TempTale®

SENSITECH

Maintain Precise Visibility of Your Cold Chain

Our precision temperature and humidity monitors let you track and collect data about your temperature-sensitive shipments. These highly reliable, electronic monitors enable you to make immediate accept or reject decisions, and gain greater visibility into every critical step of your cold chain.
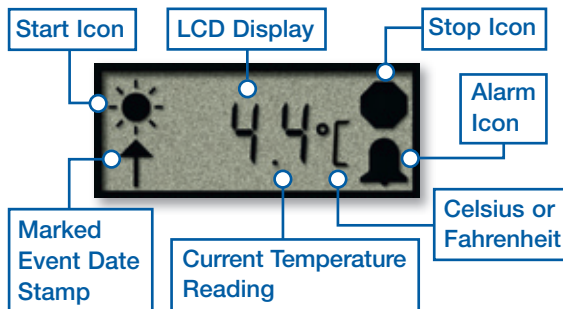
In addition to the strict quality control methods used in the design, test, production and service of our monitors, a NIST® traceable certificate of validation is provided with every TempTale monitor we ship.

TempTale®4 (TT4) Monitor

Our flagship temperature monitor offers customizable alarm settings to meet the widest array of in-transit and storage applications. The functional design of the alarm integrates pre-programmed time and temperature limits to trigger "time-out-of-range" events. The monitor quickly and easily downloads to a PC for detailed time/temperature history by using fast, reliable optical communications.

USB model for easier shipment dispositions

Start Icon	LCD Display		Stop Icon

Alarm Icon

Marked Event Date Stamp

Current Temperature Reading

Celsius or Fahrenheit

TempTale4 Specifications	
Temperature Measurement Range	-30°C to 70°C (-22°F to 158°F)
Temperature Accuracy Range	±1.1°C from –30°C to –18°C (±2.0°F from –22°F to 0°F) ±0.55°C from –18°C to 50°C (±1.0°F from 0°F to 122°F) ±1.1°C from 50°C to 70°C (±2.0°F from 122°F to 158°F)
Temperature Resolution	0.1°C/F over full temperature measurement range
Memory Type	Non-volatile 2K or 16K EEPROM options
Data Storage Capacity	1,920 or 16,000 data points
Battery Life/Type	1-year run life/3.0 V lithium battery
Data Sampling Interval	Programmable from 10 seconds up to a maximum of 2 hours
Water-Resistant Housing	NEMA 6 Rating
Start-Up Delay	Minimum 0 seconds, maximum 194 days
LCD Programmable Options	Display current temperature reading, display temperature values in ºC or ºF, enable flashing of start, stop and alarm icons
Start-Up Options	Manual push button or automatic launch
Alarm Function	Programmable high and low limits; alarm is triggered when temperature exceeds set limits
Typical Dimensions	9.2cm L x 5.1cm W x 1.7cm H (3.6" L x 2.0" W x 0.67" H)
Weight	45.4 grams (1.6 ounces) approximate
Quality Assurance Certifications	CE Mark by TUV; NIST® traceable and 3-point Certificate of Validation; Validation manual
Software/PC Interface	TempTale Manager® Desktop; ColdStream®; Interface Plus Reader
Monitor Recording Options	Single use or multi use

SENSITECH
COLD CHAIN VISIBILITY

TempTale® SENSITECH

TT4 Humidity Monitor

With its integrated digital humidity sensor, the TT4 Humidity monitor is ideal for any application where relative humidity must be monitored. The TempTale4 Humidity monitor is designed for measuring and recording relative humidity from 10% to 100% RH and temperatures from -30°C to 70°C (-22°F to 158°F).

