



**SainSmart Pure Morning Series
PM-P8 Air Quality Monitor User Manual**

Thank you for choosing SainSmartPure Monring Series PM-P8 Air Quality Monitor. PM-P8 can detect PM2.5, PM1.0, PM10, formaldehyde, TVOC and Carbon Dioxide. It also can measure temperature and humidity.

Specification:

Product Name	SainSmartPM-P8 Air Quality Monitor
Display	2.8 inch TFT LCD
Sensor Model	G5ST
Working Environment	0~50°C (32~122°F); 20%~85%RH; 1kPa
Measurement Method	Formaldehyde: electrochemistry method PM2.5: laser scattering CO2: non-dispersive infrared (NDIR) TVOC: semiconductor principle
Detection	Automatically

Product Name		SainSmartPM-P8 Air Quality Monitor
Index Exceeding Reminder		Index color changes according to the nation's standard
Measuring Range	Formaldehyde	0~2mg/m ³ ; resolution: 0.001mg/m ³ ; accuracy: ±5%F.S
	PM2.5	0~999ug/m ³ ; resolution: 1ug/m ³ ; accuracy: ±10%
	CO2	0~5000ppm; resolution: 1ppm; accuracy: ± (50ppm+5%)
	TVOC	0~9.99mg/m ³ ; resolution: 0.001mg/m ³
	Benzene	0~1mg/m ³ ; resolution: 0.001mg/m ³
	Humidity	25%~90%RH
	Temperature	0~55°C (32~131°F)

PM2.5 index guidance

AQI Category	Index Values	Previous Breakpoints (1999 AQI) (ug/m³, 24-hour average)	Revised Breakpoints (ug/m³, 24-hour average)
Good	0 – 50	0.0 – 15.0	0.0 – 12.0
Moderate	51 – 100	>15.0 – 40	12.1 – 35.4
Unhealthy for Sensitive Groups	101 – 150	>40 – 65	35.5 – 55.4
Unhealthy	151 – 200	>65 – 150	55.5 – 150.4
Very Unhealthy	201 – 300	>150 – 250	150.5 – 250.4
Hazardous	301 – 400	>250 – 350	250.4 – 350.4
	401 – 500	>350 - 500	350.5 – 500

CO₂ index guidance

AQI Category	Index Values	Explanation
Good	350 –450	Fresh outdoor air
Moderate	450 – 1000	Good to breathe
Unhealthy	1000–2000	Feel like turbid air, makes people sleepy
Very Unhealthy	2000–5000	May cause headache, sleepiness, cardio-acceleration; unable to concentrate
Hazardous	5000–	May cause anoxia, which leads to permanent brain damage, coma, or even death

TVOC index guidance

Response	Index Values (mg/m³)	Exposure range
No effects	<0.20	Comfort range
Irritation/ discomfort possible	0.20 – 3.0	Multifactorial exposure range
Irritation and discomfort; headache possible	3.0–25.0	Discomfort range
Neurotoxic effects	>25.0	Toxic range

Formaldehyde standard: < 0.08

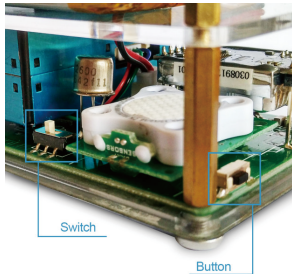
Favorable inhabiting environment:

- Temperature: 15-24°C (approx. 59-75°F)
- Humidity: 45-65%RH

Operation Instruction

1. Put the monitor on ventilation for 24 hours after you receive it. In order to protect the product during the shipping, we use firm and strong package, which may release formaldehyde in a completely sealed environment and the sensor may exceed its limit. We suggest to put the detector on ventilation for 24 hours after you receive it. Then it will be more accurate in the testing.
2. Charge the PM-P8 via micro-USB cable and turn on the device.
3. Functions and interface can be switched by the button. The order is:
Main interface → HCHO & TVOC detection →
HCHO curve → PM2.5 curve → CO2 curve →
Haze Detection

Note: The detector can display curve of one-hour data, and one chemical contaminant (PM2.5 or HCHO or CO2) can be record every time.



4. Need calibration for TVOC and Benzene detection. Please following:

Step1: press the black button for 5 seconds or above, then it shows “cal preheat” in the screen. Please put the detector in the outdoor for clean air.

Step2: A yellow progress bar shows up and it takes about 3 minutes to finish preheating.

Step3: After preheating, a green progress bar will show up and it has “cal start” on the screen. It takes about 3 minutes to finish the calibration.

Note: if any wrong operation is taken, just turn off the device and restart it.

5. HCHO detection uses smell sensor, which is sensitive to gas, but cannot recognize and separate HCHO from other type of gas. Please avoid interference of other environment with strong smell, such as cigarette, perfume etc. When these strong smelling gases reach certain concentration, it may be regarded as HCHO.

Gas	Concentration(ppm)	HCHO sensor detection (ppm)
Hydrogen sulfide	100	3.7
Ethanol	2000	76.3
Formaldehyde	10	10
Chlorine	10	0.1
Sulfur dioxide	20	0.8
hydrogen	500	5.5
Ammonia	50	0
Methyl chloride	5	0.1
Ethylene oxide	10	0.5
benzene	100	0.1
acetone	100	0.2
Methanol	200	23.9



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