RC-4HA/C Mini Temperature and Humidity Data Logger Operation Instruction

(Record capacity: RC-4HA 8000points; RC-4HC 16000points)

I. Product overview:

This data logger is mainly used for temperature and humidity recording during storage and transportation of foodstuff, medicine, chemicals and other products, especially widely used in all kinds of warehousing, logistics and cold chain, such as refrigerated containers, refrigerated trucks, refrigerated package, cold storage, laboratory, etc.

II.Specification:

Product size: 84mm (length) X 44mm (width) X 20 mm (height)

III.Technical parameters:

1. Temperature measuring range: -30℃~+60℃; for optional external sensor, -40℃~+85℃;
2. Temperature accuracy: -30℃~+60℃, ±0.6℃; others, ±1.2℃;
3. Temperature unit: ℃ or ℉ optional, set through RC-4H data management software.
4. Humidity measuring range: 0~99%RH
5. Humidity accuracy: ±3%RH(25℃,20~90%RH),others,±5%RH;
6. Resolution: Temperature 0.1℃; Humidity 0.1%RH;
7. Record capacity: RC-4HA 8000points(MAX); RC-4HC 16000points(MAX);
8. Record interval: 10s~24hour adjustable;
9. Communication interface: USB interface;
10. Power supply: inner CR2450 battery or power supply via USB interface;
11. Battery life: in normal temperature, if the record interval sets as 15 minutes, it could be used above one year.
12. Ambient environmental temperature: -30℃~+60℃; in the low temperature environment, LCD displays slowly, while it has not an impact on the normal measuring or recording. Once the temperature recovers, it could display normally.

IV.Initial use:

1. Install RC-4H temperature and humidity data logger data management software. Connect RC-4H with computer via USB, and install USB driver according to the Installation Tips.
2. Open RC-4H temperature and humidity data logger data management software, after data logger connects with PC, it will upload information automatically. After checking the information, exit from connection interface.
3. Click the parameters icon. After finish the parameters setting, click "save" button to save all the parameters and exit from parameter setting interface.
4. Hold and press the button of data logger for above 4 seconds, the symbol" ▶"will light, which means recording is started, then click "upload data" to check the data.
5. Exit from RC-4H temperature and humidity data logger data management software.

V.Data access:

The recorded data information could be accessed from the data logger. And this process will not clear the historical memory or stop record process if it is in the record status.

1. Connect the data logger with computer via USB cable, after successfully connection, the icon 🖳 shown in the LCD of data logger will light.
2. Open RC-4H temperature and humidity data logger data management software, it will automatically upload the data by default setting of software. It could cancel "Auto upload data" in the menu of "system setting".
3. After data uploading, you could check data table, curve graph and report, and export them in format of Word/Excel/PDF/TXT.Click the icon "save data" to save the data to the computer data base; click the icon "send mail" to send the data to the set mailboxes. For the details, please see "system mail setting"

Note: RC-4H parameters setting is operated through computer, for the details, please see the help file of RC-4H temperature and humidity data logger data management software.

VI.Function description:

The data logger display interfaces includes: temperature status display, humidity status display, record capacity display, time display, date display, Max. temperature display, Min. temperature display, Max. humidity display, Min. humidity display.

If no operation within 15 minutes, the data logger will turn off the display automatically.

If the display has been turned off, short press the button to enter the display interface. Each time press the button, it will shift among the display interfaces according to the sequence as described above. If the internal buzzer is selected, you could set the button warning tone in RC-4H temperature and humidity data logger data management software.

Temperature Status display interface:

See Figure 1

(Figure 1)

After short press the button, it enters to the temperature status display interface from the display turn-off status. The temperature displayed in the LCD screen is the current environmental temperature. In the temperature status display interface:

If the symbol ▶ lights, indicate the data logger is in the status of recording.
If the symbol ▶ flashes, indicate the data logger is in the status of start time delay.
If the symbol ■ lights, indicate the data logger has stopped recording
If neither of the symbols ▶ and ■ lights, indicate the data logger has not started its function of recording.
If the symbols of ↑ and ↓ light, indicate the measured temperature exceeds its temperature upper/lower limit.
The temperature shown in this status display interface is the current environmental temperature.

Humidity Status display interface:

See Figure 2

(Figure 2)

The humidity displayed in the LCD screen is the current environmental humidity.
If the symbols of ↑ and ↓ light, indicate the measured humidity exceeds its humidity upper/lower limit.

Record capacity display interface:

See Figure 3

(Figure 3)

When the symbol "Log" lights, it indicates that it enters to capacity display interface. The number shown in the LCD is the recorded temperature/humidity points, RC-4HA 8000points(MAX); RC-4HC 16000points(MAX).

Time display interface:

See Figure 4

(Figure 4)

In time display interface, it displays the hour and minute of the data logger. The time format is 24 hours.

Date display interface:

See Figure 5

(Figure 5)

In date display interface, it displays the month and date of the data logger, display interface is shown as Figure 4:
Note: The data below the symbol "M" indicates month, and the data below the symbol "D" indicates date.

Max.temperature display:

See Figure 6

(Figure 6)

The maximum temperature value measured since the beginning of recording.

