



ColdStream[®] Site

Drive Visibility, Compliance and Reduce Waste

Stationary Monitoring Solution (-200°C to +200°C)

ColdStream[®] Site Stationary Monitoring is a wireless solution that automates monitoring of temperature, humidity and condition of controlled environments for life sciences manufacturing, packaging/repackaging, laboratories, clinical pharmacies, retail pharmacies, incubators, wholesalers, distributors, and logistics service provider operations. This solution is developed for monitoring pharmaceutical products in refrigerators, freezers, cold rooms and freezer rooms. This stationary monitoring service is designed to meet global regulatory and Good Distribution Practices (cGDP), driving the need for automatic visibility alerting and 21 CFR part 11 electronic records documentation of storage conditions. Extremely flexible, this solution is able to adapt based on your changing and growing needs, providing consistent reporting of stationary monitoring for your operation around the world. Sensitech, additionally helps companies with thermal mapping projects, creating temperature profiles and determining improper variability within any stationary location or trailer, including warehouses, trailers, intermodal containers, and air cargo holds.

Features and Benefits

- Stationary wireless sensor network supports monitoring of large and small controlled environments
- Offered as a service, provides ease of set-up, use and maintenance
- Automated, validated, encrypted data management and record keeping
- Real-time alarms and alerts with global access and availability to data
- Global accessible Web Portal for all stationary GDP operations
- Reduce risk of data loss with redundant storage back-up and on-board data storage within sensors and network controller
- 3-Point NIST traceable calibration with certificates of calibration (other calibration options available)



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ColdStream.Site

ColdStream Site Solution Overview

ColdStream Site is a fully integrated stationary monitoring solution which combines wireless sensors with a dedicated wireless reader network and hosted Web Portal.

- TempTale Site wireless sensors are factory configured to customer defined alarm limits and measurement environmental conditions.
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- The sensors record data and transmit wirelessly to a local Network Controller (extremely scalable).
- The Network Controller relays information to the Web Portal. All data is stored securely and is accessible only by authorized users via the Web Portal; no additional software is required.

- Global access to the Web Portal provides real-time and historical condition data for all monitored locations. Reports available on-demand or can be scheduled for automatic distribution.
- Alerts communicating temperature excursions can be

