



Indoor Air Quality Monitor

IN COMMERCIAL GRADE



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

- 24-hour online real-time detecting indoor air quality, upload measurement data.
- The special and core multi-sensor module is inside, which is designed for the commercial grade monitors. The whole sealed cast aluminum structure ensures the stability of detection and improves the anti-jamming capability.
- Different from other particle sensors, the PM sensor module inside MSD with a built-in large flow bearing fan, which has the control technology of automatic constant flow. It makes MSD the much higher and long-term operation stability and life, of course more accuracy.
- Providing multiple sensors such as PM2.5, PM10, CO2, TVOC, HCHO, Temperature and humidity.
- Using own patent technologies to minimize the influence from ambience temperature and humidity to the measured values.
- Two power supply selectable: 24VDC/VAC or 100~240VAC
- Communication interface is optional: Modbus RS485, WIFI, RJ45 Ethernet.
- Supply an extra RS485 for WiFi/ Ethernet type to configure or check the measurements.
- Three-color light ring indicating different level of indoor air quality. The light ring can be turned off.
- Ceiling mounting and wall mounting with the tasteful appearance in different decoration styles.
- Simple structure and installation, make easy ceiling mounting easy and convenient.
- Over 15-year experience in IAQ product design and production, abundantly applied in European and American market, mature technology, good manufacturing practice and high quality ensured.
- RESET certified as the grade B monitor for Green Building Assessment and Certification.

TECHNICAL SPECIFICATIONS

General Data

Detection Parameters(max.)	PM2.5/PM10, CO2, TVOC, Temperature & RH, HCHO
Output (Optional)	. RS485 (Modbus RTU or BACnet MS/TP) . RJ45/TCP (Ethernet) with an extra RS485 interface . WiFi @2.4 GHz 802.11b/g/n with an extra RS485 interface
Operating Environment	Temperature: 0~50 °C (32 ~122°F) Humidity: 0~90%RH
Storage Conditions	0~50 °C (32 ~122°F) 0~90%RH (No condensation)
Power Supply	12~28VDC/18~27VAC or 100~240VAC
Overall Dimension	130mm(L)×130mm(W)×45mm (H) 7.70in(L)×6.10in(W)×2.40in(H)
Power consumption	Average 1.9w (24V) 4.5w(230V)
Material of Shell & IP Level	PC/ABS fire-proof material / IP20
Certification Standard	CE, FCC, ICES

Temperature and Humidity Data

Sensor	High precision digital integrated temperature and humidity sensor
Measuring Range	Temperature: -20~60 °C (-4~140°F) Humidity : 0~99%RH
Output Resolution	Temperature : 0.01 °C Humidity : 0.01%RH
Accuracy	Temperature : ±0.5°C (10~40°C) Humidity : ±5.0%RH (10%~90%RH)

PM2.5/PM10 Data

Sensor	Laser particle sensor, light scattering method
Measuring Range	PM2.5: 0~1000µg/m3 PM10: 0~1000µg/m3
Output Resolution	0.1µg /m3
Zero Point Stability	±5µg /m3
Accuracy	PM2.5: 10% of reading (1~300ug/m3) PM10: 15% of reading (0-300µg/m3)

CO2 Data

Sensor	Non-Dispersive Infrared Detector (NDIR)
Measuring Range	0~5,000ppm
Output Resolution	1ppm
Accuracy	±50ppm +3% of the reading or ±75ppm (Whichever is bigger)

TVOC Data

Sensor	Metal oxide gas sensor
Measuring Range	0.001~4mg/m3
Output Resolution	0.001mg/m3
Accuracy	±0.02mg/m3 +12% of reading (0.001~2mg/m3)

HCHO Data

Sensor	Electrochemical Formaldehyde sensor
Measuring Range	0.001~0.6mg/m3
Output Resolution	0.001mg/m3
Accuracy	±0.003mg/m3+10% of reading

