

# TempTrak Enterprise



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**Тула** (4872)33-79-87  
**Тюмень** (3452)66-21-18  
**Ульяновск** (8422)24-23-59  
**Улан-Удэ** (3012)59-97-51  
**Уфа** (347)229-48-12  
**Хабаровск** (4212)92-98-04  
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## *Your patient safety specialists in environmental monitoring*

TempTrak enterprise wireless monitoring is one of the most exciting innovations in the industry and is installed in countless locations across the globe. TempTrak offers 24/7 remote monitoring and runs on a wide range of systems supported by a broad range of hardware. The data collected in the TempTrak software is pivotal to your regulatory record-keeping compliance.

TempTrak is most commonly used to monitor temperatures of stored medications, food, blood specimens, reagents and vaccines. It offers a comprehensive NIST, as well as ISO 17025, solution for any department that requires it. Whether collecting and sharing temperature data across your organization or across the country, the system allows monitoring of an unlimited number of points in an unlimited number of locations or buildings with a single robust software platform, requiring minimal IT resources to maintain and manage your data.

Today's healthcare facilities utilize a wide variety of equipment that requires consistent monitoring programs. Regulatory compliance and patient safety place the burden on department managers to see that proper protocols are implemented, including temperature, humidity and pressure differentials. Our healthcare customers have communicated some of the challenges they face when utilizing manual temperature management:

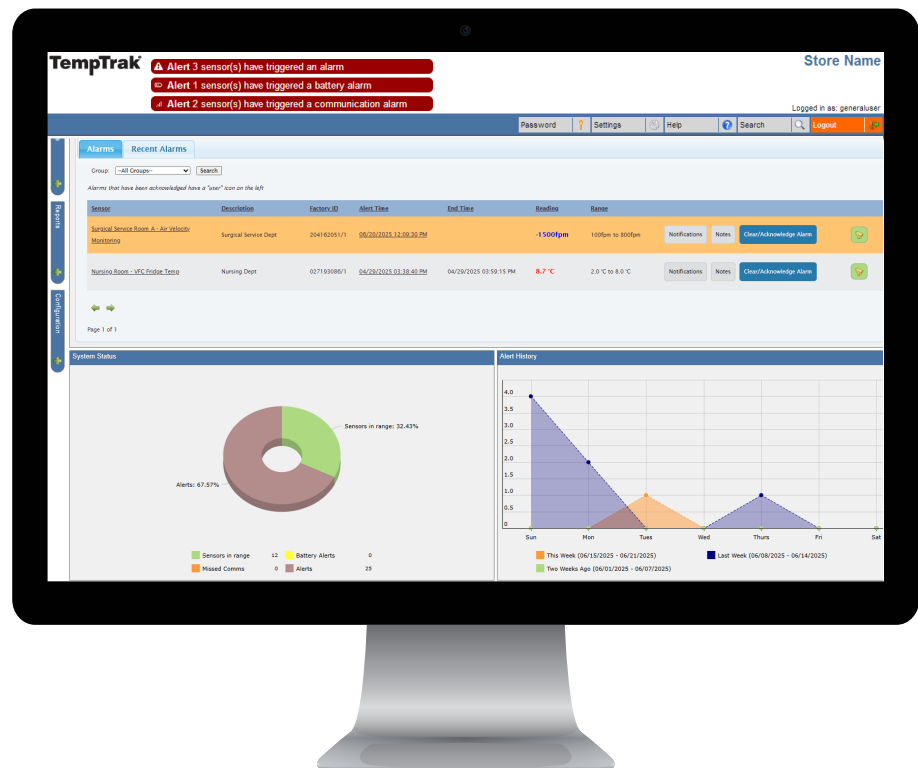
- Time consuming process that can divert resources away from patients
- Inconsistent documentation of corrective actions
- Paper logs are often misplaced and can be modified
- Difficult to assess and verify inaccurate equipment
- Remote locations (such as clinics) may be left unmonitored for extended periods of time
- Consumer-grade equipment can be unreliable and often presents erratic temperature displays
- Failure to implement consistent monitoring programs can compromise inventory and cause spoilage
- Manual programs only provide temperature snapshots without historical data

These challenges and more can be overcome by utilizing TempTrak. Conversion to a 24/7, wireless solution is an easy transition with the professional installation of our system and the countless support services we offer. When seeking a facility-wide solution, over 1,200 locations worldwide have selected TempTrak, a product at the forefront of this technology for over 25 years.

