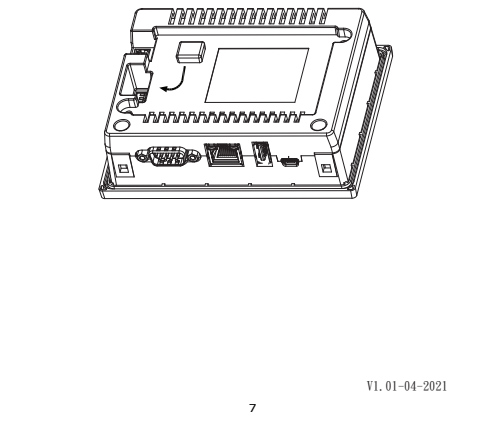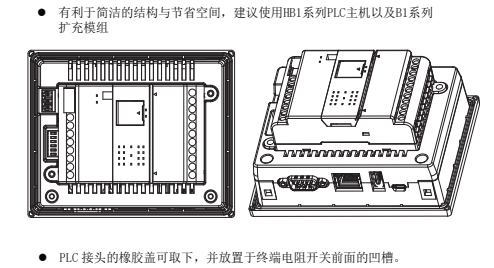- 只有合格的人员才能进行维护和维修。
- 可使用软布和中性清洁剂来清洁前面板。
- 请使用原厂配件。

2. 部件名称和尺寸

①	电源指示灯
②	固定孔
③	电源端子台
④	COM1/COM2 DB-9 公头接头*
⑤	以太网络 RJ45 接口（网络型）
⑥	USB 接头
⑦	Mini USB 接头

*此系列不支援COM3

W	128.0 mm
H	102.0 mm
D	36.4 mm

3. 产品规格

Model	4.3吋串口型	4.3吋网络型
	Type of item tested	Control	
	Product Description	Operator Panel	
	Connections to mains supply	Permanent	
	Overvoltage category	II	
	Pollution degree	2	
	Means of Protection	Class III	
UL 61010-1 Technical Consideration	Environmental conditions	Operating Temp. 0~50℃ Storage Temp. -20 ~ 60 ℃	
	For use in wet locations	No	
	Equipment mobility	Built in	
	Operating conditions	Continuous	
	Overall size	128.0 x 102.0 x 36.4 (mm)	
	Weight	215 (g)	235 (g)
	Marked degree of protection	Front panel: IP65 / Rear Case: IP20 to IEC 60529 Type 1 to UL 50E	
	Equipment classification	Industrial, Professional, Commercial	
	Equipment class	Class III	
	Equipment type	Permanently connected, Fixed	
通讯口	通讯接头1	Connector: D-Sub 9-Pin COM1: RS-232 (TXD, RXD) COM2: RS-422/485	
	通讯接头2	---	
	网络	---	10M/100M
	USB	USB2.0 Type-A (Host)x1 (针对4.3吋串口型，只能做OS更新) USB2.0 Type mini-B (Device)x1	
	Micro SD	---	
	音频输出	---	
	PLC扩充	HB1 main unit	
	终端电阻指拨开关	---	
电源	输入电源	14V~32V(隔离电源)	
	消耗功率	420mA@24VDC	
环境	操作环境湿度	10%~90%@ 40°C (非冷凝)	
	耐电压	AC500V/20mA/1 Min. (电源端子与 FG 端子间)	
	耐震度	5~9Hz 单振幅：3.5mm 9~150 Hz 加速度：19.6m/s² (2G) X、Y、Z 方向各 10 次 (符合 IEC61131-2 规范)	
	噪声抑制	电压 1000Vp-p，波宽 1us，上升时间 1ns	
	接地电阻	小于 100Ω	
尺寸	开孔尺寸	118.5 x 92.5 (mm)	

4. 组件说明

人机介面 x1　　卡钩和螺丝 x4　　PLC 接头橡胶盖 x1

A4 双面安装说明书 x1　　电源端子台 x1

5. 安装程序

安装孔 Cutout

92.5 mm　118.5 mm

- 将此产品放入安装孔中，直至防水胶条接触控制箱面板.
- 将卡钩插入固定孔，并将卡钩上提，如上图所示，以避免锁固时卡钩往外滑脱。
- 用适当的扭矩(约为0.2牛顿-米)均匀的锁紧每个螺丝。螺丝锁到与铁板垂直即可停止。

6. 连接电源

DC24V +／−／FG

- 务必接地，使接地线尽可能短。将接地保护端子 FG 连接到 class-3（100Ω 以下）接地系统。
- 电源接线请使用 22 - 14 AWG (0.6 - 1.5 mm²) 的线材。

7. 通讯介面

DB-9 公头接头			
脚位	COM1 [RS-232]	COM2 [RS-422]	COM2 [RS-485]
1	NC*1	TX+	DATA+
2	RX	NC	NC
3	TX	NC	NC
4	NC	RX+	NC
5	GND	GND	GND
6	NC	TX-	DATA-
7	NC	NC	NC
8	NC	NC	NC
9	NC	RX-	NC

*1 NC: 无连接

8. PLC 扩充说明

- 有利于简洁的结构与节省空间，建议使用HB1系列PLC主机以及B1系列扩充模组

- PLC接头的橡胶盖可取下，并放置于终端电阻开关前面的凹槽。

V1. 01-04-2021

4.3 inch HMI Installation Guide

Thank you for purchasing HMI. Before installing or operating the unit, please read this installation guide carefully to ensure correct use.

