

Smart. Permanent. Real-Time HVAC Air Quality Monitoring.

Duct-mount continuous multi-parameter monitoring for commercial HVAC systems



- **One device for sixteen air quality parameters.**
- **Truly zero-configuration installation.**
- **Accurate, factory calibrated sensors.**

Typical Applications

Where permanent in-duct monitoring delivers value.

Commercial office and retail buildings

Healthcare facilities and clean rooms

Schools and universities

Industrial and manufacturing facilities

HVAC commissioning and performance
verification

Key Features

- **ZERO setup** – Wi-Fi/Cellular or hybrid Power Line communication enables truly plug-and-play installation with no field configuration.
- **16-parameter sensing** – PM0.5/1/2.5/10, CO₂, VOC, temperature, humidity, filter pressure drop, air velocity, UV (optional), and current sensors (optional).
- **Factory calibrated for a decade** – guaranteed 10-year continuous operation, MCERTS certified PM measurement.
- **Intelligent HVAC control** – dual dry-contact relays for misting system and blower control, with programmable schedules.
- **Remote display and cloud dashboard** – wall-mount 4.3" touchscreen display plus secure multi-tenant cloud with 2FA and AES-256 encryption.

Technical Details

Parameter	Range / Accuracy	Description
PM _{0.5} / PM ₁ / PM _{2.5} / PM ₁₀	1–1000 µg/m ³ ±10% 0.3 µm lower limit	Mass & number concentration. MCERTS certified. Lifetime >10 years.
CO ₂	400–5000 ppm ±(40 ppm + 5%)	Non-NDIR, calibration-free CO ₂ measurement
VOC	0–1000 ppm ethanol eq. LOD <0.05 ppm	High-sensitivity VOC sensor. Lifetime >10 years continuous operation.
Temperature	0–90 °C ±0.2 °C 2 s response	Duct air temperature
Humidity	0–100% RH ±1.8% 6 s response	Duct relative humidity
Filter Pressure Drop	0–2000 mbar ±2 mbar	HVAC filter performance monitoring with upstream pneumatic fitting
Air Velocity	0.1–20 m/s ±0.2% FS (multiple ranges)	Differential pressure technique for duct airflow monitoring
Relay Control	2 × dry contact NO relays	Misting system and blower motor control. 4-position screw clamp connector.
Optional Sensors	UV Current (split-core CT)	UV for in-duct disinfection monitoring; current sensors for compressor and blower power monitoring
Network	PLAN (Power Line + RF) Wi-Fi Optional Cellular	BLE provisioning. SD card local backup. 2FA cloud access with AES-256 encryption.

Mechanical & Power

- Duct-mount enclosure 7.20" × 4.54" × 4.12"
- AC power: 80–220 VAC, 50/60 Hz, 2 W. IEC 2-pin cord included.
- Remote display: 4.3" WQVGA TFT LCD, wall-mount, USB-C powered (10 W).
- Operating temperature 0–45 °C | IP43 water resistance rating.
- Certifications: FCC, CE, UL. MCERTS certified PM sensor.