TT4 Humidity Monitor Specifications

Temperature Measurement Range	-30°C to 70°C (-22°F to 158°F)
Humidity Measurement Range	10% – 100% RH
Temperature Sensor Accuracy Range	±1.1°C from -30°C to -18°C (±2.0°F from -22°F to 0°F) ±0.55°C from -18°C to 50°C (±1.0°F from 0°F to 122°F) ±1.1°C from 50°C to 70°C (±2.0°F from 122°F to 158°F)
Humidity Sensor Accuracy Range*	±4.0% RH from 10 – 90%, ±5.0% RH from 90 – 100%
*RH Accuracy stated within temperature exposure range of: 5.0°C to +60°C, non-condensing	
Temperature Resolution	0.1°C/F over full temperature measurement range
Relative Humidity Resolution	0.4% RH from 10% to 100%
Memory Type	Non-volatile 16K EEPROM
Data Storage Capacity	Maximum 16,000 data points (8,000 temperature data points/ 8,000 RH data points)
Battery Life/Type	1-year run life/3.0 V lithium battery
Data Sampling Interval	Variable from 10 seconds up to 120 minutes
Start-Up Delay	Minimum 0 seconds, maximum 194 days
LCD Programmable Options	Displays current temperature and humidity data, max/min temperature and humidity data, and time-out-of-range data
Start-Up Options	Manual push button or automatic launch
Alarm Function	Temperature and humidity sensors can both be programmed to high and low limits
Typical Dimensions	10.2cm L x 5.1cm W x 2.5cm H (4.0" L x 2.0" W x 1.0" H)
Weight	48.2 grams (1.7 ounces) approximate
Quality Assurance Certifications	CE Mark by TUV; NIST® traceable and 3-point Certificate of Validation; Validation manual
Software/PC Interface	TempTale Manager® Desktop; ColdStream®; Interface Plus Reader
Monitor Recording Options	Single use or multi use

TT4 Probeless Dry Ice Monitor

This monitor is designed to accurately record, monitor and archive temperature data of dry ice shipments. It is the industry's first self-contained probeless dry ice monitor with an LCD display capability. It can be placed directly into the dry ice environment in contact with the product and monitors temperatures as low as –80°C.

TT4 Probeless Dry Ice Monitor Specifications

Temperature Measurement Range	-80°C to 30°C (-112°F to 86°F)
Temperature Accuracy Range	±1.7°C from -80°C to 30°C (±3°F from -112°F to 86°F)
Temperature Resolution	0.1°C/F over full temperature measurement range
Memory Type	Non-volatile 2K or 16K EEPROM options
Data Storage Capacity	Maximum 1,920 or 16,000 data points
Battery Life/Type	1-year shelf life/7.2 V lithium battery
Data Sampling Interval	Variable from 10 seconds up to 15 minutes
Start-Up Delay	Programmable from 0 seconds up to 10 days
LCD Programmable Options	Displays max/min temperatures and time-out-of-range data
Start-Up Options	Manual push button or automatic launch
Maximum Recording Period	30 days
Typical Dimensions	9.2cm L x 5.1cm W x 3.0cm H (3.6" L x 2.0" W x 1.2" H)
Weight	107.0 grams (3.8 ounces) approximate
Quality Assurance Certifications	CE Mark by TUV; NIST® traceable and 3-point Certificate of Validation; Validation manual
Software/PC Interface	TempTale Manager® Desktop; ColdStream®; Interface Plus Reader
Monitor Recording Options	Single use only

Operating the monitor outside of published specifications can cause damage to the monitor.

TT4 Monitor with External Temperature Probe

TT4 Dual Sensor Monitor also available

The TT4 monitor with external probe supports applications where a remote probe (5' stainless steel probe or 5' flexible probe) is required. The TT4 Dual Sensor option allows for both the internal and external sensors to be programmed to trigger "time-out-of-range" events. The stainless steel probe can be placed into a liquid or an insulated package to capture the core temperatures while also monitoring the external ambient temperatures. This capability provides you with maximum application flexibility and extremely high levels of control and visibility into your in-transit temperature monitoring.

TT4 Probe Monitor Specifications

External Temperature Sensor Options	5' stainless steel probe or 5' flexible probe (12.7cm)
External (Probe) Temperature Measurement Range	-30°C to 70°C (-22°F to 158°F)
External (Probe) and Internal Sensor Temperature Accuracy Range	±1.1°C from -30°C to -18°C (±2.0°F from -22°F to 0°F) ±0.55°C from -18°C to 50°C (±1.0°F from 0°F to 122°F) ±1.1°C from 50°C to 70°C (±2.0°F from 122°F to 158°F)
Temperature Resolution	0.1°C/F over full temperature measurement range
Memory Type	Non-volatile 16K EEPROM
Data Storage Capacity	Maximum 16,000 temperature data points
Battery Life/Type	1-year run life/3.0 V lithium battery
Data Sampling Interval	Variable from 10 seconds up to 120 minutes
Start-Up Delay	Minimum 0 seconds, maximum 194 days
LCD Programmable Options	Displays max/min temperature data, time-out-of-range data, and current temperature data
Start-Up Options	Manual push button or automatic launch
Alarm Function	Programmable high and low alarm options, single or cumulative time-out-of-range events, or programmable above or below ideal temperature range
Typical Dimensions	10.2cm L x 5.1cm W x 2.5cm H (4.0" L x 2.0" W x 1.0" H)
Weight	99.2 grams (3.5 ounces) approximate, including probe
Quality Assurance Certifications	CE Mark by TUV; NIST® traceable and 3-point Certificate of Validation; Validation manual
Software/PC Interface	TempTale Manager® Desktop; ColdStream®; Interface Plus Reader
Monitor Recording Options	Single use or multi use

TT4 Dry Ice Monitor

The TempTale4 Dry Ice monitor is used for monitoring in-transit and storage temperatures of pharmaceuticals, vaccines and frozen foods that need to be kept at consistently low temperatures to maintain their stability. This monitor features options for 5' flexible or 5' stainless steel probe. It can also be used to validate packaging and other components of your cold chain shipping and storage processes.

