

# ULTRA LOW FREEZER VALIDATION SYSTEM



### Features

- 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

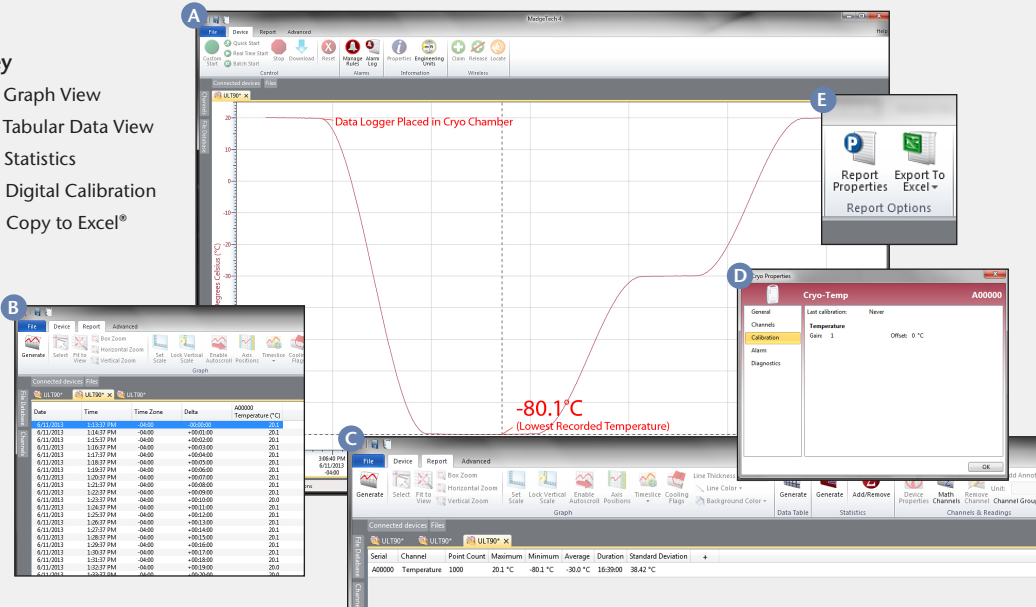
MadgeTech's Ultra Low Temperature Freezer Validation System can measure and log data as low as -86 °C. It can be placed in small and large freezers of varying configurations.

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 DATA LOGGER SOFTWARE

### Key

- A** Graph View
- B** Tabular Data View
- C** Statistics
- D** Digital Calibration
- E** Copy to Excel®



### Software Features:

- Multiple graph overlay
- Statistics
- Digital calibration
- Zoom in/ zoom out
- Lethality equations (FO, PU)
- Mean Kinetic Temperature
- Full time zone support
- Data annotation
- Min./Max./Average lines
- Data table view
- Automatic report generation
- Summary view
- Multilingual

# ULT90 SPECIFICATIONS\* (CRYO-TEMP DATA LOGGER)

## Temperature

<b>Sensor:</b>	NTC Thermistor
<b>Measurement Range:</b>	-86 °C to +35 °C (-122.80 °F to +95 °F) recommended, may be used up to +55 °C (+131 °F)
<b>Resolution:</b>	0.1 °C (0.18 °F)
<b>Calibrated Accuracy:</b>	±1.0 °C
<b>Specified Accuracy Range:</b>	-86 °C to +35 °C (-122.80 °F to +95 °F)

## General

<b>Memory:</b>	32,767 readings; software configurable memory wrap
<b>Reading Rate:</b>	1 reading every 5 seconds up to 1 reading every 30 minutes; selectable in software
<b>Start Modes:</b>	Software programmable immediate start, delay start up to 30 days in advance or manual start with magnetic switch.
<b>Temperature Alarm:</b>	<ul style="list-style-type: none"> <li>Software programmable high and low alarm limits and high and low warn limits</li> <li>Each setpoint may be individually enabled or disabled</li> </ul>
<b>Alarm Delay:</b>	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.
<b>Status Indicators:</b>	<ul style="list-style-type: none"> <li>Green: Indicates safe conditions during logging</li> <li>Yellow: Indicates warn limits have been exceeded</li> <li>Red: Indicate alarm criteria (<i>limits/delay</i>) have been exceeded</li> </ul>

<b>Password Protection:</b>	An optional password may be programmed into the device to restrict access to configuration options. Data may be read out without the password.
<b>Calibration:</b>	Digital calibration is available to the user through software
<b>Calibration Date:</b>	Automatically recorded within device
<b>*Battery Type:</b>	3.6V lithium battery (LTC-7PN), <b>*Must be sent to MadgeTech for battery replacement.</b>
<b>Battery Life:</b>	2 years typical @ +25 °C, 1 min. reading intervals 1 year typical @ -80 °C, 1 min. reading intervals
<b>Time Accuracy:</b>	±2 minutes/month max. at +20 °C to +30 °C ±5 minutes/month max at -80 °C
<b>Data Format:</b>	Date and time stamped °C, °F, K, °R
<b>Computer Interface:</b>	USB docking station to PC (IFC300) 38,400 baud
<b>Software:</b>	XP SP3/Vista/Windows 7 Not Compatible with 64 bit systems
<b>Operating Environment:</b>	-86 °C to +35 °C (-122.80 °F to +95 °F) May be used up to +55 °C (+131 °F); 0 %RH to 100 %RH
<b>Dimensions:</b>	3.3 in x 2.1 in x 0.4 in (83 mm x 54 mm x 11 mm)
<b>Ingress Protection/IP Rating:</b>	IP64 (splash resistant, not submersible)
<b>Enclosure:</b>	ABS plastic, white, polycarbonate labeling
<b>Weight:</b>	1.4 oz (40 g) each Total for packages: ULT90-9 - 50.9 oz (1443 g) ULT90-15 - 59.3 oz (1681 g)
<b>Compliance:</b>	CE

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

\*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. SPECIFIC WARRANTY REMEDY LIMITATIONS APPLY. CALL 1-603-456-2011 OR GO TO WWW.MADGETECH.COM FOR DETAILS.

## ORDERING INFORMATION

MODEL	DESCRIPTION
ULT90-9	Includes 9 Cryo-Temp data loggers with calibration certificates, IFC300 docking station, MadgeTech's FDA 21 CFR Part 11 Secure Software and IQ/OQ/PQ validation protocols.
ULT90-15	Includes 15 Cryo-Temp data loggers with calibration certificates, IFC300 docking station, MadgeTech's FDA 21 CFR Part 11 Secure Software and IQ/OQ/PQ validation protocols.
ULT90-Custom	Includes a custom number of Cryo-Temp data loggers with calibration certificates, IFC300 docking station, MadgeTech's FDA 21 CFR Part 11 Secure Software and IQ/OQ/PQ validation protocols.

ASK ABOUT  
OUR OTHER  
DATA  
LOGGERS

- Temperature
- Humidity
- Pressure
- pH
- Level
- Shock
- LCD Display
- Pulse/Event/State
- Current
- Voltage
- Wireless
- Intrinsically Safe
- Spectral Vibration
- Motion

For Quantity Discounts call 603-456-2011 or email [sales@madgetech.com](mailto:sales@madgetech.com)