

# PGX Super Indoor Environment Monitor



A healthier life - Built on a trusted environment



About Us

[www.iaqtongdy.com](http://www.iaqtongdy.com)

## Focus on monitoring and control of indoor environment with both professionalism and innovation

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- Tongdy is located in Beijing China, a leader of air quality monitoring and control in BAS and green buildings
- Focused on building intelligent control and air environment monitoring for 16 years
- More than 25 series and over 300 products are provided
- Having over 500 project applications and covering more than 38 countries
- 3500 m<sup>2</sup> R&D office building, walk-in professional standard gas rooms, and advanced testing aging conditions





# PGX Amazing Indoor Environment Monitor

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## Sensor Monitoring

Supports up to 12 sensing parameters, aligning with the latest application trends: CO<sub>2</sub>, PM2.5, PM10, PM1, TVOC, Temperature, RH, TVOC, Carbon Monoxide, Illuminance, Noise, Atmospheric Pressure.

## Sensor Modules

Modular design for easy disassembly and replacement of sensors (PM, CO, HCHO).





## Unique Display

- High-resolution color display with customizable interface options.
- Real-time data display with key parameters prominently highlighted.
- Data curve visualization.
- AQI and primary pollutant information.
- Day and night modes.
- Clock synchronized with the network time.

## Data Interface

- Various interface options: WiFi, Ethernet, RS485, 4G, and LoRaWAN.
- Dual communication interfaces are available( network interface + RS485)

## Various Protocols Selectable

- Support MQTT, Modbus RTU, Modbus TCP, BACnet-MSTP, BACnet-IP, Tuya, Qlear or other customized protocols.

## Data logger Inside

- Local data storage for 3 to 12 months of data based on monitoring parameters and sampling intervals.
- Supporting local data download via the Bluetooth app.



PGX

## Network Configuration

Offer three convenient network setup options:

- Wi-Fi Hotspot: PGX generates a Wi-Fi hotspot, allowing connection and access to an embedded webpage for network configuration.
- Bluetooth: Configure the network using the Bluetooth app.
- NFC: Use the app with NFC for quick, touch-triggered network setup.

## Power Supply Options

12~36V DC  
100~240V AC  
PoE 48V  
5V Adapter (USB Type-C)





## Super Display

- Real time display multiple monitoring data, primary key data.
- Monitoring data changes color dynamically based on concentration levels for clear and intuitive visualization.
- Display a curve of any data with selectable sampling intervals and time periods.
- Display primary pollutant data and its AQI.

## Super Features

- Flexible operate: Connects to cloud servers for data comparing, curve display and analysis. Also Operates independently on-site without relying on external data platforms.
- Can choose to synchronize the display of smart TV and PGX for some special areas such as independent areas.
- With its unique remote services, PGX can perform corrections and fault diagnoses over the network.
- Exclusive support for remote firmware updates and customizable service options.
- Dual-channel data transmission through both network interface and RS485.