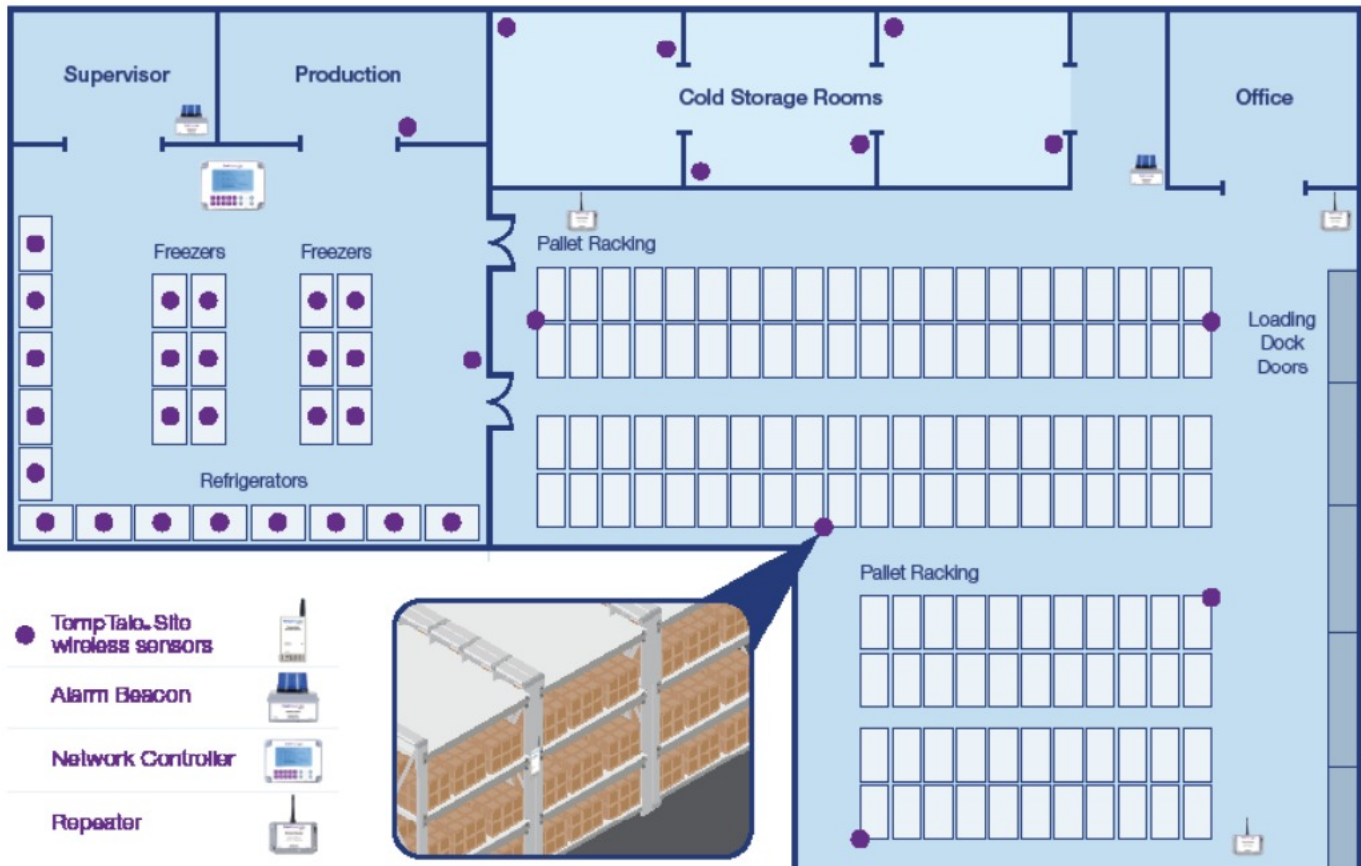
alarms. The system will record an event and can record corrective actions once they have been registered, also recorded in the audit log (21 CFR Part 11 ready).



Lab Area



Warehouse Storage Room



ColdStream Site Wireless Network Components

ColdStream Site Wireless Communication Network

ColdStream Site Network Controller is responsible for collecting information from the TempTale® Site wireless sensors and relaying it to the ColdStream Site web portal via SMTP. The unit is AC powered with battery backup and communicates to the network via an Ethernet connection. Other communication options are available upon request. Each network controller can support up to 250 sensor channels. Additional network controllers can be installed, allowing for an even greater number of sensors.

ColdStream Site Wireless Repeater is used to extend the read range of the wireless network and is AC powered with battery backup.

TempTale Site Wireless Sensors

TempTale Site Temperature Wireless Sensor monitors both air and product temperatures. Product temperatures are simulated via a second temperature sensor embedded in a silicone gel.

TempTale Site Temperature and Humidity Wireless Sensor monitors both air temperature and humidity.

