Digital Humidity/Temp. Meter
Instruction Manual

TH-4000

Thank you for purchasing our Digital Humidity/Temp. Meter.
Please read this instruction manual carefully before using
to ensure the correct usage of this device.
Please keep this instruction manual for future reference.

⚠ ATTENTION

Please note that misuse of this device may lead to injury to the user or damage to the device.
Please observe all safety precautions and warnings in this instruction manual.

Customer Service

LINE SEIKI CO., LTD.

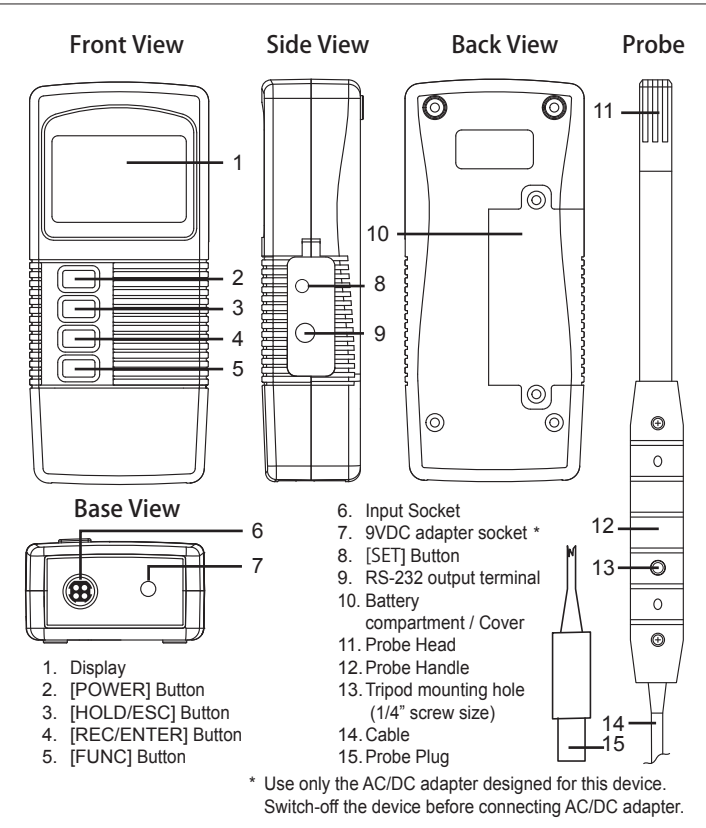|	
Address:	37-7 Chuo-cho, 2-Chome Meguro-ku, Tokyo 152-0001 Japan
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Safety Precautions

For safe usage of this device, please observe all statements regarding precautions and warnings in this instruction manual.

⚠ ATTENTION

1. Operation

- Do not use this device near machines that emit strong electromagnetic fields or objects that store static electricity.
- Do not drop or subject this device to strong impact.
- Do not use or store this device where it will be exposed to water or in places with wet conditions.
- Do not use or store this device where it can be exposed to direct sunlight, dust, high temperature and high humidity.
- Make sure to remove the pH electrode when changing the battery.
- See the battery case markings to ensure that the battery is properly installed.
- For accurate measurements, do not subject this device in measuring sudden change of temperatures.
- Remove the battery when the device will not be used for a long period of time.
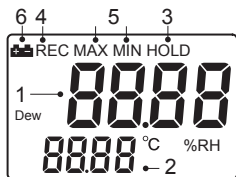- Do not attempt to disassemble or modify this device.

1. Functions

| Front View | Side View | Back View | Probe |

Base View

6. Input Socket
7. 9VDC adapter socket *
8. [SET] Button
9. RS-232 output terminal
10. Battery compartment / Cover
11. Probe Head
12. Probe Handle
13. Tripod mounting hole (1/4" screw size)
14. Cable
15. Probe Plug

1. Display
2. [POWER] Button
3. [HOLD/ESC] Button
4. [REC/ENTER] Button
5. [FUNC] Button

* Use only the AC/DC adapter designed for this device.
Switch-off the device before connecting AC/DC adapter.

2. Measuring Procedure

Default settings:
* Auto power off.

1. Main(Humidity/Dew Point)Display
2. Sub(Temp.)Display
3. Data Hold
4. REC
5. Recording Data MAX/MIN
6. Low battery

1) Insert the Battery into the Battery Box. (Refer to section 6.Battery Replacement).
2) Insert the probe into the input socket.
3) Press the [POWER] button to switch-on the device.
4) Hold out the probe to the space.
5) The measured values will show on the display
Main display shows humidity value and sub display shows Temperature value.
6) Press the [POWER] button for at least 2 seconds to switch-off the device.

3. Functions Operation

a.Dew Point measurement

1) During the measurement, press the [FUNC] button to switch the humidity value to Dew point value on the main display.
To view back humidity value, press the [FUNC] button again.

b.Data Hold

1) During the measurement, press the [HOLD/ESC] button to hold the last measured value on the display.
The display will also show the "HOLD" symbol.
2) Press the [HOLD/ESC] button again to exit the Data Hold function.

c.Data Record (Max. / Min. Reading)

1) To start recording the measurement data, press the [REC/ENTER] button once. The display will show the "REC" symbol.
2) While the "REC" symbol is on display, press the [REC/ENTER] button once to display the Maximum measured data recorded.
The "MAX" symbol will also appear on the display.
Press the [REC/ENTER] button once again to display the Minimum measured data recorded.
The "MIN" symbol will appear on the display.
To view back "Max"("Min") measured data, press [REC/ENTER] button alternately.
3) To exit the Data Record function, press the [REC/ENTER] button for at least 2 seconds.

d.Auto Power Off

The device automatically switch off if "1" is selected in Advanced Setting Procedure and none of the buttons are pressed for approximately 10 minutes .
The Auto Power Off function is disabled automatically while Data Record function is executed.

