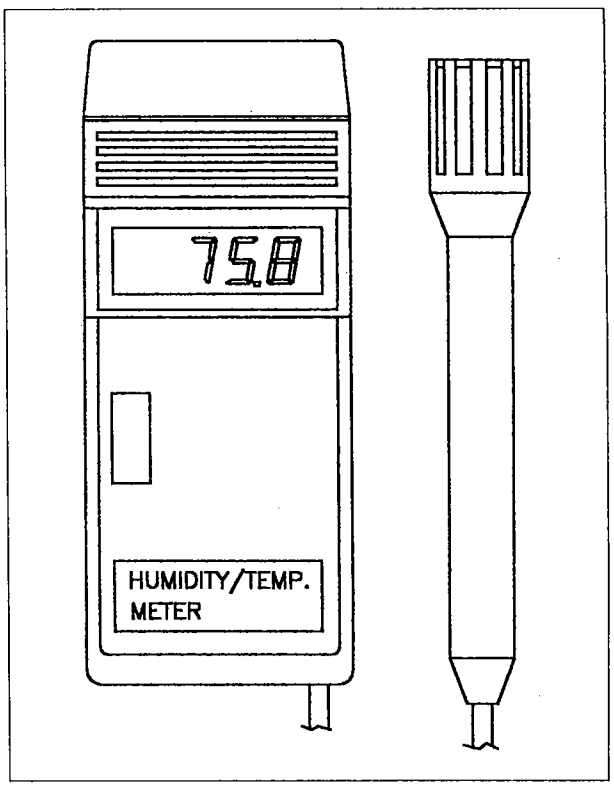
HUMIDITY TEMP. METER

72–6785



TENMA®

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1. FEATURES

* Humidity measurement used a high precision thin-film capacitance sensor for fast response & not depend on air movement past the probe.
* Separate humidity & temp. probe, easy operation.
* Wide measuring range both of RH & Temp. measurement.
* Build in °C,°F selector on the panel.
* Thermocouple sensor for fast temp. response time.
* LCD display for low power consumption & clear read-out even in bright ambient light level.
* Used the durable, long-lasting components, including a strong, light weight ABS plastic housing case.
* LSI-circuit provides high reliability and durability.
* Compact, light and excellent operation.

2. SPECIFICATIONS

2-1 General Specifications

Display Measurement	13 mm (0.5") LCD (Liquid Crystal Display). R.H. (Relative Humidity), Temperature (°C & °F).
Sensor Type	*Humidity :* High precision thin-film capacitance sensor.
	Temperature : Naked bead type k thermocouple probe.
Sampling Time	0.4 seconds.
Operating Temp. and Humidity	*Main instrument only :* 0 °C to 50 °C (32 °F to 122 °F) 90% RH max.
Power Supply	DC 9V 006P, MN1604(PP3) battery (Heavy Duty Type) or equivalent.

Power Consumption	Approx. DC 7 mA.
Weight	316 g/0.7 LB (including battery & probe).
Dimension	Main instrument: 163 x 38 x 25 mm (6.4 x 2.7 x 1.0 inch). Sensor Probe: Round 26 mm Dia x 120 mm.
Accessories Included	Instruction Manual.....1 PC. Sensor probe.....1 PC.
Optional Accessories	Carrying Case.....CA–03 33% RH HUMIDITY CALIBRATOR....RHA–33 75% RH HUMIDITY CALIBRATOR....RHA–75

2–2 Electrical Specifications (23 ± 5 °C)

Humidity	Range	10 % to 95 % R.H.
	Resolution	0.1 % R.H.
	Accuracy (23 ± 5 °C) after calibration)	*≥ 70 % R.H. :* ± (4 % reading + 1 % R.H.) *< 70 % R.H. :* ± 4% R.H.
Temperature	Range	0 °C to 60 °C, 32 °F to 140 °F.
	Resolution	0.1 °.
	Accuracy	°C – ± 0.8 °C. °F – ± 1.5 °F.
Remark : *Spec. tested under the environment RF Field Strength less than 3 V/M & frequency less than the 30 MHz only.*		

