ig 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, vindicating and examining

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, thereby make HMI run abnormality.
- The human-machine interface is a specialized device that must be installed, operated, and maintained by trained and skilled technicians. It is strictly prohibited for use by children.

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 LED, 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.
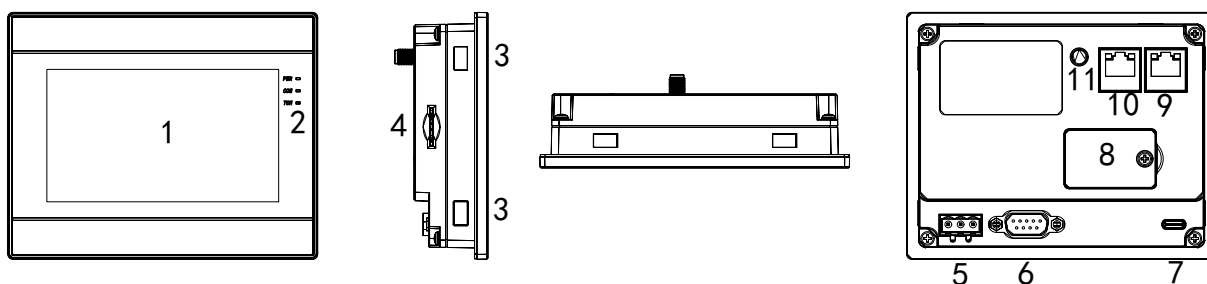
Part 5 Packing List

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

Part 6 Specifications

Content \ Module	PI3041ig(N) / PI3043ig / PI8043ig / PI3070ig / PI8070ig/ PI8070ig(N)	PI3102ig/ PI8102ig / PI3101ig(N) / PI8101ig(N)	PI8121ig(N)	PI8151ig(N)	PI8150ig / PI8150ig(N)
Power voltage	DC24V				
Power voltage range	DC12V-DC28V		DC18V~DC28V		
Permissible instantaneous power failure time	<5ms				
Power consumption	<8W	<10W	<18W	<15W	
Operating ambient temperature	-10℃～+55℃				0℃～+50℃
Storage ambient temperature	-20℃～+70℃				-20℃～+60℃
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 minutes)				
Corrosion resistance	Avoid corrosive gas				
Cooling method	Natural air cooling				
Fuse rating	FS1:T1.6AL/250				

Part7 Parts and Function

PI3041ig(N) Components description

1	LCD and touch screen	2	LED	3	Fixed buckle	4	SIM card slot (optional)
5	Power terminal	6	COM	7	TYPE-C	8	Battery
9	Ethernet 1	10	Ethernet 2	11	4G / WIFI antenna (optional)		
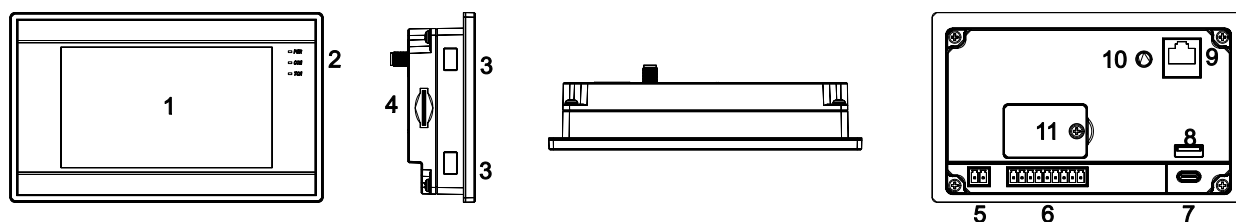
PI3043ig / PI8043ig Components description

1	LCD and touch screen	2	LED	3	Fixed buckle	4	SIM card slot (optional)
5	Power terminal	6	COM	7	TYPE-C	8	USB-A
9	Ethernet	10	4G / WIFI antenna (optional)	11	Battery		
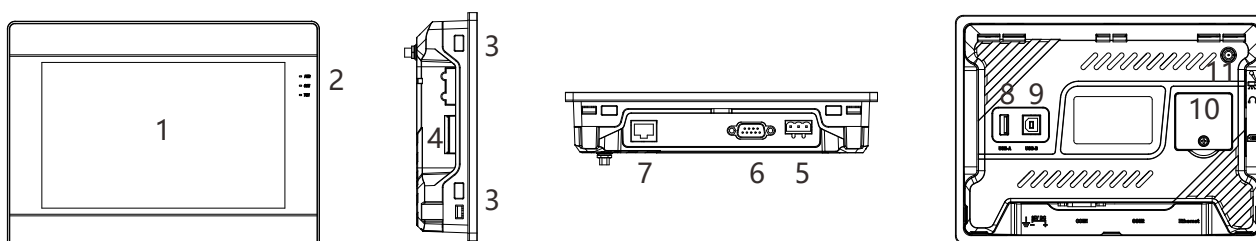
PI3070ig / PI8070ig Components description

