

Instruction Manual

RS-1365

Auto-timer Datalogging Temperature/Humidity Meter

EN FR IT DE ES

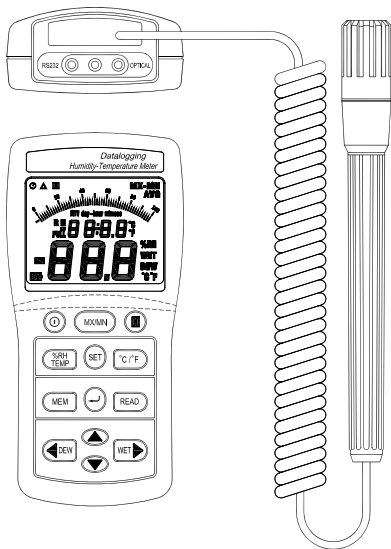


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1. SPECIFICATIONS

Display: LCD dual-display with pseudo-analogue bargraph scale.

Measurement range:

Humidity: 10% to 95% RH

Temperature: -20 to +60°C / -4 to +140°F

Resolution: 0.1% RH, 0.1°C, 0.1°F

Accuracy (after calibration):

Humidity: $\pm 3\%$ RH (at 25°C, 30 to 95% RH).

$\pm 5\%$ RH (at 25°C, 10 to 30% RH).

Temperature: $\pm 0.5^\circ\text{C}$, $\pm 0.9^\circ\text{F}$

Sensor type:

Humidity: Precision capacitance sensor.

Temperature: Thermistor sensor.

Response time:

Humidity: 45% RH to 95% RH ≤ 1 min.

95% RH to 45% RH ≤ 3 min.

Temperature: 10°C / 2 sec

Sampling rate: 2 times per second.

Manual data memory capacity: 99 sets.

Auto data memory capacity: 15000 sets.

RS-232 to USB optical interface jack.

Auto power-off time: 30 minutes.

SPECIFICATIONS/EN

Operating temperature & humidity:
0 to 60°C, below 95% RH. (No condensation)

Storage temperature & humidity:
-10 to 60°C, below 70% RH.

Power supply: Qty 6 x 1.5V size AAA batteries.

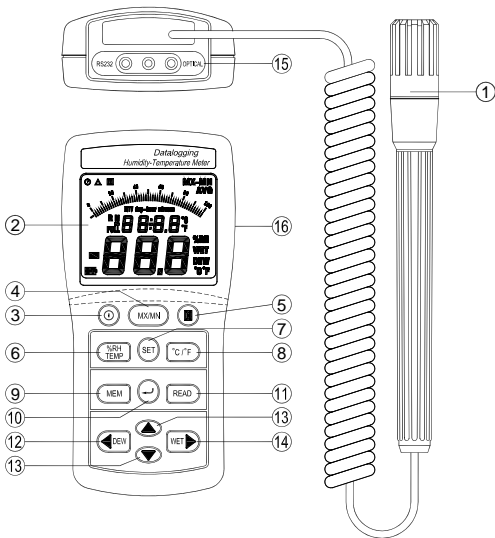
Battery life: Approx. 200 hours.

Weight: 235g

Dimensions: 150x72x35 mm

Supplied accessories: Instruction manual, Qty. 6x1.5V AAA
batteries, RS-232 to USB optical cable,
Software.

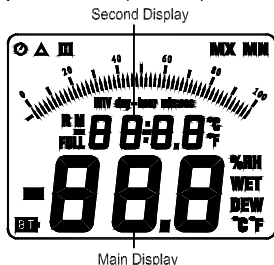
2. FRONT PANEL DESCRIPTION



- (1) Humidity & temperature sensor probe
- (2) LCD display
- (3) **ⓐ** Power button: Press the **ⓐ** button to turn the meter on or off.
- (4) MX/MN button: Press the MX/MN (MAX/MIN) button to read the Maximum and Minimum values alternately. Press the MX/MN button for 2 seconds to exit MX/MN mode.

- (5) **[H]** Hold button: Press the **[H]** button to freeze or unfreeze the display readings. In **[H]** mode, press the %RH / TEMP, °C / °F, DEW or WET button to select the desired readings.
- (6) %RH/TEMP button: Press the %RH/TEMP button to display the reading of %RH and °C / °F on the main display and secondary display alternately.
- (7) Set button:
 - ① Enter the MX/MN mode and press the SET button to cycle through the elapsed time and the real time of Maximum or Minimum as displayed on the LCD.
 - ② Press SET button for 2 seconds to enter the auto-timer datalogging setting mode, the LCD will display "Δ" mark.
 - ③ The "SET" button is inoperative when the auto-timer datalogging function is enabled (Δ is shown on the LCD display). Press the "↵" enter button to exit from the auto-timer datalogging function. The SET button will then operate normally during the next set-up procedure.
- (8) °C / °F button: Press the °C/°F button to temperature units between Celsius (°C) and Fahrenheit (°F).
- (9) MEM button: Manual data memory control key.
- (10) **↵** ENTER button:
 - ① In READ mode, press the **↵** enter button to exit READ mode.
 - ② In the auto-timer datalogging setting mode, press the **↵** enter button to store the setting time.
 - ③ In the auto-timer datalogging setting mode, press the **↵** enter key to exit this mode.

