

Features

- NIST Traceable Calibration Certificates
- FDA 21 CFR Part 11 Compliant
- IQ/OQ/PQ Validation Protocols
- Splash Proof Cryo-Temp Data Logger
- -86°C to +35°C Temperature Range
- 0.1°C Resolution and ±1.0°C Accuracy
- 1 Year Battery Life at -80°C
- User-Programmable Temperature Alarms with LED's (OK, Warn, and Alarm)
- Hardware and Software Password Protection
- Simultaneous Starts, Memory Wrap
- User-Programmable Start Times, Sample Intervals, Logger Descriptions, Unique ID's

Applications

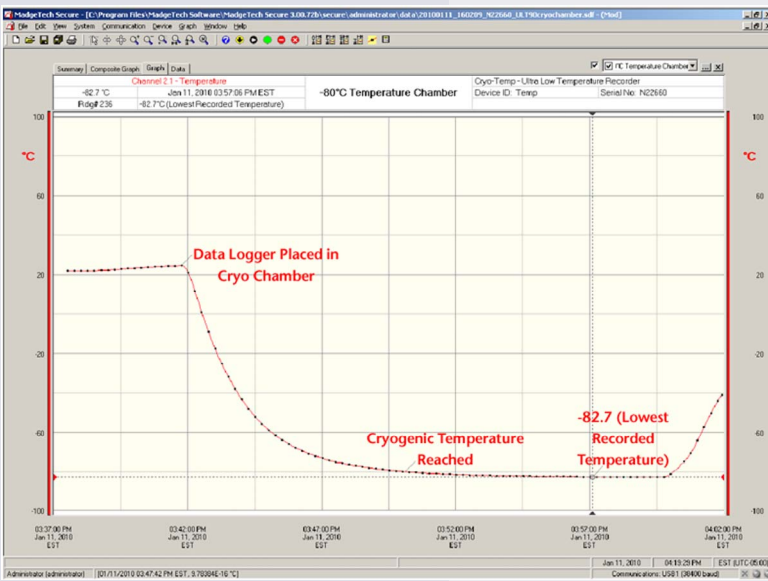
- Ultralow Freezer Validation
- Ultralow Freezer Mapping
- Ultralow Freezer Stabilization Studies
- Temperature Surveys
 - Reveal stratification of air
 - Reveal hot spots
 - Reveal anomalies in chilling systems



Available with 9, 15 or a custom number of Cryo-Temps

MadgeTech's Ultra Low Temperature Freezer Validation System can measure and log data as low as -86°C. It can be placed in small and large freezers of varying configurations.

The system provides a complete stand-alone temperature mapping and validation solution for freezers to ensure uniform storage and testing conditions. The ULT90 includes a USB docking station with 6 feet of cable (IFC300), the Cryo-Temp data logger, and MadgeTech's FDA 21 CFR Part 11 Secure Software and IQ/OQ/PQ validation protocols. For larger freezers, loggers can be plotted in one graph to show variances in different parts of the freezer. Finally, as failure to monitor external freezer temperatures may invalidate internal freezer temperatures, an additional Cryo-Temp can be included for placement outside of the freezer.



MadgeTech Secure Data Logger Software

For complying with FDA 21 CFR Part 11 regulations

MadgeTech's secure software ensures standards in which electronic files are considered equivalent to paper records, saving time and effort. It contains criteria such as electronic signatures, access codes, secure data file and an audit trail which meet the requirements of 21 CFR Part 11 and helps provide data integrity.