MODELS GUIDE

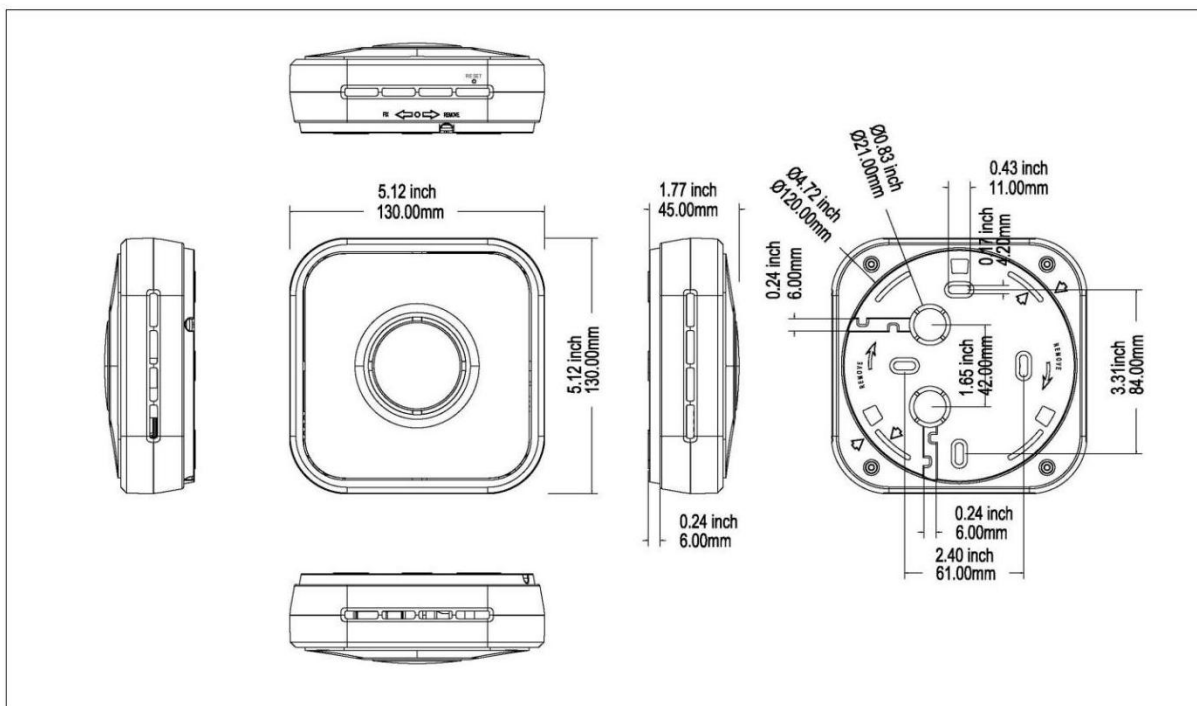
Model	PM2.5	PM10	Temp/ RH	CO2	TVOC	HCHO	Output	Extra interface
MSD-1813C	•	•	•	•			RS485 (Modbus RTU) or Postix:-BN (BACnet MS/TP)	None
MSD-1818C	•	•	•	•	•			
MSD-1819C	•	•	•	•	•	•		
MSD-1833C/D	•	•	•	•			Ethernet RJ45 (POE available)	RS485
MSD-1838C/D	•	•	•	•	•			
MSD-1839C/D	•	•	•	•	•	•		
MSD-1823C/D	•	•	•	•			WIFI	RS485
MSD-1828C/D	•	•	•	•	•			
MSD-1829C/D	•	•	•	•	•	•		

C/D power supply select: C means 12~28VDC/18~27VAC; D means 100~240VAC power supply

Examples

Model	Communication interface	Protocol	Power Supply
MSD-1813C; MSD-1818C	RS485	Modbus RTU	24VAC/VDC
MSD-1818C-BN ; MSD-1819C-BN	RS485	BACNet MS/TP	24VAC/VDC
MSD-1829D	WIFI	MQTT	100~230VAC
MSD-1838C	Ethernet RJ45	MQTT	24VAC/VDC

