# MSD-09 Series

## IAQ Monitor with Flexible Combination of Multi-Sensors

## *Features*

- 24-hour online monitoring of indoor air quality, providing up to 7 sensings of Flexible combination.
- PM2.5&PM10, CO2, TVOC, temperature & humidity monitoring
- Special optional two sensing of CO/HCHO/Ozone/NO2
- The above sensors modular design allows you to select different monitoring parameters for different applications
- By own-patented technology of especial the built-in compensation of measuring value of environmental temperature and humidity, ensure the accuracy and stability of measurements in different environments for a long time.
- The unique TVOC adapting calibration and data processing mode is able to monitor on-line TVOC concentration with correcting    deviations and drifts of measurement
- Data logger with 145860 points and downloaded by BlueTooth
- Two power supply available:
   12~28VDC/18~27VAC or 100~240VAC.
- Four communication interfaces are available: RS485, Ethernet, WIFI,LoraWAN
- The light ring has optional three work modes.
- Wall mounting or ceiling mounting to match with a variety of decorative styles.

## Main Applications

- Design for monitoring indoor air quality in rooms, offices and stores, any other green buildings
- Real-time online monitoring of overall indoor air quality
- Fresh air filtration system
- Office building system
- Building energy efficiency reform and evaluation system
- Schools, residences, offices, hotels, shopping centers,
- All green buildings
- Comprehensive real estate projects, etc.

## Specifications

| General Data | |
|---|---|
| Detection Data（Optional） | Modular design sensor, up to 7 parameters (Max.) Temperature and humidity are standard configuration. Optional parameters: PM2.5/PM10; CO2; TVOC; Optional CO or HCHO Optional Ozone / NO2 |
| Output | • RS485 (Modbus RTU) <br> • RJ45 / Ethernet (MQTT) <br> • WiFi @2.4 GHz 802.11b/g/n (MQTT) <br> • LoraWAN (CayenneLPP) <br><br> Support regins:RU864, IN865, EU868, US915, AU915,   KR920, AS923-1~4) |
| Data logger (Optional) | Saved up to 145860 points and the storage rate from 60sec. to 10 day. It can be stored 78 days/5min. rate or 156 days /10min or 468 days/ 30min as saving 5 sensing data. Download data by a BlueTooth APP which is also used for configuration. |
| Operating environment | Temperature: 0~50℃        Humidity: 0~90%RH ( no condensation) |
| Storage environment | Temperature: -10℃~50℃  Humidity: 0~70%RH |
| Power supply | 12~28VDC/18~27VAC or 100~240VAC |
| Overall dimension | 130mm(L)×130mm(W)×45mm(T) |
| Shell material and IP grade | PC/ABS fire proof material, IP30 |
| Certification standard (CE) | SAR: EN 62479&50663 Health Assessment <br> RF: ETSI EN 300 328 <br> LVD(BlueTooth): EN 61010-1 <br> EMC: EN61326-1 <br> EMC(wifi):ETSI EN 301 489-1 V2.2.3 (2019-11) ; ETSI EN 301 489-17 V (2020-09) |
| PM2.5/PM10 Data | |
| Sensor | Laser particle sensor, light scattering method |
| Measuring Range | PM2.5: 0~1000μg/㎥ <br> PM10: 0~1000μg/㎥ |