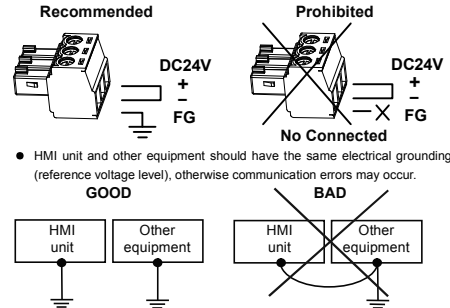## 1. Safety Precautions (Read these precautions before use.)

1.1 General

- Unpack and check the delivery for transportation damage. If any damage or deformation is found, please notify the supplier.
- The supplier is not responsible for the disassembled, altered or modified device.
- Never allow fluid or any conductive particles to enter into the HMI. Otherwise, it may damage the HMI, cause fire or malfunction.
- Only qualified personnel may install the HMI, perform maintenance and inspection.
- The liquid crystal inside the LCD panel is a hazardous substance. If the panel is damaged, avoid contact with the leaked liquid crystal. If the liquid crystal spills on clothing or skin, use soap and wash off thoroughly. In case of eye contact the liquid, hold the eye open, flush with plenty water and get medical attention as soon as possible.
- Do not touch any terminals while the power is on. Otherwise, it may cause injury due to electrical shock.
- Disconnect the power supply before installing the HMI, do wiring operation, perform maintenance or inspection. Otherwise, it may cause damage or electrical shock.

1.2 Installation

- The installation may be carried out by qualified personnel only.
- Install the HMI according to the installation procedures.
- Check the power source voltage is within the specified range and the polarity is correct before connecting the HMI.
- Keep signal and power supply cables away from high-voltage, large-current carrying cables.

1

⚠ **Caution** Please use solid wires between 22AWG and 14AWG. Maximum 300V and rated temperature to 105°C for input power pins.

⚠ **Caution** Make sure the HMI is properly grounded to prevent electrical shock, fire or malfunction.

Recommended | **Prohibited**

- HMI unit and other equipment should have the same electrical grounding (reference voltage level), otherwise communication errors may occur.
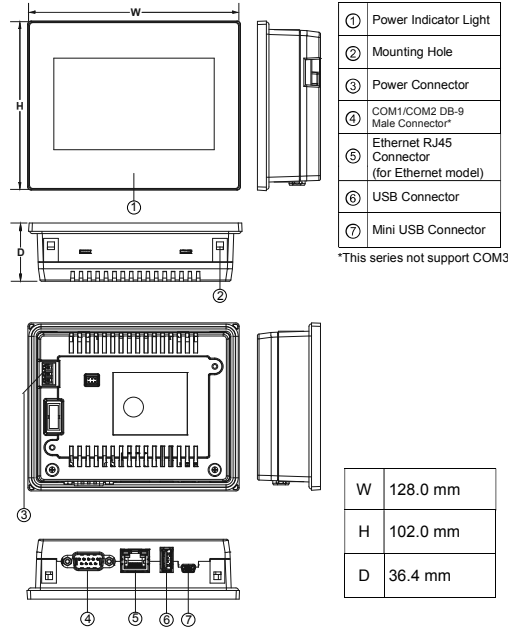
GOOD | **BAD**

1.3 Operation

- Do not use sharp objects or excessive force to press the touch screen. This may damage the touch screen.
- Do not use the output signal of the device as any safety function or system emergency stop. It may result in personal injury or equipment damage if a malfunction of the touch occurs.

