Tongdy

PGX Super Indoor Environment Monitor

26.52 °C   47.85 %RH   ⌂10:20

CO₂
ppm

primary pollutant PM₂.₅/24h   AQI 39

0453

453 CO₂ ppm   26 PM₁ µg/m³   27 PM₂.₅ µg/m³

29 PM₁₀ µg/m³   0.051 TVOC mg/m³   0.008 CH₂O mg/m³

Tongdy

A healthier life - Built on a trusted environment

Tongdy

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

- 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 m² R&D office building, walk-in professional standard gas rooms, and advanced testing aging conditions

Tongdy

PGX Amazing Indoor Environment Monitor

Sensor Monitoring

Supports up to 12 sensing parameters, aligning with the latest application trends: CO_2, PM2.5, PM10, PM1, TVOC, Temperature, RH, TVOC, Carbon Monoxide, LIluminance, Noise, formaldehyd/Ozone.

Sensor Modules

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

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

- 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.

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

High-end residential properties

Library

Luxury stores

Reception halls

Offices

Commercial buildings

Shopping malls
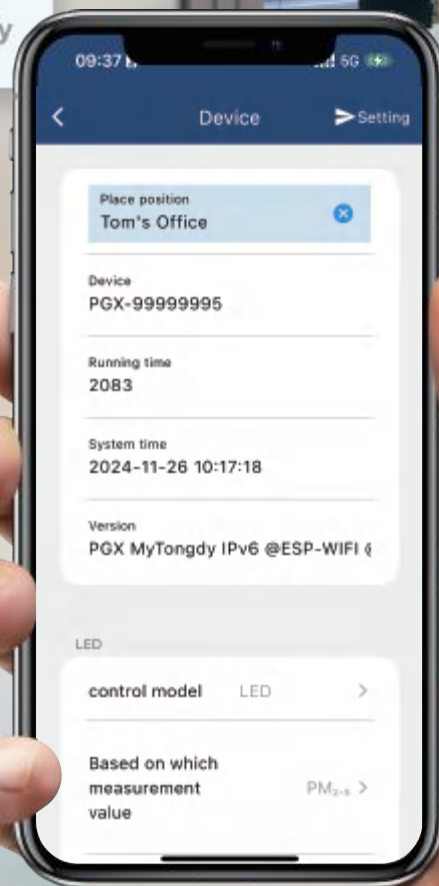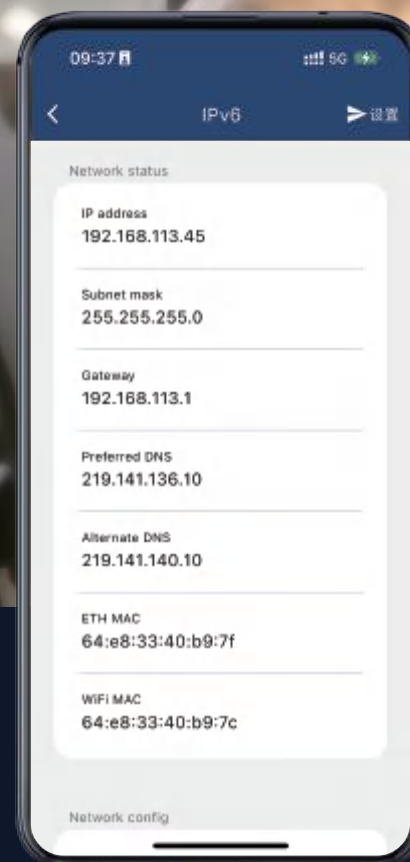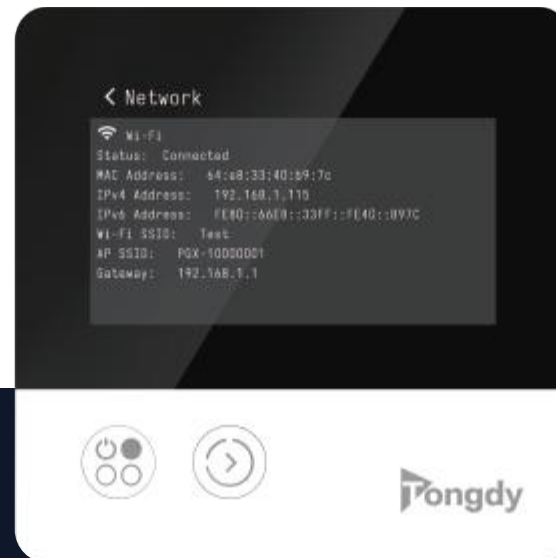