1	LCD and touch screen	2	LED	3	Fixed buckle	4	SD card slot
5	Power terminal	6	COM	7	Ethernet	8	USB-A
9	USB-B	10	SIM card slot (optional)	11	4G / WIFI antenna (optional)		
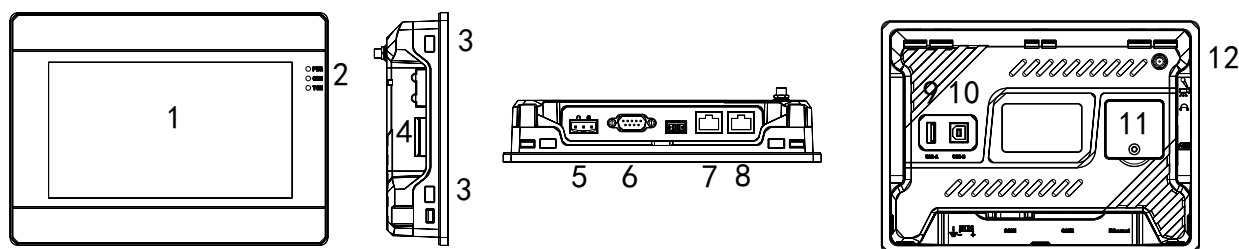
PI8070ig(N) Components description

1	LCD and touch screen	2	LED	3	Fixed buckle	4	SD card slot
5	Power terminal	6	COM	7	Ethernet 1	8	Ethernet 2
9	USB-A	10	USB-B	11	SIM card slot (optional)		4G / WIFI antenna (optional)
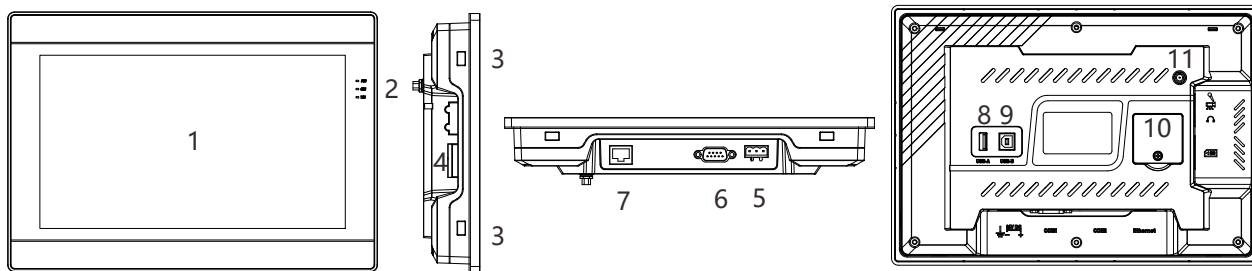
PI3102ig / PI8102ig Components description

1	LCD and touch screen	2	LED	3	Fixed buckle	4	SD card slot
5	Power terminal	6	COM	7	Ethernet	8	USB-A
9	USB-B	10	SIM card slot (optional)	11	4G / WIFI antenna (optional)		
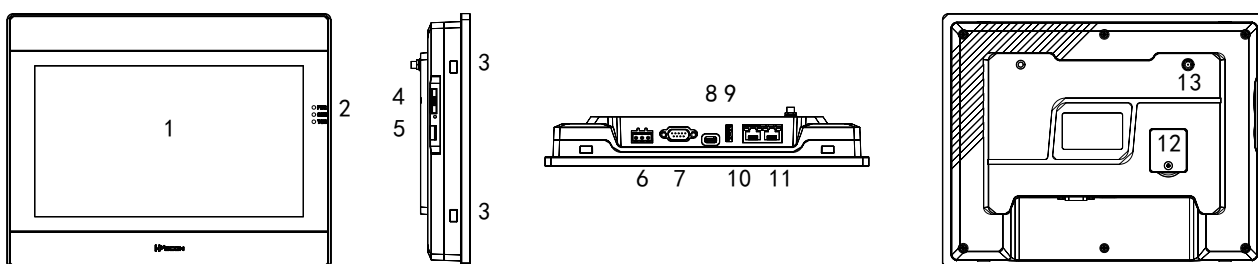
PI3101ig(N) / PI8101ig(N) Components description

