i Series HMI Installation Manual

Part 1　General Note

● The communication interfaces of this series of HMI all support RS232, RS485, RS422 communication, which are composite communication ports. When downloading the project, please use the USB download cable, U disk or Ethernet interface to download.
● The power ground must be connected to make the HMI run correctly.
● The communication ground must be connected to make the HMI communicate correctly.

Part 2　Safety Precautions

Notice following safety precautions at any moment when installing,wiring,operating,vindicate and examine.

Installation
● Please setup the HMI according to this manual otherwise it may cause device damage.
● It's Forbid to uncover the product in the environment that has water vapor,Corrosive gas or combustible gas,otherwise it may cause short circuit or fire.

Wiring
● Please connect the grounding terminal with class-3ground,otherwise it may cause short circuit or fire.
● this series HMI use 24-volt power supply.Any connection of non-standard power supply will lead to machine damage.

Operation
● this series HMI need PIStudio software to design project picture. HMI not designed may lead to run abnormally.
● Do not change wiring while the power is ON,otherwise it may cause short circuit or device damage.
● Please do not touch panel with sharp objects,otherwise it may lead to panel depressed,there by make HMI run abnormality.

Maintenance
● It's forbidden to touch inside HMI,or else it may lead to short circuit or device damage.
● When power,It's forbidden to dismantle HMI panel,otherwise it may lead to short circuit or device damage .
● Do not touch connection terminal in 10 minutes of turning off power,otherwise residual voltage may lead to short circuit or device damage.
● When operating,exhaust vent should not be sealed,otherwise it may lead to failure easily.

Communication
● Please connect to the communication wire according to this manual.
● The length of communication wire should meet the requirement.
● Use the correct ground loops in order to avoid abnormal communication.

Part 3　Work Environment

The product must be placed in the pack box before installation,if not used for a while,in order to make the product accord with the warranty of our company and future maintenance, be sure to notice the following items when stored.
● Storage environment must be dry and dust-free.
● Storage ambient temperature must refer to "Specifications".
● Storage humidity must refer to "Specifications".
● Avoid corrosive gases and liquids in the storage environment.
● Avoid placing the product directly on the ground.

Part 4   Basic Inspection

Please do following basic checking before using this series HMI.

General

- Check if each screw is loose.
- The vent hole should be protected from oil, water and metal powder, and the chip powder of the drill should be prevented from falling into the HMI.
- If there are harmful gases or dust in the HMI operating environment, please take protective measures.

Checking before installation (Unpowered)

- Please deal with connection division of wiring terminal insulated.
- Communication wiring should be correct, otherwise abnormal operation may occur.
- Check for foreign matter entering the interior of the HMI, especially for flammable substances and conductive materials such as screws, metal sheets, etc.
- Please regulate instrument to reduce electromagnetism interference.
- Check HMI supply voltage.

Checking before running (powered)

- Check the status of the power indicator.
- Check if the communication between the HMI and the device is normal.
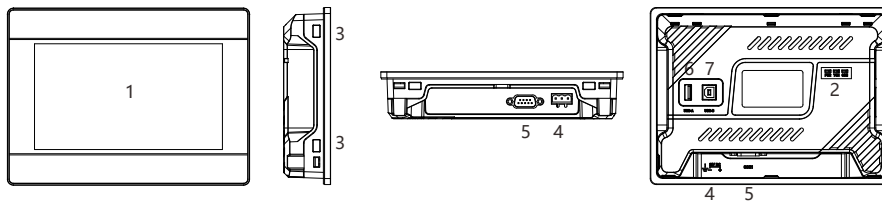- If there is any abnormality in the HMI interface, please contact the manufacturer.

Part 5   Packing List

| Sequence number	Component	Quantity
1	this series HMI	1
2	HMI fixed buckle	4
3	Power terminal	1

