



Espirio[®]

Indoor Environmental Station

FD-IM100



Compact, high-precision indoor monitoring station for real-time measurement of PM, CO₂, VOC, temperature, humidity, lighting, and noise. Features advanced sensors, factory calibration, and long-term stability – ideal for maintaining optimal indoor conditions.

Features

- › Comprehensive measurement of indoor environmental parameters
- › Technologically advanced sensors
- › Automatic particulate sensor cleaning
- › Sensor self-calibration during operation
- › Wireless Wi-Fi communication
- › Low power consumption
- › Compact dimensions

Applications

- › Environmental quality monitoring
- › HVAC systems
- › Audits and certifications
- › Environmental research and scientific projects
- › Corporate policies



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Particulate Matter

Measurement method	Optical Particle Counter (OPC) laser 660 nm
Fractions	PM1 / PM2.5 / PM4 / PM10
Range	0...1000 µg/m ³

Carbon dioxide CO₂

Measurement method	NDIR (Non-Dispersive Infrared)
Range	400...5000 ppm

Volatile Organic Compounds (VOC)

Measurement method	MOx (Metal Oxide)
Range	0...1000 ppm / index 0...500

Lighting

Color Temperature Range	0...10000 K
Illuminance Range	0...1200 lx

Noise & Acoustic Events

Range	0...130 dB
Sensitivity	-26 dB
Measurement tolerance	±1 dB



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Temperature Performance Specifications

Range	0 °C...55 °C
Resolution	0.01 °C
Accuracy	0.2 °C

Humidity Performance Specifications

Range	0...100% RH
Resolution	0.1%
Accuracy	2%

Communication

WiFi	Wi-Fi 802.11 b/g/n, 2,4 GHz
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Power Supply

Supply voltage	5 VDC
Current consumption	20 mA @ 5 VDC
Surge protection	Transient Voltage Suppressor (TVS)
Short-circuit and overload protection	Polymeric Positive Temperature Coefficient fuses (PPTC)



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Environmental

Operating temperature range	10...40 °C
Operating humidity range	<80% RH (non-condensing)
Compliance	CE Declaration, REACH, RoHS

Physical

Housing material	Acrylonitrile Butadiene Styrene (ABS)
Ingress protection (IP)	IP32
Weight	145 g
Dimensions	95 × 110 × 60 [mm]
Shipping weight	700 g
Shipping dimensions	195 x 115 x 75 [mm]



Diagram