1	LCD and touch screen	2	LED	3	Fixed buckle	4	SIM card slot (optional)
5	TF card slot	6	Power terminal	7	COM	8	TYPE-C
9	USB-A	10	Ethernet 1	11	Ethernet 2	12	Battery
13	4G / WIFI antenna (optional)						
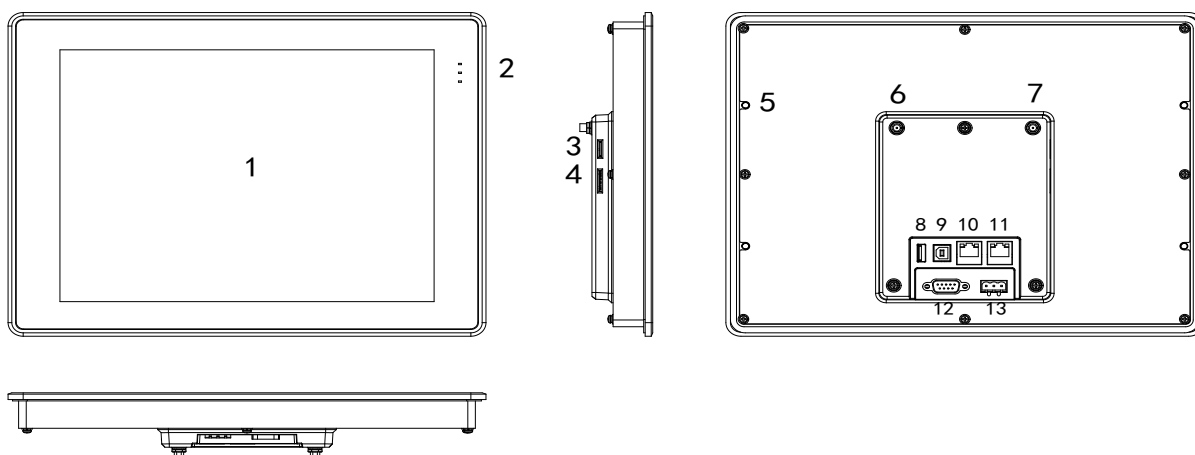
PI8121ig(N) 外观部件说明

1	LCD and touch screen	2	LED	3	TF card slot	4	SIM card slot (optional)
5	Fixed buckle	6	WIFI antenna (optional)	7	4G antenna (optional)	8	USB-A
9	USB-B	10	Ethernet 1	11	Ethernet 2	12	COM
13	Power terminal						

PI8150ig Components description

1	LCD and touch screen	2	Fixed buckle	3	TF card slot	4	Power terminal
5	COM	6	Ethernet	7	USB-A	8	USB-B
9	SIM card slot (optional)	10	WIFI antenna (optional)	11	4G antenna (optional)		
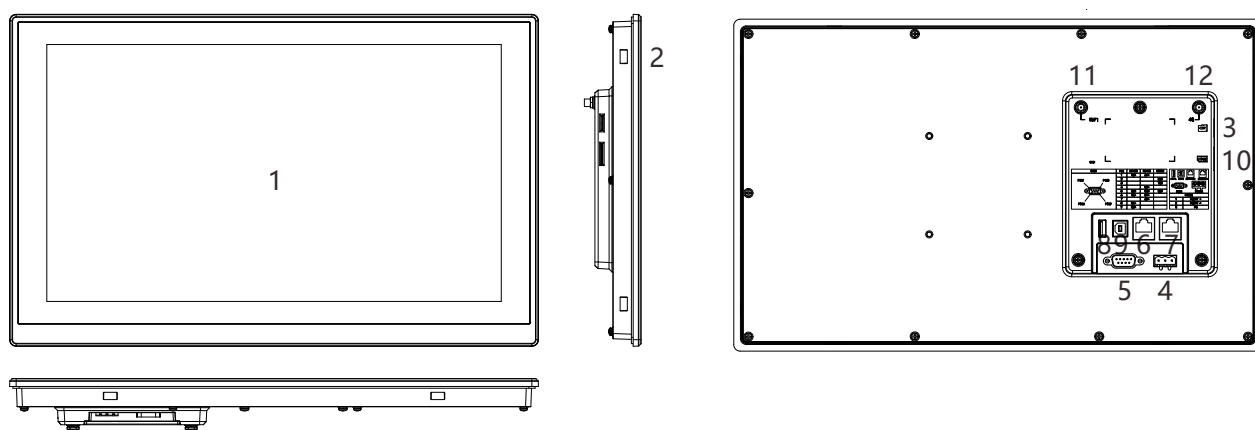
PI8150ig(N) Components description

1	LCD and touch screen	2	Fixed buckle	3	TF card slot	4	Power terminal
5	COM	6	Ethernet 1	7	Ethernet 2	8	USB-A
9	USB-B	10	SIM card slot (optional)	11	WIFI antenna (optional)	12	4G antenna (optional)

PI8151ig(N) Components description

1	LCD and touch screen	2	LED	3	TF card slot	4	SIM card slot (optional)
5	Fixed buckle	6	WIFI antenna (optional)	7	4G antenna (optional)	8	USB-A
9	USB-B	10	Ethernet 1	11	Ethernet 2	12	COM
13	Power terminal						

