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Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER IN ORDER TO AVOID PROCESSING DELAYS. The assigned AR number should then be marked on the outside of the return package and on any correspondence.
The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR WARRANTY RETURNS:

- Please have the following information available BEFORE contacting OMEGA:
1. Purchase Order number under which the product was PURCHASED.
 2. Model and serial number of the product under warranty, and
 3. Repair instructions and/or specific problems relative to the product.

FOR NON-WARRANTY RETURNS:

- REPAIRS, consult OMEGA for current repair charges. Have the shipping information available BEFORE CONTACTING OMEGA:
1. Purchase Order number to cover the COST of the repair, the product, and
 2. Model and serial number of the product, and
 3. Repair instructions and/or specific problems relative to the product.

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User's Guide

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RH85
Digital
Thermo-Hygrometer

INTRODUCTION

This instrument is a portable easy use 3 1/2 digit, compact digital Thermo-Hygrometer designed for simple one hand operation. It use NTC as temperature sensor, and a thin polymer capacitive type relative humidity sensor as the hygrometer sensor.

SAFETY INFORMATION

It is recommended that you read the safety and operation instructions before using the thermometer.

CAUTION

- Do not immerse the hygrometer sensor head into liquids since this causes permanent damage to the sensor.
- The meter when not in use, please use protective metal cap cover the sensor head and screw it to extend sensors life.

SPECIFICATIONS

GENERAL

Display:

3 1/2 digit liquid crystal display (LCD) with maximum reading of 1999.

Low battery indication:

The "E3" is displayed when the battery voltage drops below the operating level.

Measurement rate:

0.5 times per second, nominal.

Accuracy:

Stated accuracy at 23°C ± 5°C, <75% R.H.

Operating environment:

0°C to 55°C at <75% R.H.

Storage environment:

-20°C to 55°C at <80% R.H.

Battery:

3 pcs 1.5V (AAA size) UM-4 R03.

Battery Life:

200 hours typical with carbon zinc battery.

Dimensions(HxWxD):

167mm(H) x 48mm(W) x 24mm(D).

Weight:

87g including battery.

ELECTRICAL

TEMPERATURE

Temperature Scale:

Celsius or Fahrenheit user-selectable.

Temperature Sensor:

NTC.

Measurement Range:

-20°C to 60°C / -4°F to 140°F.

Resolution:

0.1°C/°F.

Accuracy:

±1.0°C on -20°C to 0°C, 45°C to 60°C

±0.5°C on 0°C to 45°C

±2.0°F on -4°F to 32°F, 113°F to 140°F

±1.0°F on 32°F to 113°F

RELATIVE HUMIDITY

Humidity Sensor:

Electronic capacitance polymer film sensor. (The sensor is unaffected by water condensation, is immune to most reagent vapors).

Measurement Range:

0% to 100%RH.

Resolution:

0.1%RH.

Accuracy:

±2.5%RH (10% to 90%RH) @25°C

±5.0%RH (<10%, >90%RH) @25°C

Sensor Response Time for 90% of Total Range:

60sec with 1m/s air movement

Sensor Hysteresis (excursion) of 10% to 90% to 10% RH:

±1%RH with 1m/s air movement.

Sensor Temperature Dependence:

Negligible between 0°C to 50°C.

OPERATING INSTRUCTIONS

MEAS (Measure) Button

Pressing "MEAS" button to turn on the meter and press again to turn off the meter.

AP0 Switch

Slide the AP0 switch to right to enable AP0 function. When AP0 function is enable the meter will power off automatically after 15 minutes. When the AP0 mode is active, "AP0" will display on the LCD. When the power is down, press "MEAS" button to turn on the meter.

Dew Point / Wet Bulb:

Press "UNIT" button for more than 2 seconds to change the temperature unit dew point or wet bulb. The temperature unit "d" dew point or "WB" wet bulb is displayed in the lower left hand side corner of the display.

DATA HOLD Button

Pressing the "HLD" button to enter the Data Hold mode, the "HLD" annunciator is displayed. When DATA HOLD mode is selected, the hygrometer held the present readings and stops all further measurements. Pressing the "HLD" button again cancels DATA HOLD mode, causing hygrometer to resume taking measurements.

MAX MIN Record Mode

Press "MAXMIN" button to enter the max/min record mode. In this mode, the AP0 function, "C"/F switch and "UNIT" button are disabled.

Push "MAXMIN" button to cycle through the MAX(maximum), MIN(minimum), MAX-MIN, AVG(average) and REC(record) reading.

In this mode, press "HLD" button to stop the recording of measurement, but the recorded value of maximum, minimum, maximum-minimum, average could be read by pressing "MAX/MIN" button.

To prevent accidental loss of Max, Min and AVG data, in this mode can only be cancelled by pressing and hold down the "MAX/MIN" button for more than 2 seconds to exit and erased recorded reading.

°C/F Selecting the Temperature Scale

Readings are displayed in either degrees Celsius(°C) or degrees Fahrenheit(°F). To change the temperature scale, set the "C"/F switch to °C or °F.

OPERATION

- Remove protective cap.
- Pressing "MEAS" button turns on the power.
- Set the "C"/F switch to change the temperature scale.
- Read the display.
- Cover sensor head to extend sensor life when not in use.

SPECIAL CONSIDERATIONS

- Before a reliable measurement can be made, the measuring hygrometer and medium to be measured must be in temperature and humidity equilibrium.
- Temperature measurement errors
Due to too short measurement time, sunshine during the measurement, heating, cold outer walls, air draft (e.g. fans), radiating hand and / or body heat etc.
- Humidity measurement errors
Due to steam, water splashes, dripping water or condensation (not water condensate) on the sensor etc. However, repeatability and long-term stability are not impaired by this.
- Contamination
By dust in the air or measurements in powdery substances. This can be largely avoided by using a corresponding filter. The filter must be cleaned or replaced periodically depending upon the degree of contamination of the measuring site.

MAINTENANCE

Battery Replacement

- Power is supplied by three 1.5V (AAA size) batteries.
- The "E3" appears on the LCD display when replacement is needed. To replace the batteries, remove the screw from the back of the meter and lift off the battery cover.
- Remove the batteries from battery contacts and replace.
- When not in use for long period of time, remove the batteries.
- Don't store in a location with high Temp. or high humidity.

Cleaning

Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.