TempTrak provides users with a unique, customizable interface that eliminates the resource-draining expense of manual temperature collection. The system is easy to scale, making it one of the most versatile in the marketplace today.

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*Easily convertible  
and expandable,  
TempTrak saves  
healthcare  
professionals  
valuable time!*





# THE HEALTH MARKET

TempTrak provides accurate reporting and alerts on a real-time, 24/7 basis. Scalable to fit any environment, the data collected by TempTrak assists in electronic record-keeping compliance for Joint Commission, CDC, USP 797, CAP, AABB, AATB, HACCP, FDA 21 CFR Part 11 and ISO17025 VFC.

## ***Pharmacy***

The correct storage of all medications and vaccines throughout a hospital is a critical component for regulatory compliance as well as patient safety. TempTrak is recognized nationally by pharmacists as a reliable, proven system for managing temperatures of sensitive inventory. The system offers real-time, 24/7 monitoring that combines the automated collection of temperature data with notification alerts that can be customized to specific pharmacy requirements and CDC guidelines like the Vaccines for Children (VFC) Program.

## ***Dietary***

Food safety management systems are critical for any well-run foodservice operation, but even more so in a healthcare environment. We can custom design a monitoring system that helps ensure the safety and quality of the food you serve while simplifying the management of foodservice tasks and checklists. Once a task or corrective action is taken, records are automatically uploaded and permanently stored. Reducing the risk of foodborne illness is key to protecting patients.

## ***Blood bank***

The continuous monitoring of temperatures in blood bank equipment is vital in safeguarding the integrity of blood and blood products. With a wide variety of applications beyond temperature monitoring, TempTrak will help improve compliance and enhance patient safety. TempTrak provides optional IQ/OQ equipment validation, detailed history of all recordings and full documentation of alerts and corrective actions conforming to regulatory compliance. NIST traceable products and recalibration services offer a complete solution for your applications.

## ***OR/surgical***

Environmental conditions in operating rooms must be controlled to lessen the risk of surgical site infections. Humidity, temperature, airflow and pressure differential are four factors involved in the spread of infectious diseases. TempTrak closely monitors the temperature, humidity and pressure differential in operating rooms and alerts users when the room has fallen out of the preset limits. In addition, TempTrak wireless sensors meet or exceed The Joint Commission Environment of Care Standards in the Operating Room Suites and Recovery Room Areas (EC.810,EP7 and EC.7.10,EP16).

## ***Laboratory***

The monitoring of storage units allows for accurate and timely reporting and alerts which is critical for all diagnostic and research laboratories within your organization. The TempTrak system, offering NIST traceable and ISO 17025 calibrated products, is the most trusted industry source for monitoring sensitive temperature storage environments. There are various NIST traceable calibration programs available that provide real-time documentation within the software. The diversity of TempTrak sensors allows for the monitoring of virtually all the applications present in the laboratory.

## ***Nursing***

The TempTrak system assists nurses with providing superior patient care. Nursing staff can save valuable time without the inconvenience of manually gathering temperatures of refrigeration units within their specific area. Automating the temperature monitoring process of medication and nutrition refrigerators and freezers will free nurses from this manual task and allow them to devote more time to patient care. TempTrak monitors blanket warmers, incubators and many other types of hospital equipment as well.



*Why choose TempTrak?*

# YOUR PATIENT SAFETY SPECIALISTS IN ENVIRONMENTAL MONITORING

## ***Regulatory compliance and patient safety***

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Automating your equipment monitoring process will free your staff and allow them to focus their time and energy where it is needed most – providing quality care and producing a safe patient environment. Our TempTrak system will meet or exceed all regulatory compliance, including Joint Commission, CAP, CDC, FDA, AABB, AATB, ISO 17025, USP 797 & NIST standards to ensure accuracy, reporting and alerting on a real-time, 24/7 basis.

