TCLMA-D1 Liquid Nitrogen Level Monitoring Alarm – User Manual
Tianchi Cryogenics

I. Product Overview

The TCLMA-D1 is an intelligent liquid nitrogen level monitoring instrument equipped with a high-precision sensor probe imported from Switzerland, ensuring exceptional measurement accuracy and reliability.
It is powered by two 18650 high-capacity rechargeable batteries and features a USB port for both external power supply and battery charging. Thanks to its ultra-low-power design, the device can operate for up to 4 months on battery power alone (with real-time data reported every 10 minutes).
The unit automatically uploads data to a cloud-based monitoring platform—no additional monitoring host, data collector, or gateway is required. Once temperature thresholds (upper and lower limits), low-battery levels, external power loss, or offline status are configured, the system immediately triggers alerts. Notification messages can be sent via email and SMS.
Users can log in through a web browser or mobile app to view and export real-time data, live trend curves, alarm logs, and historical records.

II. Application scope

It is widely used in liquid nitrogen cryogenic equipment, pharmaceutical storage facilities, cold chain transportation, laboratories, and similar environments.

III. Product Features

Cloud-based monitoring platform—no monitoring host, data collector, or additional hardware required.
Access data anytime, anywhere via a web browser or mobile app—available worldwide.
Easy to use—quickly add devices using the mobile app.
Supports SMS and email alerts.
Features a large LCD display for a clean, elegant, and user-friendly appearance.
Equipped with detachable cable ties for easy and secure installation.
Exceptional stability and strong resistance to electromagnetic interference.
Powered by high-capacity, rechargeable 18650 batteries.
Battery reverse-polarity protection—installing the batteries backward will not damage the device.

Imported high-precision probe delivers high measurement accuracy, wide range, and excellent consistency.

The cloud monitoring system supports alerts for high/low temperature, high/low humidity, offline status, low battery, and power loss. Temperature probes can be securely mounted in the optimal location based on actual application requirements.

Ultra-low power consumption design enables up to four months of battery-only operation (with data reported every 10 minutes).

Offline data logging capability: continues monitoring and recording data during network outages, and automatically uploads all stored records to the cloud platform once reconnected.

IV. Quick Start

1、Scan the QR code to download and install the mobile app.

2、Open the mobile app and log in with your username and password. New users can register an account directly in the app.

3、Press the “SET + ENTER” buttons on the device to power it on and enter network setup mode. Connect your phone to Wi-Fi and enable Bluetooth and location services, then tap the “+” icon in the upper-right corner of the APP.

Select “Bluetooth Connection,” tap “Scan,” enter the Wi-Fi password, and tap “Set Up & Bind.” After the prompts confirm successful binding and network setup, return to the home page.

4、Tap any added device to view its device information, historical data, trend curves, alarm logs, parameter settings, and location history.

5、Open a web browser and go to “1weilian.com” to log in to the cloud platform, where you can view and configure additional parameters (please use a modern, up-to-date browser).

V. Main technical parameters

Parameter	TC50-PT
Model Type	External 2 meters
Sensor Type	External 2 meters
Temperature Measurement Range	-20°C ～ 200°C
Temperature Measurement Accuracy	±0.3°C
Local Storage Capacity	100,000 data points
Measurement Resolution	Temperature: 0.1°C
Output Interface	WiFi, USB
Battery Capacity	Dual batteries, 6000mAh
Rated Voltage	USB power supply; 5V / 18650 battery power supply: 3.7V
Power Consumption	Average: 2mA (report once every 10 minutes)
Effective Working Area	Recommended: 10–20m² per unit

VI. Quality Assurance

The product comes with a 12-month warranty. During the warranty period, free maintenance service is provided for defects arising from normal use and non-human-caused damage.

VII. Restore factory settings

Press “SET” and enter the password “2035,” then press “ENTER.” Scroll up to SU06 and press “ENTER.” Use the up arrow to select “yes,” then press “ENTER” to confirm and restore the device to factory settings, clearing all records.

VIII. Precautions

1、Do not install directly near heat sources, cold sources, or in direct sunlight.
2、Do not expose the device to steam, mist, water spray, or condensation for extended periods.
3、When used in dusty or other contaminated environments, the product must be cleaned regularly.