- (11) READ button: Manual memory data read button.
- (12) ◀ DEW button:
- ① Press the DEW button to display "Dew-point" temperature reading on the main display.
 - ② Press the ◀ cursor key to move the cursor left to the desired position to set the time.
- (13) ▲ ▼ keys:
- ① In the auto-timer datalogging setting mode, press the ▲ or ▼ button to increase or decrease the value.
 - ② In READ mode press the ▲ or ▼ button to increase or decrease the displayed memory location.
- (14) WET ▶ key:
- ① Press the WET button to display the "Wet-bulb" temperature reading on the main display.
 - ② Press the ▶ cursor key to move the cursor right to the desired position to set the time.
- (15) RS-232 to USB optical output socket: PC interface.
- (16) AC adaptor input socket (DC 9V).



3. MEASURING PROCEDURE

3-1 Humidity measurement:

- ① Press the “**⓪**” button to turn the meter on.
- ② The display will show the humidity reading value (% RH) directly on the main display.
- ③ As the humidity sensor may not respond immediately to a change of humidity in the environment, allow the reading to stabilize before noting the value.

3-2 Temperature measurement:

- ① Press the “**⓪**” button to turn the meter on.
- ② Press the °C / °F button to select “°C” or “°F” unit.
- ③ The display will show the temperature reading (°C or °F) directly on the secondary display.

3-3 Dew-point temperature measurement:

- ① Press the “**⓪**” button to turn the meter on.
- ② Press the DEW button to display the dew-point temperature reading on the main display. Press the DEW button again to exit this mode.

3-4 Wet-bulb temperature measurement:

- ① Press the “**⓪**” button to turn the meter on.
- ② Press the WET button to display the wet-bulb temperature reading on the main display. Press the WET button again to exit this mode.

3-5 Maximum & minimum recording measurement:

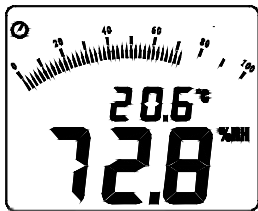
- ① Press the “MX/MN” button to enter recording mode and the auto power-off function will be disabled. If the auto-timer datalogging function is not set, the timer will be started from zero.
- ② Press the “MX/MN” button to alternate the display between maximum (MAX) and minimum (MIN) readings.
- ③ Press the SET button to alternate the display between elapsed time and the real time of the Maximum or Minimum values displayed on the LCD. When in auto-timer datalogging setting mode, the displayed elapsed time will be replaced by real-time.
- ④ 4 sets of data are recorded, including the main reading and subsidiary reading as follows:
Max. humidity reading with its associated temperature reading.
Min. humidity reading with its associated temperature reading.
Max. temperature reading with its associated humidity reading.
Min. temperature reading with its associated humidity reading.
- ⑤ When this mode is selected, the dew-point or wet-bulb temperature may be read by pressing the DEW or WET button respectively.
- ⑥ Press the “MX/MN” button and hold it down for 2 seconds to exit MX/MN and Time mode.

3-6 Auto Power-off mode:

The meter will automatically turn off if there is no function within the preceding 30 minutes. Auto power-off function is enabled each time the instrument is turned on, but is disabled automatically when the MX/MN mode is selected.

Disabling the auto power-off function.

Auto power off mark



- ① Press **⓪** button to turn the meter off.
- ② Press and hold down the **[H]** button, then press **⓪** button to turn the meter on. The auto power-off mark will disappear from LCD to indicate the auto power off function is disabled.

3-7 Auto-Timer Datalogging Mode :

CAUTION

Before entering auto-timer datalogging setting mode, ensure any previously recorded data has been downloaded to a PC as required as the internal memory will be erased automatically on entering time setting mode.

I. The four parameters of auto-timer datalogging settings are:

- A. **Real-time setting**
↓
- B. **Start-time setting**
↓
- C. **Stop-time setting**
↓
- D. **Interval-time setting**

The four times must be correctly set, otherwise the auto-timer datalogging function will not operate.

In auto-timer datalogging setting mode, press "◀" "▶" keys to select hours, minutes or seconds setting. Press "▲" "▼" keys to increase or decrease the displayed value.

A. **Real-Time setting** :

Auto-timer datalogging mark →

no1:
Current time



Entry:

- (1). Press the **ⓘ** button to turn the meter on.
- (2). Press the SET button for 2 seconds to enter the current time setting mode; the LCD will show the "Δ" auto-timer mark, the "no1" mark and the flicking hours digits.

Adjustment:

- (1). Press the "▲" or "▼" button to set the hours to the current time.
- (2). Press the "▶" button to change to minutes setting; the minutes digits will flicker.
- (3). Press the "▲" or "▼" buttons to set the minutes to the current time.
- (4). Press the "▶" button to change to seconds setting; the seconds digits will flicker.
- (5). Press "▲" or "▼" buttons to set the seconds to the current time.