## ***Corporate stability***

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TempTrak is deployed globally in over 1,200 locations. Our system is continually monitoring over 70,000 pieces of equipment and 300,000 sensors that capture nearly 8 billion data points each year. Along with our portfolio, Copeland has 130 years of experience providing innovative solutions that utilize the newest technologies in monitoring solutions.

## ***Product development***

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We listen. With so much real-world experience, we can anticipate your needs. We dedicate ourselves to environmental monitoring and stay abreast of both industry and regulatory developments to help ensure that we provide the finest technology, breadth of applications and support for ongoing customer satisfaction.

TempTrak is a leading wireless environmental monitoring system used in healthcare facilities across the globe. We work closely with countless facilities in the setup of our enterprise monitoring solution. We believe the same values and benefits can be realized in your organization.

## ***Professional services***

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We use a dedicated, highly-trained staff to provide you with a multitude of comprehensive and validation services for both pre and post install. From a technical site survey and installation, complete system training and configuration, comprehensive project management and 24/7 emergency support, you know you are in good hands. Whether remote or on-site, we will be there when you need us.

## ***Scalability***

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We can design a system to fit any scale or budget with hosted and non-hosted software options. If you start small and grow, our multiple database option may better serve your expansion needs and allow for each location to manage its application independently.

## ***Soft ROI***

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Every facility that has undertaken time/motion studies has determined that the manual method of temperature monitoring is time-consuming, expensive and inaccurate. TempTrak can help eliminate wasted hours and provide employees and managers with more time to spend improving customer satisfaction.

# VALIDATION SERVICES

## Time-based validation service

This service is based on 8-hour time blocks, allowing customers the flexibility to utilize a Copeland technician to evaluate all aspects of the TempTrak enterprise system such as communication integrity, condition of the field hardware and training. This enables customers to meet their business objectives and utilize technicians as needed. At the completion of the service, a daily report is published to document the work performed, open issues (if any), system status and contains system generated reports.

## Risk assessment resolution service

This service is provided in conjunction with a risk assessment report, designed to evaluate the current health of a TempTrak system and identify gaps in monitoring programs. The recommended actions from this service are directly correlated to reducing the risks identified within the risk assessment. At the completion of the service, an additional "Risk Assessment" will be performed on the system, documenting the work performed, open issues with the system status and will contain system generated reports.

## System validation recording qualification data (IQ/OQ)

This service is an aid for the development and recording of validation/qualification data. This process documents system functionality and accuracy after full installation of TempTrak hardware and software, prior to going live with TempTrak. This is not intended to be an all-inclusive validation that would include your company-specific SOP validation requirements. It will be used to assist end-user documentation of the TempTrak system hardware and software validation (typically facilities that are FDA inspected). The service incorporates the major tasks along with achievable end points to demonstrate validation of the TempTrak system's operation and performance at the time of installation. When completed successfully, this service will provide important documentation so that the institution's implementation of TempTrak is performing correctly and meets industry requirements.



## On-site assessment

We offer a comprehensive site surveying service focusing on the documentation and validation of existing hardware:

- Locations
- Naming conventions
- Range specifications
- Probe types
- Known issues
- Descriptions
- Certification types
- Transmitter types
- Sensor IDs

At the completion of the service, a detailed sensor location document will be provided, containing all data gathered and documentation of known issues.

## Extended services

### Clustering

TempTrak supports Windows Clustering, and when used together, it can help provide high availability and redundancy for the application and database components of TempTrak. In the event of a system failure, this ensures constant data collection, retention, end-user access to TempTrak, its regulatory reports and continued notifications. A seamless transition from the primary to a secondary server takes just seconds to complete and helps ensure that facilities will be consistently monitored, protecting valuable inventory, equipment and data around the clock during both scheduled and unscheduled server downtime. The Clustering feature is available for TempTrak v5.0+.

### Interactive Voice Response (IVR)

TempTrak utilizes the reliability of an outside IVR hosting company whose sole business model is to deliver critical phone alerts to clients. When a monitoring device exceeds preset limits, TempTrak relays the alert notification to the outside IVR hosting company. They will then make the phone call and play the notification message to the recipient. When the recipient answers, they will be prompted to press a key to accept receipt of the call, which in turn stops the calling to other employees. The TempTrak database maintains records of phone call notification and the employees that were alerted. By requiring alerts to be accepted, phone calls help ensure that out of range activity is addressed and corrected, while maintaining regulatory compliance and staff accountability. Keep in mind, phone alert acceptance does not clear the alarm. A user must take corrective action by fixing the issue and documenting the corrective action in the TempTrak system. High-level interactive voice response (IVR) is available on TempTrak v5.0+.