1.4 Maintenance and Service

- The agreed guarantee applies.
- Only qualified personnel should make repairs and perform maintenance.
- Disconnect the device from the power supply before carrying out cleaning or maintenance.
- Clean the front panel with a soft cloth and mild detergent.
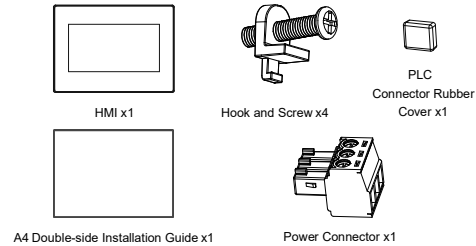- Please use original replacement spare parts or accessories.
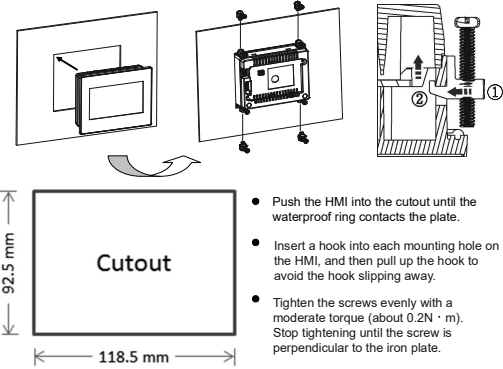
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2. Part Names and Dimensions

①	Power Indicator Light
②	Mounting Hole
③	Power Connector
④	COM1/COM2 DB-9 Male Connector*
⑤	Ethernet RJ45 Connector (for Ethernet model)
⑥	USB Connector
⑦	Mini USB Connector

*This series not support COM3

W	128.0 mm
H	102.0 mm
D	36.4 mm

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3. Specifications

Model	4.3 inch Serial model	4.3 inch Ethernet model
UL 61010-1 Technical Consideration	**Type of item tested**	Control	
	Product Description	Operator Panel	
	Connections to mains supply	Permanent	
	Overvoltage category	II	
	Pollution degree	2	
	Means of Protection	Class III	
	Environmental conditions	Operating Temp. 0~50℃ / Storage Temp. -20 ~ 60℃	
	For use in wet locations	No	
	Equipment mobility	Built in	
	Operating conditions	Continuous	
	Overall size	128.0 x 102.0 x 36.4 (mm)	
	Weight	215 (g)	235 (g)
	Marked degree of protection	Front panel: IP65 / Rear Case: IP20 to IEC 60529 Type 1 to UL 50E	
	Equipment classification	Industrial, Professional, Commercial	
	Equipment class	Class III	
	Equipment type	Permanently connected, Fixed	
I/O Port	**Serial 1**	Connector: D-Sub 9-Pin COM1: RS-232 (TXD, RXD) COM2: RS-422/485	
	Serial 2	---	
	LAN	---	10M/100M
	USB	USB2.0 Type-A (Host)x1 (Only OS Update for 4.3 inch Serial model) USB2.0 Type mini-B (Device)x1	
	Micro SD	---	
	Audio	---	
	PLC Extension	HB1 main unit	
	Termination Switch	---	
Power	**Power Input**	14V~32V(isolated power)	
	Consumption	420mA@24VDC	
Environment	**Relative Humidity**	10%~90%@ 40°C (non-condensing)	
	Withstand Voltage	AC500V/20mA/1 Min. (between charger & FG terminals)	
	Vibration	5 to 9Hz Half-amplitude: 3.5mm 9 to 150 Hz Constant acceleration: 19.6m/s2 (2G) 3 directions of X, Y, Z: 10times (IEC61131-2 complaints)	
	Noise Suppression	1000Vp-p, width 1us, rising time 1ns	
	Grounding Resistance	Below 100Ω	
Dimension	**Cut-out**	118.5 x 92.5 (mm)	

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4. Unpacking the Unit

HMI x1 | Hook and Screw x4 | PLC Connector Rubber Cover x1
A4 Double-side Installation Guide x1 | Power Connector x1

5. Installation Procedures

92.5 mm

Cutout

118.5 mm

- Push the HMI into the cutout until the waterproof ring contacts the plate.
- Insert a hook into each mounting hole on the HMI, and then pull up the hook to avoid the hook slipping away.
- Tighten the screws evenly with a moderate torque (about 0.2N・m). Stop tightening until the screw is perpendicular to the iron plate.

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6. Power Connection

- Be sure to connect the ground FG terminal to a class-3 ground (Ground resistance should not exceed 100Ω). Try to make the ground wire as short as possible
- Use 22~14 AWG (0.6~1.5 mm²) wire for the power connections.

7. Pin-out of COM Ports

DB-9 Male Connector

PIN#	COM1 [RS-232]	COM2 [RS-422]	COM2 [RS-485]
1	NC*1	TX+	DATA+
2	RX	NC	NC
3	TX	NC	NC
4	NC	RX+	NC
5	GND	GND	GND
6	NC	TX-	DATA-
7	NC	NC	NC
8	NC	NC	NC
9	NC	RX-	NC

*1 NC: No Connection

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8. PLC Extension Tips

- For compact size and saving space, using HB1 main units + B1 extension modules is recommended.
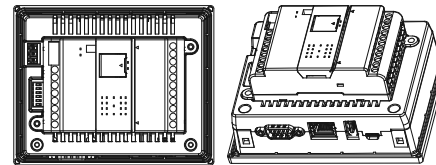
- The rubber cover of the PLC connector can be taken off and placed into the termination switch slot.

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