IN-DUCT DETECTOR

IN-DUCT AIR QUALITY DETECTOR— PMD SERIES

Specification Data

APPLICATION

- Online real-time detecting indoor air quality.
- Green Building Assessment
- BAS and HVAC
- Smart Home System
- Fresh Air Controlling System
- Building Energy Saving Reconstruction and Assessment System
- Classroom, office, exhibition hall, shopping mall, other public place

FEATURES

- PMD-18 in-duct air quality detector is specially designed for monitoring multi-parameter air quality in air duct, Which is installed in wind duct or return air duct.
- 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, instead the air pump mode, adapt to a wider range of wind speeds. To have longer lifetime and no need to change the air pump frequently.
- 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 or formaldehyde,.
- Independently measure the temperature and humidity in the air duct, avoid interference from other sensors and monitoring heating.
- 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.
- Approved by CE, RESET, RoHS, FCC, REACH and ICES.

TECHNICAL SPECIFICATIONS

General Data

Power Supply	12~28VDC/18~27VAC or 100~240VAC (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	2.0~15m/s
Working Condition	(-4 ^{O}F~140 ^{O}F) -20 ^{O}C~60 ^{O}C/ 0~99%RH, (No condensation)
Storage Condition	(32 ^{O}F~122 ^{O}F) 0 ^{O}C~50 ^{O}C/ 10~60%RH
Overall Dimension	180X125X65.5mm (7.09X4.92X20.58in)
Pitot tube size	240mm (9.45in)
Net weight	850g (1.87lb)
Shell material	PC material

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 ^{O}C/77 ^{O}F, 10%~80%RH）

Particle Data

Sensor	Laser particle sensor
Measuring Range	PM2.5: 0~500 μg/m3 ； PM10: 0~500 μg/m3；
Output values	moving average/60 seconds, moving average/1 hour, moving average/24 hours
Output Resolution	0.1 μg/㎥
Zero Point Stability	<2.5 μg/㎥
PM2.5 Accuracy (mean per hour)	<±5 μg/㎥+10% reading （0~300 μg/㎥@10~30OC/50~86OF，10~60%RH)

Temp & Humidity 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	±0.5℃，3.5%RH（25℃, 10%~60%RH）

CO Data (Optional)

Sensor	Electrochemical CO sensor
Measuring Range	0～100ppm
Output Resolution	0.1ppm
Accuracy	±1ppm+ 5% of reading（25^{O}C/77 ^{O}F,10%~60%RH）

Ozone Data (Optional)

Sensor	Electrochemical ozone sensor
Measuring Range	0~2000ug/㎥ @20℃（0~2mg/m^3）
Output Resolution	2ug/㎥
Accuracy	±20ug/m^3+ 10% of reading （25^{O}C/77 ^{O}F, 10%~60%RH）

HCHO Data (Optional)

Sensor	Electrochemical formaldehyde sensor
Measuring Range	0~0.6mg/㎥
Output Resolution	0.001mg/㎥
Accuracy	±0.005mg/㎥+5% of reading (25^{O}C/77 ^{O}F, 10%~60%RH)

TVOC Data

Sensor	Metal oxide sensor
Measuring Range	0.01～4.00mg/m3
Output Resolution	0.001mg/m3
Accuracy	<±0.05mg/m3+ 15% of reading (25 ^{O}C/77 ^{O}F, 10%~60%RH)