### Managed Services

Much like a security service installed in your home, our managed services act as a healthcare monitoring dispatch center. Our services are highly customizable and can be tailored to your needs. We can act as a full-fledged, 24/7 monitoring center, or simply as an ultimate fail-safe should we detect an out-of-range temperature reading that is escalating without a timely response. Let us evaluate your existing capabilities and help you determine the level of service you need.

### Healthcare support service agreements

Accuracy and compliance are integral to the success of cold chain logistics and technology in healthcare. With our Healthcare Support Service agreements, your organization can field high-quality storage temperature monitors with the support and expertise of Copeland by your side. Healthcare Support Service agreements include standard and optional features so you can customize your plan to fit your organization's needs. Optional services include alarm management and dispatching, on-site calibration services and on-site visits by a Copeland technician.

### EZLink

Wherever you go, EZLink's browser interface allows you to monitor alarms on your wireless system 24/7. View sensor readings from your mobile device anywhere, anytime.

Please note, this is not a mobile app, rather a specialized URL for viewing data in TempTrak.

Features:

- View groups
- View sensors
- View 24-hour sensor reading history
- View, acknowledge and clear alarms

Compatible with current generation smartphones and tablets that have JavaScript and cookies enabled. This includes the iPad, iPhone, Android and Windows phone devices.

# CALIBRATION SERVICES

Periodic calibration of transmitters and probes is highly recommended. We can provide factory trained technicians to calibrate your TempTrak equipment and provide the required documentation to stay in compliance with regulations and requirements.

## ***On-site calibration (in situ)***

The on-site process was designed for field calibration of NIST traceable TempTrak transmitters and solid buffer probes. The process calibrates the transmitter and probe together as a single system in place within their environment. This provides a more accurate solution which helps save you money and eliminate potential downtime.

The calibration process is compliant to ISO/IEC Standard 17025 and is traceable through NIST or other National Standards Institutes when performed by a trained Copeland technician. A Certificate of Calibration is created and stored in the TempTrak software, so it can be accessed at any time.

## ***ISO 17025 compliant calibration for Vaccines for Children (VFC) products*** ***ISO 17025 compliant calibration for vaccines including COVID-19 and VFC***

The Centers for Disease Control and Prevention (CDC) provides guidance on appropriate vaccine storage and handling practices and publishes a vaccine storage and handling toolkit.

This guidance is intended as the approved standard of care for all public and private sector vaccine providers.

The CDC recommends that monitoring devices measuring temperature in the storage units should be calibrated to conform to ISO 17025 standards. This calibration should provide a Certificate of Calibration that includes specific information such as documented uncertainty, calibration pass/fail results, device name and model number.

Copeland offers factory calibration of transmitters and probes that conforms to ISO 17025 standards. This hardware is accompanied by a Certificate of Calibration for the transmitter and the probe. Annual recalibration can be done on-site while transmitters and probes remain in situ as noted above.



## ***TempTrak calibration certificate storage***

TempTrak provides electronic storage of Certificates of Calibration. During a regulatory inspection, you can pull up the necessary calibration records from within TempTrak to demonstrate compliance in real-time.

In addition to providing immediate access to electronic copies of the Certificates of Calibration, this feature also provides notice to customers about upcoming calibration needs based on past calibration history. This helps ensure customers are informed about calibration schedules and helps them remain in compliance in the future.

# REPORTING TOOLS

Microsoft SQL Reporting Services is the standard reporting tool in TempTrak. By utilizing an industry-standard database structure, nearly any available reporting tool on the market is able to interface with the TempTrak data for reporting and analysis (including tools such as Microsoft Excel, Microsoft Access, and Crystal Reports).