| | |
|---|---|
| Output resolution | 1μg/m³ |
| Accuracy | ±5μg/m³+ 20% at 1-100μg/m³ |
| **CO2 Data** | |
| Sensor | Non-dispersive Infrared Detector (NDIR), Life time and auto calibration |
| Measuring Range | 400～5000ppm |
| Output resolution | 1ppm |
| Accuracy | ±50ppm + 5% at 400-2000ppm |
| **TVOC Data** | |
| Sensor | Multi-pixel gas sensor |
| Measuring range | 1-2000 μg/m³ |
| Output resolution | 1μg/m³ |
| Accuracy | ±20μg/m³ + 15% |
| **Temperature and humidity Data** | |
| Sensor | Digital integrated temperature and humidity sensor |
| Measuring range | Temperature: 0℃~60℃ / Humidity: 0~99%RH |
| Output resolution | Temperature: 0.01℃ / Humidity: 0.01%RH |
| Accuracy | Temperature: ±0.5℃（10~40℃）<br>Humidity: ±5.0%  （10%~90%RH） |
| **CO Data** | |
| Sensor | Electrochemical CO Sensor |
| Measuring Range | 0.1~100ppm |
| Output resolution | 0.1ppm |
| Accuracy | ±1ppm at 0-10ppm |
| **HCHO Data** | |
| Sensor | Electrochemical formaldehyde sensor |
| Measuring Range | 20-1000ppb |
| Output Resolution | 1ppb |
| Accuracy | ±20 ppb at 0-100 ppb |
| **Ozone Data** | |
| Sensor | Electrochemical ozone sensor |
| Measuring Range | 10-500ppb |
| Output Resolution | 1ppb |
| Accuracy | ±10ppb at 0-100ppb |
| **NO2 Data** | |
| Sensor | Electrochemical sensor |
| Measuring Range | 5-500ppb |
| Output Resolution | 1ppb |
| Accuracy | ±20 ppb at 0-100 ppb |

## Models Guide

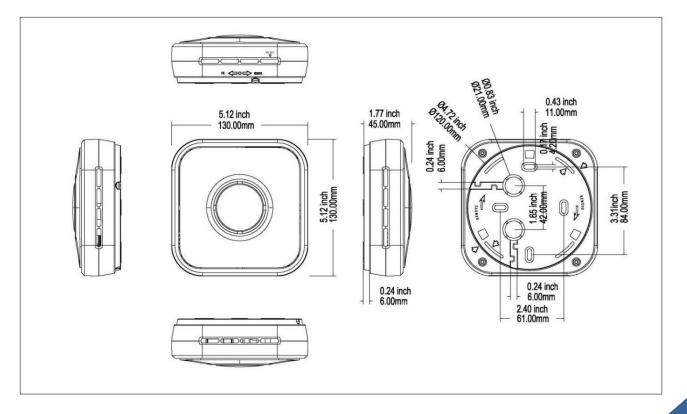| Model. | PM2.5 PM10 | $CO_2$ | TVOC | CO | O3 | HCHO | NO2 | Output |
|---|:---:|:---:|:---:|:---:|:---:|:---:|:---:|---|
| MSD-0913C/D | ● | ● | | | | | | RS485 (Modbus RTU) |
| MSD-0916C/D | ● | ● | ● | ● | | | | |
| MSD-0918C/D | ● | ● | ● | | | | | |
| MSD-0919C/D | ● | ● | ● | | | ● | | |
| MSD-0916Z-C/D | ● | ● | ● | ● | ● | | | |
| MSD-0916N-C/D | ● | ● | ● | ● | | | ● | |
| MSD-0918Z-C/D | ● | ● | ● | | ● | | | |
| MSD-0923C/D | ● | ● | | | | | | WiFi (MQTT) |
| MSD-0926C/D | ● | ● | ● | ● | | | | |
| MSD-0928C/D | ● | ● | ● | | | | | |
| MSD-0929C/D | ● | ● | ● | | | ● | | |
| MSD-0926Z-C/D | ● | ● | ● | ● | ● | | | |
| MSD-0936C/D/PoE | ● | ● | ● | ● | | | | Ethernet (MQTT) |
| MSD-0938C/D/PoE | ● | ● | ● | | | | | |
| MSD-0939C/D/PoE | ● | ● | ● | | | ● | | |
| MSD-0936Z-C/D/PoE | ● | ● | ● | ● | ● | | | |
| MSD-0938N-C/D/PoE | ● | ● | ● | | | | ● | |
| MSD-0953C/D | ● | ● | | | | | | LoraWAN (CayenneLPP |
| MSD-0956C/D | ● | ● | ● | ● | | | | |
| MSD-0958C/D | ● | ● | ● | | | | | |
| MSD-0959C/D | ● | ● | ● | | | ● | | |
| MSD-0956Z-C/D | ● | ● | ● | ● | ● | | | |

*Note:* C-12~28VDC/18~27VAC power supply

D-100~240VAC

*POE-48V PoE power supply*

## *Dimensions*



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