INSTRUKART CryoTemp

CryoTemp Ultra Low Temperature Data Logger User Manual

Model: CryoTemp | Brand: INSTRUKART

1. INTRODUCTION

The CryoTemp is an advanced ultra-low temperature data logger designed for precise monitoring in critical environments. It accurately records temperatures as low as -86 °C (-122.8 °F), making it ideal for applications such as transports, refrigerators, warehouses, server rooms, and production facilities. Its compact, splash-resistant design (IP64) ensures durability and ease of use.

This manual provides comprehensive instructions for the setup, operation, maintenance, and troubleshooting of your CryoTemp data logger.

2. PRODUCT FEATURES

- **Ultra-Low Temperature Range:** Capable of recording temperatures from -86°C to +35°C (-122.8°F to +95°F).
- **High Accuracy:** Provides readings with an accuracy of ±1.0°C (1.8°F).
- **Large Memory Capacity:** Stores up to 32,767 date and time stamped temperature readings.
- **Alarm and Warning Limits:** User-programmable high/low alarm and warning limits to alert users of temperature deviations.
- **Durable Design:** Compact with a handle for easy attachment and splash resistant (IP64).
- **Long Battery Life:** Powered by a 3.6V lithium battery (LTC-7PN).

Figure 2.1: Front view of the CryoTemp Data Logger, showing the ALERT, WARN, and OK indicators, and the START/MARK button.

3. SETUP

3.1 Initial Inspection

Upon receiving your CryoTemp data logger, carefully inspect the packaging and the device for any signs of damage. Ensure all components listed in the packing slip are present.

3.2 Software Installation

To configure and download data from the CryoTemp, you will need to install the MadgeTech software on your computer. Please refer to the MadgeTech website for the latest software version and installation instructions. A USB interface cable (sold separately) is required to connect the data logger to your computer.

3.3 Device Configuration

1. Connect the CryoTemp data logger to your computer using the appropriate USB interface cable.
2. Launch the MadgeTech software. The device should be automatically detected.
3. In the software, configure the desired logging parameters, including:

   - Sampling Rate (e.g., 1 reading every 5 seconds up to 1 reading every 30 minutes)
   - Start Method (e.g., immediate start, delayed start, manual start)
   - High and Low Alarm Limits
   - High and Low Warning Limits
   - Logger ID and Description

4. Once configured, disconnect the data logger from the computer. It is now ready for deployment.

4. OPERATION

4.1 Starting the Data Logger

Depending on your configuration, the data logger will start logging data:

- **Immediate Start:** Logging begins as soon as the device is disconnected from the software after configuration.
- **Delayed Start:** Logging begins at a pre-set date and time.
- **Manual Start:** Press and hold the "START/MARK" button on the device until the "OK" LED blinks, indicating logging has begun.

4.2 Monitoring Status Indicators

The CryoTemp features three LED indicators:

- **ALERT (Red LED):** Illuminates when the temperature has exceeded or fallen below the programmed alarm limits.
- **WARN (Yellow LED):** Illuminates when the temperature has exceeded or fallen below the programmed warning limits.
- **OK (Green LED):** Illuminates when the temperature is within acceptable limits and the device is logging correctly.

4.3 Deploying the Data Logger

Place the CryoTemp data logger in the environment where temperature monitoring is required. Utilize the integrated handle for easy attachment or placement. Ensure the device is not obstructed and has proper air circulation for accurate readings.

Figure 4.1: The CryoTemp Data Logger being deployed in a low-temperature environment, demonstrating its compact size and ease of placement.

4.4 Downloading Data

To retrieve recorded data:

1. Connect the CryoTemp data logger to your computer using the USB interface cable.
2. Open the MadgeTech software.
3. Select the connected device and follow the software prompts to download the data.

4. The software will allow you to view, analyze, and export the temperature data in various formats.

5. MAINTENANCE

5.1 Battery Replacement

The CryoTemp uses a 3.6V lithium battery (LTC-7PN). When the battery level is low, the software will indicate this status. To replace the battery:

1. Ensure the data logger is not actively logging.
2. Carefully open the battery compartment.
3. Remove the old battery and insert the new LTC-7PN battery, observing correct polarity.
4. Securely close the battery compartment.

Note: Dispose of old batteries according to local regulations.

5.2 Cleaning

Clean the exterior of the data logger with a soft, damp cloth. Do not use abrasive cleaners or immerse the device in water. The device is splash resistant (IP64) but not submersible.

