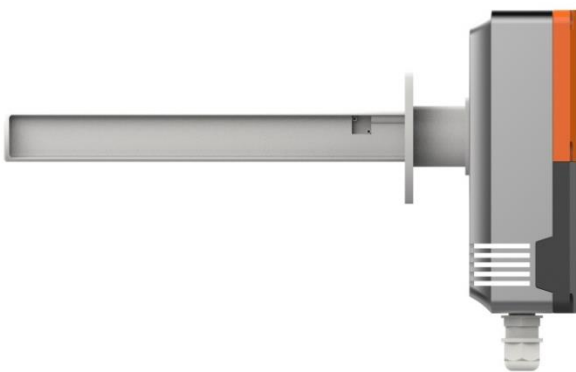


In-Duct Air Quality Detector PMD Series

- *Professional designing and manufacturing IAQ products more than 14 years, long-term exportation to global markets with powerful performances guaranteed*
- *Built-in commercial high-precision sensor module, with proprietary technology, long-term stable and reliable application*
- *Industrial grade shell and structure to satisfy different environment. Removable filter mesh for easy cleaning and reuse*
- *Pitot tube inlet and outlet design, instead of air pump for the long lifetime usage*
- *Regulate fan speed automatically to guarantee constant air volume*
- *Provide a variety of communication interface to select and connect a monitoring and analysis software platform, for data storage, analysis and comparison*
- *Optional two power supply, more convenient for installation*
- *RESET Certificate*
- *CE-Approval*



Features

- PMD-18 in-duct air quality detector is specially designed for monitoring multi-parameter air quality in air duct. It is suitable to be installed in return air duct.
- The built-in sensor module uses Tongdy's patented technology and fully enclosed cast aluminium structure. It ensures the stability, air closure and shielding, greatly improves the anti-interference ability.
- Built-in a large air bearing fan, regulate the fan speed automatically, guarantee constant air volume and improve the stability and lifetime in long-term working.

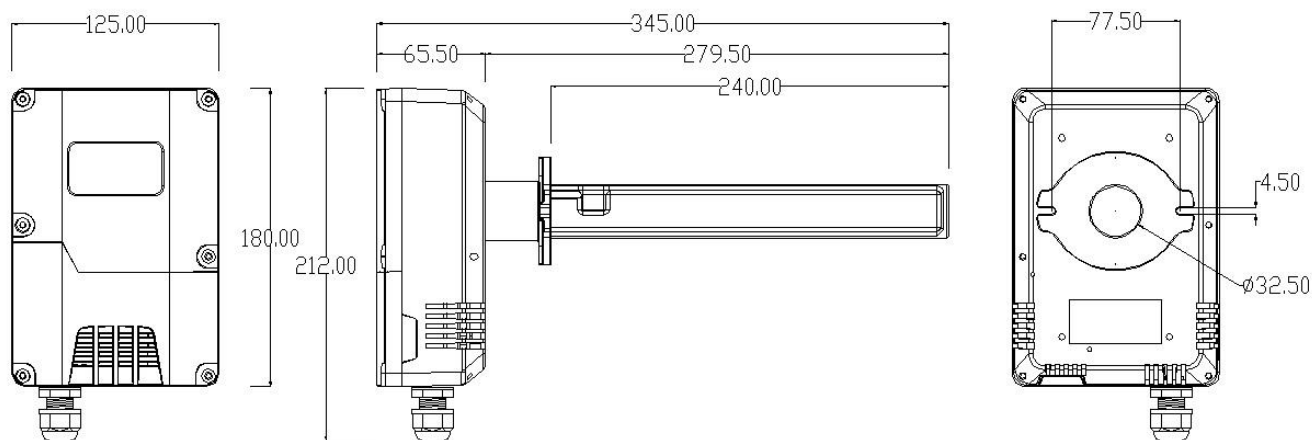
- Special design of pitot tube inlet and outlet, to instead of air pump mode and no longer fretting about frequent replacement of air pumps.
- Easy to clean filter mesh, can be disassembled and used many times
- With temperature and humidity compensation, reduce the impact of environmental change.
- Real-time monitoring parameters: particles (PM2.5 and PM10), carbon dioxide (CO2), TVOC, air temperature and humidity, as well as optional carbon monoxide,.
- Independently measure the temperature and humidity in the air duct, avoid interference from other sensors.
- Provides WIFI, RJ45 Ethernet, RS485 Modbus communication interfaces selection. Provide multiple communication protocol choices.
- Connect to the data acquisition/analysis software platform to achieve data storage, data comparison and data analysis.
- Data can be read and displayed on-site with blue tooth or the operation tool.
- Working with MSD indoor air quality monitors together, comprehensively and accurately analyze the air quality. Quantitative assessment of indoor air pollution.
- Working with TF9 series outdoor air environment monitors together to form a partial and complete regional air quality monitoring, analysis and treatment system.