TT4 Dry Ice Monitor Specifications

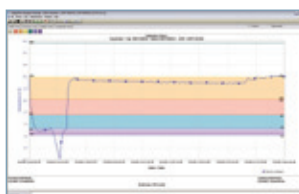|	
Probe Sensor Temperature Measurement Range	-80°C to 30°C (-112°F to 86°F)
Probe Sensor Accuracy Range	±1.7°C from -80°C to 0°C (±3.0°F from -112°F to 32°F)
Electronics Operating Range	-30°C to 70°C (-22°F to 158°F)
Temperature Resolution	0.1°C/F over full temperature measurement range
Memory Type	Non-volatile 16K EEPROM
Data Storage Capacity	Maximum 16,000 temperature data points
Battery Life/Type	1-year run life/3.0 V lithium battery
Data Sampling Interval	Variable from 10 seconds up to 120 minutes
Start-Up Delay	Minimum 0 seconds, maximum 194 days
LCD Programmable Options	Displays max/min temperature data, time-out-of-range events above and below ideal temperature range, and current (probe) temperature data
Start-Up Options	Manual push button or automatic launch
Alarm Function	Single temperature event, continuous or cumulative time-out-of-range events above and below ideal temperature range
Typical Dimensions	9.2cm L x 5.1cm W x 2.5cm H (3.6" L x 2.0" W x 1.0" H)
Weight	99.2 grams (3.5 ounces) approximate, including probe
Quality Assurance Certifications	CE Mark by TUV; NIST® traceable and 3-point Certificate of Validation; Validation manual
Software/PC Interface	TempTale Manager® Desktop; ColdStream®; Interface Plus Reader
Monitor Recording Options	Single use or multi use

TempTale Manager® Desktop Software

TempTale Manager® Desktop (TTMD) is a multi-lingual, easy-to-use, Windows®-based software application for configuring, downloading, displaying, analyzing, and reporting time-and-temperature data collected from any of Sensitech's TempTale monitors. TTMD software's extremely intuitive user interface makes it easy to retrieve, display, and analyze trip data, helping users to make higher quality shipment disposition decisions and ensure that Standard Operating Procedures (SOPs) are delivering acceptable results. TTMD software's extensive multi-language support and powerful data export and file transfer options allow users to quickly and easily share data globally.

TempTale Manager Desktop Features Summary

- Support for Windows® 7 (32 and 64-bit), Windows Vista® (32 and 64-bit), and Windows XP® operating systems
- Supports download/configure of all TT4 monitors
- Calculates and displays summary statistics for each configured alarm
- Print any number or combination of reports from a single print dialog box
- Multi-language support in 10 different languages including: US English, UK English, Spanish, Dutch, French, German, Portuguese, Chinese, Japanese, and Russian
- Automatic file export to PDF and Microsoft® Excel
- Program monitors with saved configuration profiles to facilitate programming accuracy and efficiency
- Draw objects and add text to graphs for commenting and marking data

◄ **Graph View** implements graphing controls and tool tips to allow for easy viewing of alarm profiles

◄ **Tabular View** lists information for each data point, displaying the date, time and temperature, including secondary sensor data (e.g., humidity readings)

◄ **Summary View** automatically calculates temperature profiles of all configured alarms

ColdStream® Hosted Data Management

ColdStream® is a validated, hosted, and secure relational database application easily accessible via the Internet for query, reporting, and analysis of stored data. ColdStream enables users to share critical data quickly and efficiently through password-protected, selective access—across their own organization as well as with business partners.

ColdStream provides centralized storage for time-and-temperature records in a secure, 21 CFR Part 11 compliant repository. The hosted database application enables robust cold chain data analysis, reporting, and potential opportunities for process improvement. The reporting and analysis services are delivered through Sensitech's Professional Services team.

Clean Rooms | Pharma | Hospital | HVAC | BulkDrugs | Chemicals | Heavy Machinery

Hydraulics & Vacuum Industry | Green House | Server Room | Confined Space | Cold Storage

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