Overview

The Element-T (Model ET2) is a wireless, battery-operated Internet of Things (IoT) smart sensor that uses a thermocouple to continuously measure temperature data. The Element-T device is one product within the EM LabOps monitoring solution helping protect your valuable, temperature-sensitive assets from risk. After sensing temperature, the device transmits this data to the EM Insights Dashboard offering users interactive real-time monitoring by transforming the data into insights with meaningful smart alerts via state-of-the-art data science.

Performance Highlights

- Wireless, battery-operated device that reduces the number of wires in crowded spaces
- An alarm triggers smart alerts notifying the right people
- Door-open events on cold storage and incubators offer insight on usage
- Expandable platform can easily add more devices with cellular backup
- Installation takes less than one minute
- Mounts magnetically with no mounting screws

Communication

- **Wireless Communication**: Data transmission via low energy 2.4 GHz requires the Elemental Gateway connected to the WiFi/Ethernet network
- **Wireless Range**: ~100 ft (~33 m)
- **Data Sampling Rate**: 15 seconds
- **Security**: Google Cloud Platform’s (GCP) SOC2 compliant services keep data safe
- **Connectivity**: Application Programming Interface (API) sends data to 3rd party software platforms

Device Readout

- **Temperature** (°F / °C)

Actionable Insights

- **Smart Alerts** use machine learning with a neural net algorithm and robust rules engine to send automated messages to pre-defined users with escalation (SMS, phone call, and/or email)
- **Door-open events** show the usage frequency for your equipment using data science
### SENSOR SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>Size:</strong></td>
<td>2.25 in x 1.6 in x 1.0 in (5.7 cm x 4.0 cm x 2.5 cm)</td>
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<td><strong>Power Requirements:</strong></td>
<td>2 AAA Lithium Batteries</td>
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<td><strong>Estimated Battery Lifetime:</strong></td>
<td>1+ Year</td>
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<tr>
<td><strong>Device Operating Temperature</strong></td>
<td>Range: 41°F – 113°F (5°C – 45°C)</td>
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<td><em>(Element-T Electronics)</em></td>
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<tr>
<td><strong>Temperature Sensor</strong></td>
<td>Range: -328°F – 392°F(-200°C – +200°C), Accuracy: ± 1.8°F (1.0°C)</td>
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<tr>
<td><em>(Omega Thermocouple Probe)</em></td>
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<tr>
<td><strong>Thermocouple Length</strong></td>
<td>36 in (91 cm) - If necessary, a 12 ft (3.66m) is available upon request</td>
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<td><strong>NIST-traceable calibration</strong></td>
<td>Optional</td>
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<td><strong>certificate from independent ISO</strong></td>
<td>17025 service</td>
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### Installation

The Element-T is typically mounted magnetically to the outside of the equipment it is monitoring. It contains strong magnets that hold the sensor firmly in place. If attaching to a non-ferrous surface, you can request an Elemental Metal Mounting Plate. There are no tools nor mounting holes or screws required.

### Many Applications

- Freezers
- Refrigerators
- Incubators
- Ovens
- Lab Equipment with Temperature Settings

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**Secure Temperature Data on the EM Insights Dashboard** in real-time and over any data range available anytime & anywhere, even on your mobile device.