ULT90 SPECIFICATIONS* (CRYO-TEMP DATA LOGGER)

TEMPERATURE

- Sensor:** NTC Thermistor
- Measurement Range:** -86°C to +35°C recommended, may be used up to +55°C
- Resolution:** 0.1°C
- Calibrated Accuracy:** ±1.0°C
- Specified Accuracy Range:** -80°C to 0°C
- Memory:** 32,767 readings; software configurable memory wrap
- Reading Rate:** 5 seconds to 30 minutes, selectable in software
- Start Modes:** Software programmable immediate start, delay start up to 30 days in advance or manual start with magnetic switch.
- Temperature Alarm:** Software programmable high and low alarm limits and high and low warn limits
Each setpoint may be individually enabled or disabled
- Alarm Delay:** Software programmable time delay for warn/ alarm limits. Logger will not indicate out of range status until the temperature has been out of range for a set period of time.
- Status Indicators:** Green: indicates safe conditions during logging
Yellow: indicates warn limits have been exceeded
Red: indicate alarm criteria (limits/delay) have been exceeded

BATTERY WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT RECHARGE, DISASSEMBLE, HEAT ABOVE 212°F, INCINERATE OR EXPOSE CONTENTS TO WATER.

- Password Protection:** An optional password may be programmed into the device to restrict access to configuration options. Data may be read out without the password.
- Calibration:** Digital calibration is available to the user through software
- Calibration Date:** Automatically recorded within device
- Battery Type:** 3.6V lithium battery (LTC-7PN), **factory replaceable only**
- Battery Life:** 2 years typical @ 25°C, 1 min. reading intervals
1 year typical @ -80°C, 1 min. reading intervals
- Time Accuracy:** ±2 minutes/month max. at 20 to 30°C
±5 minutes/month max at -80°C
- Data Format:** Date and time stamped °C, °F, K, °R
- Computer Interface:** USB docking station to PC (IFC300) 38,400 baud
- Software:** XP SP3/Vista/Windows 7
Not Compatible with 64 bit systems
- Operating Environment:** -86°C to +35°C (may be used up to +55°C);
0 to 100% RH
- Dimensions:** 3.3" x 2.1" x 0.4" (83 mm x 54 mm x 11 mm)
- Ingress Protection/IP Rating:** IP64 (splash resistant, not submersible)
- Enclosure:** ABS plastic, white, polycarbonate labeling
- Weight:** 1.4 oz (40g) each
Total for packages: ULT90-9 50.9 oz (1443g)
ULT90-15 59.3 oz (1681g)
- Compliance:** CE

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. SPECIFIC WARRANTY AND REMEDY LIMITATIONS APPLY.

SOFTWARE FEATURES

- Multiple Graphs:** Simultaneously analyze data from several units or deployments; easily switch to a single data series
- Real-Time Recording:** Collect and display data in real-time while continuing to log
- Data Table:** Instantly access tabular view for detailed dates, times, values, and annotations
- Scaling Options:** Autoscale function fits data to the screen, or allows user to manually enter their own values
- Formatting Options:** Change colors, line styles, plotting options, show or hide channels quickly
- Statistics:** Calculate averages, min, max, standard deviation, and mean kinetic temperature with the touch of a button
- Export Data:** Export data in a variety of common formats, or switch to Excel® with a single click
- Calibration:** Automatically calculate and store calibration parameters
- Logger Configuration:** Easy set up and launch of data loggers with immediate or delayed start, preferred sample rate, and device ID
- Printing:** Automatically print graphical or tabular data

ORDERING INFORMATION

Model	Description	Price (U.S.)
ULT90-9	Includes 9 Cryo-Temp data loggers with N.I.S.T. Traceable calibration certificates, IFC300 docking station, MadgeTech's FDA 21 CFR Part 11 Secure Software and IQ/OQ/PQ validation protocols.	\$3,200
ULT90-15	Includes 15 Cryo-Temp data loggers with N.I.S.T. Traceable calibration certificates, IFC300 docking station, MadgeTech's FDA 21 CFR Part 11 Secure Software and IQ/OQ/PQ validation protocols.	\$4,500
ULT90-Custom	Includes a custom number of Cryo-Temp data loggers with N.I.S.T. Traceable calibration certificates, IFC300 docking station, MadgeTech's FDA 21 CFR Part 11 Secure Software and IQ/OQ/PQ validation protocols.	Call for Pricing

ASK ABOUT OUR OTHER DATA RECORDERS

Temperature	Pulse/Event/State
Humidity	Low Level Current
Pressure	Low Level Voltage
pH	RF Transmitters
Level	Intrinsically Safe
Shock	Spectral Vibration
LCD Display	