The power interface is defined as follows (from left to right):
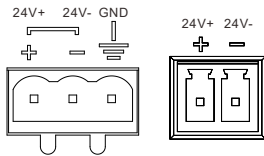
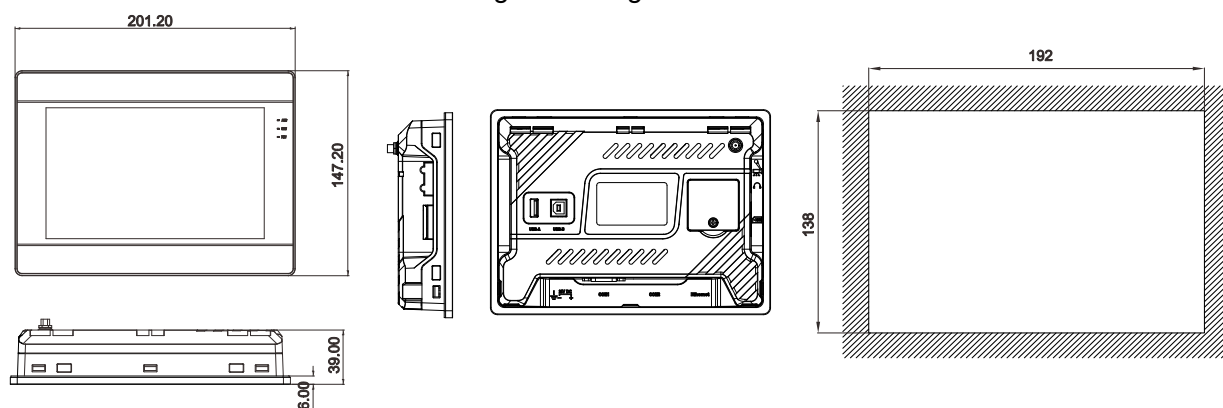| DC 24V+	DC24V-	GND