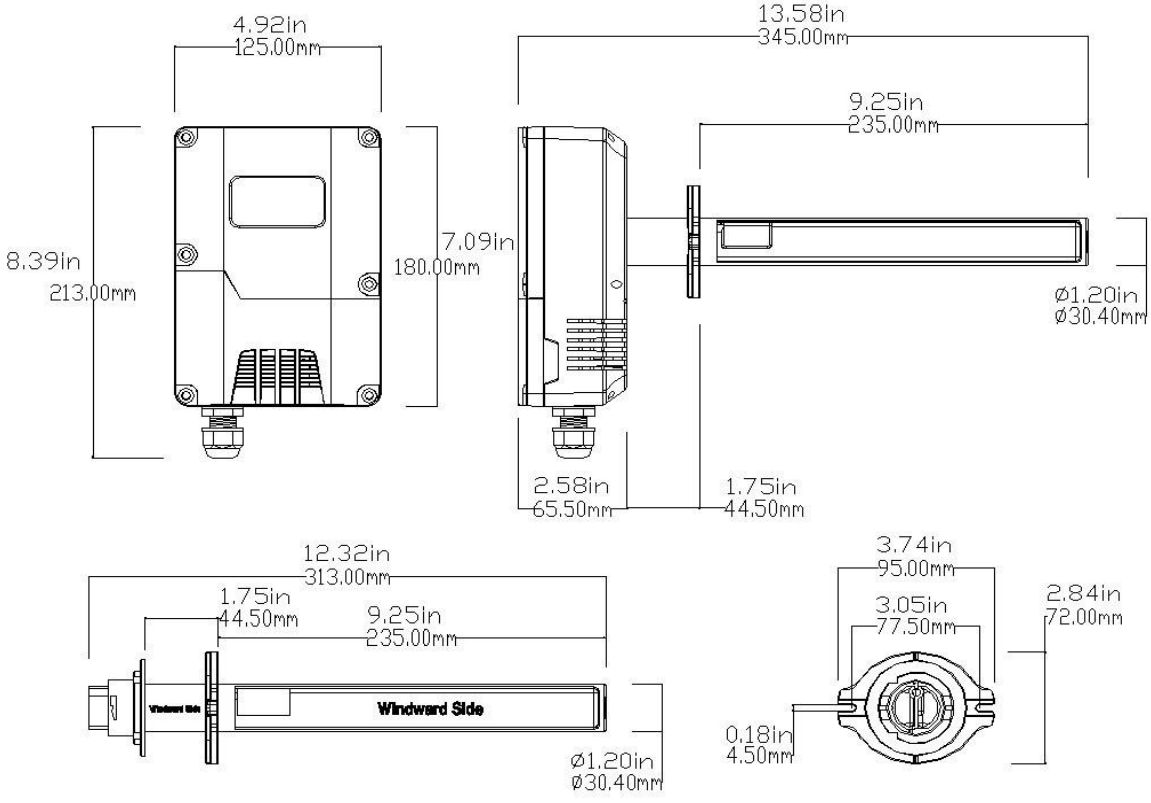
MODELS GUIDE

Model	PM2.5 PM10	CO2	TVOC	Temp/ RH	HCHO	CO	Communication Interface	Optional an extend RS485 interface
PMD-1818C/D	•	•	•	•			RS485 (Modbus RTU)	No
PMD-1819C/D	•	•	•	•	•			
PMD-1816C/D	•	•	•	•		•		
PMD-1810C/D	•	•	•	•	•	•		
PMD-1828C/D	•	•	•	•			WiFi@2.4 GHz 802.11b/g/n	Yes
PMD-1829C/D	•	•	•	•	•			
PMD-1826C/D	•	•	•	•		•		
PMD-1820C/D	•	•	•	•	•	•		
PMD-1838C/D	•	•	•	•			RJ45 (Ethernet TCP)	Yes
PMD-1839C/D	•	•	•	•	•			
PMD-1836C/D	•	•	•	•		•		
PMD-1836C/D	•	•	•	•	•	•		

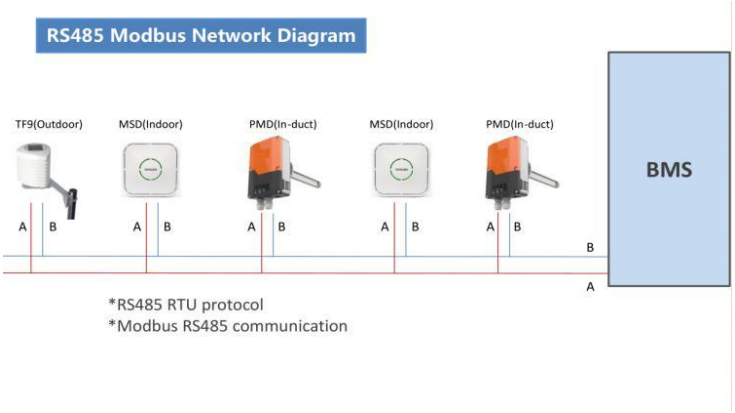
C: 24VAC/VDC power supply
D: 100~240VAC power supply

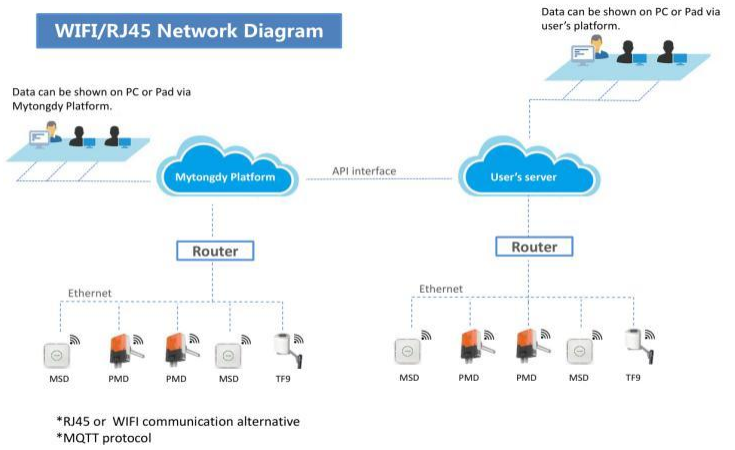
Other requests contact with your dealer or manufacture.

DIMENSIONS

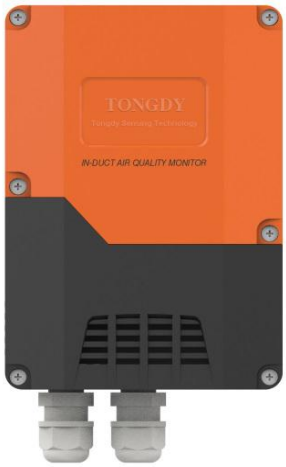


NETWORK DIAGRAM





- 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, FCC, ICES



Tongdy Sensing Technology Corporation

Add: Building #8, No.9 Dijin Rd., Haidian Dist., Beijing 100095, China
http://www.tongdy.com email: info@tongdy.com
Tel:(86 10) 59738930 / 8931 Fax:(86 10) 59738935