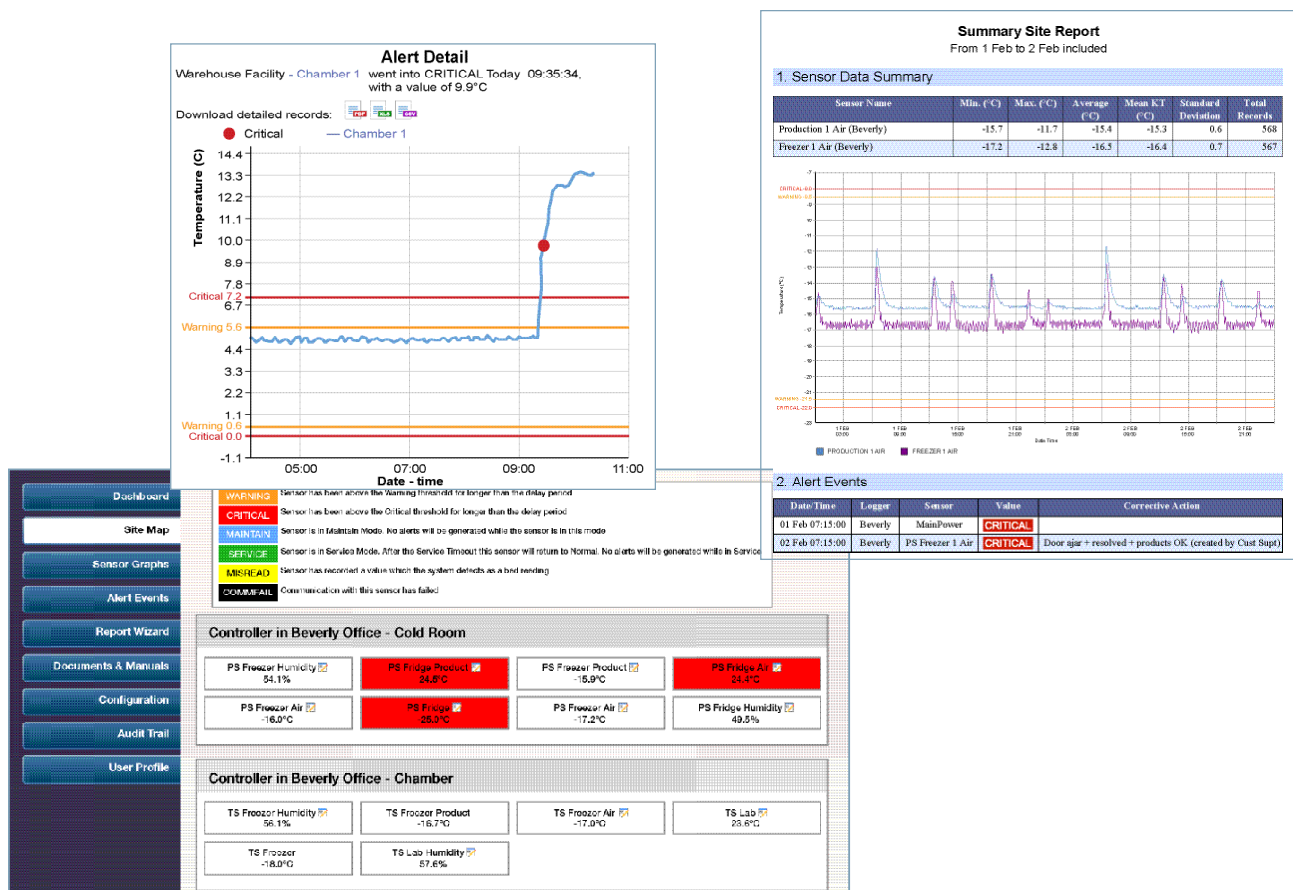
TempTale Site Wireless Thermocouple Temperature Sensor is suitable for liquid nitrogen applications and other extremely low temperature conditions. The sensor comes with a seven-strand thermocouple cable insulated with overall clear Teflon to provide extra strength and protection against rough handling and extreme temperatures.

TempTale Site Door Ajar Wireless Sensor registers door open/close events. The sensor can be configured to alarm when the door has been left open for longer than a user-defined time frame.

TempTale Site 4-20 mA Wireless Transceiver will enable you to attach up to two standard two-or three-wire 4-20 mA transmitters to monitor other facility conditions such as shock or vibration. Alarm event conditions are user defined and configured based on the interpreted value measured and the duration of the event. The unit is AC powered with battery backup in the event of a power failure.