DIMENSIONS



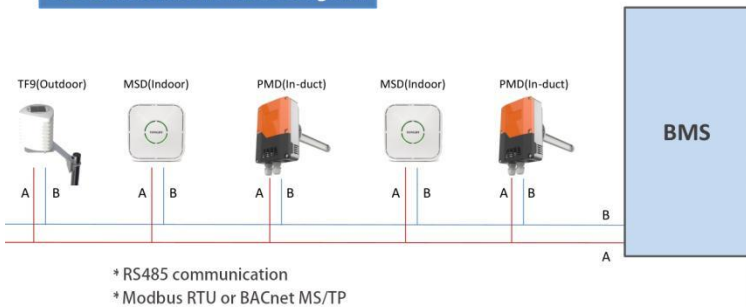
NETWORK DIAGRAM

DATA APPLICATIONS

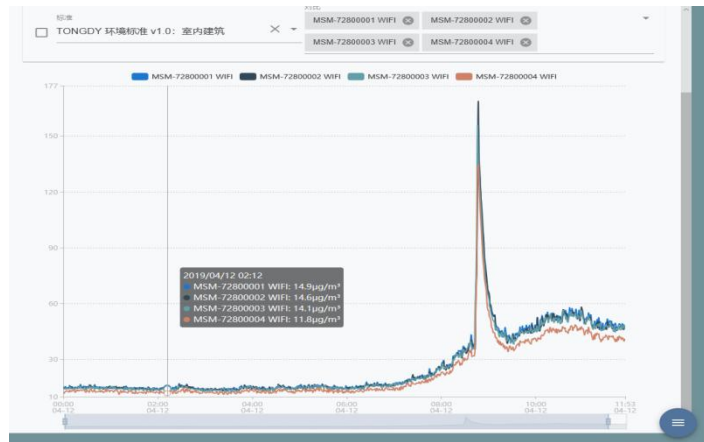
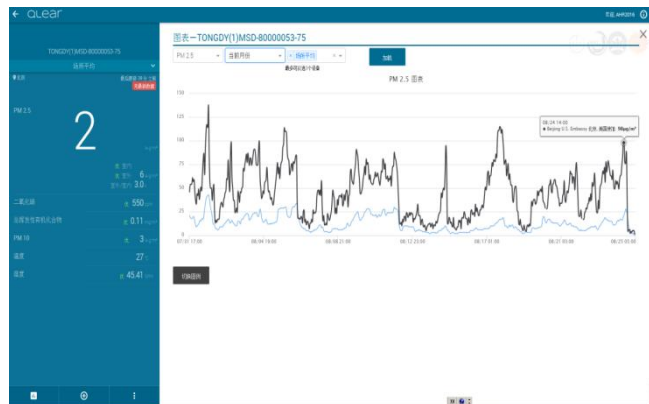
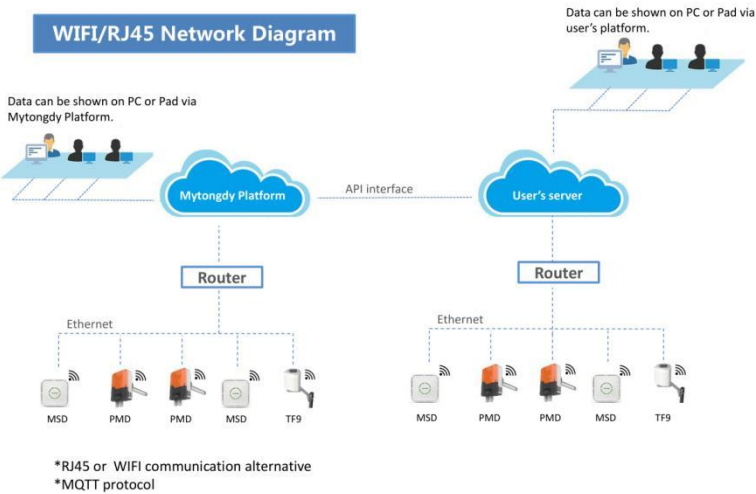
Real-time gathering indoor air quality data, or upload the data to an IPC or a Cloud server. Record, read and analyze the data through a data platform. It may have computer version, as well as cellphone version and TV version.

Using the real time multi sensors data, it's possible to monitoring indoor air quality, control building ventilation system and ensure the green and healthy working spaces.

RS485 Modbus Network Diagram



WIFI/RJ45 Network Diagram



The screenshot shows a data monitoring interface for a device labeled 'MSM-72800001 WIFI'. The main display is a table showing sensor data points over time. The table has columns for '日期' (Date), 'PM2.5', 'PM10', 'PM100', 'CO2', 'TVOC', '温度', and '湿度'. The data points are as follows:

日期	PM2.5	PM10	PM100	CO2	TVOC	温度	湿度
2019-04-12 12:00	455	560	537	408	0.173	20.37	35.93
2019-04-12 13:00	531	627	605	476	0.211	19.93	36.88
2019-04-12 14:00	459	553	536	408	0.364	19.36	37.21
2019-04-12 15:00	561	565	563	408	0.174	19.37	36.64
2019-04-12 16:00	293	247	249	403	0.154	17.61	38.96
2019-04-12 17:00	155	197	194	402	0.076	16.78	40.77
2019-04-12 18:00	153	206	202	401	0.050	16.56	40.70
2019-04-12 19:00	148	207	209	407	0.040	16.66	40.46
2019-04-12 20:00	142	191	190	400	0.109	16.90	40.28
2019-04-12 21:00	147	183	180	408	0.135	17.14	39.98
2019-04-12 22:00	148	173	167	475	0.160	17.70	39.01
2019-04-12 23:00	151	173	168	477	0.234	17.86	37.89
2019-04-13 00:00	144	164	167	478	0.242	18.33	36.57