Store:

Press the "↵" enter button to store the real-time.

B. Start-time setting:

St1:
Start time

**Entry:**

Auto-timer datalogging start-time setting; the LCD will show "St1" mark and two flickering digits (hours).

Adjustment:

- (1). Press the "▲" or "▼" buttons to set to the hours to the desired start-time.
- (2). Press the "▶" button to change to minutes setting; the minutes digits will flicker.
- (3). Press the "▲" or "▼" buttons to set the minutes to the desired start-time.
- (4). Press the "▶" button to change to seconds setting; the seconds digits will flicker.
- (5). Press the "▲" or "▼" button to set the seconds to the desired start-time.

Store:

Press the "↵" enter button to store the auto-timer datalogging setting start-time.

C. **Stop-time setting**:

SP1: STOP



Entry :

Auto-Timer Datalogging setting stop-time setting; the LCD will show " SP1 " mark and two flickering digits (hours).

Adjustment :

- (1). Press the " ▲ " or " ▼ " buttons to set to the hours to the desired stop-time.
- (2). Press the " ▶ " button to change to minutes setting; the minutes digits will flicker.
- (3). Press the " ▲ " or " ▼ " buttons to set the minutes to the desired stop-time.
- (4). Press the " ▶ " button to change to seconds setting; the seconds digits will flicker.
- (5). Press the " ▲ " or " ▼ " button to set the seconds to the desired stop-time.

Store :

Press " ⏎ " enter button to store the auto-timer datalogging stop-time.

D. Interval - Time setting :

INTV: INTERVAL

**Entry:**

Auto-timer datalogging record interval time setting; the LCD will show "INTV" and three digits.

Adjustment:

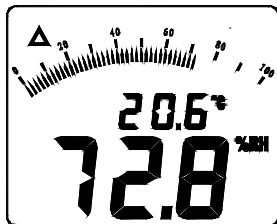
Press the "▲" or "▼" buttons to set the seconds to the desired interval time (from 3 to 255 seconds).

Store:

Press the "↵" enter button to store the auto-timer datalogging interval time and exit the time setting. The meter will enter the auto-timer datalogging mode.

II. Enable the auto-timer datalogging function.**Auto-timer datalogging:**

Auto-Timer →
Datalogging mark



When the auto-timer datalogging function is enabled, the LCD will show the "△" auto-timer mark and an "M" mark. The "M" mark will flicker each time data is stored to memory.

III. Display the preset start-time.

In auto-timer datalogging mode:

- (1). Press the "▲" button and the LCD will show the start-time.
- (2). Press the "▼" button and the LCD will show the stop-Time.

IV. Disable the auto-timer recording function.

Press the "↵" enter button to exit auto datalogging and the auto-timer mark "△" will disappear and erase the auto-timer settings.

V. Download the auto-timer recorded data to a PC.

Connect the optical RS-232 to USB cable to the PC and press the "▼" button to download the memory data to the PC.

Note: When the auto-timer function is enabled, the start and stop times are valid for every day and the instrument will record on a daily basis until cancelled or the memory is full.

The auto-timer recorded data can only be read by downloading the data to a PC. It cannot be read directly from the LCD display.

3-8 Manual data memory and read mode:

A. Clear the manual memorized data

- ① Press the "ⓘ" button to turn the meter off.
- ② Press and hold down the "MEM" button, then press the "ⓘ" button to turn the meter on. When the LCD shows "CLr", the memorized data has been erased.

B. Manual data memory

- ① Press the "MEM" button to manually store one set of readings to memory. The LCD will show the "M" mark and the memory address number. Total memory size available is 99 sets.
- ② When the memory is full, the LCD will show the "Full" mark.

C. Manual memory data READ

- ① Press the "READ" button to enter READ mode and the LCD will show the "R" mark and the memory address number.
- ② Press the "▲" or "▼" button to select the desired memory address number to display.
- ③ Press the "DEW" or "WET" button to display the DEW point or WET bulb temperature reading on the main display as required.
- ④ Press the "↵" enter button to exit this mode.

4. MAINTENANCE

4-1 Cleaning:

Periodically wipe the case with a damp cloth and mild detergent.

Do not use abrasives or solvents. Clean and dry as required.

4-2 Battery Replacement:

When the LCD display shows “**BT**”, the batteries have insufficient power to provide accurate readings. Replace with Qty 6 x 1.5V AAA size batteries as follows:

- ① Press the “**I**” button to turn the meter off.
- ② Remove the screw from the battery compartment on the rear of the instrument.
- ③ Remove the exhausted batteries and dispose of them in accordance with local regulations.
- ④ Fit Qty 6 x 1.5V AAA new batteries, observing the correct polarity.
- ⑤ Refit the battery compartment cover and tighten the screw.
- ⑥ Press the “**I**” button to turn the meter on and check it operates correctly.

5. RECALIBRATION PROCEDURE

The instrument should be calibrated once a year to ensure its continued accuracy. Contact RS Components for further details of calibration service. The address is given at the end of these instructions.