TempTale®

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.

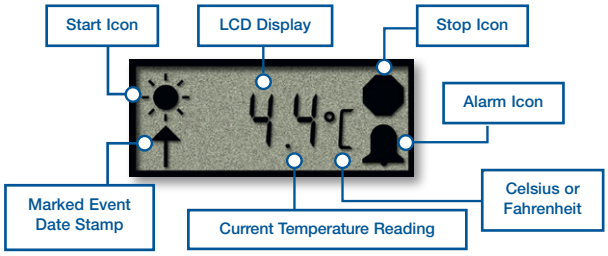
In addition to the strict quality control methods used in the design, test, production and service of our monitors, a NIST® traceable Certificate of Validation is provided with every TempTale monitor we ship.

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.

Flagship TT4

USB model:
no additional hardware
or software required



TempTale4 Specifications	
Monitor Recording Options	Single Use or Multi Use
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	IP 67, 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 3-point Certificate of Validation; Validation Manual
Software/PC Interface	TempTale Manager® Desktop; ColdStream®; Interface Plus Reader (for non-USB monitors)
FAA Compliance	RTCA/DO-160

TempTale®

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	
Monitor Recording Options	Single Use or Multi Use
Temperature Measurement Range	-30°C to 70°C (-22°F to 158°F)
Humidity Measurement Range	10% – 100% RH, non-condensing
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
FAA Compliance	RTCA/DO-160

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. 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	
Monitor Recording Options	Single Use Only
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	Continuous exposure to dry ice temperatures cannot exceed 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
FAA Compliance	RTCA/DO-160

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

Stainless steel probe and flexible probe models

TT4 Monitor with External Temperature Probe

TT4 Dual Sensor Monitor also available

The TT4 monitor with external probe supports applications where a probe (stainless steel or flexible probe extended on a 1.5m / 5' cable) is required. 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. The TT4 Dual Sensor option allows for both the internal and external sensors to be programmed to trigger "time-out-of-range" events.

TT4 Probe Monitor Specifications	
Monitor Recording Options	Single Use or Multi Use
External Temperature Sensor Options	Stainless steel probe (12.7cm / 5") with cable (1.5m / 5') or flexible probe with cable (1.5m / 5')
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
FAA Compliance	RTCA/DO-160

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 flexible or stainless steel probe on a cable (152.4cm, 5'). It can also be used to validate packaging and other components of your cold chain shipping and storage processes.

TT4 Dry Ice Monitor Specifications	
Monitor Recording Options	Single Use or Multi Use
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 30°C (±3.0°F from -112°F to 86°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
FAA Compliance	RTCA/DO-160

SENSITECH
United Technologies
SUPPLY CHAIN VISIBILITY

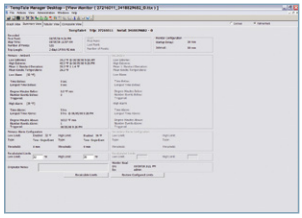
TempTale®

TempTale Manager® Desktop Software

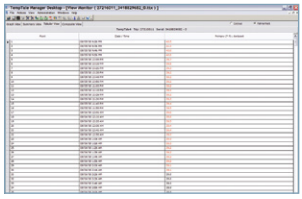
Desktop Software

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. This versatile software is compatible with Windows® 7 and higher. Our 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 includes: US English, UK English, Spanish, Dutch, French, German, Portuguese, Chinese, Japanese, and Russian, and its powerful data export and file transfer options allow users to quickly and easily share data globally.

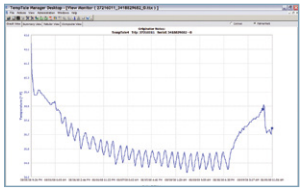
TempTale Manager Desktop Features Summary



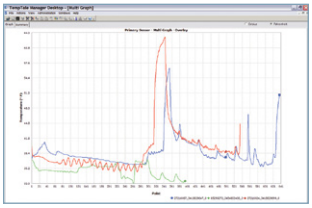
◀ **Summary View** displays statistical temperature and humidity data, such as minimums, maximums, standard deviation, mean kinetic temperature and "time- out-of-range" calculations.



◀ **Tabular View** displays detailed information for each data point including dates, times and temperature and humidity readings.



◀ **Graph View** plots temperature and secondary sensor data over time.



◀ **Multi-Graph View** overlays graphs from up to 50 monitors onto the same graph to quickly highlight relationships between monitor data files.

TempTale Manager Desktop includes powerful tools that allow users superior flexibility when sharing and exporting monitor data:

Export to PDF exports your data to portable document format (*.pdf). Once exported, you can open the file using Adobe® Reader.

Export to Excel exports your data to the popular spreadsheet format (*.xls). Once exported, you can open the file directly from Microsoft Excel.

Email File allows you to quickly email attachments of open views of monitor data in *.pdf and *.ttx file formats directly from the TTMD application with a single mouse click.

ColdStream® Hosted Data Management

Web-Enabled Software

ColdStream® is a validated, hosted, Internet-enabled software application which provides secure, centralized storage for time-and temperature records in a relational database repository designed to comply with 21 CFR Part 11. This powerful software 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 cold chain data analysis, reporting, and potential opportunities for process improvement. The reporting and analysis services are delivered through Sensitech's Professional Services team.

Sensitech Inc. • 800 Cummings Center • Suite 258X • Beverly, MA 01915-6197 • 1-800-843-8367 • +1-978-927-7033 • Fax: +1-978-921-2112 • clientservices@sensitech.com
Sensitech EMEA • Tel: +31 (0)252 211 108 • Fax: +31 (0)252 231 032 • info@sensitech.eu