

SEN-0077 Space IAQ Sensor

READ THESE INSTRUCTIONS BEFORE YOU BEGIN INSTALLATION

DIMENSIONS AND MOUNTING HOLES



INSTALLATION

1. To separate the backboard and the detector, rotate the backboard clockwise according to the direction of the arrow (Pic.1&Pic.2).





INSTALLATION (cont'd)

- 2. Use a screwdriver to remove the cover of the threading hole (Pic. 3).
- 3. Run the cable in the wall through the threading hole (Pic.4).
- 4. Unplug the terminal block from the contact pin (Pic.6).





- 5. Connect the cable to the terminal block (Pic.7), then tightly lock the mounting screw (Pic.5).
- 6. Plug the connected terminal block back into the contact pin (Pic.8).



INSTALLATION (cont'd)

7. Aim the dot located in the middle of two arrows on the side of the detector with the vertical lines on the backboard (Pic.9). Then rotate detector following the 'FIX' direction until it's tight (Pic.10).

The installation is completed.



WORK INDICATOR LIGHT

There is a circle ring of indicator light in the center of the housing. This indicator light is used to show concentration range of measured value. This indicator light can be controlled by any of measured values of among PM2.5 or CO2 or TVOC through RS485 communication command, and change the color of indicator light depending on the concentration.



Meanwhile, the measured value of the change of indicator light can be selected with one minute average value or one hour average value of 24 hours average value in the communication command.

The indicating light is controlled by one minute average value of PM2.5 as factory default.

DIP switches can control the ring of indicator light Open, which characterizing AQI concentration changes and Green light keeps ON constantly, and Turn Off the indicating light. Please see the following details.

Indicating Light	DIP 4	DIP 3	DIP 2	DIP 1	
Light Off	OFF	OFF	OFF	OFF	
Three Color Lights	OFF	ON	ON	ON	Default
Green Normally On	ON	OFF	OFF	OFF	

Below is indicator color changes corresponding to the measured arrange:

PM2.5 - Green = <35ug/m3, Yellow = 35~75ug/ m3, Red = >75ug/m3 CO₂ - Green = <800ppm, Yellow = 800~1,200ppm, Red = >1,200ppm

INSTALLATION AND PRECAUTIONS

■ The monitor is used for indoor air quality monitoring and is suitable for ceiling installation and wall installation. This product should not be used outdoors.

■ The installation location should avoid kitchens, heating, air conditioning indoor units, direct sunlight, etc., which are affected by heat sources and other polluting gases. Keep away from high power or electrostatic precipitator equipment to avoid affecting product accuracy. The installation location should be convenient for regular maintenance.



■ This series of products is precision measuring equipment, and the measurement parameters include micro-particles and total volatile gases, and it should be ensured that there is no construction or decoration decoration in the environment. When used in new construction, it should be installed after the renovation project is completed and cleaned and cleaned.

■ If the room where the SEN-0077 has been installed needs to be renovated, the SEN-0077 should be removed before the conditions permit, and then installed after the renovation is completed. For situations where disassembly is difficult, be sure to completely wrap the SEN-0077 to prevent paint, paint, and dust from entering the SEN-0077.

■ This product should avoid the deviation of CO2 measurement caused by the product's drop and impact caused by the beam shift in the sensor chamber; it should avoid the long-term exposure of the product to the high concentration of total organic volatile gas, which may cause the sensor poisoning to be unrecoverable. For example, the concentration is greater than several times the TVOC range in the SEN-0077.

■ When the temperature of the SEN-0077 environment changes greatly, for example, if the product has just been received during the cold weather, it should be placed indoors for 8 hours before being powered on. Or move from the air-conditioned room to the non-air-conditioned area, etc., and also need to be placed for at least 2 hours before powering up. Avoid excessive temperature difference and cause condensation or equipment damage.

■ Never use other pigments to apply the SEN-0077 casing to avoid clogging the inlet and outlet, and the pigment entering the SEN-0077 chamber.

■ Do not use cigarettes to test PM2.5 measurements. Because the particles of cigarettes are mostly between 0.1 and 0.3 microns, and the concentration cannot be controlled. As a result, the PM2.5 measurement deviation is too large.

■ When multiple SEN-0077s use RS485 wired networking, when sharing a power supply, make sure that the power supply wiring uses the same name of the power polarity, and the wrong connection will cause damage to the equipment.

■ Re-use after first use or long time, it should be continuously energized for more than 48 hours to ensure stable output of all measured values.

INSTALLATION AND PRECAUTIONS (cont'd)

■ The built-in CO2 sensor of SEN-0077 have a self-calibration function. The readings may be deviations after power on or after a period of power off. And will be getting normal work after 2-7 days with continuously power on. And will be automatically calibrated during long term use.

TECHINCAL SPECIFICATIONS

General Data

Detection Parameters	PM2.5/PM10, CO2, TVOC, Temperature & RH	
Output	BACnet MSTP	
Operating Environment	Temperature: 0~50 °C (32 -122 °F) Humidity: 0~90%RH	
Storage Conditions	-10-50 °C (14 ~122 ° F)/ 0~90%RH (No condensation)	
Power Supply	12~28VDC/18~27VAC	
Overall Dimension	130mm(L)x 130mm(W)x45mm (H) 7. 70in(L)x6.1 Oin(W)x2.40in(H)	
Power consumption	Average 1.9w (24V) 4.5w(230V)	
Material of Shell & P Level	PC/ABS fire-proof material/ IP20	
Certification Standard	CE, FCC, ICES	

Temp & 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 (32.01 ° F) Humidity: 0.01%RH
Accuracy	Temperature : <±0.6°C @25°C (77 ° F) Humidity : <±4.0¾RH (20%~80%RH)

TVOC Data

Sensor	Metal oxide sensor	
Measuring Range	0~3.5mg/m ³	
Output Resolution	0.001mg/m ³	
Accuracy	<±0.05mg/m ³ + 10% of reading (0-2mg/m ³ @ 25 ^o C/77 ^o F, 10%~60%R	

CO₂ Data

Sensor	Non-Dispersive Infrared Detector (NDIR)
Measuring Range	0~5,000ppm
Output Resolution	1ppm
Accuracy	±50ppm + 3% of reading (25 °C/77 °F, 10%~60%RH)

PM2.5/PM10 Data

Sensor	Laser particle sensor, light scattering method	
Measuring Range	PM2.5: $0 \sim 500 \ \mu \ g/m^3$;	
	PM10: 0~500 μ g/m³;	
Output Resolution	0.1 µ g/m³	
Zero Point Stability	±3µg/m ³	
PM2.5 Accuracy	10% of reading (0~300 μ g/m³ @ 25 ^o C/77 ^o F, 10~60%RH)	