3. FRONT PANEL DESCRIPTION

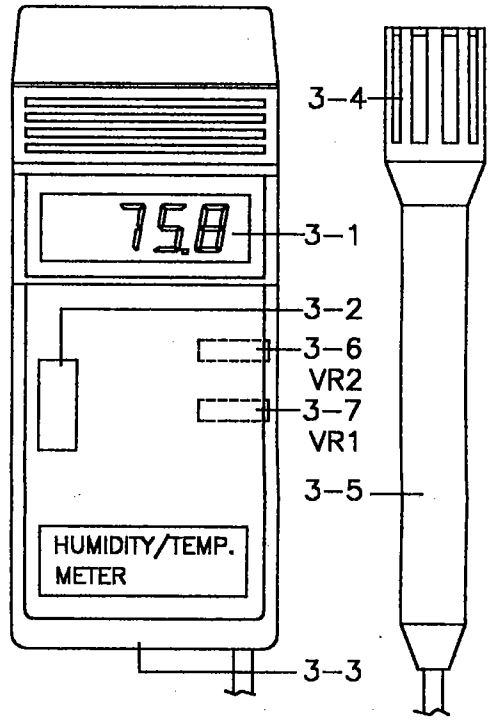

Fig. 1

3–1 Display
3–2 Function Switch
3–3 Battery Compartment/Cover
3–4 Sensor Head(RH & Temp.)
3–5 Probe Handle
3–6 75 % RH CAL. ADJ. VR(VR2)
3–7 33 % RH CAL. ADJ. VR(VR1)

4. MEASURING PROCEDURES

4–1 Humidity Measurement

1) Select the " Function Switch " (3–2, Fig. 1) to the " % RH " position.
2) The display will show the humidity values (%RH) of probe Sensor Head (3–4, Fig. 1) directly.
3) When the humidity values of tested environment be changed, it need to take a few minutes to get the stable " RH " reading.

4–2 Temperature Measurement

1) Select the " Function Switch " (3–2, Fig. 1) to the " °C ", " °F " position according to the user requirement.
2) The display will show the temperature values of probe Sensor Head (3–4, Fig. 1) directly.

5. REPLACEMENT OF BATTERY

1) When the left corner of LCD display show " LO BAT ", it indicate a normal battery output of less than 6.5 V – 7.5 V. It is necessary to replace the battery. However, in–spec measurement may still be made for several hours after low battery indicator appears before the instrument become inaccurate.
2) Slide the battery cover (3–3, Fig. 1) away from the instrument and remove the battery.
3) Replace with 9V battery (heavy duty type) and reinstate the cover.
4) Make sure the battery cover is secured with after changing battery.

6. HUMIDITY CALIBRATION PROCEDURES

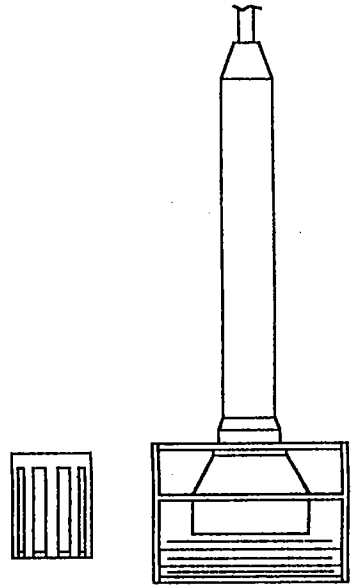

Fig. 2

1) Select the " Function Switch " (3–2, Fig. 1) to the " % RH " position.
2) Take away the cap from the probe head.
3) First dip the probe sensor head (3–4, Fig. 1) into " 33% RH HUMIDITY CALIBRATOR " (RHA–33, optional), ref Fig. 2 . Then tune up " 33 % RH CAL. ADJ. VR " (VR 1, ref 3–7, Fig. 1) until display show 33.
4) Dip the probe sensor head (3–4, Fig. 1) into " 75% RH HUMIDITY CALIBRATOR " (RHA–75, optional), ref Fig. 2 . Then tune up " 75 % RH CAL. ADJ. VR " (VR 1, ref. 3–6, Fig. 1) until display show 75.
5) Repeat the above procedures three times at least.