

HG981

Handheld dew point temperature and humidity meter User Manual

(High temperature, high precision, multi-function)



- Please read this manual carefully before use
- The company reserves the right to interpret the specification
- Please refer to the actual product for its appearance
- No prior notice if the product technology or software upgrade

catalogue

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1 Product introduction

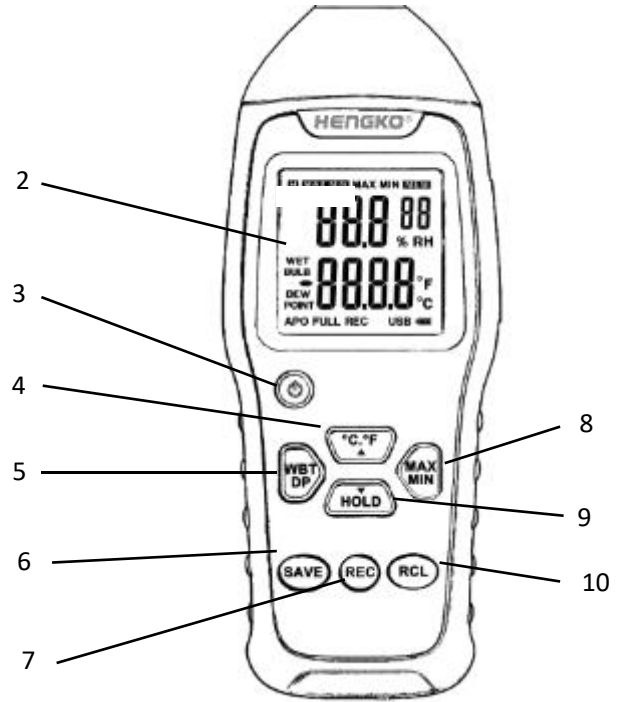
Thank you for purchasing our HG981 handheld multi-function digital dew point meter, which is an industrial grade, high precision temperature and humidity measurement instrument. The instrument is powered by a 9V battery. It can measure humidity, temperature, dew point temperature, wet bulb temperature with an external high-precision probe. Also, it can easily respond to your need for accurate temperature and humidity measurements in a variety of situations. This product is the ideal choice for laboratory, industrial, engineering and other temperature and humidity measurement, inspection, verification.

2 Product Feature

- Accurate and stable reading with high-precision temperature and humidity sensor
- Measure temperature, humidity, dew point temperature, and wet bulb temperature at the same time
- Fast response: the measurement data is calculated every 10 milliseconds
- Can store an additional 99 sets of special marking data (special data can be manually saved on demand, directly read on the display)
- Can record 32000 data records
- The temperature units °C and °F can be switched
- Maximum and minimum measurement function
- Data hold functions: can freeze the current readings
- Large LCD display for easy reading
- Backlight display: can also be used normally in dark environment
- can be used in high temperature test environment (80-110°C)
- Powerful software functions, connecting software to achieve data processing and visual chart analysis, reports can be exported in PDF, data can be exported in CSV or Excel files
- Ultra-low power consumption, a 6LR61 9V alkaline battery can last 300 hours
- Can be connected to an external 9V DC power supply to meet long-term measurement needs
- Data recording and USB interface
- Automatic shutdown without operation for 20 minutes, can also be set to long standby
- Split long rod stainless steel probe can detect ultra-long distance high temperature and harsh environment, so that staff can be free from injury, more flexible and durable.

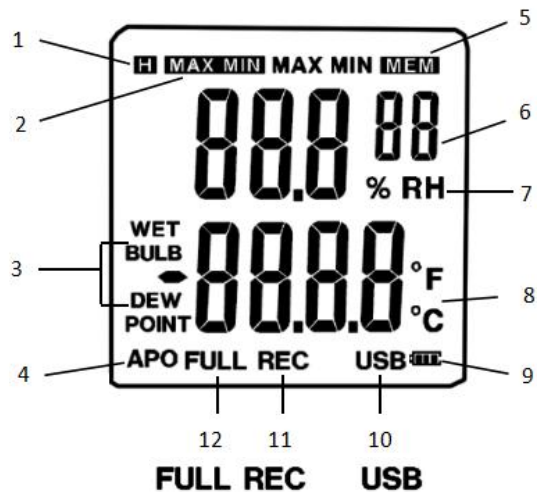
3 Function Keys

- 2. Display screen
- 3. Power switch
- 4. °C and °F unit selector switch
- 5. Dew point temperature/wet bulb temperature /ambient temperature selection
- 6. Data store
- 7. Record button
- 8. Maximum and minimum button
- 9. Data hold button
- 10. Data invocation