# Applications



Reception halls



Shopping malls



High-end residential properties



Offices



Library



Commercial buildings



Fitness centers



Luxury stores



Clubs





## PGX Super Indoor Environment Monitor

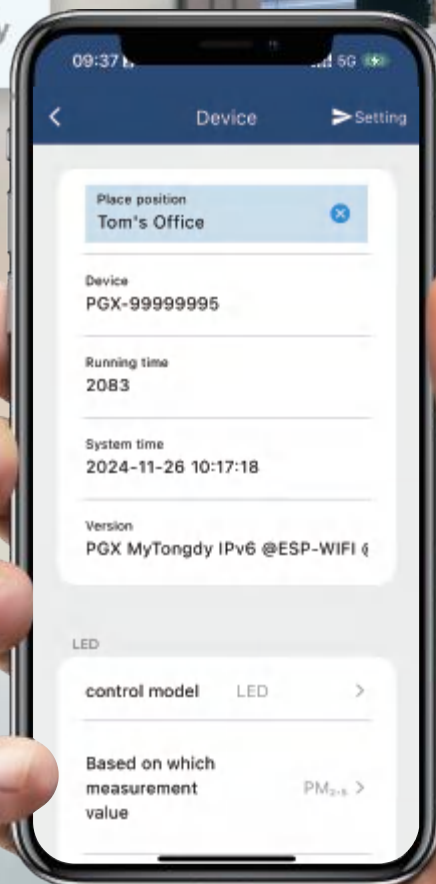
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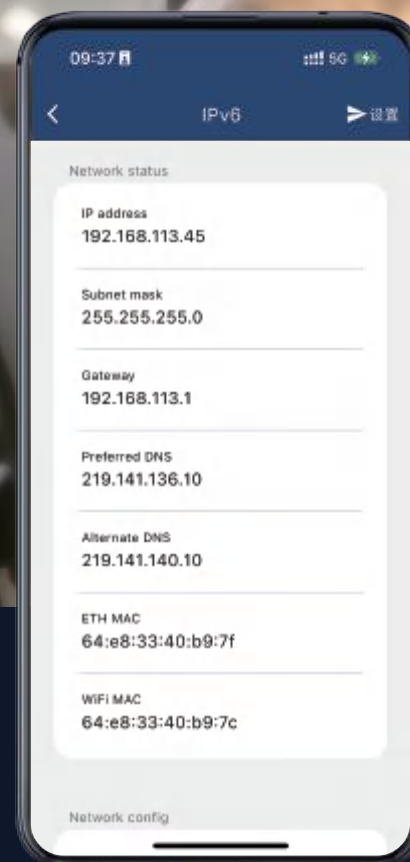
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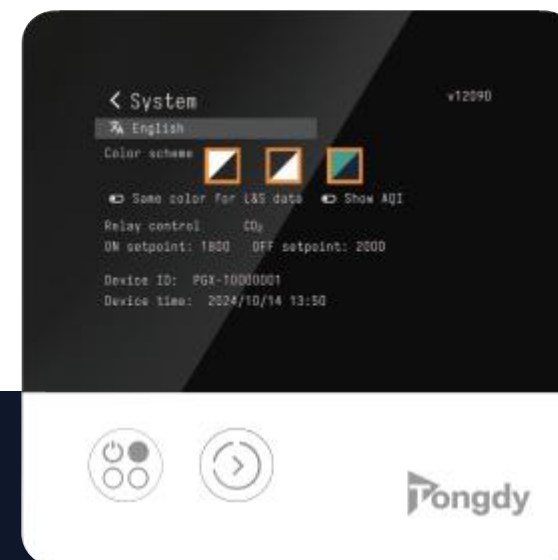
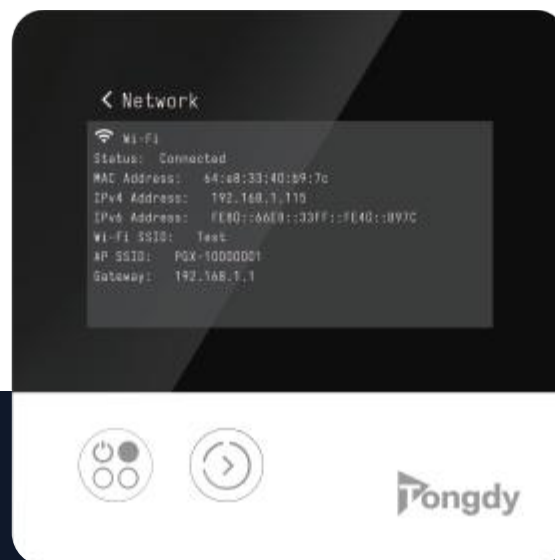
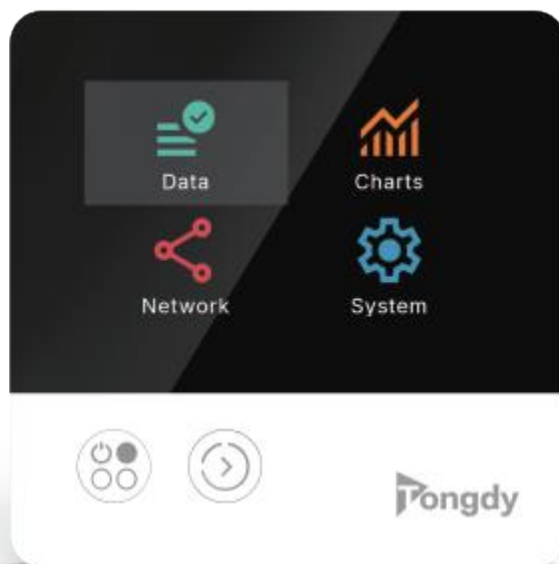