Meeting rooms

Fitness centers

Clubs

PGX Super Indoor Environment Monitor

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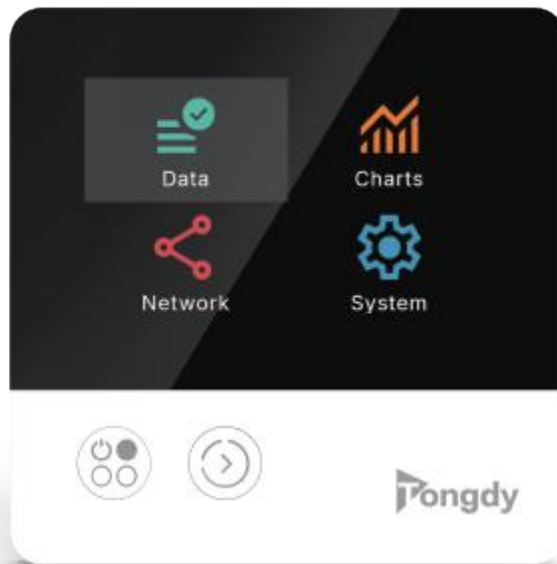
PGX Super Indoor Environment Monitor
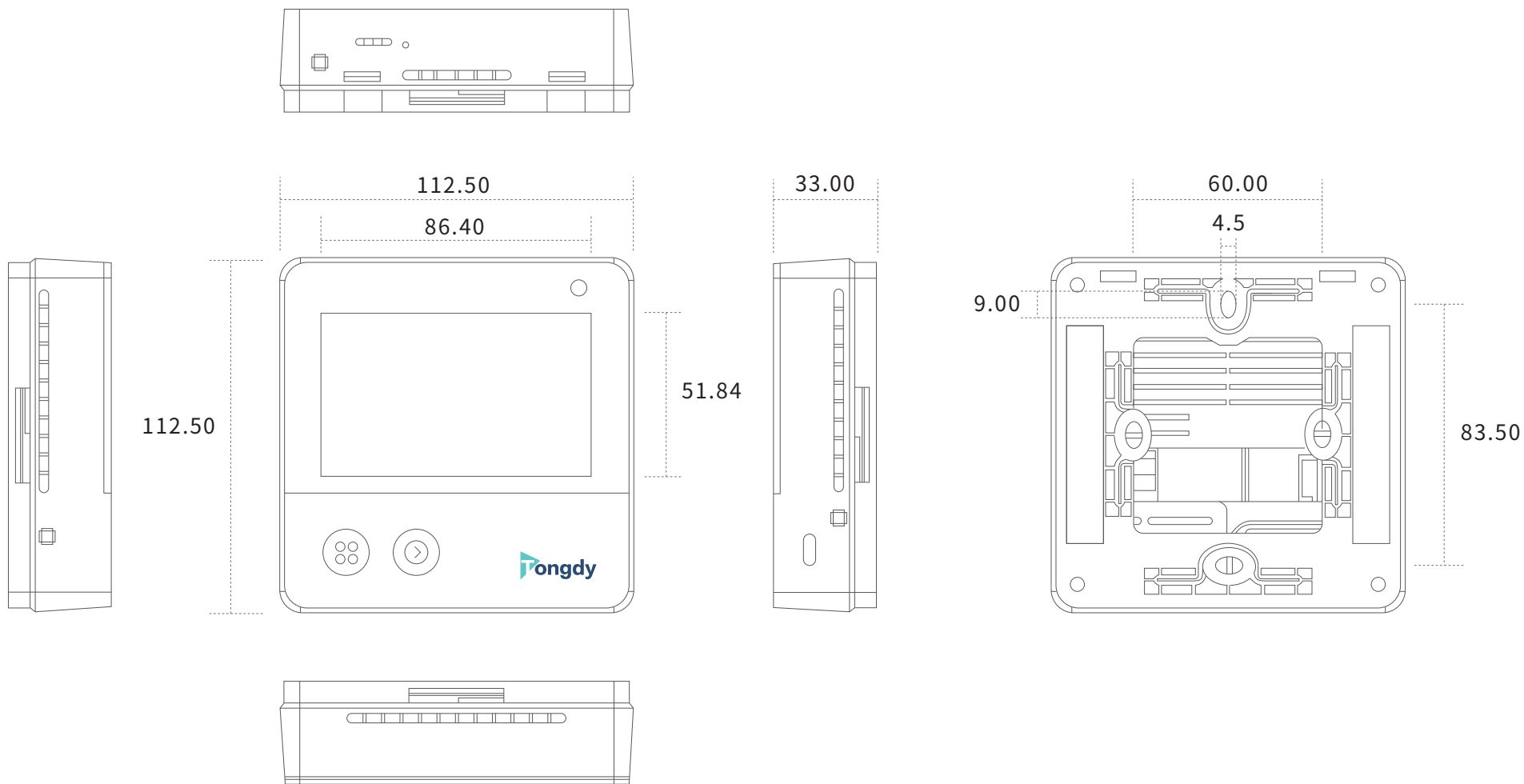
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mg/m³