The TempTrak browser interface includes a number of standard reports of transmitter data. All reports are available for exporting and printing through Microsoft SQL Reporting Services. Reports can be scheduled to automatically email, archive and/or export to multiple formats (e.g., Excel, PDF, Word, CSV, XML, TIFF and MHTML).

Types of reports available include:

- Current transmitter readings
- Transmitter RF communication status
- Current and recently acknowledged alerts
- Low-battery alarm conditions
- Audit reporting
- System configuration change report
- Historical sensor alerts by selected date
- Daily summary report for a transmitter
- NIST summary validation report
- 2-hour, 4-hour, 12-hour or 24-hour daily sensor data summary
- Contact transmitter open/close
- Monthly equipment QA performance analysis
- Sensor history report
- Comparative graphical history for multiple transmitters
- Database backup history
- VFC report



# ALERT NOTIFICATIONS

Alerts may be configured by time of day and day of week. All corrective actions are tracked by time, user and action. An operator can acknowledge or clear an alarm and must document the corrective action taken to resolve the issue. Both the time stamp and identity of the person acknowledging or clearing the alarm is recorded and stored and the event information is stored in the database. When a monitoring point exceeds a preset range, it sends an alert notification via a variety of methods including:

- Computer screen pop-ups
- Emails
- Pagers (digital and SNPP)
- Text messages (SMS)
- Interactive voice response (IVR)

## Alert escalation

To make sure no alert is ignored, the administrator can configure escalation parameters for transmitters. Once a notification has been sent, if no action is taken against the alert within a specified time frame, an additional notification can be sent (i.e., notify a supervisor). This escalation can be repeated multiple times.

## Corrective actions

Corrective actions must be entered before an alert can be cleared. There is complete tracking of all corrective actions by time, user and action to help assist with regulatory compliance and user accountability.



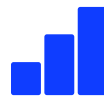
**Missing Probe**  
 Sensor detected a problem with probe connectivity.



**Out of range**  
 Monitoring point has exceeded a preset range for a preset time period.



**Low battery**  
 Triggered when a battery is becoming low (approximately 2 weeks before battery failure).

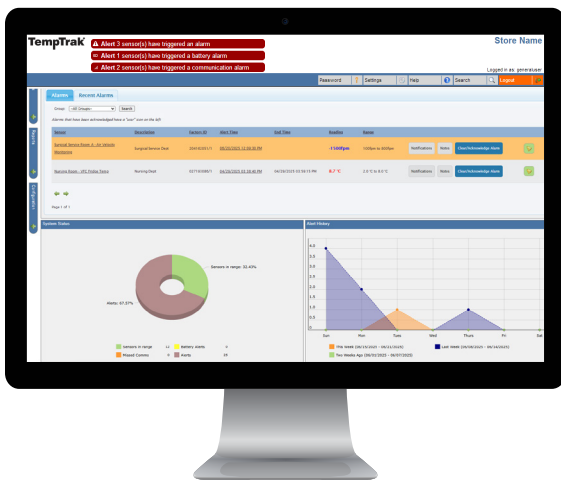


**Missed communication**  
 Monitoring point has not communicated for a preset timeperiod.

# SOFTWARE

Minimum Server Software Requirements (up to 100 Sensors):

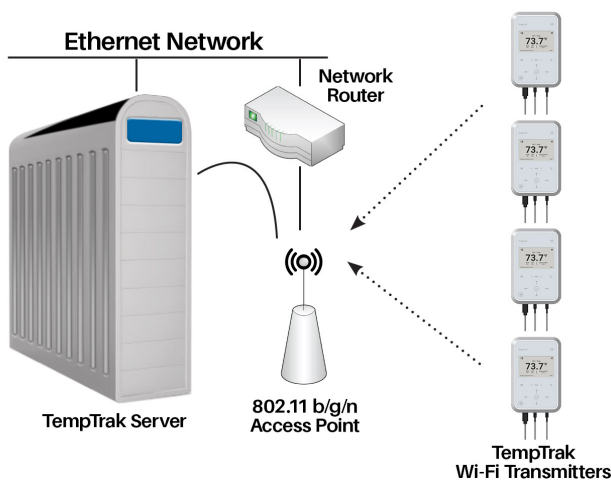
- Windows Server 2019
- Microsoft SQL Server 2019 Express with Reporting Services and SSRS account
- Microsoft Internet Explorer 11/Mozilla Firefox/Opera/Google Chrome/Apple Safari
- Internet Information Services (IIS)
- Microsoft XML, Microsoft NET Framework 3.5 SP1, 4.0+ Microsoft Installer 4.5+, Microsoft PowerShell 2.0, Internet Information Services (IIS) SMTP
- Microsoft Office and/or Adobe Acrobat Reader (Required for exporting data)