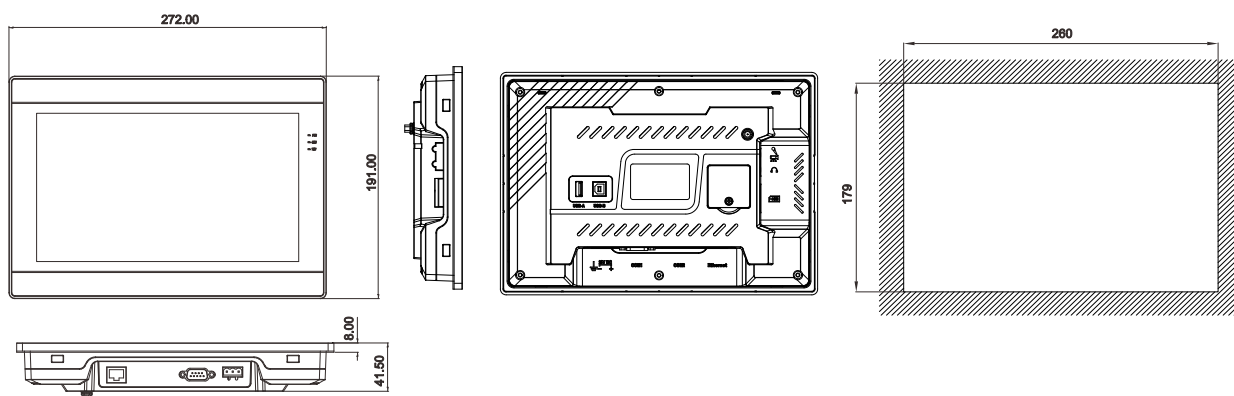# Part8 The Size of Product

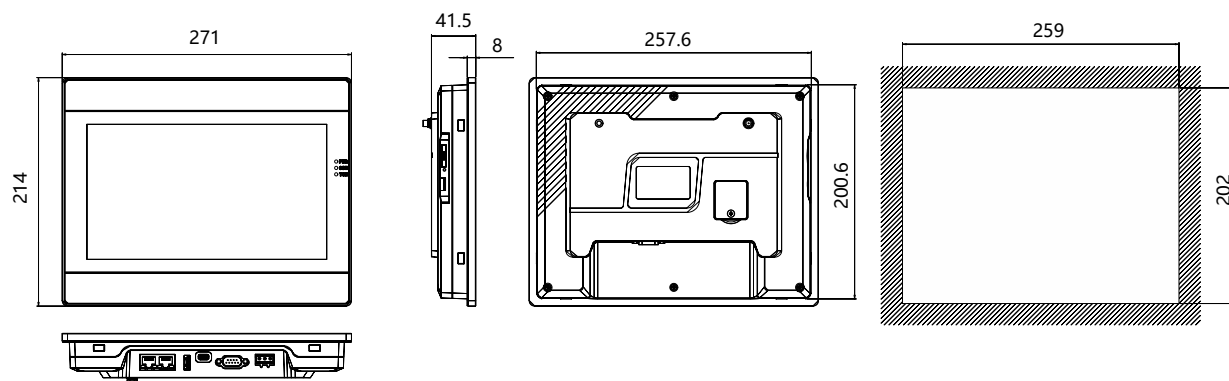Unit ： mm ， error range: ±0.5mm
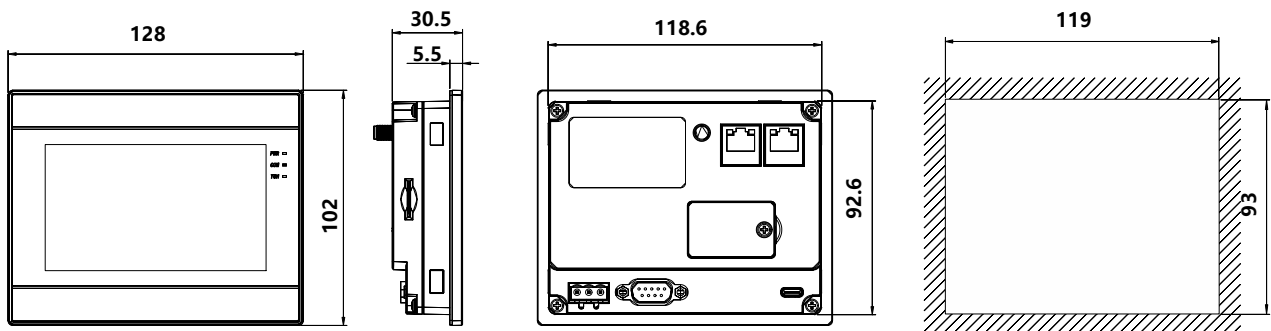
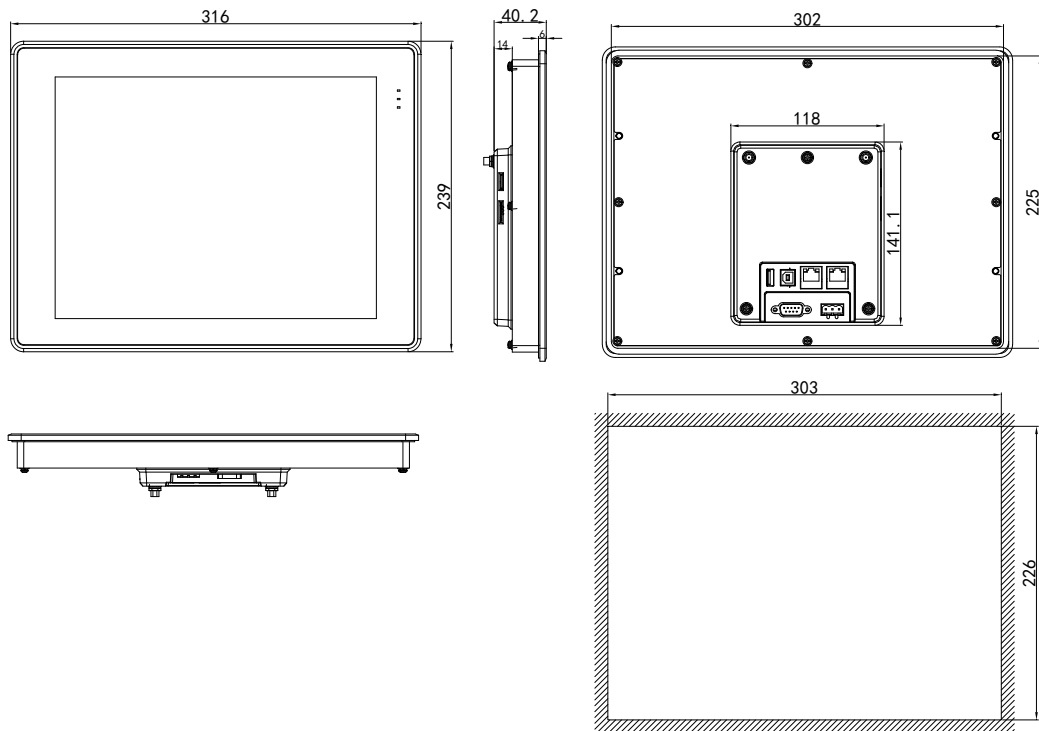PI3041ig(N) installation size
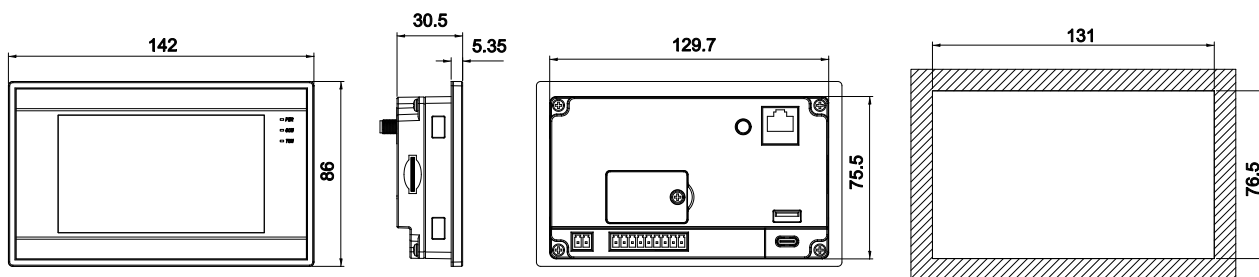
PI3043ig / PI8043ig installation size