<Display indication>


- 1. Data hold is enabled and the display freezes the current reading
- 2. Max min recording mode enabled, showing Max reading, min reading
- 3. Display wet bulb temperature or dew point temperature
- 4. Automatic shutdown reminding
- 5. Display the reading from memory
- 6. Memory location number taken from memory reading
- 7. Unit of measurement for relative humidity
- 8. Temperature unit
- 9. Battery level indicator
- 10. Connect to computer USB logo
- 11. Recording marks
- 12. Record full mark






Notes : The DC9V power interface and Macro USB interface are located on the side of the thermohygrometer, and the battery position is on the back of the thermohygrometer.

4 Operation

<Start Measuring>

- 1) Take out the meter from protective casing, press the button  in the upper left to open the instrument;
- 2) Keep the meter in the environment to be measured and take appropriate time to stabilize the reading;
- 3) Press the °C. °F key to select the temperature unit to read.


<Dew point temperature and wet bulb temperature>

When the meter is just started, it shows the ambient temperature. To show dew point temperature (DP), press . Pressing  again can switch to wet bulb temperature (WBT). Pressing  again can return the meter to the ambient temperature. When selecting dew point temperature and wet bulb temperature, a symbol will be displayed on the display.











<MAX/MIN mode>

- 1) You must first select the wet ball, dew point, or environment to read the corresponding Min Max (Min, Max) read value.
- 2) Press the MAX/MIN button once, the meter enters MAX/MIN mode, "MAX" will appear on the screen, the meter will also only display and freeze the maximum read value. Only after a higher reading value is measured will the display be updated.
- 3) Press the MAX/MIN button again. MIN display icon will appear, the meter will also only display and freeze the minimum read value. The display is updated only after a lower reading is measured.
- 4) Press MAX/MIN again. MAX MIN display icon will start blinking, the meter will also display the current read value, but will continue to record the maximum and minimum values.
- 5) Press MAX/MIN again to loop the MAX (maximum) and MIN (minimum) values.
- 6) To exit the MAX MIN mode, hold the MAX/MIN button for 2 seconds until the MAX and MIN ICONS completely disappear.
- 7) Note: When MAX/MIN mode is enabled, the temperature switch (°C.°F), SAVE, RCL (call) and HOLD buttons, as well as APO(auto power off) functions are disabled.

<Data-hold>

Press the HOLD button to HOLD the read value displayed, the meter stops measuring. “” will appear on the screen. Pressing HOLD again can return to normal working mode.

<Save and invoke readings>

- 1) The meter can hold up to 99 sets of read values for later calls. Each memory location holds relative humidity as well as ambient, dew point, and wet-bulb temperature values.
- 2) Press  to save the current reading to a memory location.  and the memory location number appear on the display, indicating that the reading has been saved.. Press  the display returns the current reading. After all 99 memory locations are used up, subsequent saved data is overwritten from the first memory location.
- 3) Press  to call a reading held in memory. Press  or  until the memory location you need is displayed. To return the meter to normal operation, press  2 seconds.
- 4) When a memory location is called, the default displays the relative humidity and ambient temperature values held at that location. Press  loop toggles the saved Wet Bulb, Dew Point, and Ambient temperature values at the displayed memory location.
- 5) If you want to clear all 99 memory locations hold dat, press  button and  at least 5 seconds.

<Backlight>

Hold down  button 3 seconds, turn on or turn off the backlight.

<Record mode>

The temperature and humidity meter has recording function. Please connect the meter to the computer via Marco USB before starting the record. The Smart Logger upper computer software was used to set the instrument. Set the record start mode to By Button. After setting the parameters, disconnect the instrument from the computer, press the REC key to start the recording function, long press the REC key to pause the recording.

In the recording mode, please do not turn off the power, otherwise you need to use the computer again to set the instrument. In the recording mode, in order to reduce power consumption, the

instrument will automatically turn off the backlight function after 2 minutes of keyless operation. When the memory is FULL or the specified number of records is reached, the meter will automatically shut down. When the memory is FULL, the LCD screen will display the FULL icon.