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e. Setting Procedure of Auto Power Off function

1) Before executing Setting Procedure, exit the Data Hold function and the Data Record function.
2) Press the [SET] Button for at least two seconds to enter the Setting Procedure.
3) When the main display shows "1000" and sub display shows "CodE", please just press the [RED/ENTER] button.
4) When the sub display shows "OFF", Press the [FUNC] button to select "0" or "1".

    0 : Auto Power Off function is disable.
    1: Auto Power Off function is enable.

    After selecting the desired value (0 or 1), press the [REC/ENTER] Button to save the setting.

5) Please just press the [HOLD/ESC] button to finish the Setting Procedure and return to the measure mode.

4. General Specifications

● Main Unit

Model	**TH-4000**
Sensor Type	Humidity: High Precision Thin Film Capacitance Sensor Temp. : Thermistor
Measuring Unit	Humidity : %RH Temp. / Dew Point : °C
Sampling Time	Approx. 0.8 second.
Functions	Data Hold, Max/Min, Auto Power Off
Display	LCD:44mm x 28mm Digit Size:Main 14mm, Sub 7mm
Data Output	RS-232 Serial Interface
Power Supply	006P (DC9V) battery x 1 pc.
Battery Life	Approx. 104Hours.
Current Consumption	Approx. 4.6mA
Operating Temp.	0 - 50°C(Main Unit) 0 - 80°C(Probe)
Operating humidity	80%RH max(Main Unit) 95%RH max(Probe)
Dimensions	Main Unit:135(H)x60(W)x33(D)mm Probe: φ 26mmx200mm (Head: φ15mm) Cable Length:Approx. 1m
weight	WEIGHT:Approx. 264g (including batteries, Probe)
Content	Instruction Manual, Probe x 1pc. 006P battery x 1pc.
Compliance	CE, RoHS

● Accuracy

	Measuring Range	Resolution	Accuracy
Humidity	10 - 95%RH	0.01%RH	≧70%RH ± (3%reading+1)%RH ＜70%RH ±3%RH
Temperature	0 - +80°C	0.01°C	±0.8°C
Dew Point	-25.3 - +48.9°C	0.01°C	*

* Dew Point value is calculated from the humidity/temp. measurement. The accurancy is depended on those of temperature and humidity measurement.
* Temperature Conditions : 23±5°C environment testing.

5. Cleaning

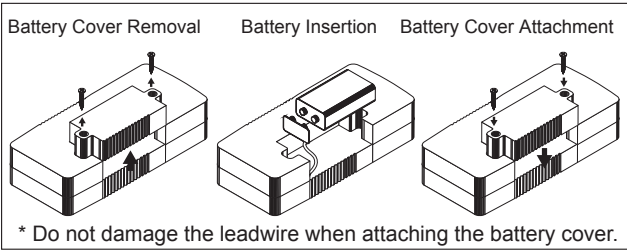Wipe off dust and other dirt from the main unit with a dry cloth.

⚠Caution

Please do not wipe with benzene or thinner.
It may cause cracks or discoloration to the surface of the main unit.

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6. Battery Replacement

1) When the 🔋 Low Battery indicator appears on the display, it is necessary to replace the battery to maintain accurate readings.
2) Remove the battery cover as shown below.
3) Replace the battery with a new one and position the new battery correctly inside the device's battery compartment.
4) Attach the battery cover.
* The unit cannot measure accurately after low battery indicator is displayed. Please replace the battery immediately.

| Battery Cover Removal | Battery Insertion | Battery Cover Attachment |

* Do not damage the leadwire when attaching the battery cover.

8. Storage

For proper storage, avoid places where the device can be exposed to direct sunlight, high humidity, high temperature, vibration and shock, dust, rust, corrosion, etc. Remove batteries and electrode if the device will not be used for a long period of time.

7. RS-232 PC Serial Interface

The temperature measurements and measured data graph can be checked and viewed through the computer through the RS-232 output option in the unit.

● Communication Setting

Baud Rate	9600	**Data bit**	8 bit
Parity	None	**Stop bit**	1 bit

● Communication Format

D15	STX(ASCII Code)
D14	4(Fixed)
D13	When send the upper display data = 1 When send the lower display data = 2
D12 D11	Annunciator for Display °C=01
D10	Polarity 0=Positive, 1=Negative
D9	Decimal Point(DP), position from right to the left 0=No DP, 1=1DP, 2=2DP, 3=3DP
D8 - D1	Display reading D8=MSD, D1=LSD (Ex : If the display reading is 1234, then D8 to D1 is : 00001234)
D0	CR(ASCII Code)

For Example: HEX

02	34	31	30	31	30	31	30	30	30	30	30	32	34	32	0d

D15	D14	D13	D12	D11	D10	D9	D8	D7	D6	D5	D4	D3	D2	D1	D0
		upper:1 lower:2	°C		+	DP				Display (value)					
STX	4	1	0	1	0	1	0	0	0	0	0	2	4	2	CR

* The Output and Display change timing are in real-time.

9. Accessories

- Real-time Measurement Software : U801
- USB cable : USB-01
- AC/DC Adapter : ZTC9021

The probe is not sold separately.
If the probe is damagaed, please contact our sales representatives or distributors.