CIMC
OPERATION MANUAL OF TEMPERATURE RECORDED

I. OVERVIEW OF THE EQUIPMENT

LY-RTH1000B series is a temperature recorder which integrates the functions of temperature acquisition, display, data recording and PDF export, developed and produced by Beijing CIMC smart Cold Technology Co., Ltd., which integrates the most reliable temperature sensing chip to ensure the accuracy of measurement data.

This device adopts U disk structure design, the device is light, easy to use, and power consumption Low, can achieve super long standby about 2 years. The recorder is connected to the computer via the USB interface After connection, the PDF format temperature report is automatically generated, and the user does not need to install any special With software, you can download and read data without purchasing a data reading device. Make Users can timely and accurately monitor and trace the entire cold chain process to ensure product safety all. This product has calibration report, product test report, DGM air transportation Document identification report, air and railway transportation condition identification report issued by Shanghai Chemical Industry Institute, Meet a variety of transportation requirements.

Main functional advantages:

1. series of products are divided into room temperature version, low

temperature version and temperature and humidity version, which can meet the needs of customers for different temperatures.

2. equipment small size, less space, easy to place and install.

3. products use high-precision temperature sensors, so that the temperature error in a very small range.

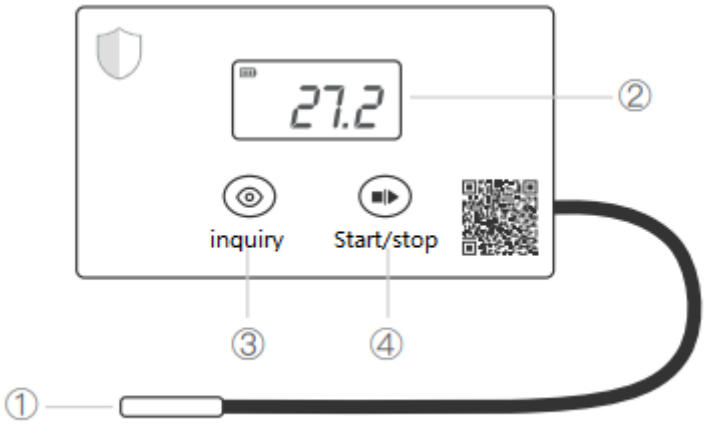
4. data local export without special software, direct copy can be.

5. generate immutable PDF format files, data has non-reverse generation characteristics.

6. customers can configure their own recorder, set the recording interval, start delay time and other parameters.

7. product power consumption is extremely low, standby capacity can reach two years.

Operational instructions



①Probe: can be extended into the incubator to collect the temperature inside the incubator.

②Display: display data and various status icons.

③Query: view configuration parameters.

④Start / stop key: the control device starts recording data and stops recording data.

II. Technical parameters

Parameter Category	Data (room temperature version)	Data (low-temperature version)	Data (Temperature and Humidity Edition)
temperature range	-40～85℃	-99.9℃～99.9℃	-99.9℃～99.9℃
Humidity range	no	no	5%RH～95%RH
Temperature and humidity accuracy	±0.5℃	±0.5℃	±0.5℃/±5%RH
temperature resolution	0.1℃	0.1℃	0.1℃
Recording capacity	42000	42000	42000
classification of waterproof	IP66	IP66	IP66
Upper computer software	No need to install	No need to install	No need to install
interrecord gap	0~24 hours	0~24 hours	0~24 hours
Delay start	0~24 hours	0~24 hours	0~24 hours
data interface	USB interface	USB interface	USB interface
size	Query, start/stop	Query, start/stop	Query, start/stop
electric battery	80*45*15mm	80*45*15mm	80*45*15mm
sensing element	1.5 V Dry battery (No .7)	1.5 V Dry battery (No .7)	1.5 V Dry battery (No .7)
display	High Precision Temperature Sensor	High Precision Temperature Sensor	High Precision Temperature Sensor
language	LCD display	LCD display	LCD display
cruising power	Chinese, English	Chinese, English	Chinese, English
environment	-35℃~65℃ humidity 10-90% RH	-35℃~65℃ humidity 10-90% RH	-35℃~65℃ humidity 10-90% RH
working temperature	-20℃~50℃ humidity 10-90% RH	-20℃~50℃ humidity 10-90% RH	-20℃~50℃ humidity 10-90% RH