Min.temperature display.

See Figure 7

(Figure 7)

The minimum temperature value measured since the beginning of recording.

Max. humidity display:

See Figure 8

(Figure 8)

The maximum humidity

Value measured since the beginning of recording.

Min.humidity display:

See Figure 9

(Figure 9)

The minimum humidity value measured since the beginning of recording.

VII.Operation instruction:

1. Start recording

After setting RC-4H parameters in data management software, the function of recording has not been started yet, at this time, press the button for more than four seconds in the status display interface. the symbol ► lights, and the recording has started. If the symbol► flashes, indicate the data logger is in the status of start time delay.

**After finishing parameters setting in RC-4H temperature and humidity data logger data management software, it will clear up the recorded historical data. Please read and save data before parameter setting!*

2.Stop recording:

①The data logger will automatically stop recording when the recording capacity is full. In the status display interface, the symbol " ■ "lights, it means recording stops.

②If "permit stopping by pressing button" is set, press the button for more than four seconds, in the status display interface, the symbol " ■ "lights, it means recording stops.

③It could stop recording though setting in data management software. In the status display interface, the symbol " ■ "lights, it means recording stops.

**After the data logger stops recording, it could not be started again by press the button. It could only be started by setting the parameters in RC-4H data management software.*

3. Alarm status Instruction

During recording, if the measured temperature is higher than temperature upper limit, in the temperature status display interface, the symbol "↑ " lights, indicating temperature upper limit alarm; if the measured temperature is lower than temperature lower limit, in the temperature status display interface, the symbol " ↓ "lights, indicating temperature lower limit alarm.

During recording, if the measured humidity is higher than humidity upper limit, in the humidity status display interface, the symbol " ↑ " lights, indicating humidity upper limit alarm; if the measured humidity is lower than humidity lower limit, in the humidity status display interface, the symbol " ↓ "lights, indicating humidity lower limit alarm.

If the internal buzzer is selected, you could set the alarm sound in RC-4H temperature and humidity data logger data management software, it has three modes: Disabled, three beeps, ten beeps. The buzzer only alarms in the status of temperature over limit.

4. Record interval

The record interval could be set in RC-4H data management software. After setting, it will save the data in the data logger according to the set record interval. In RC-4H data management software, when record interval is set, click the setting bar of record time length, then the software will automatically calculate the record time length.

5. Record time length

The "record time length "means that the total record time when the memory reaches its full capacity.

6. Clear the recorded data

The recorded data could be cleared through setting the parameters in RC-4H data management software.

7. Inner clock and calendar

The clock could be adjusted by RC-4H data management software.

8. Sensor failure

When there is a sensor failure or over temperature range, it could query by two methods as below;

1) When it exceeds range or there is a break circuit or short circuit, it will display "Err" in the position of temperature in the temperature status display interface, and it will display "Err%" in the position of humidity in the humidity status display interface,

2) There will appear an instruction of "Sensor error" in RC-4H data management software.

9. Battery level indication

The battery level could be displayed in RC-4H LCD screen.

Battery level indication	Level
	25%～100%
	10%～25%
	<10%

Note: If the battery is in a very low level (<10%), please replace the battery timely.

10. RC-4H parameter setting items in data management software:

Note: It is the factory default setting in the brackets. The factory default state of data logger is without starting. record interval (15 min); start delay time (0); meter station (1); Button stop (Disabled); Alarm sound set (disabled);warning tone set (disabled); temperature unit (° C); upper temperature limit (60 ° C); lower temperature limit (-30 ° C); temperature calibration (0 ° C); upper humidity limit (90%RH); lower humidity limit (20%RH); humidity calibration (0%RH);clock set (current time); set the number (empty); set user information (empty)

VIII.Battery replacement:

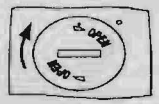

Figure 10

Figure 11

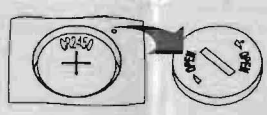

Figure 12

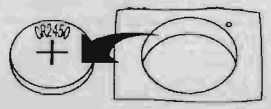

Figure 13

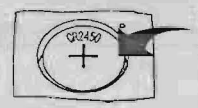

Figure 14

Figure 15

Figure 16

Figure 17

Replacement steps:

1. Rotate the battery cover clockwise to the position as shown in Figure 11.
2. Remove the battery cover as Figure 12.
3. Remove the old battery from the battery slot as Figure 13.
4. Put the new battery into the battery slot as Figure 114.
5. Place the battery cover in the position shown in Figure 15.
6. Rotate the battery cover counter clockwise to the position shown in Figure 17

Note: The pole piece in the bottom of the battery slot is negative.

IX.Accessory list

Standard accessory list

One RC-4HA/C temperature and humidity data logger

One software installation CD

One operation instruction

One USB cable

Optional accessory list

External temperature sensor (1.1 M). connect external sensor through the headphone jack, temperature measuring will automatically switch to the external temperature sensor.

Internal buzzer: Set the button warning tone and alarm sound by "Parameter setting" of RC-4H temperature and humidity data logger data management software.