Part 6   Specifications

Module / Content	PI3070i / PI3070iS / PI3070i-SL PI3070i-2S / PI3070i-A / PI3070i-C	PI3102i / PI3102iS PI3102i-2S / PI3102i-A / PI3102i-C
Power voltage	DC24V	
Power voltage range	DC12V-DC28V	
Permissible instantaneous power failure time	<5ms	
Power consumption	<8W	<10W
Operating ambient temperature	-10℃~+55℃	
Storage ambient temperature	-20℃~+70℃	
Operating ambient humidity	10%~90%RH (Non-condensing)	
Storage ambient humidity	10%~90%RH (Non-condensing)	
Vibration resistance	Conforms to IEC61131-2 standard: Continuous vibration:10Hz~57Hz 0.0755mm,57Hz~150Hz 9.8m/s² Intermittent vibration:10Hz~57Hz 0.0035mm,57Hz~150Hz 4.9 m/s² in each X, Y, Z direction 10 times (80 miunuties)	
Corrosion resistance	Avoid corrosive gas	
Cooling method	Natural air cooling	

Part7   Parts And Function

PI3070i / PI3070iS Components description

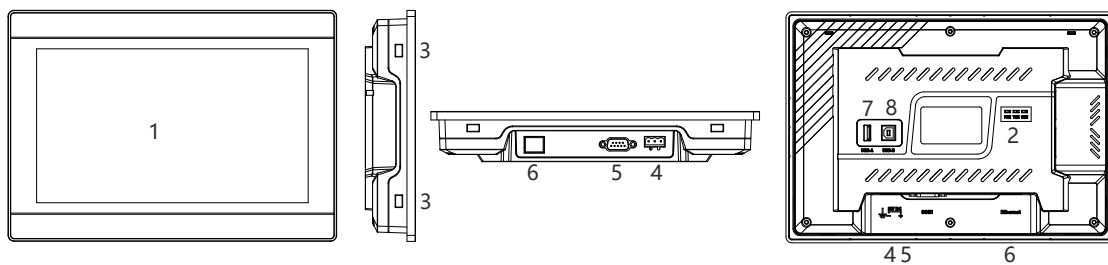| 1	LCD and touch screen	2	LED	3	Fixed buckle	4	Power terminal
5	COM	6	USB-A	7	USB-B		
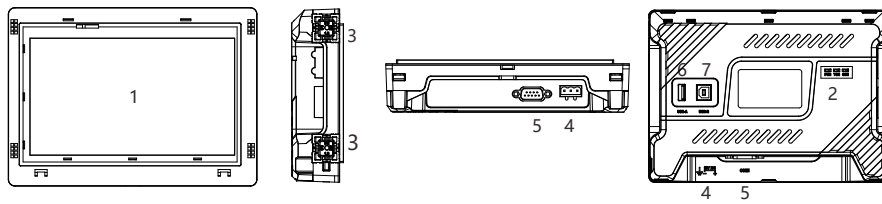
PI3070i-SL Components description

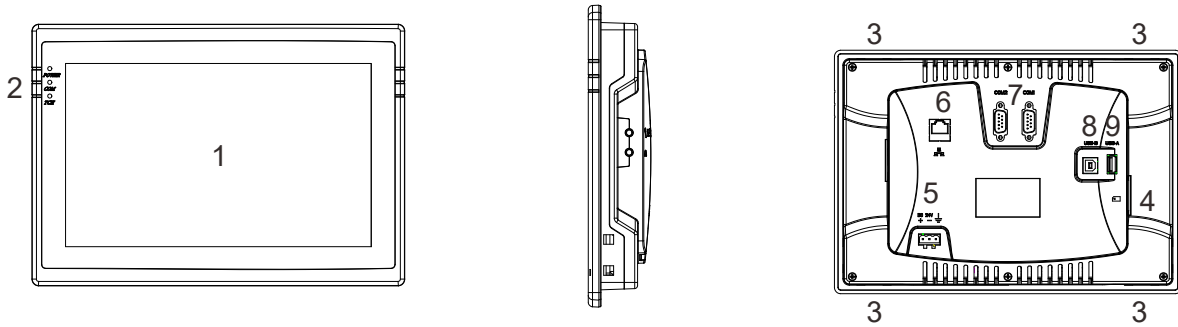| 1	LCD and touch screen	2	LED	3	Fixed buckle	4	Power terminal
5	COM	6	USB-A	7	USB-B		
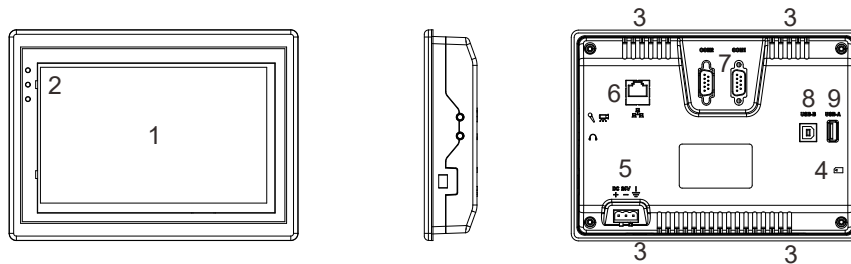
PI3070i-2S / PI3070i-A / PI3070i-C Components description