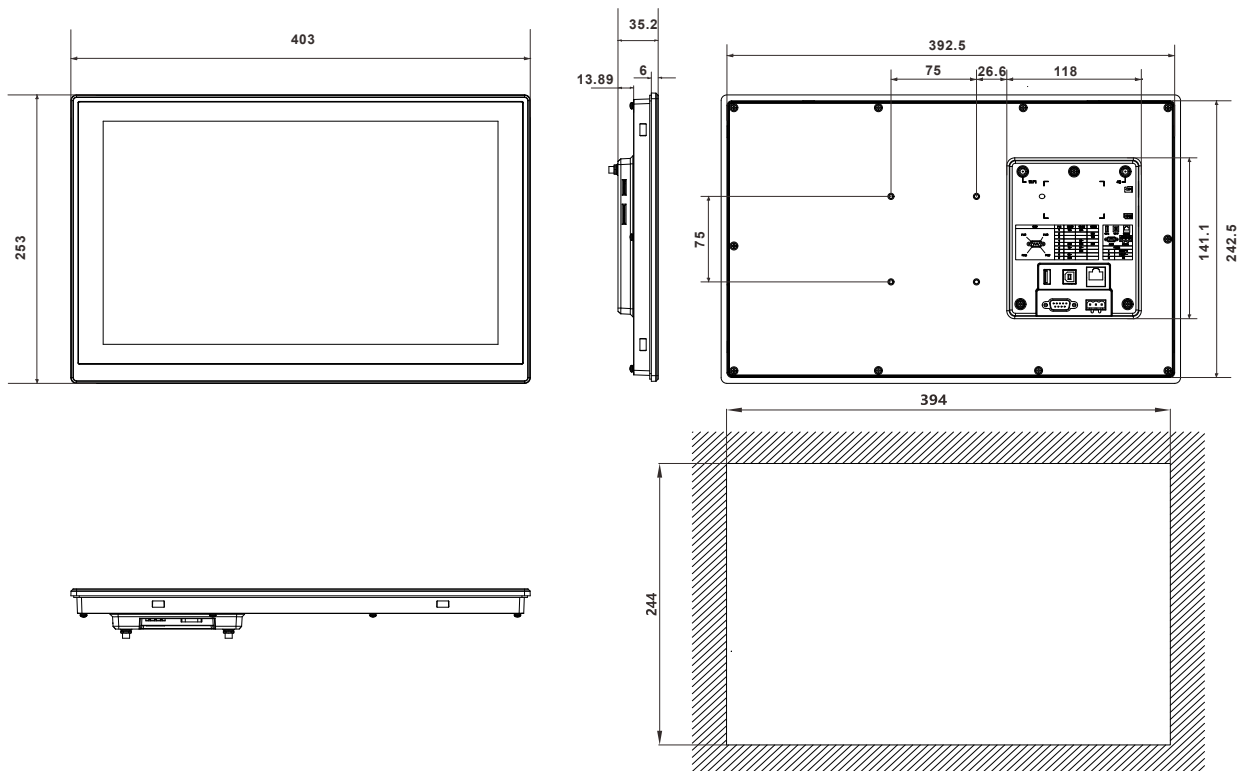PI3070ig / PI8070ig /PI8070ig(N) installation size
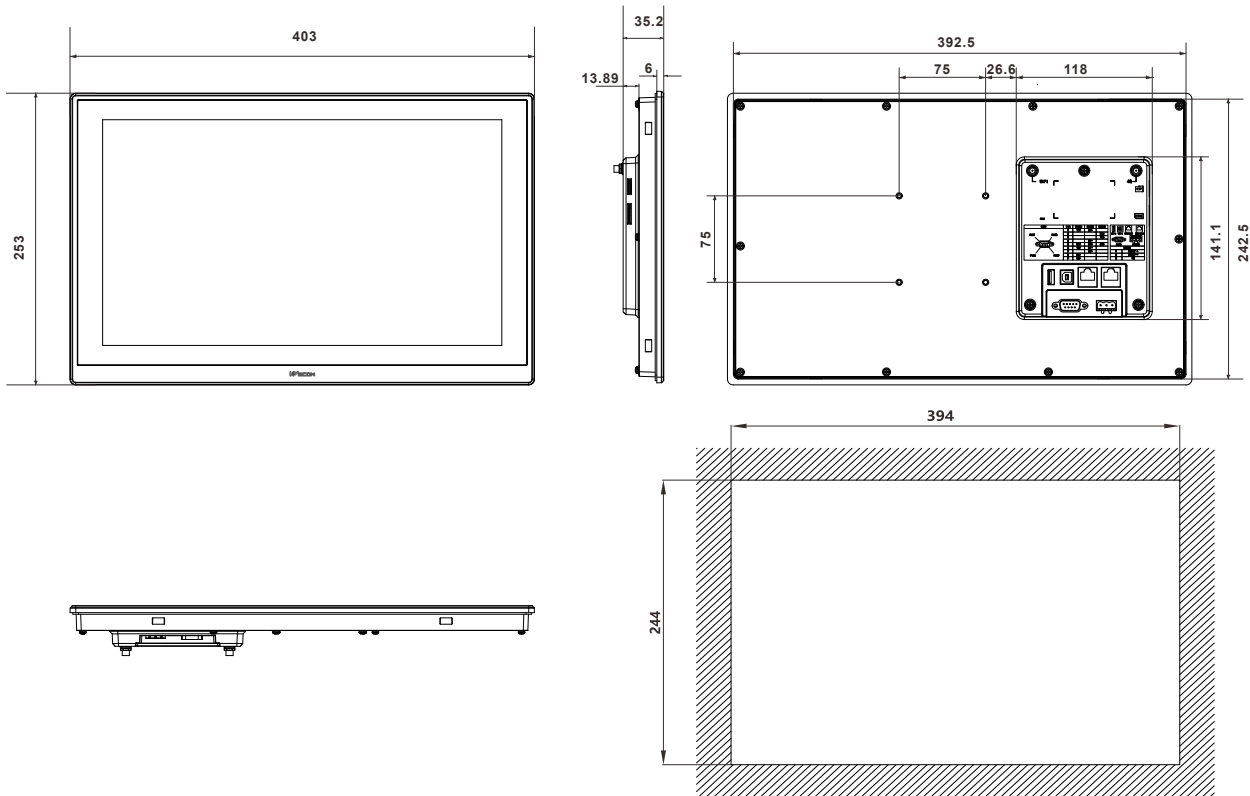
PI3102ig / PI8102ig installation size

