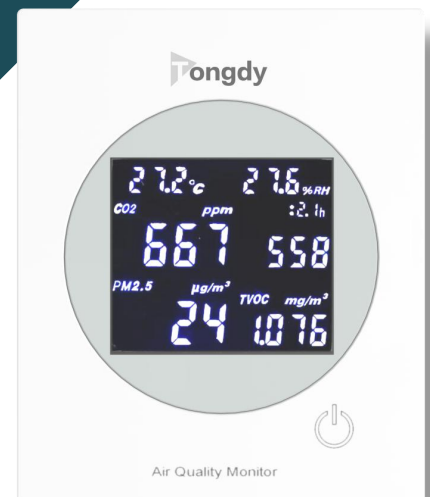
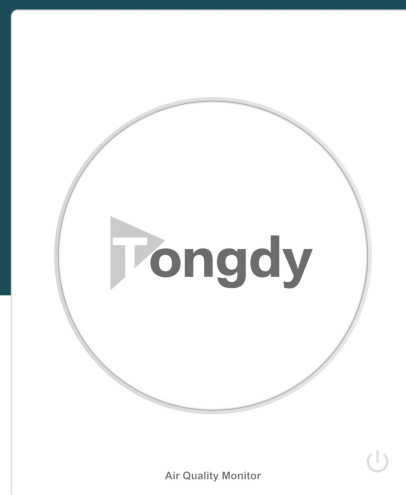


EM21

Latest Indoor Air Quality Monitor

Tongdy focus on air quality monitoring and solution for 15 years
Provides more project experience and reliable data
EM21 provides up to seven sensing and in-wall or on-wall mount types
EM21 has options of RS485/WiFi/Ethernet/LoraWAN interface and has a data-logger



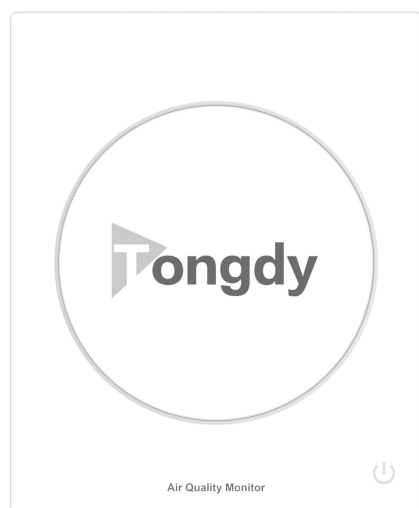
We have various global projects with full life-cycle application experience

EM21- Indoor Air Quality Monitor

In-wall and on-wall mount available

Professional Design in Business B-level

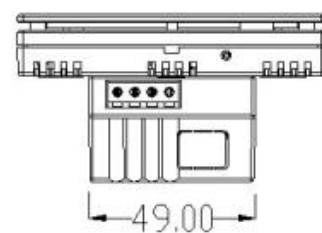
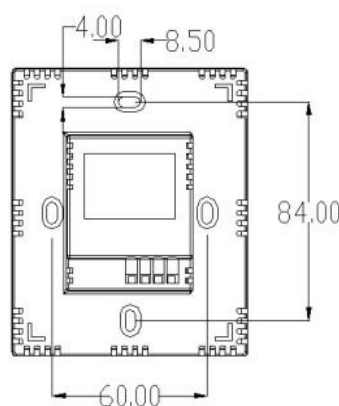
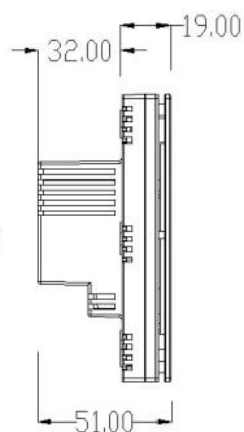
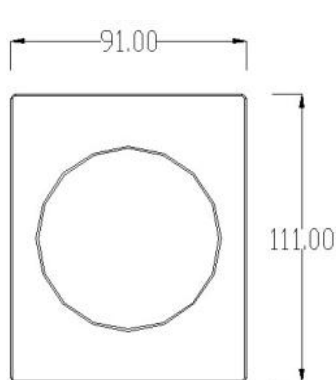
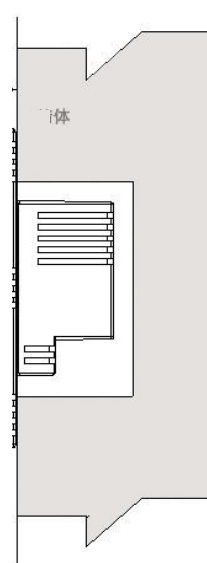
Detection parameters:	PM2.5, CO2, TVOC, Temperature, Humidity Optional formaldehyde, carbon monoxide, ambient noise and light
Communication interface:	RS485, WiFi, Ethernet(RJ45), LoraWAN
Data logger	Storing sensing data with Bluetooth download Store rate from 60 seconds to 10 days.
Power supply (optional):	24VAC /VDC \pm 10%, 100~240VAC, POE-48V for RJ45