1	LCD and touch screen	2	LED	3	Fixed buckle	4	SD card slot	5	Power terminal
6	Ethernet	7	COM port	8	USB-B	9	USB-A		

PI3102i / PI3102iS Components description

1	LCD and touch screen	2	LED	3	Fixed buckle	4	Power terminal
5	COM	6	Ethernet	7	USB-A	8	USB-B

PI3102i-2S / PI3102i-A / PI3102i-C Components description

1	LCD and touch screen	2	LED	3	Fixed buckle	4	SD card slot	5	Power terminal
6	Ethernet	7	COM port	8	USB-B	9	USB-A		

The power interface is defined as follows (from left to right):
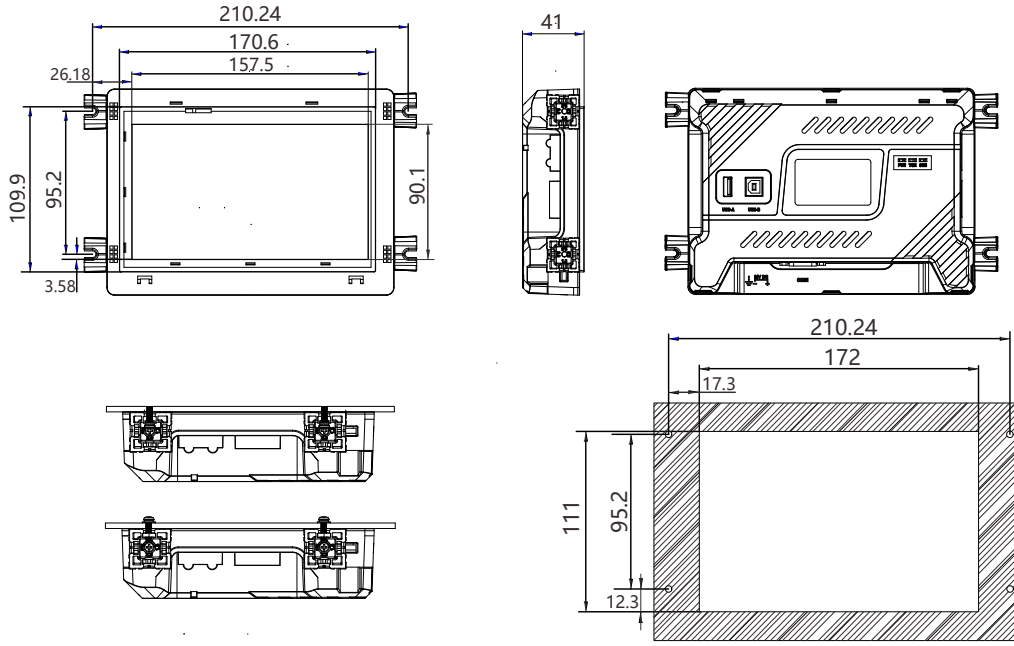

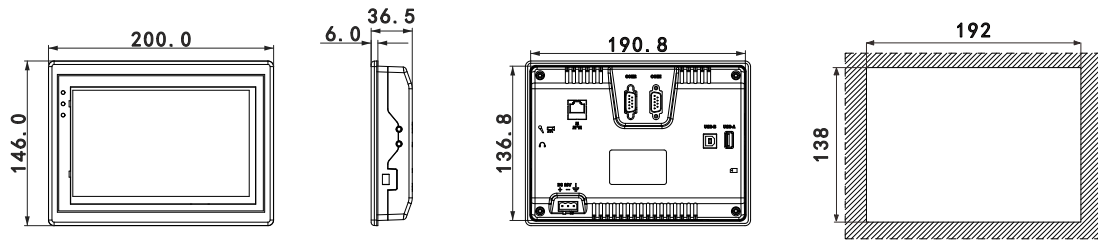| DC 24V+	DC24V-	GND
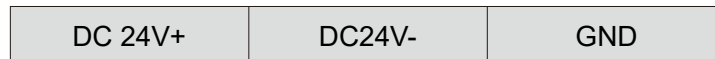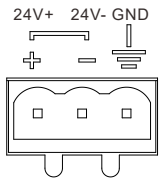
Part8   The Size Of Product