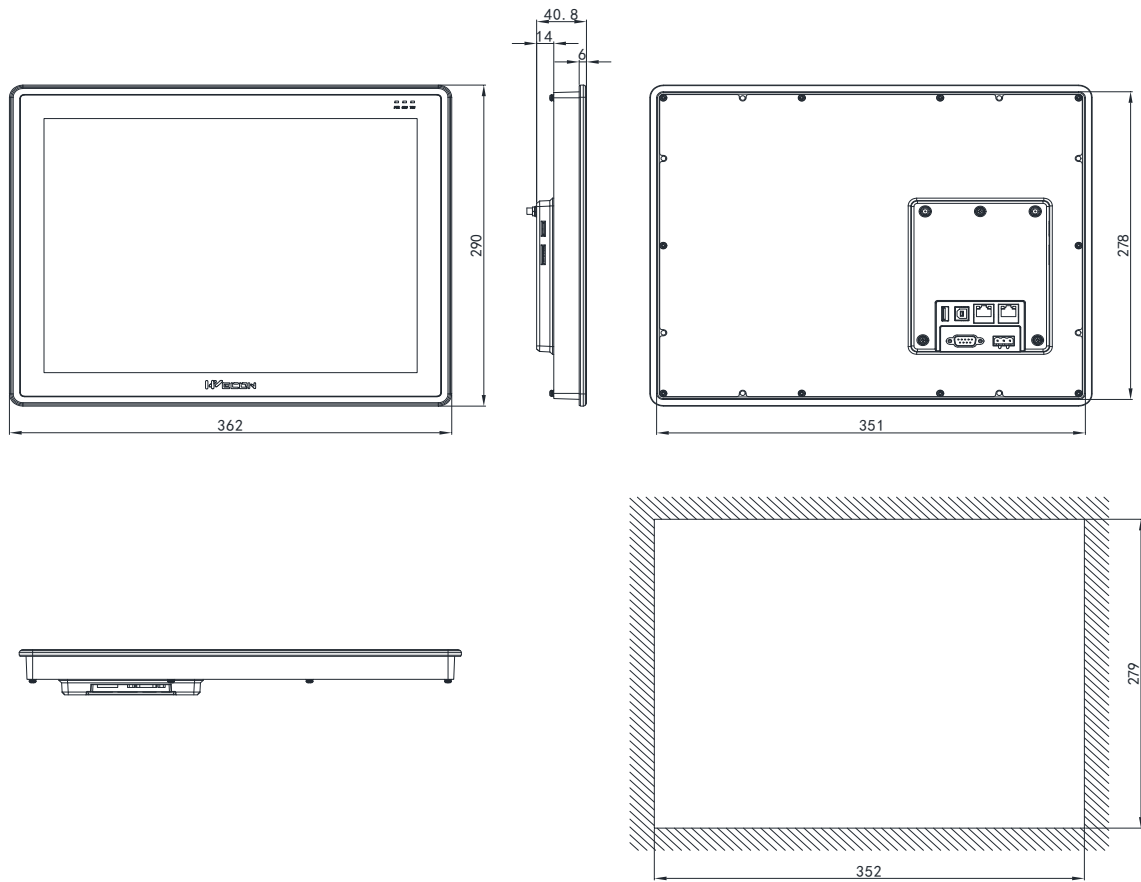PI3101ig(N) / PI8101ig(N) installation size