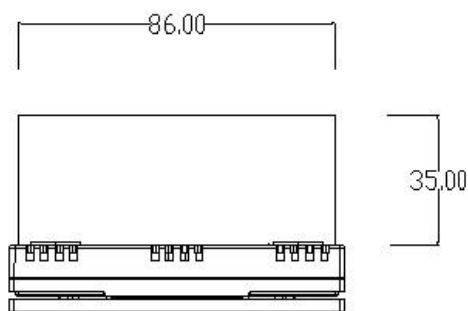
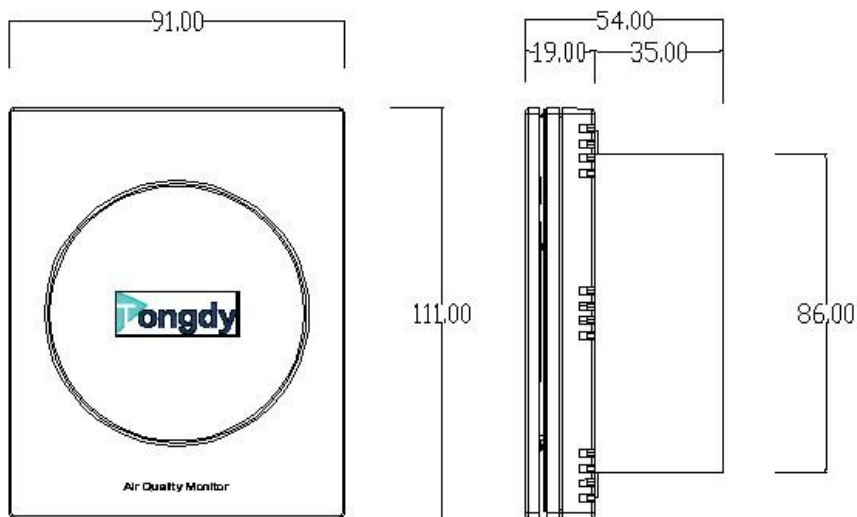
Unique base-line algorithm and data compensation principle ensures measurements reliable and accurate in different environments

In-Wall Mounting

Applicable to tube box of Europe, American, and China standard



Wall mounting or desktop placement with a mounting box



4 color surface mounted tube boxes are optional

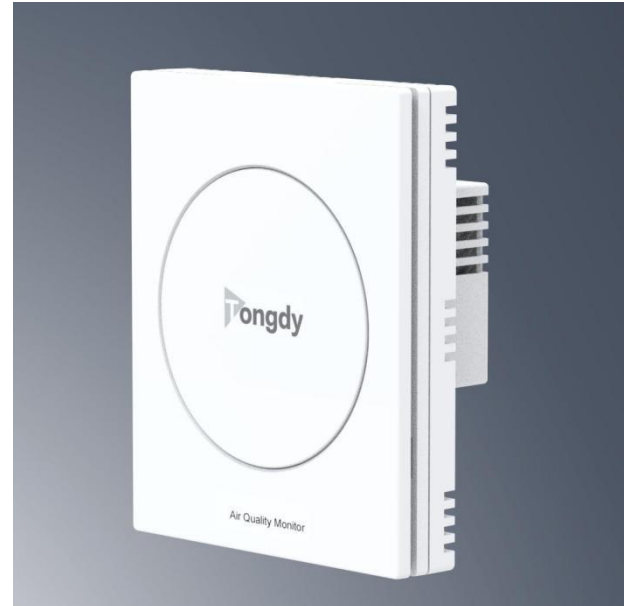


Place on the desk

EM21 Indoor Air Quality Monitor

-Simple and Elegant

- LED Tri-colored lights
- Visible air quality level
- Compact & simple design
- Upload real-time data to cloud service, and display history chart via a software platform



EM21 Indoor Air Quality Monitor

-Unique Display Design

- Show the detailed air quality on the screen
- Display the real time values and 24-hour average of PM2.5, TVOC, CO2
- Optional HCHO, CO, noise, lightness
- Turn off or turn on screen by touch button
- The brightness of screen is automatic changed according with the room lightness.



