

COLD CHAIN STORAGE AND DISTRIBUTION

# PowerSense

Wireless Multi-Sensor with Extended Battery Life, and Highly Accurate Environment Sensing (Temperature, Humidity, EN EN12830:2018 and EN 13485 compliance)

### Description

The **PowerSense** is an extremely accurate and reliable wireless sensor, featuring rapid response times for precise measurements and extended battery life.

The PowerSense, with its small form factor, offers a wide array of integrated sensing capabilities. It can detect temperature, relative humidity, impact, motion, orientation change, and magnetic field variations. Its innovative design optimizes temperature and humidity sensing performance, by optimizing surrounding airflow, shielding out PCB heat, and preventing moisture buildup to maintain a consistently dry environment. This design sets a new standard for wireless measurement and logging.

The PowerSense can be mounted in cold chain storage and transportation or can be packaged with commodities, to provide end-to-end remote environmental visibility and high-frequency history/ logging. It operates across a broad temperature range (-40°C to +85°C) and humidity range (0% to 100%), ensuring reliable data retention, with storage capacity for up to 3,000 readings between uploads.

The PowerSense employs 2.4 GHz wireless technology for communication with Pointer's Logistics and Vehicle Gateways, The solution incorporates validated software that adheres to Israeli Pharma regulations, as well as compliance with CE Annex 11, FDA 21CFR Part 11, GAMP5, and Israeli Ministry of Health Procedure 126. This versatile solution is well-suited for use across all stages of the supply chain in diverse industries, including pharmaceuticals, medical cannabis, cold chain transportation, the food industry, agriculture, and more.



## **Key Features**

- Real-time environment sensing functionality includes temperature, humidity, motion/ impact, orientation, and magnet (for device on/off switching)
- Operating temperature/ humidity: -40°C to +85°C with ± 0.1°C accuracy, 0% to 100% with ± 0.15% typical accuracy, and remarkable low response time that complies with industry standards
- Sample storage: 3,000 samples
- BLE 5.3 Long Range
- Waterproof protection IP67 rating
- Easy install
- On-the-fly event-based alert notifications





Up to 5-year battery life



High accuracy temperature and humidity sensing



Cold Chain Compliance - EN 12830 for vibration resistance and EN 60068-2-27 for shock resistance

| Δ                        |   | All Devices (80)      | Current Alerts (5)               | Unvertified Alterts (1534)        |  |             |          |        |            | 0, 21   |   |  |
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## Pointer IoT Software

In our commitment to provide our customers with "peace of mind" and remote-control capabilities, we've developed validated IoT software. Key features include:

- Compliance with CE Annex 11, FDA 21CFR Part 11, GAMP5, and Procedure 126 of the Israeli Ministry of Health.
- Real-time notifications for violations.
- SMS notifications upon the resolution of violations and return to normal states.
- Escalating alert mechanisms.
- Notifications for calibration dates.
- Online access to vehicle location and travel history.
- Generation of various reports.
- The Pointer IoT App for easy access to notifications and sensor status.



| BLE                |   |  |  |  |  |  |
|--------------------|---|--|--|--|--|--|
| BLE Technology     | BLE 5.3 /2.4GHz. by Nordic nRF52833   |  |  |  |  |  |
| Power              |   |  |  |  |  |  |
| Internal Battery   | 3.6V Lithium-Thionyl Chloride, AA size, 2500mAh   |  |  |  |  |  |
| Consumption        | 75uA at Temperature & Humidity sampling and transmitting every 1 min  |  |  |  |  |  |
| Environmental      |   |  |  |  |  |  |
| Temp, operation    | -40°C to +85°C (Depending on battery type)  |  |  |  |  |  |
| Temp, storage      | -40°C to +85°C (Depending on battery type)  |  |  |  |  |  |
| Humidity           | Operating range 0% to 100%  |  |  |  |  |  |
| Ingress Protection | IP67  |  |  |  |  |  |
| Vibration, Impact  | Shock resistance according to EN 60068-2-27<br>Vibration according to EN 12830  |  |  |  |  |  |
| Power transients   | Unit passes all relevant environmental regulation tests   |  |  |  |  |  |
| Certifications     |   |  |  |  |  |  |
| Communication      | FCC, CE   |  |  |  |  |  |
| Regional           | EN 13485 and EN 12830 - Temperature recorders for transporting, storing,<br>and distributing chilled, forzen, deep-frozen food and ice cream. Tests<br>performance and suitability.<br>Response time: Maximum 5 minutes<br>Class 0,2: ±0,2°C<br>Suitability for storage (S) and/or transport (T);       |  |  |  |  |  |
| Data Retention     |   |  |  |  |  |  |
| Memory             | Up to 3,000 Temp and Humidity Samples   |  |  |  |  |  |
| Size               |   |  |  |  |  |  |
| Dimensions         | 94.1 x 39.2 x 26.4 mm (L x W x H)   |  |  |  |  |  |
| Weight             | 13 gr   |  |  |  |  |  |
| Installation       |   |  |  |  |  |  |
| Mounting           | Nylon/metal tie-wraps, 2 screws and/or two-sided adhesive   |  |  |  |  |  |
| Features           |   |  |  |  |  |  |
| Movement           | <ul> <li>3D, ±2g/±8g range, 12 Bit representation, 1mg/4mg resolution</li> <li>Vibration sensing with programmable threshold</li> <li>Free-fall sensing with programmable threshold</li> <li>Impact sensing with threshold up to 8g</li> </ul>  |  |  |  |  |  |
| Humidity Sensor    | Operating range and accuracy (%RH):<br>Operating range 0% to 100%<br>Accuracy<br>10% to 50% RH; TYP ±0.5% RH; MAX ±2.0% RH<br>50% to 70% RH; TYP ±1.0% RH; MAX ±2.0% RH<br>70% to 80% RH; TYP ±1.0% RH; MAX ±2.5% RH<br>80% to 90% RH; TYP ±1.5% RH; MAX ±3.0% RH<br>Resolution 0.1% RH, Tested at 25°C |  |  |  |  |  |
| Temperature Sensor | Operating range: -40°C to 85°C<br>Accuracy (°C):<br>-40°C to 0°C; TYP ±0.1°C; MAX ±0.3°C<br>0°C to 50°C; TYP ±0.1°C; MAX ±0.2°C<br>50°C to 85°C; TYP ±0.1°C; MAX ±0.3°C<br>Resolution: 0.1°C  |  |  |  |  |  |
| Magnetic Sensor    | 10-30mm range an optionally provided magnet.<br>Used to detect open/closed door and/or power "On"/"Off"   |  |  |  |  |  |



### **About Pointer**

Pointer is an international American subsidiary listed on the stock exchange. The company's IoT solutions are considered leaders in temperature and humidity monitoring for large industries, including: Pharma, food and logistics, under the strict requirements of the European Ministry of Health, FDA and GMP.



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