Unit ： mm ， error range : ±0.5mm
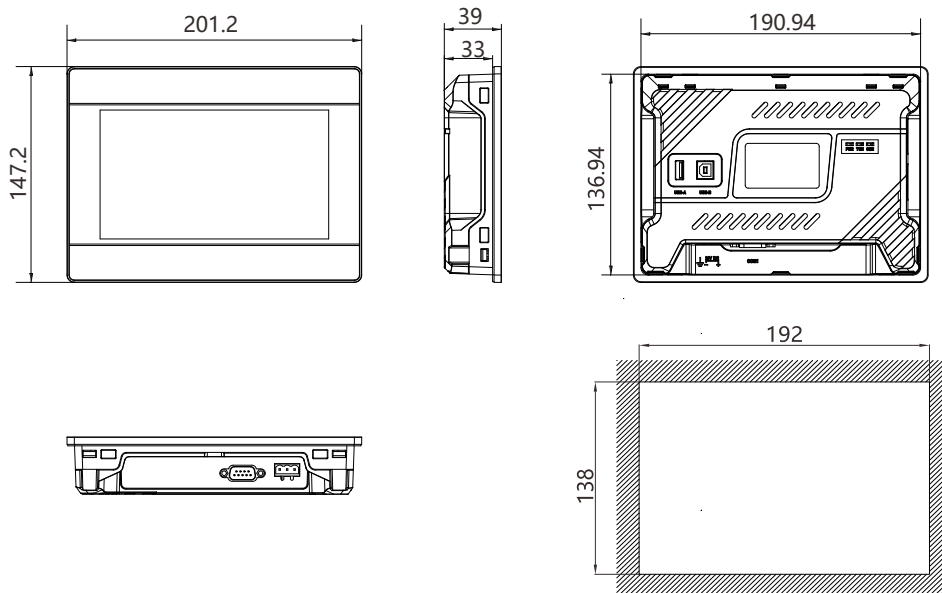
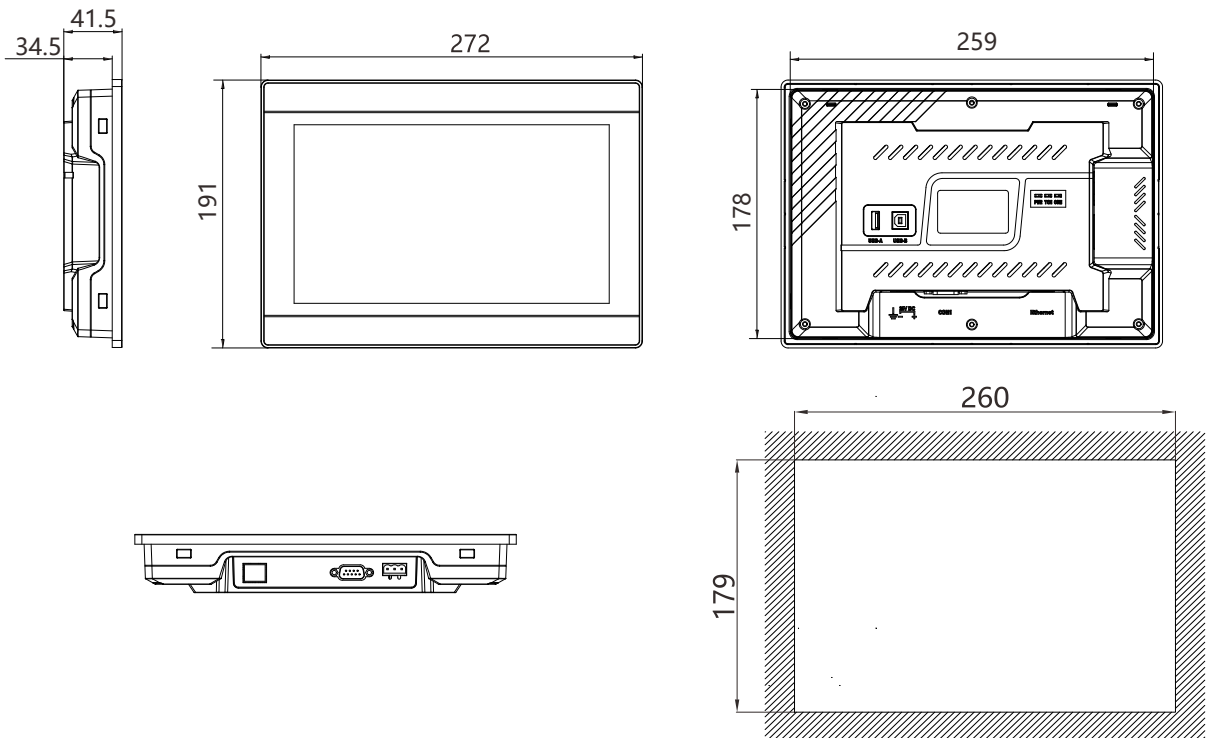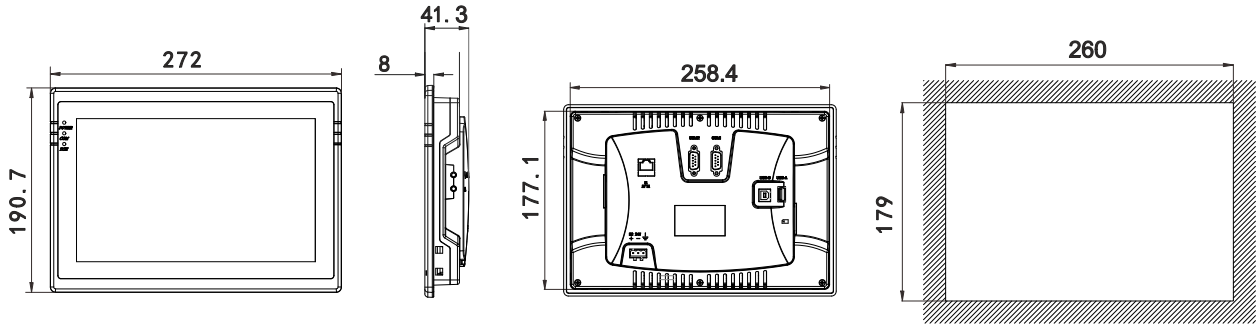PI3070i / PI3070iS installation size

