**LogTag**
LOW TEMPERATURE RECORDER

ALERT

OK

Start
Mark

# TREL-8 Multi-Use Dry Ice Low Temperature Recorder

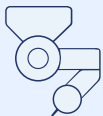## Suitable Applications

**Cold Chain**

**Pharmaceuticals**

**Blood/Organs/Tissue**

**Laboratories**

**Manufacturing**

**Clinical Trials**

**Chemicals**

## Product Highlights

- Records temperature from +40°C to as low as -80°C

- Interchangeable External Probe with high quality gold plated connector.

- A real time clock provides date/time stamps for each temperature reading.

- Push-to-start button with optional delay or a specific time & date.

- Comprehensive customisation options including alert settings, sample interval and trip duration.

- Robust and durable polycarbonate case with lug for secure mounting.

- Up to 8,000 recordings - enough for the longest trip.

- In-transit inspections can be recorded at the push of a button.

- Industry best download time - less than 5 seconds for fully memory.

The TREL-8 Low Temperature Remote Probe Recorder measures and stores up to 8000 temperature readings over -80°C to +40°C (-112°F to +104°F) measurement range from associated interchangeable LogTag® ST10 type remote probe temperature sensor (available in lengths up to 3 meters (9'10")).

It is intended for use in monitoring of articles stored at low temperatures such as in dry ice type environments. Using the LogTag® Interface Cradle and LogTag's freely available companion software LogTag® Analyzer.

TREL-8 is easily configured for recording conditions including delayed start, sampling interval, number of readings and configuration of conditions to activate the ALERT indicator.

Readings are downloaded using LogTag® Analyzer which provides facilities for charting, zooming, listing data statistics and allows exporting the data to other applications such as Excel.

The Red Alert indicator provides an immediate indication, without access to a PC, if any readings are outside the limits specified at the time the unit was configured. Green OK indicator provides immediate visual confirmation, without access to a PC, that the unit is operating.

# Product Specifications

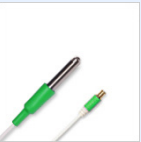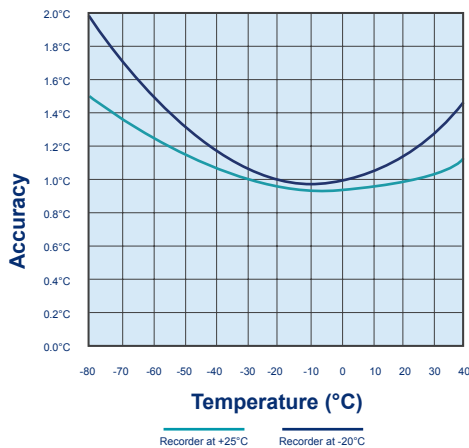| Product Model | TREL-8 |
|---|---|
| External Temperature Sensor Measurement Range | -80°C to +40°C  (-112°F to +104°F). |
| Operating Temperature Range | -20°C to +40°C  (-4°F to +104°F). |
| Storage Temperature Range | -10°C to +55°C  (14°F to +131°F). |
| Rated Temperature Reading Accuracy | Better than ±1.0°C for -30°C to +20°C<br>Better than ±1.2°C for -45°C to -30°C and +20°C to +40°C<br>Better than ±1.7°C for -80°C to -45°C<br>*Actual performance is typically much better than the rated values. Please see the Rated Absolute Accuracy chart below.*<br>*Accuracy figures can be improved by recalibration.* |
| Rated Temperature Reading Resolution | Less than 0.1°C for -80°C to 0.0°C,<br>Less than 0.2°C for 0.0°C to +20°C,<br>Less than 0.5°C for +20°C to +40°C<br>*Please see the Rated Native Resolution chart below.*<br>*LogTag Analyzer® currently displays to one decimal place of °C or °F. The native resolution is what is stored in the LogTag®.* |
| Sensor Reaction Time | Typically less than 2 minutes(T90) in moving air (1m/s) for ST10S type |
| Recording Capacity | 8031 temperature readings.<br>53 days @ 10min logging, 80 days @ 15min logging. |
| Sampling Interval | Configurable from 30 seconds to several hours |
| Logging Start Options | Push button start or specific date & time. |
| Recording Indication | Flashing 'OK' indicator / flashing 'ALERT' indicator. |
| Download Time | Typically less than 5 seconds for full memory (8031 readings), depending on computer or readout device used. |
| Environmental | IP61. |
| Power Source | 3V Li-Mg Battery. |
| Battery Life | 2 - 3 years of normal use (based on 15 minute logging, download data monthly). |
| Real Time Clock | Built-in real time clock.<br>Rated accuracy ±25ppm @ 25°C (equivalent to 2.5 seconds/day).<br>Rated temperature coefficient is -0.034 ±0.006ppm/°C (I.e typically +/- 0.00294 seconds/day/°C). |
| Standard Remote Sensor Cable Lengths | Standard: 1.5m (4'11").<br>Extended: 3 m (9'10") (recommended maximum). |
| Remote Sensor Cable Type | PTFE (FDA food contact rated) coaxial. |
| Size | 86mm(H) x 54.5mm(W) x 8.6mm(T). |
| Weight | 34g. |
| Case Material | Polycarbonate. |

# Compliance & Certifications

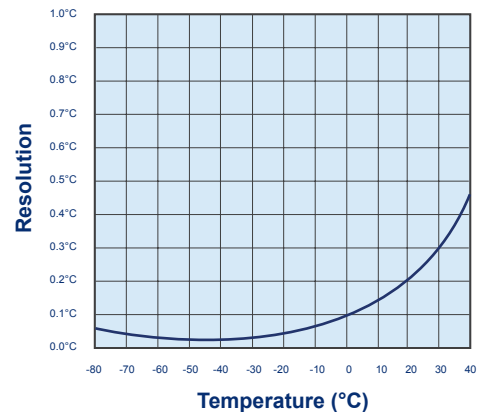| | |
|---|---|
| **designed for 21CFRPart11** | Designed to support Digital Signatures in accordance with FDA CFR21 Part 11. |
| **FC** **CE** | Tested and complies with FCC Part 15 Subparts A and B.<br>Tested and complies with EC EMC directives (EN 50081-1:1992 & EN 61000-6-1:2001). |
| **Pb** **RoHS COMPLIANT 2002/95/EC** | Conforms to RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment) EU Directive. |

# Accuracy / Resolution Charts

### Rated Absolute Accuracy



Recorder at +25°C     Recorder at -20°C

### Rated Native Resolution

*External sensor and glycol buffer are supplied separately*