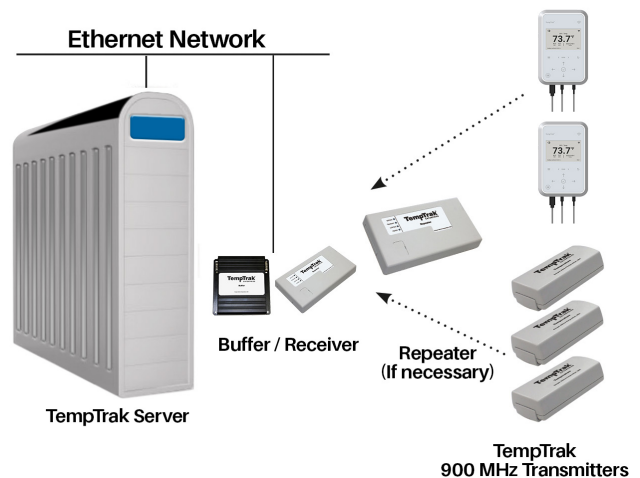
TempTrak is a browser-based application allowing users with a valid login ID to access it from any networked PC.

- Supports “Multiple Databases” per server to accommodate more than one facility operating on one server
- Allows the user to store as much data as necessary, with automatic backups
- Displays real-time sensor readings
- Graphs single or multiple temperatures or transmitters over a defined period of time
- Reports hourly performance
- Reports monthly and yearly equipment performance
- Configures transmitters with alerting rule sets
- Defines user views to specific groups of transmitters to control user access
- Configures the timing of temperature recorders
- Tracks every system log on and corrective action with an audit tracking log
- Documents NIST traceable reports

## Wi-Fi (802.11 b/g/n) network configuration



## 900 MHz network configuration



# 900 MHz HARDWARE

Copeland's 900 MHz TempTrak transmitters operate in their corresponding frequency-hopping spread spectrum, reaching up to 762 meters (2,500 feet) open-field range\* and are battery operated.

## Intelli-Base buffer and receiver

- Attaches to the network either via the LAN network port or serially direct to a single station PC
- In the event of a network outage, the buffer stores all temperature readings in memory
- Buffers 200 temperature points at 15-minute intervals for 30 days



#10000-PDT - 900 MHz



#10000-US - 900 MHz

## Repeater (signal booster)

- A repeater can boost an unlimited number of transmitters
- Transmission range up to 4 miles open field range\*
- In the event of a power outage each TempTrak Repeater has an on-board battery backup with up to 24 hours of life\*\*



#10050-US - 900 MHz

## Contact transmitter (door open/close)

- Magnetic reed switch
- Terminal wire block allows for remote signal activation



#10100-DT - 900 MHz

## Internal temperature/humidity transmitter

- Temperature range: -4° to 140°F (-20° to 60°C)
- Relative humidity range: 0% to 90%



#10071 - 900 MHz  
#10071-032 - NIST

## Dual internal and external temperature transmitter

- Internal temperature range: -4° to 140°F (-20° to 60°C)
- External temperature range: -328° to 572°F (-200° to 260°C)



#10080DT - 900 MHz  
#10080-032 - 900 MHz NIST

## TempTrak MX-Series 900MHz Data Logger

- Operating temperature range: -4°F to 140°F (-20°C to 60°C)
- Humidity: 5% RH to 95% RH, non-condensing
- Data logger memory: Stores 64,000 records, 3MB
- Connectors: 1 x USC-C, 2 x Phono (audio jack)



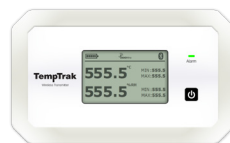
MX4110S0009M  
MX4110S0009M-040  
MX4110SA109M-032 & -025  
MX4110SA209M-032 & -025  
MX4110SC109M-032 & -025  
MX4110SD109M-032 & -025  
MX4110SG109M-032 & -025  
MX4110SH109M-032 & -025