5.3 Calibration

The CryoTemp data logger comes with a calibration certificate. Regular recalibration is recommended to ensure continued accuracy, especially for critical applications. Refer to MadgeTech's official guidelines or contact INSTRUKART for calibration services.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device not detected by software.	- Incorrect USB cable or connection. - Software not installed or outdated. - Device driver issues.	- Ensure proper USB connection and use the correct MadgeTech interface cable. - Install or update MadgeTech software from the official website. - Check device manager for driver issues and reinstall if necessary.
Device not logging data.	- Not started correctly (manual start). - Battery is low or depleted. - Memory is full.	- Verify start method in software and ensure device is started. - Replace the battery. - Download data and clear memory via software.

Problem	Possible Cause	Solution
Inaccurate readings.	- Sensor obstruction. - Device placed in an area with poor air circulation. - Needs recalibration.	- Ensure sensor is clear of debris. - Relocate the device to an area with proper airflow. - Consider professional recalibration.

7. SPECIFICATIONS

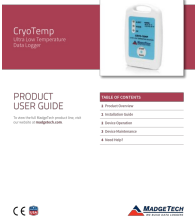| Parameter	Value
Measuring Range	-86°C to +35°C (-122.8°F to +95°F)
Accuracy	±1.0°C (1.8°F)
Resolution	0.1°C (0.18°F)
Memory	32,767 Readings
Sampling Time	1 reading every 5 sec up to 1 reading every 30 min (selectable)
Sensor Type	NTC thermistor
Time Accuracy	±2 minutes/month max. at 20°C to 30°C; ±5 minutes/month max at -80°C
Operating Temperature	-86°C to +35°C (-122.8°F to +95°F); may be used up to +55°C (131°F)
Operating Humidity	0 %RH to 100 %RH
Battery Type	3.6V lithium battery (LTC-7PN)
Protection Rating	IP64 (Splash resistant, Not Submersible)
Dimensions	83 mm x 54 mm x 11 mm (3.3 in x 2.1 in x 0.4 in)
Weight	40g (1.4oz)
Manufacturer	Instrukart
Date First Available	February 28, 2017

8. WARRANTY AND SUPPORT

8.1 Legal Disclaimer

Please note: This item is Non-Refundable. For specific warranty information, please refer to the documentation provided with your purchase or contact INSTRUKART directly.

8.2 Technical Support

For technical assistance, software inquiries, or service requests, please contact INSTRUKART customer support. Visit the official INSTRUKART website for contact details and additional resources.
You can find more information and support at the INSTRUKART Store on Amazon.

Related Documents - CryoTemp

	MadgeTech CryoTemp Ultra Low Temperature Data Logger User Guide User guide for the MadgeTech CryoTemp ultra-low temperature data logger. Details product overview, installation, device operation, manual start, alarm settings, maintenance, and support contact information.
	Elitech RC-4/RC-4HA/RC-4HC Data Logger Quick Start Guide | Installation & Configuration Quick Start Guide for Elitech RC-4, RC-4HA, and RC-4HC data loggers. Learn how to install batteries, set up software, configure settings, start/stop logging, and troubleshoot common issues. Includes detailed technical specifications for temperature and humidity monitoring.
	Airthings View Plus: Complete Indoor Air Quality Monitor - User Manual & Specs Explore the Airthings View Plus, an advanced indoor air quality monitor designed for comprehensive home monitoring. It measures radon, PM2.5, CO2, VOCs, humidity, temperature, and air pressure, providing detailed insights via a customizable ePaper display, a mobile app, and an online dashboard. Learn about its smart home integrations, long battery life, and easy setup.
	Hioki CM4373-50 Digital Clamp Meter - Technical Specifications and Features Detailed information on the Hioki CM4373-50 Digital Clamp Meter, including its features, specifications, and applications for electrical professionals in industrial and laboratory settings.

Digital High Pressure Pirani Gauge
DHPG 210 & DHPC 210S

Operation and Maintenance Manual

Instrukart DHPG 210 & DHPC 210S Digital High Pressure Pirani Gauge Operation and Maintenance Manual

This manual provides detailed operation and maintenance instructions for the Instrukart DHPG 210 and DHPC 210S Digital High Pressure Pirani Gauges. It covers product specifications, installation procedures, operating principles, circuit descriptions, and troubleshooting guidance.