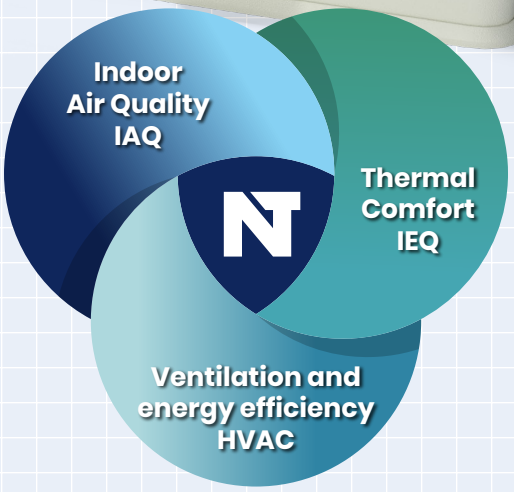
NOSMO TECH

BuiltAir© IEQ Monitor

Comfort and Health Indoor Multi-Parameter Monitor

BUILTAIR



NosmoTech has moved indoor air monitoring to the next level with networked Monitors providing superior data quality

- The only integrated networked IEQ/IAQ monitor - measures simultaneously every zone in the building
- Provides the necessary data to meet building, ASHRAE 55 & 62 standards
- Internal battery lasts for up to six weeks...and 5V AC powering for long unattended deployment
- Low Cloud Service Subscription Rates
- Palm-sized and lightweight means it's easy to deploy
- Records up to 500,000 data records as a standalone monitor
- Algorithms provide analysed data for mould growth, thermal comfort, air quality and ventilation control

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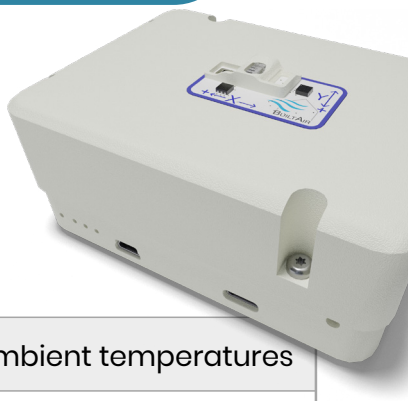
BuiltAir© IEQ Monitor Features

We designed - in the best low cost sensors, selected for sensitivity, stability and repeatability. We compensate readings based on our knowledge of fundamental sensor performance, learned from 20 years as a manufacturer of Low Cost Sensors, giving excellent data quality with very low uncertainty



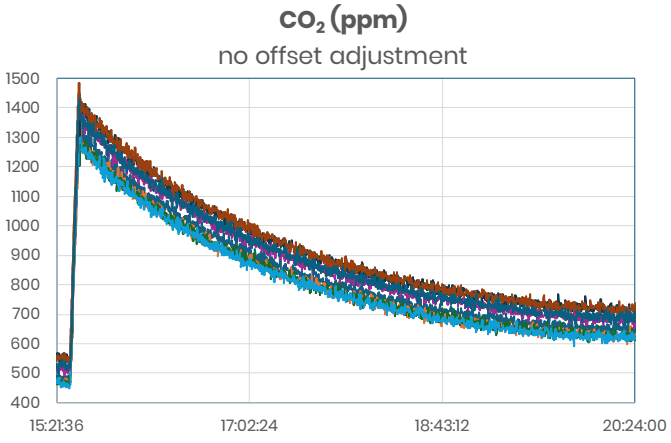
All these Measurements in one device

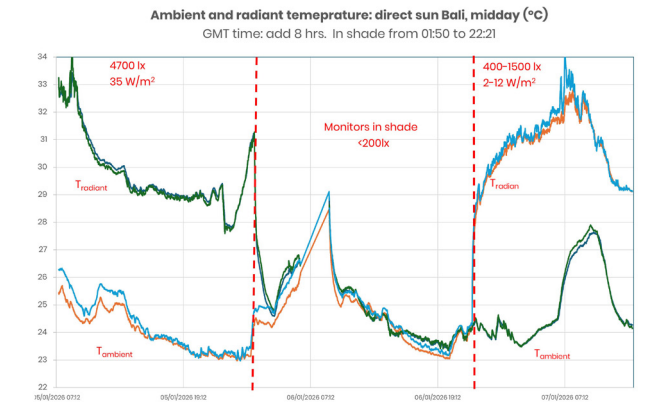
	Air Quality	Thermal Comfort	Ventilation	
Temperature	✓	✓	✓	Radiant and ambient temperatures
Humidity	✓	✓	✓	%RH, dewpoint and vapor pressure
Baro pressure	✓	✓	✓	High accuracy-replaces DP testing
CO_2	✓		✓	Pressure corrected LED NDIR CO_2
NO_2	✓			Trusted electrochemical NO_2 sensor
PM_1 $PM_{2.5}$ PM_{10}	✓			AQ-SPEC rated best Nephelometric
Noise		✓	✓	dBA and dBC calculated by Monitor
Light		✓	✓	Both visible light (I_x) and W/m²
Airspeed		✓	✓	Two new orthogonal airflow sensors
IEQ parameters		✓		WBGT, HI, Teq, PET in real time
TVOC (soon)	✓			Qualitative measurement