PI8121ig(N) installation size
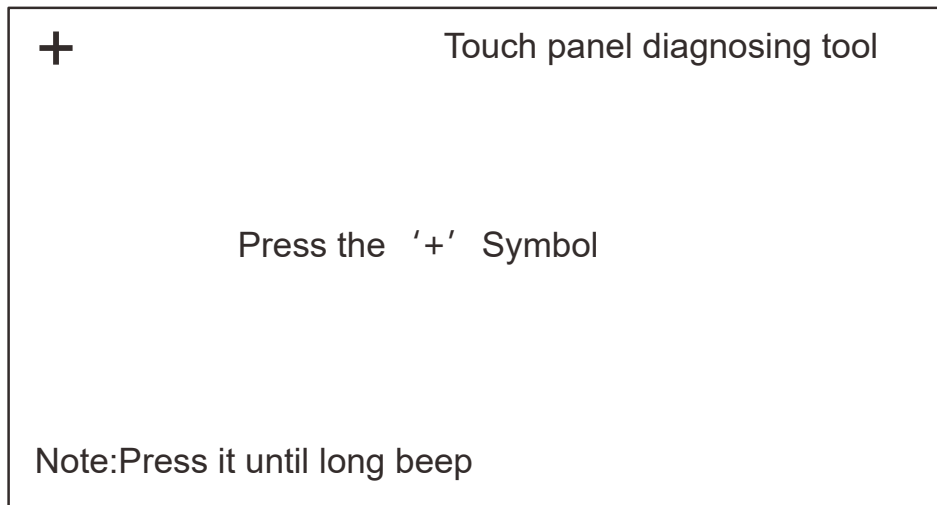
PI8150ig installation size

PI8150ig(N) installation size

PI8151ig(N) installation size
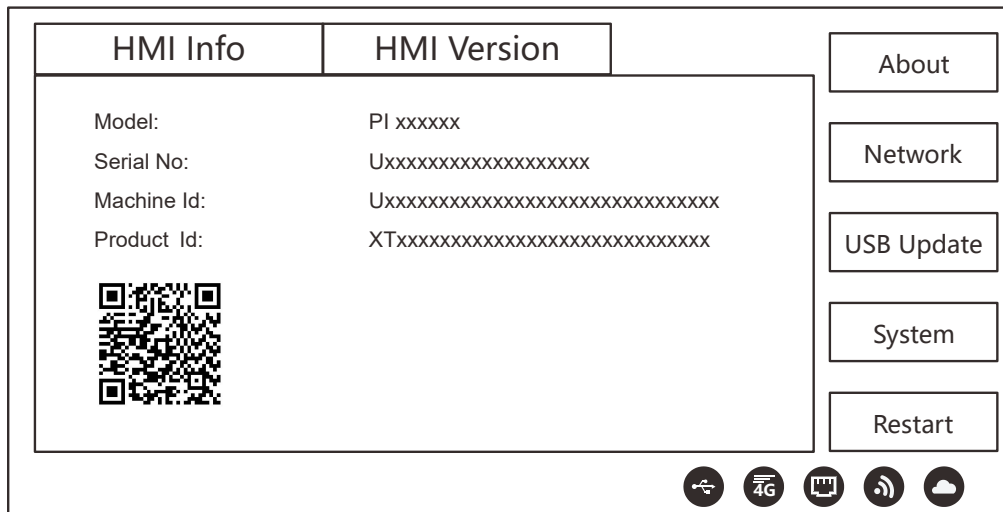
Part 9 Touch Screen Calibration

After starting HMI, keep on pressing top left corner of screen about 3 to 5 seconds, an interface will appear as following:

```
+                          Touch panel diagnosing tool



                    Press the '+' Symbol




Note:Press it until long beep
```

Click top left corner, top right corner, bottom right corner, bottom left corner and the center of '+' in turn and restart.

Part 10 Parameters Setting

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

```
| HMI Info        | HMI Version              |          About

   Model:           PI xxxxxx
   Serial No:       Uxxxxxxxxxxxxxxxxxx                  Network
   Machine Id:      Uxxxxxxxxxxxxxxxxxxxxxxxxxxxx
   Product Id:      XTxxxxxxxxxxxxxxxxxxxxxxxxxxxx        USB Update

   [QR code]                                             System

                                                         Restart
```

Part 11 Product 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 to exceed this torque, otherwise it will lead to crustaceous damage.   Torque:6.17lb-inch (0.7N-M)

Part 12 Interface Definition

PI3043ig / PI8043ig series interfaces

COM1 definition:

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

▲ Note: RS422 and RS485-1 cannot be used in COM1 Terminal of PI3043ig / PI8043ig series HMI at the same time.

PI3041ig(N) / PI3070ig / PI8070ig / PI8070ig(N) / PI3102ig / PI8102ig / PI3101ig(N) / PI8101ig(N) / PI8121ig(N) / PI8150ig / PI8150ig(N) / PI8151ig(N) 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 cannot be used in COM1 port of PI3041ig(N) / PI3070ig / PI8070ig / PI8070ig(N) / PI3102ig / PI8102ig / PI3101ig(N) / PI8101ig(N) / PI8121ig(N) / PI8150ig / PI8150ig(N) / PI8151ig(N)series HMI at the same time.

Notice

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