

Technical Datasheet

Electronic Freeze Indicator **PolSENSETM**

EN12830:2018



Electronic Freeze Indicator PoISENSETM

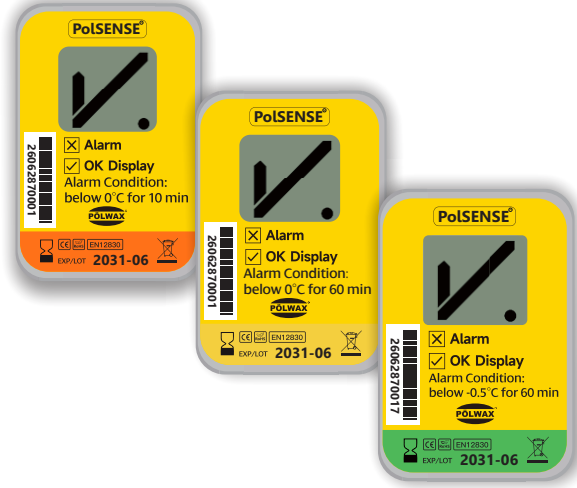


PoISENSETM is a compact electronic freeze indicator engineered to provide reliable monitoring of accidental freezing events during the storage, handling, and transportation of temperature-sensitive products. Designed for cold chain applications, PoISENSE continuously monitors the ambient temperature and provides a clear visual indication whenever the configured temperature threshold has been exceeded for a predefined duration. Unlike conventional chemical freeze indicators, PoISENSE utilizes electronic temperature sensing technology to deliver accurate and dependable freeze exposure monitoring. The device requires no user activation, calibration, or maintenance and remains continuously operational throughout its service life.

PoISENSE is specifically developed for protecting temperature-sensitive products throughout the cold chain, including pharmaceuticals, vaccines, biotechnology products, diagnostic reagents, laboratory samples & medical devices

Features

- **High Accuracy Temperature Detection**
- **Reliable Cold Chain Protection**
- **User-Friendly Interface**
- **Compact & Lightweight Design**
- **Long Shelf Life**
- **No Activation Required**
- **IP67 Protection**
- **Alarm Indication**
- **Standards Compliant – Meets EN12830:2018, RoHS, CE certifications.**



Applications

PoISENSE is designed for monitoring freeze-sensitive products, including:

- Vaccines
- Pharmaceutical products
- Biologics and medical samples
- Food and beverage logistics
- Research and laboratory materials
- Cold chain transportation



Technical Specifications

Product Name	PoISENSE®	
Product Type	Electronic Freeze Indicator	
Storage Conditions	+4°C to +50°C / +40°F to +122°F	
Operating Temperature	–20°C to +55°C / –4°F to +131°F	
Temperature Accuracy	±0.3°C typ.; ±0.6°F typ.	
Time Measurement Accuracy	±5% typ. at 0°C / 32°F	
Battery	Lithium coin cell (Cr2450), compliant with IATA DGR PI 970-II	
Display	√ , ×	
Protection Class	IP67	
Label	Barcode included	
Operating & Shelf Life	Up to 5 years (expiry date printed on label)	
Activation	Always active; no start function	
Shelf Life	Up to 5 Years - expiry date printed on label	
Activation	Always Active	
Stopping	No stop function	
Configuration	Factory preset	
Warranty	2 years from delivery	
Manipulation	PoISENSE can be used as often as required during the shelf life as long as the alarm condition has not been shown	
Shell material	Transparent ABS plastic	
External Dimensions	CE mark on the back cover, 3M tape depend on customer requirement	
Weight	23g	
Dimensions	55mmx40mmx13mm	
Standards	RoHS, REACH (EC) 1907/2006, CE, EN60068 series, EN 61000-4-2, EN61000-6-2/-3, EN 60529 (IP67), IATA	
Alarm Limits	Alarm Time	Measurement Interval
0°C/+32 F;	60 min below 0°C/ +32°F	2min
0°C/+32F;	10 min below 0°C/ +32°F;	20sec
-0.5C/+31.1F	60 min below -0.5°C / +31.1°F	2min

Subject to change. Please note that all information in this document is correct at the time of publication. Due to our policy of continuous product development, we reserve the right to change this information without prior notice.



Pharmaceutical Company Prevents Vaccine Freeze Damage

Client: Global Pharmaceutical Manufacturer

Challenge: Vaccines and many pharmaceutical products are highly sensitive to freezing temperatures. Exposure to temperatures below the recommended storage range can permanently damage vaccine efficacy, resulting in product loss and potential risks to patient safety. The pharmaceutical company needed a reliable and easy-to-use solution to detect freeze exposure during transportation from manufacturing facilities to distribution centers and hospitals. Maintaining strict temperature conditions throughout the cold chain is critical to ensure the safety, quality, and effectiveness of temperature-sensitive medical products. Even short periods of freezing during transit or storage can compromise product integrity.

Solution: The company deployed Polwax PoISENSE Freeze Temperature Indicators within vaccine shipping containers and insulated transport packages. PoISENSE continuously monitors temperature conditions and provides a clear visual alarm when the product experiences temperatures below the defined freeze threshold. Because PoISENSE operates without activation, software, or specialized readers, logistics staff can instantly verify shipment integrity upon arrival. The indicator permanently records freeze exposure events, allowing quick identification of compromised shipments.

Results:

✓ **Improved Cold Chain Integrity:**

Shipments exposed to freezing temperatures were quickly identified and isolated.

✓ **Protection of Vaccine Potency:**

Ensured vaccines maintained their effectiveness throughout the supply chain.

✓ **Regulatory Compliance:**

Supported compliance with international pharmaceutical cold chain standards and guidelines.



POLWAX Group has got an experienced, highly-qualified project team conducting extensive R&D operations. Owing to that, goods holding the POLWAX brand feature customer-tailored flexibility and meet requirements of various industries.

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