

# IN-DUCT AIR QUALITY DETECTOR PMD SERIES

## PRODUCT BROCHURE

### PMD-18XXC/D

#### PRODUCT DETAIL

- Built-in commercial high precision sensor module for long-term stability and reliability
- Industrial grade housing and structure to suit harsh environments
- Removable filter mesh for easy cleaning and reuse
- Pitot tube inlet and outlet instead of sampling pump
- Built in sample air flow regulator to guarantee constant air volume
- Provide a variety of communication interface to enable monitoring and interfacing with analysis software platforms, data storage, analysis and comparison
- Optional two power supplies
- RESET Certificate and CE-Approval



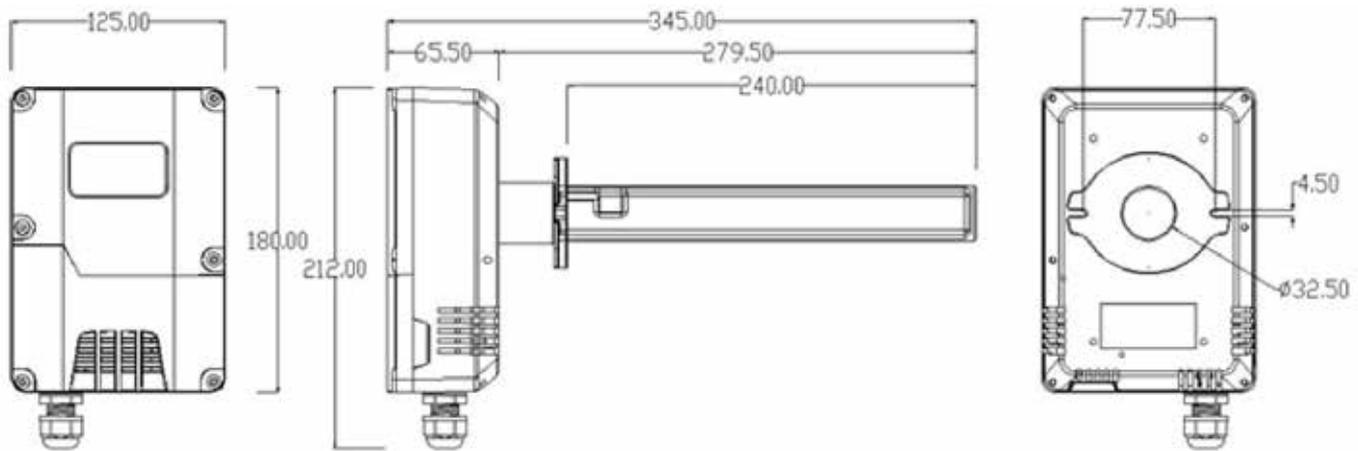
#### FEATURES

- PMD-18 in-duct air quality detector is specially designed for monitoring multi-parameter air quality in air duct
- Suitable to be installed in return air duct
- Precision built-in sensor module uses patented technology in a fully enclosed cast aluminum structure
- Ensures the stability, air tightness and shielding from external interference
- Built-in large air bearing fan. Regulate the fan speed automatically, guaranteeing constant air volume
- Special design of the Pitot tube inlet and outlet eliminates frequent replacement of air pumps altogether
- Easy to clean filter mesh which can be disassembled and used multiple times
- Temperature and humidity compensation
- 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 avoiding interference from other sensors
- Provides WIFI, RJ45 Ethernet, RS485 Modbus communication interfaces selections and multiple communication protocol choices
- Connectivity with data acquisition/analysis software platforms to enable data storage, data comparison and data analysis
- Data can be read and displayed on-site with blue tooth or the operation tool
- Enables quantitative assessment of indoor air pollution. If combined with MAQ series indoor air quality monitors, one can comprehensively and accurately analyse the indoor air quality

## SPECIFICATIONS

General Data	
Power Supply	24VAC/VDC, or 100~230VAC (optional)
Communication Interface	Choose one of the following
RS485	RS485/RTU, 9600bps 8NI(default), 15KV Antistatic protection
RJ45(Ethernet TCP)	MQTT protocol or Modbus TCP
WiFi@2.4 GHz 802.11b/g/n	MQTT protocol or Modbus TCP
Data Upload Interval Cycle	Average / 60 seconds
Applicable Air Speed Of Duct	2.0~7m/s
Working Condition	-20°C~60°C/ 0~99%RH, (No condensation)
Storage Condition	0°C~50°C/ 10~60%RH
Overall Dimension	180X125X65.5mm
Pitot Tube Size	240mm
Net Weight	850g
Shell Material	Poly Carbonate
CO2 Data	
Sensor	Non-Dispersive Infrared Detector (NDIR)
Measuring Range	0~2,000ppm
Output Resolution	1ppm
Accuracy	±50ppm + 3% of reading or ±75ppm (whichever is bigger) (25, 10%~80%RH)
Particle Data	
Sensor	Laser particle sensor
Measuring Range	PM2.5: 0~500µg/m3 PM10: 0~500µg/m2=3
Output Values	Moving average/60 seconds, moving average/1 hour, moving average/24 hours
Output Resolution	0.1µg/m3
Zero Point Stability	<2.5µg/m3
Pm2.5 Accuracy (Mean Per Hour)	<± 5µg/m+10% reading (0~300µg/m3 @10~30°C 10~60%RH)
Tvoc Data	
Sensor	Metal oxide sensor
Measuring Range	0~3.5mg/m3
Output Resolution	0.001mg/m3
Accuracy	<±0.05mg/m3+ 15% of reading (25°C, 10%~60%RH)
Temperature & Humidity Data	
Sensor	Band gap material temperature sensor, Capacitive humidity sensor
Temperature Range	-20°C~60°C
Relative Humidity Range	0~99%RH
Output Resolution	Temperature: 0.01°C humidity: 0.01%RH
Accuracy	±0.5°C 3.5%RH (25°C, 10%~60%RH)
Co Data (option)	
Sensor	Electrochemical CO sensor
Measuring Range	0~100ppm
Output Resolution	0.1ppm
Accuracy	±1ppm+ 5% of reading (25°C, 10%~60%RH)

## DIMENSIONS



## MODEL 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)

TPL (Modbus TCP/IP protocol, LAN)

TPW (Modbus TCP/IP WAN)

RTU (Modbus RTU protocol, available only with PMD-181X)

## COMMUNICATION PROTOCOL SUPPORT

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