\*Actual communication range will depend on RF environment

\*\*Actual battery life will depend on communication interval, network condition and environmental conditions including operating temperature

### TempTrak wireless data logger

- Aligns with CDC regulations for accurate vaccine storage with rapid data access and extensive record keeping
- Bluetooth and 900Mhz connectivity
- A minimum temperature reading accuracy of +/- 1.0°F (0.5°C)
- Default logging intervals of every 5 minutes
- Data storage for up to 32,000 data readings
- NIST Traceable & ISO17025 Compliant (Certificate included)



- #16971-025
- #16973-025
- #16974-025
- #16975-025
- #16976-025

## WI-FI HARDWARE

### TempTrak MX-Series Wi-Fi Data Logger

- Operating temperature range: -4°F to 140°F (-20°C to 60°C)
- Humidity: 5% RH to 95% RH, non-condensing
- Data logger memory: Stores 64,000 records, 3MB
- Connectors: 1 x USC-C, 2 x Phono (audio jack)
- Communication: Wi-Fi 802.11 b/g/n, 2.4GHz and 5GHz



- MX4010S000WF
- MX4010S000WF-040
- MX4010S000WF-032
- MX4010SQ10WF-032
- MX4010SA10WF-025
- MX4010SA20WF-025
- MX4010SG10WF-025



# OPTIONAL ACCESSORIES

## AC adapter for Wi-Fi transmitters

- 100V-250V AC, 5V/1A
- Cord length: 1.8 m (6'), 3.0 m (10') and 4.0 m (13')



#9447  
#9448  
#9455

## Waterproof enclosure

- Mount with included screws or double-sided tape



#10110



# PROBES

All TempTrak probes function with 900 MHz and Wi-Fi (802.11 b/g/n) wireless transmitters. There are several types of TempTrak probes available, each designed with unique functionality, from temperature and humidity monitoring to CO<sub>2</sub> and pressure differential. All TempTrak probes come with a 1-year warranty and a select number are available with NIST traceability.

## #2020 General insertion probe

- Temperature range: -40° to 302°F (-40 to 150°C)
- Cable length: 1.2 m (4') and 4.6 m (15')



#2020  
#2020-032 - NIST  
#2020P-15 (3.5mm plug)

## #2033 Air probe

- Temperature range: -25° to 180°F (-32 to 82°C)
- Cable length: 1.8 m (6')



#2033  
#2033-032 - NIST

## #4011 Pipe clamp temperature probe

- Temperature range: -25° to 212°F (-32 to 100°C)
- Cable length: 3.7 m (12')



#4011-M

## #10101 Leak detector probe

- Temperature range: -4° to 176°F (-20° to 80°C)
- Cable length: 1.2 m (4')



#10101

## #10113 Solid buffer probe

- Temperature range: -25° to 180°F (-32° to 82°C)
- Cable length: 1.8 m (6'), 9.1 m (30'), 15.2 (50'), 22.9 m (75')



#10113  
#10113-032 - NIST  
#10113P (3.5mm plug)

## #10114 Solid vial buffer probe

- Temperature range: -25° to 180°F (-32° to 82°C)
- Cable length: 1.8 m (6')



#10114  
#10114-032 - NIST  
#10114P (3.5mm plug)

## #10117 Solid buffer probe

- Temperature range: -70° to 180°F (-57° to 82°C)
- Cable length: 1.8 m (6'), 9.1 m (30'), 15.2 m (50'), 30.5 m (100')
- No phono plug



#10117  
#10117-032-NIST

## #10118 Solid buffer probe

- Temperature range: -70° to 180°F (-57° to 82°C)
- Cable length: 1.8 m (6'), 9.1 m (30'), 15.2 m (50')



#10118 (3.5mm plug)  
#10118-032 (3.5mm plug) - NIST

# PROBES AND ACCESSORIES

## #10134 Lab/cryogenic RTD probe\*

- Temperature range: -328° to 311°F (-200° to 155°C)
- Cable length: 3 m (10') and 9 m (15') (#10134-15)
- Flexible, stainless steel wire cover