PI3070i-SL installation size

PI3070i-2S /PI3070i-A / PI3070i-C installation size

PI3102i / PI3102iS installation size

PI3102i-2S / PI3102i-A / PI3102i-C installation size

Part 9 Touch Screen Calibration

After starting HMI,keep on pressing top left corner of screen about 3 to 5 seconds, an interface will appear as following :
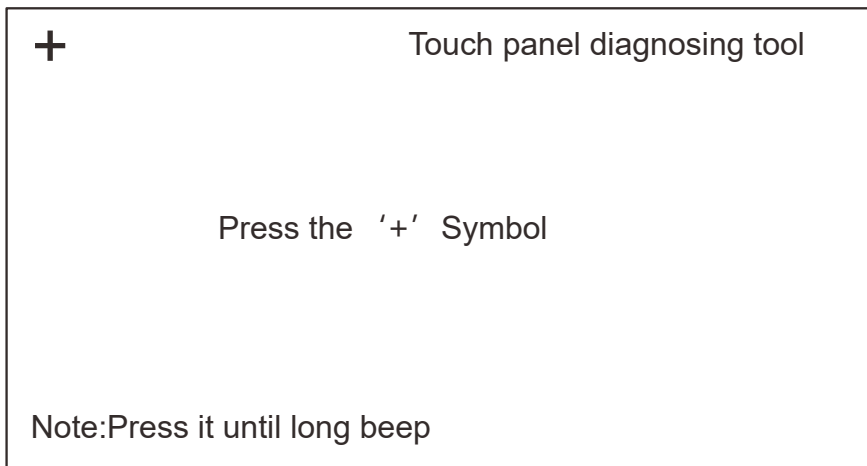
Click top left corner, top right corner, bottom right corner, bottom left corner and the center of '+' in turn and restart.