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# Specifications

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<b>Power Supply</b>	12~36VDC, 100~240VAC, PoE (for RJ45 interface), USB 5V (Type C)
<b>Communication Interface</b>	RS485, Wi-Fi (2.4 GHz, supports 802.11b/g/n), RJ45 (Ethernet TCP protocol), LTE 4G, (EC800M-CN, EC800M-EU, EC800M-LA) LoRaWAN (Supported regions: RU864, IN865, EU868, US915, AU915, KR920, AS923-1~4)
<b>Communication Protocol</b>	MQTT, Modbus-RTU, Modbus-TCP, BACnet-MS/TP, BACnet-IP, Tuya, Qlear, or other custom protocols
<b>Data Logger Inside</b>	<ul style="list-style-type: none"> <li>Storage frequency ranges from 5 minutes to 24 hours.</li> <li>For example, with data from 5 sensors, it can store records for 78 days at 5-minute intervals, 156 days at 10-minute intervals, or 468 days at 30-minute intervals.</li> <li>Data is downloadable via a Bluetooth app.</li> </ul>
<b>Operating Environment</b>	<ul style="list-style-type: none"> <li>Temperature: -10~50°C</li> <li>Humidity: 0~99% RH</li> </ul>
<b>Storage Environment</b>	<ul style="list-style-type: none"> <li>Temperature: -10~50°C</li> <li>Humidity: 0~70%RH</li> </ul>
<b>Enclosure Material and Protection Level Class</b>	PC/ABS (Fireproof) IP30
<b>Dimensions /Net Weight</b>	91.00mm × 111.00mm × 51.00mm / 295g
<b>Mounting Standard</b>	<ul style="list-style-type: none"> <li>Standard 86/50 type junction box (mounting hole size: 60mm);</li> <li>US standard junction box (mounting hole size: 84mm);</li> <li>Wall mounting with adhesive.</li> </ul>