III. Function description

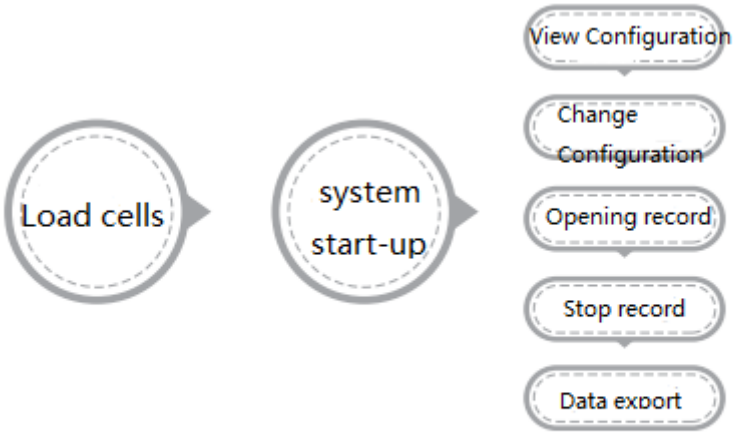
1. three states of the recorder

(1) Standby state: the recorder does not start recording mode, LCD shows "⏸".

(2) Recording status: The recorder has started recording mode LCD shows "▶".

(3) Stop status: Recorder recording mode is over, LCD display "⏹".

2. main operating procedures



3. operation

(1) Press any key before use, See if the screen lights up, Make sure that the recorder's electricity is normal; When the power is low, Can replace 1 section 7 battery by oneself; After the recorder is loaded into the battery, Display E-02, Then insert the computer to configure the recorder.

(2) Insert the recorder into the computer USB port, when the screen display PDF, open "1000 B- configuration client ", set the parameters in the software, click "write configuration ", the recorder configuration is

completed, pull out the recorder.

(3) After unplugging the recorder,Equipment in standby state,Short press start/stop LCD switch between display temperature and time mode,The temperature is measured once a minute in display temperature mode; the short press query button displays the year, month, day, start delay, sampling interval, and high and low warning configuration parameters in turn.

(4) Long press the start/stop button for 5 seconds to enter the start-up delay, when the countdown is over, the recorder enters the recording state and begins to collect data.

(5) In the recording state, after 5 minutes of operation without keys LCD close into low-power mode, the device works normally in low-power mode; press any key after LCD off, the LCD is awakened; press the query key to display the highest and lowest record value of the recording process; long press start stop key for 5 seconds, record stop; insert computer USB port during recording, record stop.

(6) In the stop state, the recorder inserts the USB port of the computer, opens the disk marked "U disk recorder ", sees a file in PDF format, and opens the file to see the equipment parameters and the temperature collected by the recorder. When configuring the device, check "allow the button to delete the record ", can two keys at the same time long press delete record, use the last configuration parameters to continue to use

the device, delete the record, the recorder into standby state.

(7) After reading the data, the recorder can be reconfigured. After the recorder is configured, the recorder removes all the previously stored data and the recorder enters the standby state.

Note:

1. recorder can not run without configuration.

2. the start delay time from stop state to record state is the same as the time parameter set by start delay in recorder configuration, the key is invalid in the process of delay start.

3. after reading the data, two keys can be pressed to delete the data stored by the recorder at the same time to make the recorder stop, but it is generally not recommended to use this button. This may delete the data collected by the recorder in the process of use.

4. when the recorder is configured, individual computers need to right-click "run as administrator" to open the configuration software, otherwise the configuration software can not click the "configuration recorder" button.

5. the recorder enters the stop state, can insert the computer, read the data.

6. this product and accuracy have passed strict testing, it is recommended to check and calibrate the product once a year to ensure normal function and accurate testing.

4.various error definitions

(1) Abnormal E-00： battery detection circuit.

(2) E-01： the battery voltage is too low or the battery detection circuit is abnormal.

(3) E-02： recorder is not configured, can't work.

(4) E-05： crystal oscillator is not stable, If the display doesn't disappear, The clock circuit is abnormal.

(5) E-06： sensor anomalies or circuit anomalies.

IV. Installation and use of recorder software

1. insert the recorder into USB computer port and click open folder in the dialog box that pops up on the desktop to view the file.

2. open the file, appear PDF format file.

3. in the PDF file, the equipment information, record summary, warning statistics, temperature curve and temperature data record of the recorder can be found separately.