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mg/m³

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PGX Super Indoor Environment Monitor

Indoor Environmental Monitoring

Monitor up to 12 parameters
simultaneously

Comprehensive Data Presentation

Real-time monitoring data display, data curve
visualization, AQI and primary pollutant display.
Multiple display media including web, App,
and smart TV.

Equipped with five communication interfaces
and seven communication protocols
Support internal data storage with Bluetooth download
Remote firmware upgrade and customization

Powerful Function Options

Cloud-based data colletion , platform data
analysis and comparison.
Remote calibration of sensing data and
PGX fault diagnosis

Remote Analysis and Management

Specifications

Power Supply	12~36VDC, 100~240VAC, PoE (for RJ45 interface), USB 5V (Type C)
Communication Interface	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)
Communication Protocol	MQTT, Modbus-RTU, Modbus-TCP, BACnet-MS/TP, BACnet-IP, Tuya, Qlear, or other custom protocols
Data Logger Inside	• Storage frequency ranges from 5 minutes to 24 hours. • 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. Data is downloadable via a Bluetooth app.
Operating Environment	• Temperature: -10~50°C • Humidity: 0~99% RH
Storage Environment	• Temperature: -10~50°C • Humidity: 0~70%RH
Enclosure Material and Protection Level Class	PC/ABS (Fireproof) IP30
Dimensions /Net Weight	112.50mm × 112.50mm × 33.00mm / 260g or 295g (100~240VAC)
Mounting Standard	• Standard 86/50 type junction box (mounting hole size: 60mm); • US standard junction box (mounting hole size: 84mm); • Wall mounting with adhesive.

Sensor Parameters

	CO_2	TVOC	PM2.5	PM10	PM1.0	Temperature & Humidity
Sensor Type	NDIR (Non-Dispersive Infrared)	Metal Oxide Semiconductor	Laser Particle Sensor	Laser Particle Sensor	Laser Particle Sensor	Digital Integrated Temperature and Humidity Sensor
Measurement Range	400 ～5,000ppm	0.001 ～ 4.0 mg/m³	0 ～ 1000 μg/m³	0 ～ 1000 μg/m³	0 ～ 500 μg/m³	-10℃ ～ 50℃, 0 ～ 99% RH
Output Resolution	1ppm	0.001 mg/m³	1 μg/m³	1 μg/m³	1 ug/m³	0.01℃, 0.01% RH
Accuracy	±50 ppm + 3% of reading or 75 ppm	<15%	±5 μg/m³ + 15% @ 1 ～ 100 μg/m³	±5 μg/m³ + 15% @ 1 ～ 100 μg/m³	±5 ug/m² + 10% @ 0 ～ 100 ug/m³ ±5 ug/m² + 15% @ 100 ～ 500 ug/m³	±0.6℃, ±4.0%RH

	Noise	Illumination	HCHO (Formaldehyde)	CO (Carbon Monoxide)	Ozone
Sensor	Frequency Range: 100 ～ 10K Hz	Measurement Range: 0.96 ～ 64,000 lx	Electrochemical Formaldehyde Sensor	Electrochemical CO Sensor	Electrochemical ozone sensor
Measurement Range	Sensitivity: −36 ± 3 dBFS	Measurement Accuracy: ±20%	0.001 ～ 1.25 mg/m³ (1ppb ～ 1000ppb @ 20℃)	0.1 ～ 100 ppm	0.004~10mg/m3 (2ppb~5000ppb @20c
Output Resolution	Acoustic Overload Point:130 dBSPL	Incandescent/Fluorescent Light Sensor Output Ratio: 1	0.001 mg/m³ (1ppb @ 20℃)	0.1 ppm	0.004mg/m³ (2ppb)
Accuracy	Signal–to–Noise Ratio: 56 dB(A)	Low Light (0 lx) Sensor Output: 0 + 3 count	0.003 mg/m³ + 10% of reading (0 ～ 0.5 mg/m³)	±1 ppm (0~10 ppm)	0.004mg/m³ + 15% of reading (@ 20℃)

112.50

86.40

112.50

51.84

33.00

60.00

4.5

9.00

83.50

Tongdy

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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A Healthier Life — Built on a Trusted Environment

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