

Features

- Measures down to -200°C
- Equipped with one Internal temperature sensor and one type E thermocouple
- Large, backlit LCD display
- Min./max. & average statistics
- Front keypad w/lock feature
- User replaceable battery and external power
- Provides complete time vs. temperature history

Applications

- Liquid Nitrogen Monitoring
- -200°C applications

Includes:

- TCTemp2000 Data Logger
- Type E Thermocouple (36" lead wire and 6" sheath)
- NIST Traceable Calibration with Certificate

MadgeTech's LNDS, Liquid Nitrogen Data Logging System, is an ultra-low temperature measurement system created specifically for the monitoring of temperature sensitive substances that need to be preserved at cryogenic temperatures.

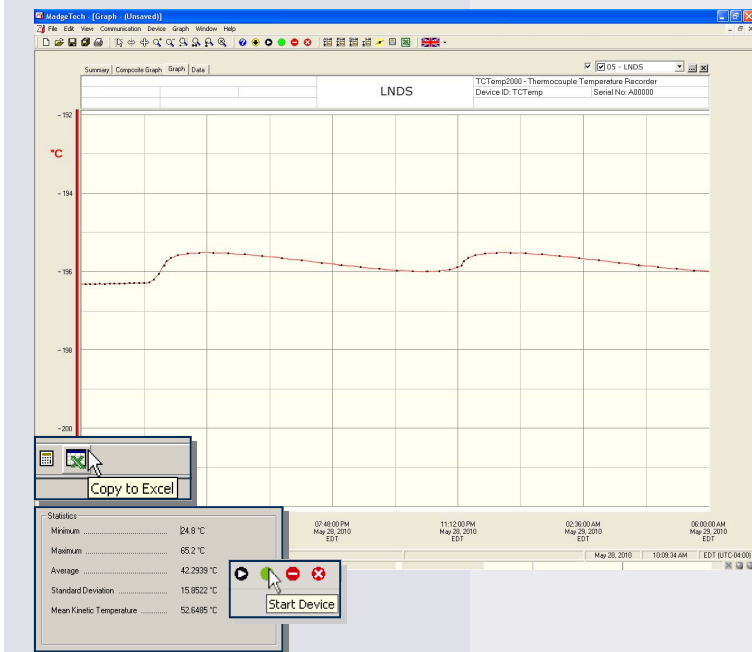


The LNDS can be mounted to the top or outer of a cryo-shipper or freezer, and the probe sheath can be inserted into the tank. The user can then directly view the internal temperature through the LCD on the logger. Also, a variety of probe sizes are available.

MadgeTech's LNDS is easily user programmable with pre selected sample rates from between 2 seconds to 24 hours, and it features a programmable start time and date, up to six months in advance.

The 8-button membrane keypad and large LCD provides the user with the ability to view the current reading, minimum, maximum, and average statistics, in real-time. The non-volatile memory will retain data even if AC and battery power are lost. Also, the 9-volt battery it runs on is both user-replaceable and cost effective.

The Liquid Nitrogen Monitoring System includes the TCTemp2000 data logger with N.I.S.T calibration certification, thermocouple probe, and 9 volt AC wall mounted power adaptor.



MadgeTech Data Recorder Software

displays temperature data in an easy to use graph.

The Windows[®]-based software package allows the user to effortlessly collect, display and analyze data. A variety of powerful tools allow you to examine, export, and print professional looking data with just a click of the mouse.

Click [MadgeTech Software](#) for more information or to download the software.

LNDS SPECIFICATIONS*

TEMPERATURE

Sensor: Type E Thermocouple
Measurement Range: -260 to +260°C
Resolution: 0.1°C
Calibrated Accuracy: ±0.5°C
Internal Channel
Temperature Range: -20 to +60°C
Temperature Resolution: 0.1°C
Calibrated Accuracy: ±0.5°C (0 to +50°C)
Thermocouple connection: Female subminiature (SMP)
Cold Junction Compensation: Automatic, based on internal channel

Memory: 131,071 readings per channel; 262,143 total readings; software configurable memory wrap
Reading Rate: 1 reading every 2 seconds to 1 every 24 hours
Calibration: Digital calibration through software
Calibration Date: Automatically recorded within device
Battery Type: 9V lithium battery included, user replaceable; optional AC adapter
Battery Life: 1 year battery life at 1 min reading rate with display off. 30 days typical with continuous LCD and no backlight usage
Data Format: Date and time stamped °C, °F, K, °R

Time Accuracy: ±1 minute/month (at 20° to 30°C)
Computer Interface: PC serial or USB (interface cable required); 115,200 baud

DOT-MATRIX LCD

Dimensions: 2.5" x 1.375" (63mm x 35mm)
Text: Configurable channel text size
Indicators: Power, status, memory
Backlight: Configurable w/auto shut-off and contrast adjustment
Start/Stop Time: Software programmable start time and date, up to six months in advance; programmable stop time

Software: XP SP3/Vista/Windows 7
Operating Environment: -20 to +60°C, 0 to 95%RH non-condensing
Dimensions: 4.8" x 3.3" x 1.25" (122mm x 84mm x 32mm)
Thermocouple Dimensions: 36" lead wire, 6" x 3/16" dia. probe
Weight: 16 oz.
Enclosure: Black anodized aluminum

BATTERY WARNING: MAY LEAK AND/OR FLAME IF OPENED, RECHARGED, CONNECTED IMPROPERLY, OR DISPOSED OF IN FIRE.

SOFTWARE FEATURES

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

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

ORDERING INFORMATION

Model	Description	Price (U.S.)
LNDS	Liquid Nitrogen Data Logging System (North American Version) Includes data logger with N.I.S.T calibration certification, thermocouple probe and 9 volt AC wall mounted power adapter.	\$559.00
LNDS-EU	Liquid Nitrogen Data Logging System (European Version) Includes data logger with N.I.S.T calibration certification, thermocouple probe and a 230VAC@50Hz/9VDC wall mounted power adapter.	\$559.00
IFC200	Software, manual and USB interface cable (at least one IFC200 is required to communicate with multiple LNDS)	\$119.00
U9VL-J	Replacement battery for LNDS	\$15.00

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	

