

## 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, CO<sub>2</sub>, TVOC, temperature & humidity monitoring
- Special optional two sensing of CO/HCHO/Ozone/NO<sub>2</sub>/SO<sub>2</sub>
- 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 / SO2
Output	<ul style="list-style-type: none"> <li>● RS485 (Modbus RTU)</li> <li>● RJ45 / Ethernet (MQTT)</li> <li>● WiFi @2.4 GHz 802.11b/g/n (MQTT)</li> <li>● LoraWAN (CayenneLPP)</li> </ul> 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 RF: ETSI EN 300 328 LVD(BlueTooth): EN 61010-1 EMC: EN61326-1 EMC(wifi):ETSI EN 301 489-1 V2.2.3 (2019-11) ; ETSI EN 301 489-17 (2020-09)
PM2.5/PM10 Data	
Sensor	Laser particle sensor, light scattering method
Measuring Range	PM2.5: 0~1000 $\mu\text{g}/\text{m}^3$ PM10: 0~1000 $\mu\text{g}/\text{m}^3$

Output resolution	1 $\mu\text{g}/\text{m}^3$
Accuracy	$\pm 5\mu\text{g}/\text{m}^3 + 20\%$ at 1-100 $\mu\text{g}/\text{m}^3$
<b>CO2 Data</b>	
Sensor	Non-dispersive Infrared Detector (NDIR), Life time and auto calibration
Measuring Range	400~5000ppm
Output resolution	1ppm
Accuracy	$\pm 50\text{ppm} + 5\%$ at 400-2000ppm
<b>TVOC Data</b>	
Sensor	Multi-pixel gas sensor
Measuring range	1-2000 $\mu\text{g}/\text{m}^3$
Output resolution	1 $\mu\text{g}/\text{m}^3$
Accuracy	$\pm 20\mu\text{g}/\text{m}^3 + 15\%$
<b>Temperature and humidity Data</b>	
Sensor	Digital integrated temperature and humidity sensor
Measuring range	Temperature: 0 $^{\circ}\text{C}$ ~60 $^{\circ}\text{C}$ / Humidity: 0~99%RH
Output resolution	Temperature: 0.01 $^{\circ}\text{C}$ / Humidity: 0.01%RH
Accuracy	Temperature: $\pm 0.5^{\circ}\text{C}$ (10~40 $^{\circ}\text{C}$ ) Humidity: $\pm 5.0\%$ (10%~90%RH)
<b>CO Data</b>	
Sensor	Electrochemical CO Sensor
Measuring Range	0.1~100ppm
Output resolution	0.1ppm
Accuracy	$\pm 1\text{ppm}$ at 0-10ppm
<b>HCHO Data</b>	
Sensor	Electrochemical formaldehyde sensor
Measuring Range	20-1000ppb
Output Resolution	1ppb
Accuracy	$\pm 20\text{ppb}$ at 0-100 ppb
<b>Ozone Data</b>	
Sensor	Electrochemical ozone sensor
Measuring Range	10-500ppb
Output Resolution	1ppb
Accuracy	$\pm 10\text{ppb}$ at 0-100ppb
<b>NO2 Data</b>	
Sensor	Electrochemical sensor
Measuring Range	5-500ppb
Output Resolution	1ppb
Accuracy	$\pm 20\text{ppb}$ at 0-100 ppb
<b>SO2 Data</b>	
Sensor	Electrochemical sensor
Measuring Range	5-500ppb
Output Resolution	1ppb
Accuracy	$\pm 20\text{ppb}$ at 0-100 ppb

## Models Guide

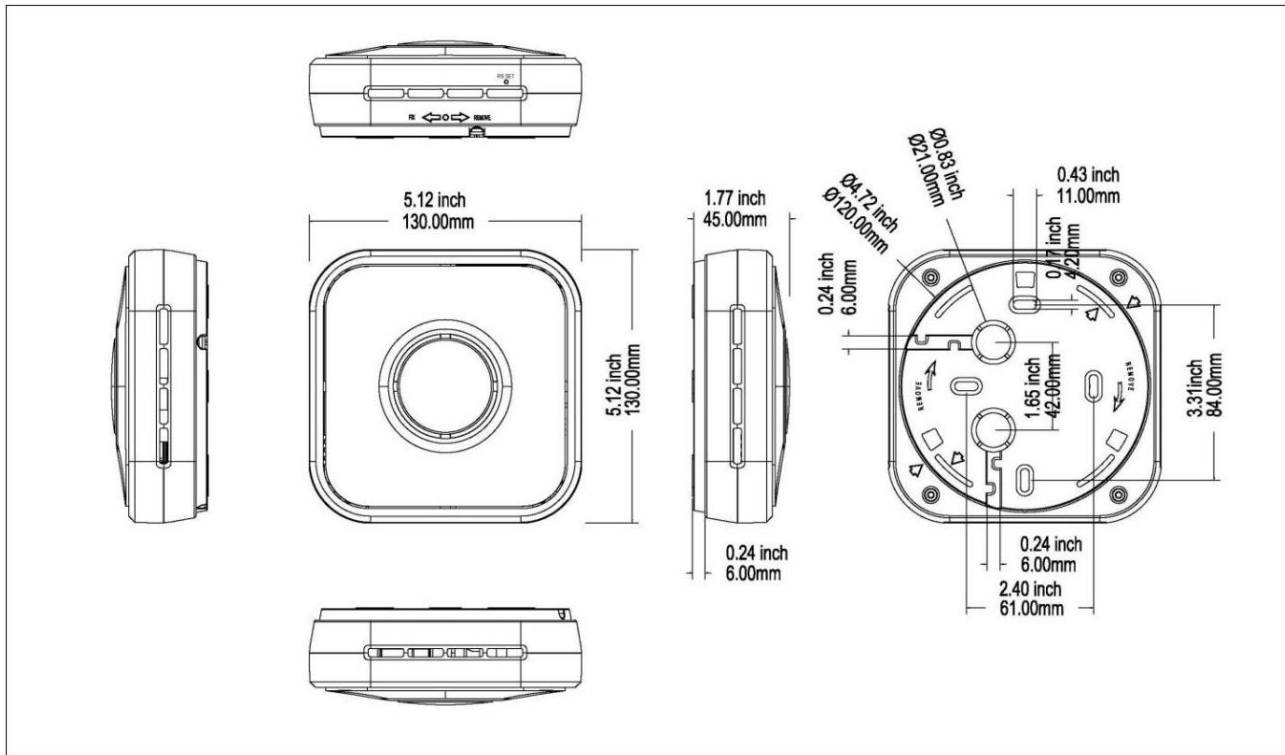
Model.	PM2.5 PM10	CO <sub>2</sub>	TVOC	CO	O3	HCHO	NO2	SO2	Output
MSD-0913C/D	●	●							RS485 (Modbus RTU)
MSD-0916C/D	●	●	●	●					
MSD-0918C/D	●	●	●						
MSD-0919C/D	●	●	●			●			
MSD-0916Z-C/D	●	●	●	●	●				
MSD-0916N-C/D	●	●	●	●			●		
MSD-0918Z-C/D	●	●	●		●				
MSD-0923C/D	●	●							WiFi (MQTT)
MSD-0926C/D	●	●	●	●					
MSD-0928C/D	●	●	●						
MSD-0929C/D	●	●	●			●			
MSD-0926Z-C/D	●	●	●	●	●				
MSD-0928S-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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