

telosair

24/7 Air Quality Monitoring

Trio Sensor



DATA



ANALYTICS



REMEDATION

We make the invisible, visible:
see what's in the air you breathe.

TelosAir's cutting-edge indoor air quality sensors, AI-enabled analytics and insights, and integration with building management systems allow you to see clearly what's in the air you breathe and how to make it safer and healthier.



Particulate Matter



CO₂



VOCs



Relative Humidity



Pressure



Temperature



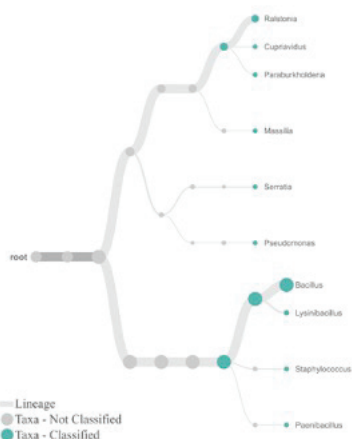
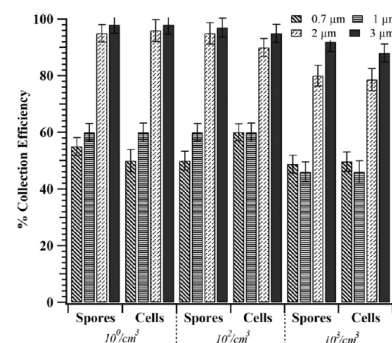
Chemical/Biological Analysis

Trio measures all real-time air properties as the Duet. And additionally collects particles in a easily accessible cassette for offline chemical/biological analysis. The Trio uses include:

- Deployment for pathogen detection in hospitals
- Monitoring for airborne SARS-CoV-2 identification in indoor spaces.
- Understanding characteristics of indoor particles

Sample flowrate and collection efficiency:

The Trio samples air with a flowrate of ~ 10 LPM and collects particles with an efficiency of ~ 100% for large spores and cells (> 2 µm). Smaller particles are sampled at ~ 60% efficiency. The test results in the below figure were obtained with BtK cells and spores.



Biological analysis:

Biological particles collected in the cassette are largely inactivated by the electric field in the device. Note that in typical environments, collection over several hours will result in sufficient sample for culturing.

Air quality measurements:

The Trio, like the Duet, provides real-time measurements of Particulate matter (PM), CO₂, VOCs, temperature, RH, and pressure.

Sample biological results:

The samples collected in the Trio can be analyzed for PCR abundance and DNA sequencing. Sample results from our sequencing of biological particles in commercial spaces is shown below.

Collection

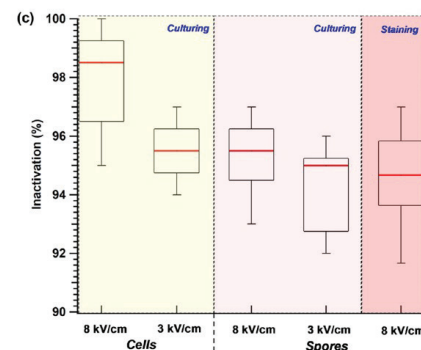


Table 1: Electrical Specifications – Trio

Parameter	Min	Typ.	Max	Unit
Trio				
Supply Voltage	7	12	25	VDC
Power (12V)		400		mA

Table 2: Sensor Specifications

Parameter	Min	Typ.	Max	Unit
Temperature/Humidity				
Operating Range - Temperature	-40	-	125	°C
Temperature Accuracy @ 25°C	-	±0.3	-	°C
Operating Range – Humidity (RH)	0	-	100	%RH
Relative Humidity Accuracy @ 25°C (20% RH to 80% RH)	-	±2	-	%RH
Pressure				
Operating Range	0	-	25	PSI
Tolerance	-	±0.25	-	%FSS BFSL
Particle Measurement				
Operating principle: Light Scattering				
Detection size range	0.3	-	10	µm
Particle Concentration Range	0	-	1000	µg/m³
Resolution	-	1	-	µg/m³
VOC				
VOC Index Range	1	-	500	VOC Index Points
Repeatability	-	±5	-	VOC Index Points
Absolute CO₂ Measurement				
Measurement Range	400		5000	ppm
Resolution		±10		ppm

Table 3: RF Specifications

Parameter	Min	Typ.	Max	Unit
Frequency Band Used – ISM band	902	915	928	MHz
Operating Frequency	902	varies	928	MHz
Radio Bandwidth	-	500	-	KHz
Data Sampling Period (USB)	-	3	-	s



Safety Consideration

The Trio uses a high voltage to create an electric field inside the cassette. Do not open enclosure while powered to reduce risk of electric shock.

Our *air quality experts* are ready to help you.



Contact us today to schedule a
free consultation!



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