- #10134
- #10134-032 - NIST
- #10148 (3.5mm plug)
- #10148-032 (3.5mm plug) - NIST

## #10170 Non-armored ultra low

- Temperature range: -328° to 311°F (-200° to 155°C)
- Cable length: 3 m (10')



- #10170
- #10170-032 - NIST
- #10198-032 (3.5mm plug) - NIST
- #10198 (3.5mm plug)

## #10171 Non-armored high temperature / dishwasher probe

- Temperature range: -40° to 302°F (-40° to 150°C)
- Cable length: 3 m (10')



- #10171
- #10171-032 - NIST
- #10171P (3.5mm plug)

## #10184 Lab/cryogenic product simulator sleeve for RTD probe

- Accurately simulates product temperature in ambient conditions
- Durable virgin electrical grade PTFE material with stainless steel clip
- Wide temperature range in a compact size
- RoHS Compliant



- #10184

## #10185 retrofit solid buffer sleeve

- Temperature range: -25° to 180°F (-32° to 82°C)
- For use with the #2033 Air Probe



- #10185

## #10186 test tube warmer adapter sleeve

- Temperature range: -32° to 110°F (-25° to 230°C)
- Dimensions: 0.313" x 1.06" (23 mm x 27 mm)



- #10186

\*Actual communication range will depend on RF environment

# ADDITIONAL ENVIRONMENTAL MONITORS

## PowerTrak power detection device

- Temperature range: 32° to 122°F (0° to 50°C)
- Power requirements: 12V 1.0A (AC power adapter supplied)



# 10102-10100 – 900 MHz

## Air velocity monitor

- Range: 0 to 5000 FPM
- Accuracy: 3% FS process gas 32° to 122°F (0° to 50°C)
- 4% process gas -40° to 32°F & 122° to 212°F (-40° to 0°C & 50° to 100°C)
- Ambient operating range: 32° to 140°F (0° to 60°C)
- Resolution: 1 FPM
- Response time: Flow – 1.5 seconds to 95% final value



# 10214 – 900 MHz  
# 10214-MX40 – Wi-Fi

## High resolution pressure differential monitor

- Measurement ranges:
  - 0.1 to 0.1 in. wc (# 10108-01 & 10108-03 for 900 & Wi-Fi)
  - 0.5 to 0.5 in. wc (# 10108-02 & 10108-04 for 900 & Wi-Fi)
- Resolution: 0.001 in. wc (0.02mm)
- Accuracy: ±0.5% full scale
- Pressure line polarity: Bi-directional
- Available in 24V and 120V



# 10108-01 – 900 MHz/120V  
# 10108-02 – 900 MHz/24V  
# 10108-03 – 900 MHz/24V  
# 10108-04 – 900 MHz/120V  
  
# 10108-01-MX40 – Wi-Fi/120V  
# 10108-02-MX40 – Wi-Fi/24V  
# 10108-03-MX40 – Wi-Fi/24V  
# 10108-03V-MX40 – Wi-Fi/24V  
# 10108-04-MX40 – Wi-Fi/120V  
# 10108-50-MX40 – Wi-Fi/24V  
# 10108-55-MX40 – Wi-Fi/24V

## O<sub>2</sub> depletion monitor

- Measurement range: 0–25% Oxygen
- Accuracy: ±0.2% O<sub>2</sub> accuracy ±1% of full range)
- Sensor Life: 8 to 10+ years under normal conditions
- Power: 24 VDC external power



# 10209-MX41 – 900MHz  
# 10209-MX40 – Wi-Fi

## CO<sub>2</sub> monitor

- Measurement ranges:
  - 0–5% (10203)
  - 0–10% (10205)
  - 0–20% (10204)
- Probe length: 2 m (6.5')
- Power requirements: 100 to 240 VAC, 50 to 60 HZ (external transformer supplied)



# 10213-5 – 900 MHz  
# 10213-10 – 900 MHz  
# 10213-20 – 900 MHz  
# 10213-5-MX40 – Wi-Fi  
# 10213-10-MX40 – Wi-Fi  
# 10213-20-MX40 – Wi-Fi

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