Technology Specification

	CO2	TVOC	PM2.5	TEMP&RH
Sensor	NDIR	Metal oxide semiconductor	Laser particle sensor	High-precision digital integrated Temperature and humidity sensor
Measuring Range	400 ~ 5,000ppm	0.001~4.0mg/m3	0~500µg /m3	Temp: 0°C~60°C Humidity:0~99%RH
Output Resolution	1ppm	0.001mg/m3	1µg/ m3	Temp:0.01°C Humidity:0.01%RH
Accuracy	±50ppm+ 3% of reading or 75ppm	<15%	<15%	Temp:±0.6°C Humidity:±4.5%RH

	Ambient Noise	Ambient Light
Sensor	Frequency: 100~10K Hz	Measurement Range: 0.96~64000 lx
Measuring Range	Sensitivity : -36±3 dBFS	Measurement Accuracy: ±20%
Output Resolution	Acoustic Overload point: 130 dB SPL	incandescent/fluorescent sensor out ratio: 1
Accuracy	Signal to Noise Ratio: 56 dB(A) Noise Floor:-92 dBFS	Dark(0 lx) sensor out: 0+3 count

Formaldehyde cannot be used together with noise and light

	HCHO	CO
Sensor	Electrochemical formaldehyde sensor	Electrochemical carbon monoxide sensor
Measuring Range	0.001~1.25mg/m3 (1ppb~1000ppb@20°C)	0.1~100ppm
Output Resolution	0.001mg/m3 (1ppb@20°C)	0.1ppm
Accuracy	0.003mg/m ³ + 10% of reading (0~0.5mg/m3) ±20ppb (0~100ppb)	±1ppm (0~10ppm)

General Specifications

Detection Parameters(max.)	PM2.5 ; CO2 ; TVOC ; Temp&RH Ambient light One of HCHO,CO, ambient noise	Data logger	Data logger up to 145860 points, the storage rate from 60 sec. to 10 days. For example save 5 sensing data it can be stored 78 days/5min. rate or 156 days /10min or 468 days/30min. Download data by a BlueTooth APP which is also used for configuration.
Communication	A. RS485 (Modbus RTU) B. WIFI @2.4 GHz 802.11b/g/n C. RJ45 (Ethernet TCP) D. LoraWAN (Support regins: RU864, IN865, EU868, US915, AU915, KR920, AS923-1~4)	Power Supply	24VAC/VDC±10%,100~240VAC PoE for RJ45 interface
		Shell material and IP class	PC fireproof material IP30
Operating Environment	Temp: 0~60℃ Humidity : 0~99%RH	Overall Dimension	91.00mm*111.00mm*51.00mm
Storage Condition	0℃~50℃ 0~70%RH	Installation standard	Standard 86/50 pipe box (installation hole size is 60mm) American standard pipe box (installation hole size is 84mm)

Sleepless eye on your air quality

- View real-time and historical data through RS485 or cloud-based platform such as “MyTongdy” , in computer or mobile APP
- Check out or download data to analyze your indoor air quality and identify the pollution source as frequently as you need
- Handle your indoor air quality by control the fresh air system or purification equipment automatically