<Auto power-off>

- 1) To extend battery life, the thermohygrometer will shut down automatically after no operation for about 20 minutes (Automatic Power Off)。
- 2) In recording mode, or when connecting to UCB, the 20-minute auto shutdown function (APO) is automatically disabled until the set number of records is reached.
- 3) To disable the APO function, simply press the power button and the APO icon on the LCD screen disappears.


5. Maintenance

<Cleaning and storage>

To avoid damaging the instrument case, do not use corrosive or solvent to clean the instrument. Wipe the case with a clean wet cloth and detergent. Store the instrument in an appropriate area of temperature and humidity.

<Replace battery>



When the battery is low, low power symbol "  "will appear on the LCD. Please replace the 9V battery and lock the battery compartment.

Do not discard old batteries or rechargeable batteries into household garbage.

As consumers, users are required by law to bring their used batteries to the appropriate collection point, the retail store where the batteries are purchased or any place where the batteries are sold.

Discard: Do not discard this meter into household waste. The user has the obligation to send the expired equipment to a collection point dedicated to the electronic equipment.

6 Specifications

| | |
|--------------------------------|---|
| Environment temperature | |
| Measurement range | -30 至 120°C (-22 至 248°F) (probe only) |
| Accuracy | ±0.1 °C @25°C |
| Resolution | 0.01 °C/°F |
| Sampling frequency | 1 time per second |
| Relative humidity | |
| Measurement range | 0~100%RH |
| Accuracy | ±1.5%RH (0%RH~80%RH,25°C) |
| Resolution | 0.1%RH |
| Response time | Less 10S (90% 25°C, wind speed 1m/s) |
| Dew point temperature | |
| Dew point temperature range | -50 ~ 80 °C (-58~176 °F) |
| Wet bulb temperature | |
| Wet bulb temperature range | -20 ~ 60 °C (-4~140 °F) |
| Other | |
| Records | 32000 records (Recorder function) |
| store-in | 99 groups (Special data can be manually saved on demand, additional saving, directly read on the display) |
| Power | A standard 9V 6LR61 or 6F22 battery |
| Battery life | About 300 hours (use 6LR61 9V alkaline battery) |
| Operating environment | 0 ~ 40°C (32 ~ 104°F), < 80% RH Non - Condensing |
| storage environment | -10~ 60°C (14 ~ 140°F), <80% RH Non - Condensing |
| Weight and size | About 200g (Battery included not including the probe) , 215mm*58mm*33mm |
| Probe rod length | 545mm Split ultra long distance with stainless steel housing |

7 Calibration steps description

1) **Connect** the handheld meter to a computer using a USB cable, and **open** the SmartLogger software

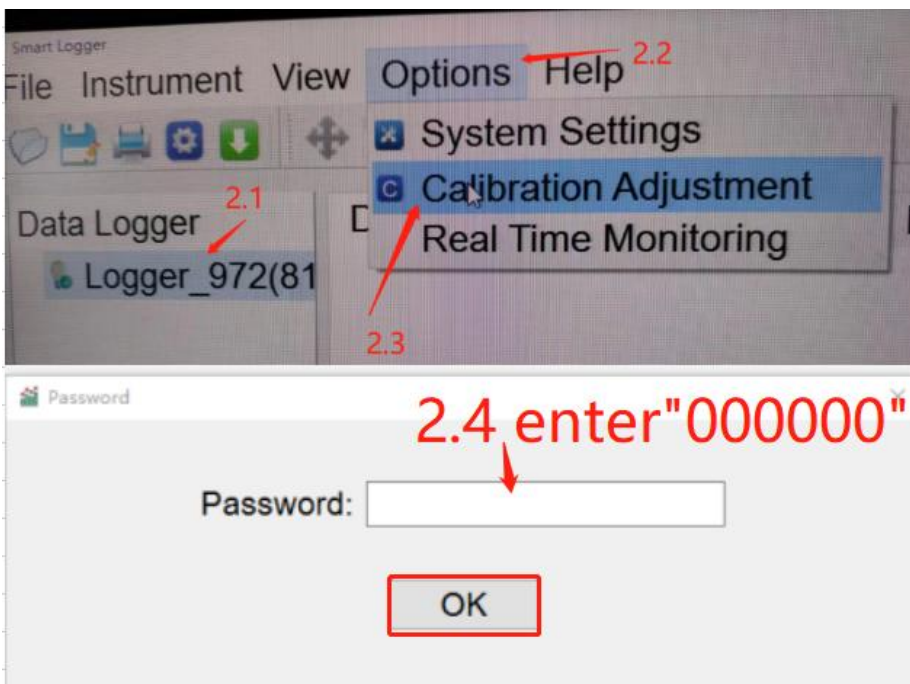


2.1) **Select** the corresponding handheld meter

2.2) **Click** the "Options" function,

2.3) **Select** "Calibration Adjustment"