Thermal Mapping Consulting Service

A thermal mapping study is a critical step in understanding temperature risks in your storage environment. Use Sensitech's thermal mapping score methodology to determine worst-case positions to justify your permanent monitoring positions to reduce risk and be audit ready.



ColdStream Site Solution provides a variety of TempTale Site sensor options (additional sensors upon request).

TempTale Site Wireless Sensor Specifications (by logger type)					
	Temperature	Temperature and Humidity	Thermocouple	Door Ajar	Module 2x 4-20mA
Read Range (Line of Sight)	Up to 100 m (328 ft)	Up to 100 m (328 ft)	Up to 100 m (328 ft)	Up to 100 m (328 ft)	Up to 100 m (328 ft)
Frequency Bands	868 or 915 MHz	868 or 915 MHz	868 or 915 MHz	868 or 915 MHz	868 or 915 MHz
Temperature Range	-35°C to +40°C	-35°C to +40°C	-200°C to +200°C	—	—
Temperature Accuracy	±0.5°C	±0.5°C	±2.2°C (-200°C to -96°C) ±1.9°C (-96°C to -60°C) ±1.7°C (-60°C to -15°C) ±1.2°C (-15°C to +200°C)	—	—
Temperature Resolution	0.1°C	0.1°C	0.1°C	—	—
Temperature Probe Type	Probed [90 cm cord (35.4 in)] / Probeless	—	Type-T Thermocouple [3 m cord (9.8 ft)]	—	—
Humidity Range	—	0% to 100%RH	—	—	—
Humidity Accuracy	—	±5 %RH (Range 10%RH to 90%RH, temperature range 5°C to 40°C, non-condensing)	—	—	—
Humidity Resolution	—	0.1 %RH	—	—	—
Data Storage	5,461 data points	5,461 data points	5,461 data points	5,461 data points	5,461 data points
Battery Type	Lithium non-replaceable	Lithium non-replaceable	Lithium non-replaceable OR Mains powered, with NIMH rechargeable back-up	Lithium non-replaceable	Mains powered, with NIMH rechargeable back-up
Configurable Measurement Interval	5 to 100 minutes	5 to 100 minutes	5 to 100 minutes	5 to 100 minutes	5 to 100 minutes
Alarm Function	High/Low warning High/Low critical	High/Low warning High/Low critical	High/Low warning High/Low critical	Door open alarm	High/Low warning High/Low critical
Part of Annual Swap-out Program	Yes	Yes	Yes	Yes	No
Typical Dimensions	80W x 130H x 30D (mm) (3.1W x 5.1H x 1.2D in)	80W x 130H x 30D mm (3.1W x 5.1H x 1.2D in)	148W x 94H x 35D mm (5.8W x 3.7H x 1.3D in)	80W x 130H x 30D mm (3.1W x 5.1H x 1.2D in)	148W x 94H x 35D mm (5.8W x 3.7H x 1.3D in)
Weight	148 g (5.2 oz)	148 g (5.2 oz)	380 g (13.4 oz)	180 g (6.3 oz)	
Operating Conditions	-35°C to +40°C 10%RH to 90%RH 870hPa to 1085hPa	-35°C to +40°C 10%RH to 90%RH 870hPa to 1085hPa	5°C to +35°C 20%RH to 80%RH, non-condensing 870hPa to 1085hPa	-35°C to +40°C 10%RH to 90%RH 870hPa to 1085hPa	5°C to +35°C 20%RH to 80%RH, non-condensing 870hPa to 1085hPa
Quality Assurance & Certifications	3-Point NIST®/UKAS® traceable Certificate of Calibration; FCC, CE, UKCA (others on request)	3-Point NIST®/UKAS® traceable Certificate of Calibration; FCC, CE, UKCA (others on request)	3-Point NIST®/UKAS® traceable Certificate of Calibration; FCC, CE, UKCA (others on request)	3-Point NIST®/UKAS® traceable Certificate of Calibration; FCC, CE, UKCA (others on request)	FCC, CE, UKCA (others on request)

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