



ELEMENT-A DATA SHEET

The Element-A is a wireless, battery-powered Internet of Things (IoT) sensor used to continuously monitor the environment. The Element-A measures Temperature, Humidity, Pressure and Light and transmits these readings via Bluetooth to the Elemental Cloud. The Element-A is ideal for measuring the environment in laboratories, vivariums, manufacturing facilities, greenhouses and anywhere the environment can impact processes or instruments.



Performance Highlights:

- Battery operated. No need to run wires in crowded spaces
- Easily expandable platform - just add more Elements
- Installs in less than one minute
- Four sensors in one small package
- Data is typically uploaded via WiFi, and has cellular backup in case of power outage or network interruption
- Battery level appears on dashboard and will alert you when it needs to be changed

Communication

- Sample rate: temperature, humidity, pressure, and light are sampled every 15 seconds.
- Communicates via Bluetooth Low Energy (BLE) to Elemental Gateway
- Requires Elemental Gateway with WiFi network access

Readings:



Light



Temperature



Humidity



Pressure

Sensor Specifications:

Size	2.5" X 2.5" X 0.8" (6.4 cm X 6.4 cm X 2.0 cm)
Power requirements	non-rechargeable lithium battery
Battery lifetime	~5 years
Operating Temperature Range	-10 – 45C
Temperature Sensor Accuracy	+/- 0.2C
Operating Humidity Range	0 – 95% RH, Non-condensing
Humidity Accuracy	0% to 80% RH Typical ±2.0% RH, Max ±3.0%
Operating Pressure Range	300 – 1100hPa
Light Spectrum	Visible light (~400nm to 700nm)
Light Range	.01 Lux to 83,000 Lux
Pressure sensor range	300 to 1100 hPa
Pressure sensor accuracy	±1.0 hPa from 0C to 60C, ±1.7 hPa from -10C to 0C
NIST-traceable calibration	Optional



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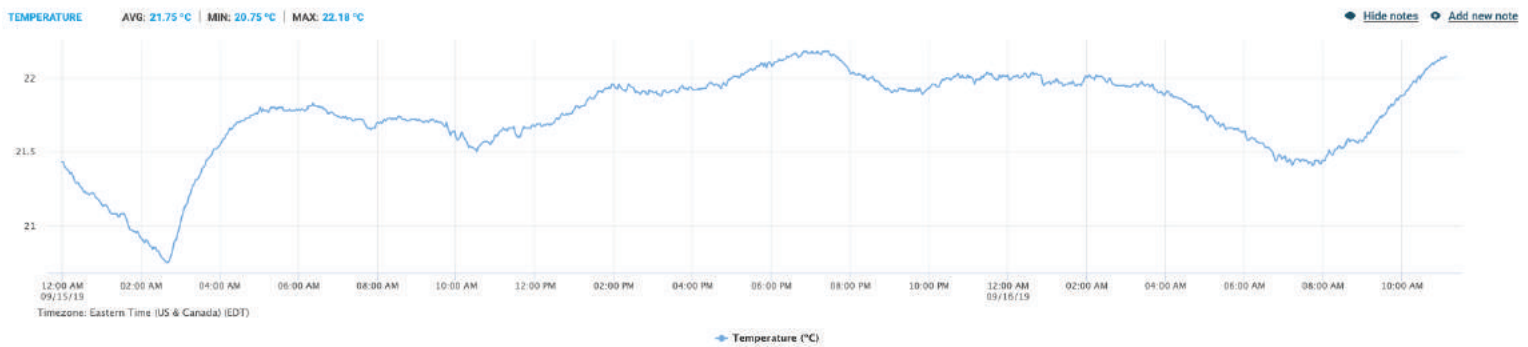
Installation

The Element-A is typically mounted magnetically to something metallic in the environment it is monitoring. It contains a very strong magnet that holds it firmly in place. If it is attaching to a non-ferrous surface, you can use double-sided Velcro to hold it in place. There are no mounting holes or screws required.

Typical Applications:

- Laboratories
- Vivariums
- Greenhouses
- Manufacturing
- Incubators
- Food service
- Biofuels

Display of data (from Dashboard as an example).



Dashboard

- All data stored in Cloud. Eliminates data silos. Accessible from anywhere you have an internet connection
- Alerts are fully customizable - Our robust rules engine allows you to customize alerts via SMS and/or email when your equipment or environment deviates from the norm, even during power outages. You can also automate your alerting workflow via escalating messaging so that the right people are notified at the right time.
- Claim alerts and add notations to data sets for regulatory compliance - When alerts are triggered due to non-conformances, your Quality Team can directly comment and annotate their corrective actions within the system for audit-friendly reporting.
- API allows sharing of data to LIMS/ELN or other databases
- Audit reports - automates electronic data capture to improve data integrity and record keeping for audit reports and regulatory compliance. Instrument and/or process data can be captured in accordance to 21 CFR Part 11 requirements to automatically generate audit-friendly reports, freeing up hours of time for your staff.
- Utilization - Door open events on cold storage and incubators offer valuable insight into asset utilization. Such data can assist operations directors in making key maintenance decisions.
- Fully customizable groups and access
- 21 CFR part 11 compatible for electronic records