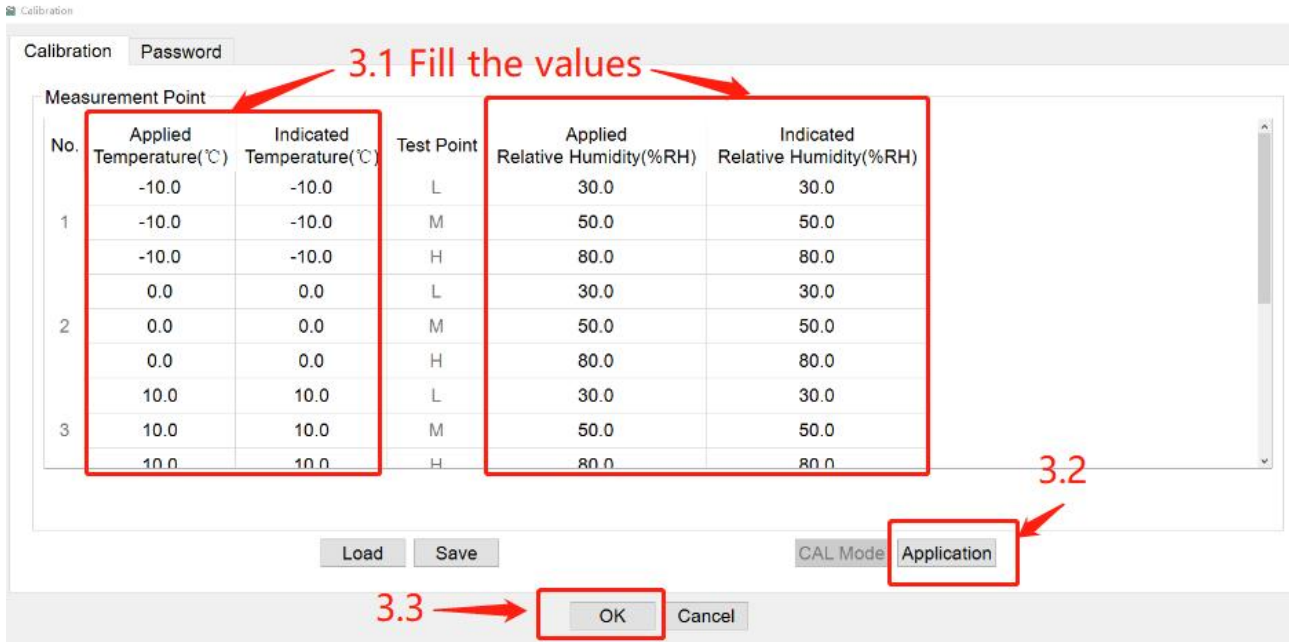
2.4) **Enter** "000000" and click "OK"



3.1) Fill in the standard and measured values of temperature and humidity

3.2) click "Apply" after calibration, and then click "OK".

Tips: If the calibration error occurs accidentally, click "CAL Mode" and then click "Confirm" to cancel the original calibration. Or you can also fill the same standard and measured values of temperature and humidity, click "apply" and then click "OK" to restore to pre-calibration.



8 Test software download

9 Precautions

1. Do not touch the sensor with your hands or blow;
2. Do not expose the sensor to sunlight.
3. Do not immerse the sensor or meter in the liquid.
4. The use of environment can not have polluting gas (acid); When this instrument is used to measure the humidity of the chemical vapor, the diffusion of chemical substances in the sensor results in the decrease of the accuracy and sensitivity of the instrument, which can be placed in a pure environment for a long time and can be recovered slowly.
5. The working power supply voltage should be used within the range;
6. The wind speed and pressure of the environment must be within the range of use;
7. Exposure to extreme working conditions or chemical vapor may affect the accuracy of the instrument or even damage the instrument.
8. When not in use, please put on a protective case to prevent contamination of the sensor probe.
9. Other prohibited matters for the use of meter.