Best Accuracy - the latest and best spec sensors, providing data with low uncertainty

- Ultra-low power electronics and remote PM eliminate self-heating temperature errors
- Offset calibration option for improving accuracy and for nulling entire network offsets
- Better NO_2 data quality using deterministic sensor compensation and trusted E'chem sensor
- High precision barometric pressure for room infiltration and interzone airflow

Check our specs on the last page





BuiltAir© SensorNet Features

BuiltAir© Cloud advanced data algorithms streamline your data processing for building management systems, further analytics and machine learning applications. The platform offers transparent compensation with access to each stage from raw data, providing options for calibration and resampling to suit your specific needs

The ONLY networked wireless system that can chart the entire building

- Connect multiple Monitors and synchronously stream 15 parameters as a mesh in different zones
- Powered by Thread, a wireless mesh protocol that ensures reliable, low-power communication

Standalone offline or networked logging

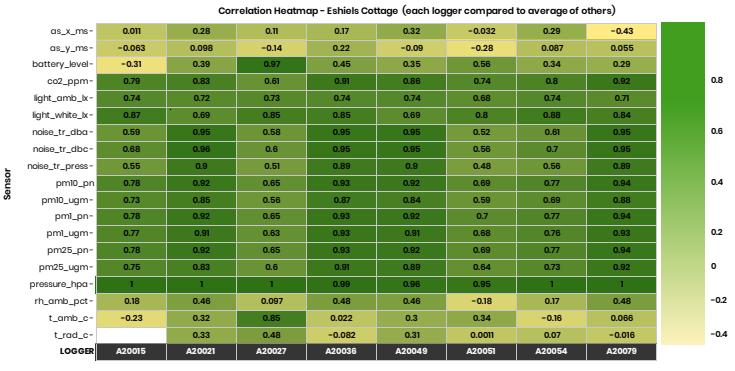
- Where WiFi is not available, massive on-board 500,000 record storage capacity allows offline logging for quick and simple deployment

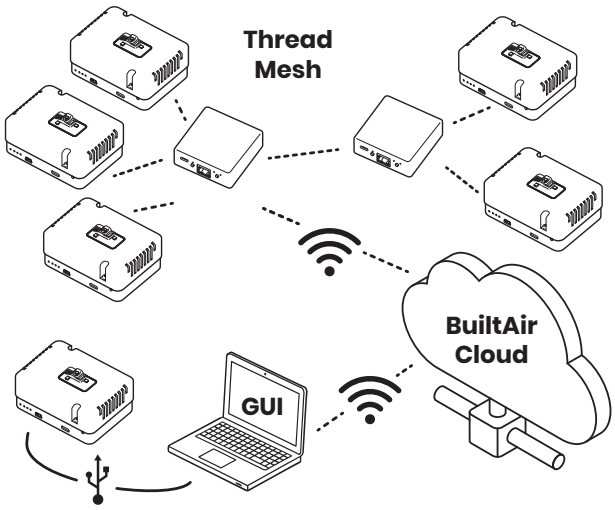
BuiltAir© Cloud configures to your needs

- Select the datalogging interval from 5 seconds to 60 minutes PLUS minimum and maximum readings for each log record
- The BuiltAir© Cloud with a friendly dashboard, statistics and built-in graphics provides both raw and compensated data downloads, includes file control, stores datalogger configurations and vaults your data
- Monitor from your PC in near-real time or periodically download data from the Cloud

Data processing for experts

- BuiltAir© Cloud filters outliers, controls offset calibration, and provides a calibration history
- Automatic multi-parameter graphing highlights trends and transients instantly





Tackle new challenges with the BuiltAir© SensorNet

- Report ventilation, IAQ and Thermal Comfort
- Map infiltration, interzone airflow and local ACH
- Measure radiant and ambient temperatures, RH and airflow to determine thermal comfort
- Optimise ventilation schedules to balance energy requirements with IEQ and IAQ demands.
- Light, CO2, noise and pressure sensors together determine occupancy, confirm the operating times of the ventilation system and detect door and window openings.
- Patented FastLog© automatically captures transients, so you can determine responses to changes as well as steady state measurements.