Application Places

Widely used in commercial or residential spaces



Commercial Space



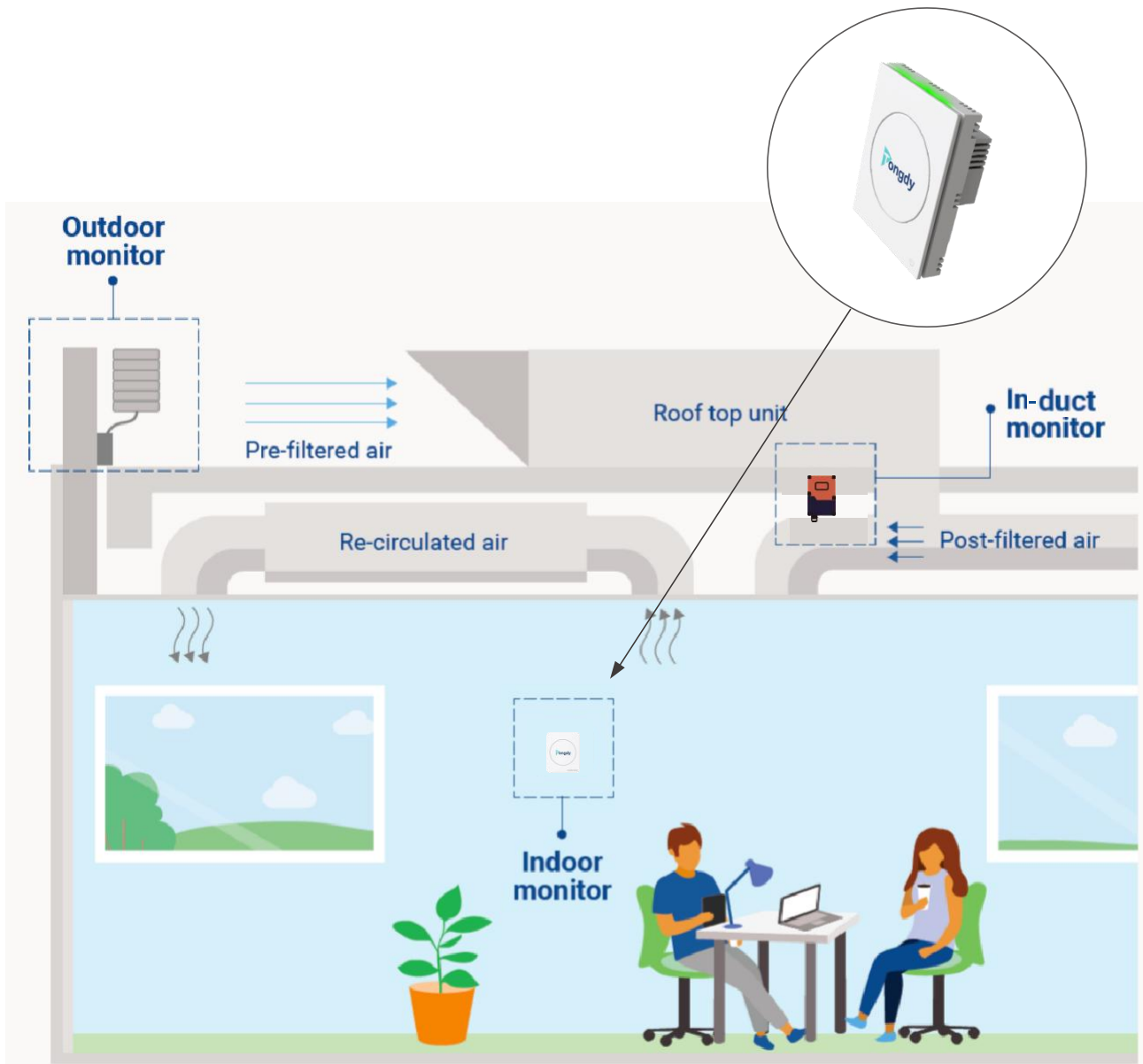
School



Residential



Hotel



Models Guide

No.	Model	PM2.5	CO2	Temp&RH	TVOC	HCHO	Output	Display	Power Supply
1	EM21-B/S13C	•	•	•			RS485 (Modbus RTU)	B: No display S: with display	C: 24VAC/VDC D: 100~240VAC POE: 48V
2	EM21-B/S18C	•	•	•	•				
3	EM21-B/S19C	•	•	•	•	•			
4	EM21-B/S23C/D	•	•	•			WiFi (MQTT)		
5	EM21-B/S26C/D		•	•					
6	EM21-B/S28C/D	•	•	•	•				
7	EM21-B/S29C/D	•	•	•	•	•			
8	EM21-B/S33C	•	•	•			Ethernet RJ45 (MQTT)		
9	EM21-B/S38C	•	•	•	•				
10	EM21-B/S39C	•	•	•	•	•			
11	EM21-B/S33-POE	•	•	•					
12	EM21-B/S38-POE	•	•	•	•				
13	EM21-B/S39-POE	•	•	•	•	•			
14	EM21-B/S53C/D	•	•	•			LoraWAN (CayenneLPP extension)		
15	EM21-B/S55C/D	•		•	•				
16	EM21-B/S58C/D	•	•	•	•				
17	Optional detection ambience light and one of carbon monoxide or ambience noise or formaldehyde. Please ask your sales for the correct model.								



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