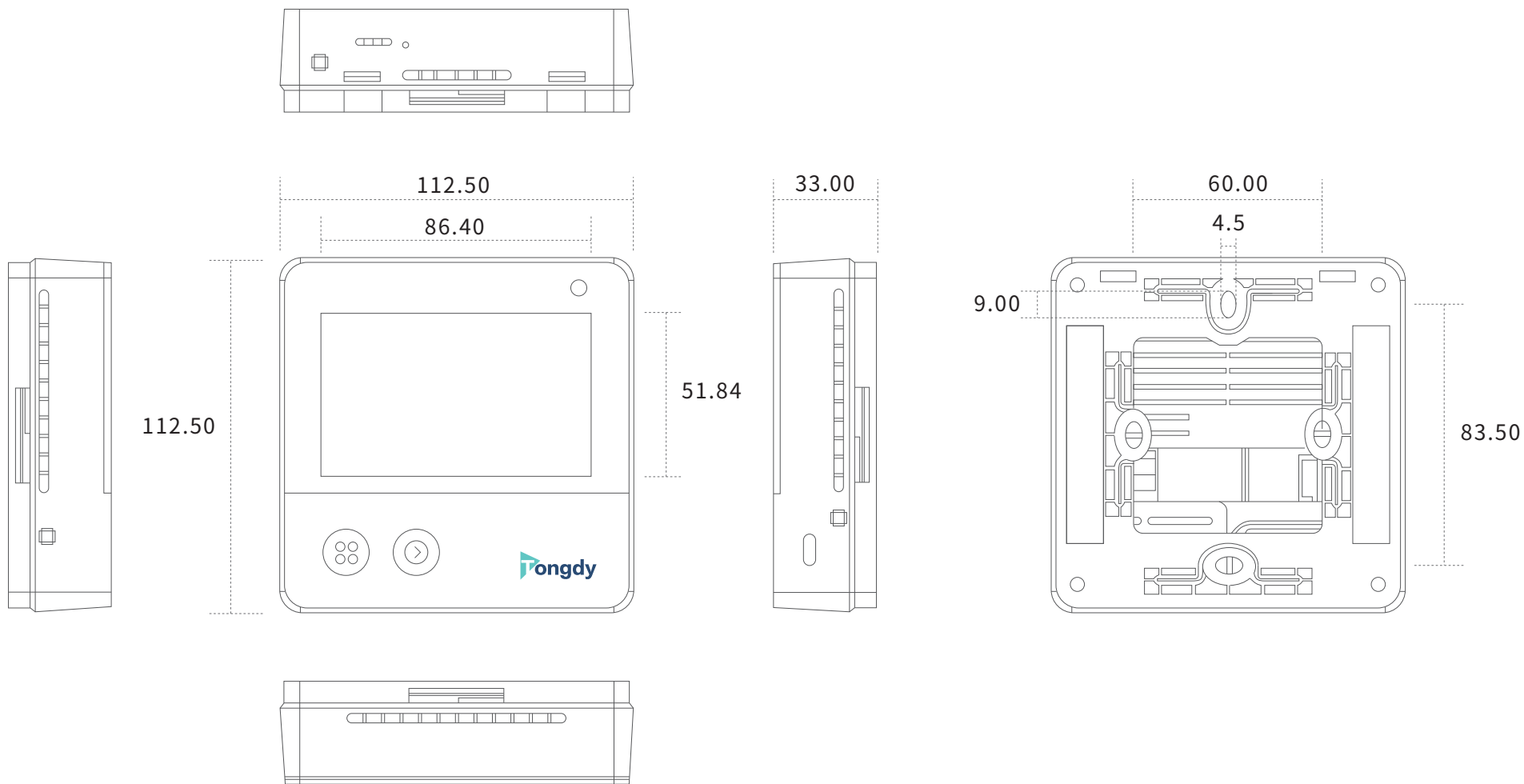


# Sensor Parameters

	CO <sub>2</sub>	TVOC	PM2.5	PM10	PM1.0	Temperature & Humidity
<b>Sensor Type</b>	NDIR (Non-Dispersive Infrared)	Metal Oxide Semiconductor	Laser Particle Sensor	Laser Particle Sensor	Laser Particle Sensor	Digital Integrated Temperature and Humidity Sensor
<b>Measurement Range</b>	400 ~ 5,000ppm	0.001 ~ 4.0 mg/m <sup>3</sup>	0 ~ 1000 µg/m <sup>3</sup>	0 ~ 1000 µg/m <sup>3</sup>	0 ~ 500 µg/m <sup>3</sup>	-10 °C ~ 50 °C, 0 ~ 99% RH
<b>Output Resolution</b>	1ppm	0.001 mg/m <sup>3</sup>	1 µg/m <sup>3</sup>	1 µg/m <sup>3</sup>	1 µg/m <sup>3</sup>	0.01 °C, 0.01% RH
<b>Accuracy</b>	±50 ppm + 3% of reading or 75 ppm	<15%	±5 µg/m <sup>3</sup> + 15% @ 1 ~ 100 µg/m <sup>3</sup>	±5 µg/m <sup>3</sup> + 15% @ 1 ~ 100 µg/m <sup>3</sup>	±5 µg/m <sup>3</sup> + 10% @ 0 ~ 100 µg/m <sup>3</sup> ±5 µg/m <sup>3</sup> + 15% @ 100 ~ 500 µg/m <sup>3</sup>	±0.6°C , ±4.0%RH

	Noise	Illumination	HCHO (Formaldehyde)	CO (Carbon Monoxide)	Atmospheric Pressure
<b>Sensor</b>	Frequency Range: 100 ~ 10K Hz	Measurement Range: 0.96 ~ 64,000 lx	Electrochemical Formaldehyde Sensor	Electrochemical CO Sensor	MEMS Nano Sensor
<b>Measurement Range</b>	Sensitivity: -36 ± 3 dBFS	Measurement Accuracy: ±20%	0.001 ~ 1.25 mg/m <sup>3</sup> (1ppb ~ 1000ppb @ 20°C)	0.1 ~ 100 ppm	260 hPa ~ 1260 hPa
<b>Output Resolution</b>	Acoustic Overload Point:130 dB SPL	Incandescent/Fluorescent Light Sensor Output Ratio: 1	0.001 mg/m <sup>3</sup> (1ppb @ 20 °C)	0.1 ppm	1 hPa
<b>Accuracy</b>	Signal-to-Noise Ratio: 56 dB(A)	Low Light (0 lx) Sensor Output: 0 + 3 count	0.003 mg/m <sup>3</sup> + 10% of reading (0 ~ 0.5 mg/m <sup>3</sup> )	±1 ppm (0~10 ppm)	±50 Pa





With 16 years of continuous R&D and expertise in sensor technology, we have built a strong specialization in air quality monitoring and data analysis.

- Professional design, class B commercial IAQ monitor
- Advanced fitting calibration and baseline algorithms, and environmental compensation
- Real-time indoor environment monitoring, delivering accurate and reliable data to support decision-making for intelligent, sustainable buildings
- Provide reliable data on health and energy efficiency solutions to ensure environmental sustainability and occupant well-being

**200+**

A collection of more than 200 varied products.

**100+**

Collaborations with more than 100 multinational companies

**30+**

Exported to 30+ countries and regions

**500+**

Having successfully completed over 500 long-term global projects





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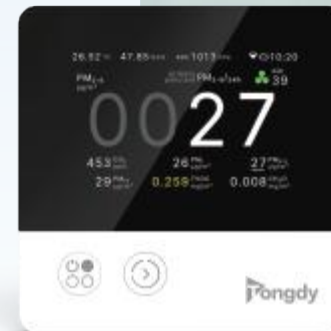
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