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BuiltAir© IEQ Monitor

Sensor Performance

Measurement	Range	Resolution	Accuracy + Precision	Uncertainty (95% CI)	Other Specification
CO_2	400-5,000 ppm	1 ppm	±40 ppm At 425 ppm CO2	±30 ppm ±3% rdg	±10 ppm/ann Or ABC correct
NO_2	4 2,000 ppb	1 ppb	±5 ppb RMSE	±20% rdg at TLV	4 electrode
PM_1 $PM_{2.5}$ PM_{10}	1- 1,000 µg/m3	0.1 µg/m3	<3% repeatability <5% linearity		
PNC_1 $PNC_{2.5}$ PNC_{10}	250-1,000,000	1 PN/cm3			
Ambient radiant temperature	-5 to 50°C	0.01°C	±0.10°C (0 to 60°C)	±0.15°C	
Ambient %RH	0 to 95%RH	0.1%RH	±1.0% (25°C) ±1.5% (0 to 50°C)	±2% RH (<90%RH, 25°C)	<90%RH
Barometric pressure	85,000 to 110,000 Pa	1 Pa	±8 Pa (23°C)	±10 Pa (15-55°C)	<±10 Pa/ann; <±1.5 Pa/24 hr
Ambient light	0 to 1000 lx	0.1 lx		±10%	545 nm peak
Total light	0 to 12 W/m2	0.01 W/m2		±5%	280-900 nm
Sound pressure	45 to 110 dB	0.1 dB	±1.5 dB at 1KHz	±2.5 dB at 1 kHz	
dB(A)Class 2	30 to 105 dB	0.1 dB			
dB(C)Class 2	30 to 110 dB	0.1 dB			
Airspeed X andY	0.10 to 10 m/s	0.01 m/s		0.1 m/s ±3% rdg	
TVOC (soon)	0.002- 2ppm	2-10 ppb	±15% repeatable		Qualitative

Environmental, Mechanical

Parameter	Specification	Notes
Case weight	170g	PM monitor: 95g; Integrated IEQ Monitor:330 g
Temperature	0°C to 50°C	Survives -20 to 65°C but not within performance specs
Relative Humidity	0 %RH to 90 %RH	Non-condensing
Pressure	700 to 1150 hPa	

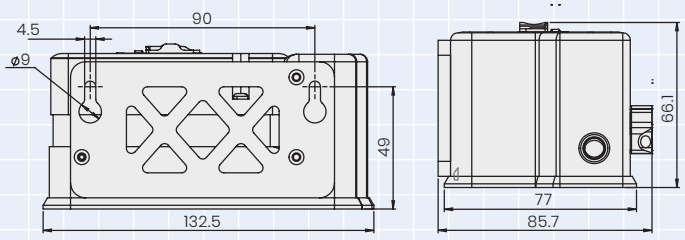
Electrical

Parameter	Specification	Notes
Battery	5,000 mAh rechargeable Li-ion	Not user accessible
AC power	5 VDC via USB C socket	<500mA with NextPM
Battery lifetime	50 days typ, 80 days max (logger only)	Depends on use setup
Battery life with PM	60 hours (continuous, heater off)	AC power recommended

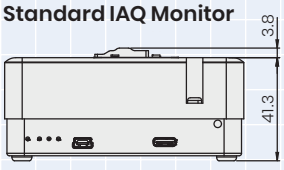
BUILTAIR

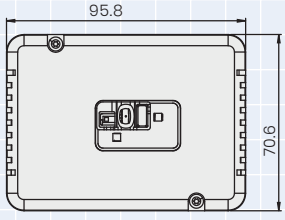
12 month warranty. One Border router required for each network. Annual fee for Cloud access.

Integrated IEQ Monitor (Standard + PM Monitor)

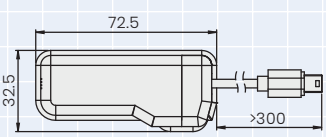


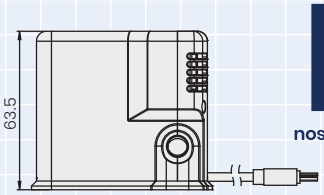
Standard IAQ Monitor





PM Monitor





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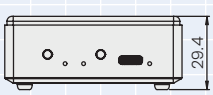
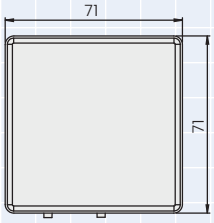
Border Router





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