Part 10 Product Setting

Keep on pressing top right corner of screen about 3 to 5 seconds,an interface will appear as following:

Part 11 Interface installation

Notes:
- The installation direction must be in accordance,Otherwise it may lead to fault.
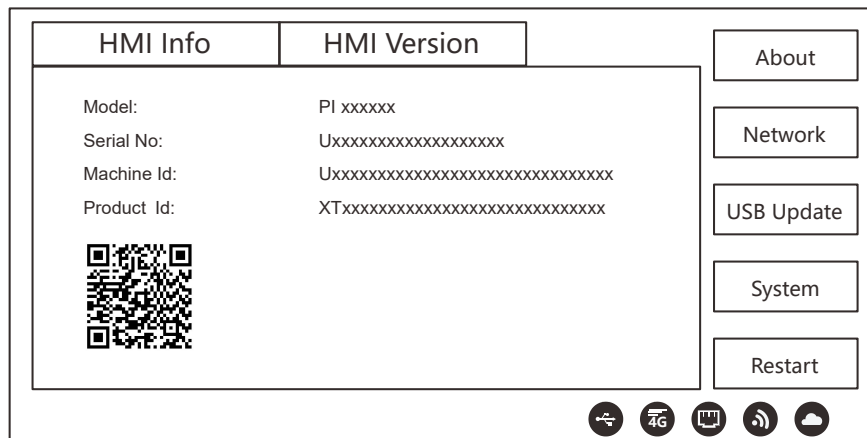- In order to make circle effect greatly,adjacent objects and baffle should be kept on enough space when installation,otherwise it will cause bad cooling.
- Used in crust plane of Type 4X indoor grade.

Installation steps:
- Make sure the waterproof gasket is cased,and then install HMI to the adaptive crust.
- Make sure the fixed piece screw is cased,and then hitch front cover screw to withstand inside control box .
- Please tight screws aptly and remember not too strength,otherwise it will lead to crustaceous damage.   Torque:6.17lb-inch(0.7N-M)

Part 12 Interface Definition

PI3070i / PI3070i-SL / PI3070i-2S / PI3102i / PI3102i-2S series interfaces

COM1 definition:

Pin	Definition	Pin	Definition
1	RS422 TX+/RS485 A +	2	RS232 RXD
3	RS232 TXD	5	GND
6	RS422 TX-/RS485 B-	8	RS422 RX-
9	RS422 RX+		

PI3070i-2S / PI3102i-2S   COM2 definition:

Pin	Definition	Pin	Definition
1	RS485 A +	2	RS232 RXD
3	RS232 TXD	5	GND
6	RS485 B-	7	COM3 RS485 A+
8	COM3 RS485 B-		

▲ Note:RS422 and RS485 can not be used in COM1 port of PI3070i / PI3070i-SL / PI3070i-2S / PI3102i / PI3102i-2S series HMI at the same time.

PI3070iS / PI3102iS series interfaces

COM1 definition:

Pin	Definition	Pin	Definition
1	RS422 TX +/RS485 A1 +	2	RS232 RXD
3	RS232 TXD	4	RS485 B2-
5	GND	6	RS422 TX-/RS485 B1-
7	RS485 A2+	8	RS422 RX-
9	RS422 RX+		

▲ Note:RS422 and RS485-1 can not be used in COM1 port of PI3070iS / PI3102iS series HMI at the same time.

PI3070i-A / PI3070i-C / PI3102i-A / PI3102i-C series interfaces

COM1 definition:

Pin	Definition	Pin	Definition
1	RS422 TX+/RS485 A1+	2	RS232 RXD
3	RS232 TXD	4	CANL
5	GND	6	RS422 TX-/RS485 B1-
7	CANH	8	RS422 RX-
9	RS422 RX+		

PI3070i-A / PI3102i-A   COM2 definition:

Pin	Definition	Pin	Definition
1	RS485 A+	2	RS232 RXD
3	RS232 TXD	5	GND
6	RS485 B-	7	COM3 RS485 A+
8	COM3 RS485 B-		

PI3070i-C / PI3102i-C   COM2 definition:

Pin	Definition	Pin	Definition
1	RS485 A +	2	RS232 RXD
3	RS232 TXD	4	CANL
5	GND	6	RS485 B-
7	CANH		

▲ Note:RS422 and RS485 can not be used in COM1 port of PI3070i-A / PI3070i-C / PI3102i-A / PI3102i-C series HMI at the same time.

Notice

The contents of this manual are subject to change without notice.

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