Specifications

General Data	
Power Supply	24VAC/VDC, or 100~230VAC (optional)
Communication Interface	Choose one in the following
a. RS485	RS485/RTU, 9600bps 8N1(default), 15KV Antistatic protection
b. RJ45(Ethernet TCP)	MQTT protocol, Modbus customization or Modbus TCP optional
c. WiFi@2.4 GHz 802.11b/g/n	MQTT protocol, Modbus customization or Modbus TCP optional
Data upload interval cycle	Average / 60 seconds
Applicable air speed of duct	2.0~7m/s
Working Condition	-20℃~60℃/ 0~99%RH, (No condensation)
Storage Condition	0℃~50℃/ 10~60%RH
Overall Dimension	180X125X65.5mm
Pitot tube size	240mm

Net weight	850g
Shell material	PC material
CO2 Data	
Sensor	Non-Dispersive Infrared Detector (NDIR)
Measuring Range	0~2,000ppm
Output Resolution	1ppm
Accuracy	$\pm 50\text{ppm} + 3\%$ of reading or $\pm 75\text{ppm}$ (whichever is bigger) (25℃, 10%~80%RH)
Particle Data	
Sensor	Laser particle sensor
Measuring Range	PM2.5: 0~500 $\mu\text{g}/\text{m}^3$; PM10: 0~500 $\mu\text{g}/\text{m}^3$;
Output values	moving average/60 seconds, moving average/1 hour, moving average/24 hours
Output Resolution	0.1 $\mu\text{g}/\text{m}^3$
Zero Point Stability	$<2.5 \mu\text{g}/\text{m}^3$
PM2.5 Accuracy (mean per hour)	$<\pm 5 \mu\text{g}/\text{m}^3 + 10\%$ reading (0~300 $\mu\text{g}/\text{m}^3$ @10~30℃, 10~60%RH)
TVOC Data	
Sensor	Metal oxide sensor
Measuring Range	0~3.5mg/m3
Output Resolution	0.001mg/m3
Accuracy	$<\pm 0.05\text{mg}/\text{m}^3 + 15\%$ of reading (25℃, 10%~60%RH)
Temp.& Humi. Data	
Sensor	Band gap material temperature sensor、Capacitive humidity sensor
Temperature range	-20℃~60℃
Relative humidity range	0~99%RH
Output Resolution	temperature : 0.01℃ humidity : 0.01%RH
Accuracy	$\pm 0.5^\circ\text{C}$, 3.5%RH (25℃, 10%~60%RH)
CO Data (option)	
Sensor	Electrochemical CO sensor
Measuring Range	0~100ppm
Output Resolution	0.1ppm
Accuracy	$\pm 1\text{ppm} + 5\%$ of reading (25℃, 10%~60%RH)

Dimensions



Models Guide

Model	PM2.5 PM10	CO2	TVOC	Temp/ RH	CO	Communication Interface	Optional an extended RS485 interface
PMD-1818C/D	●	●	●	●		RS485 (Modbus RTU)	NO
PMD-1810C/D	●	●	●	●	●		
PMD-1828C/D	●	●	●	●		WiFi@2.4 GHz 802.11b/g/n	YES
PMD-1820C/D	●	●	●	●	●		
PMD-1838C/D	●	●	●	●		RJ45 (Ethernet TCP)	YES
PMD-1830C/D	●	●	●	●	●		

Power supply: The suffix **C** means 24VAC/VDC, and **D** means 100~230VAC.

Communication protocol options: Add suffix as follows

- MQT (MQTT protocol, MyTongdy platform etc)
- QLC (Custom protocol, compatible with Qlear/GAMS platform)
- TPL (Modbus TCP/IP protocol, LAN)
- TPW (Modbus TCP/IP WAN)
- RTU (Modbus RTU protocol, just for PMD-181X)

Communication Protocol Support

1. Modbus RTU protocol for PMD-181X
2. MQTT protocol (Support MyTongdy data platform, other standard non-encrypted authentication MQTT protocol platform)
3. Customized protocol (supports QLEAR data platform, supports GAMS data platform)
4. Modbus TCP/IP Server (Support standard Modbus TCP/IP Industrial control software, configuration software or self-programming integration)