

User Manual

Model M120

Mini Temperature/Humidity Meter



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1 Introduction

Thank you for purchasing a M120 Temperature/Humidity Meter from Anaheim Scientific. The M120 uses a highly accurate sensor chip to measure relative humidity and temperature. It is perfect for many industrial applications, laboratory and other types of work environments. Durable and reliable the M120 is easy to use.

1.1 The M120 features:

- Dual display of temperature and humidity
- °C / °F modes
- Simultaneously hold both temperature and humidity readings
- Simultaneously hold both maximum and minimum and average readings (MAX/MIN/AVG)
- Auto-power off
- Low battery indicator 
- DEW-POINT and WET-BULB temperature measurements

2 Safety Summary

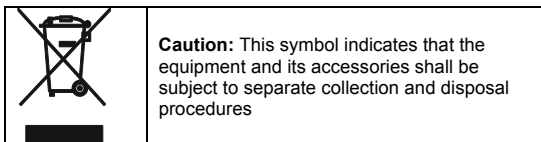


CAUTION

Adhere to the following conditions for safe and effective usage of this meter

- Do not operate the meter in an environment filled with combustible gas, liquids, dust or fibers
- In order to avoid reading incorrect data, please replace the battery immediately when the symbol  appears on the LCD
- When not using the Temperature / Humidity Meter for an extended period of time, remove the battery to avoid damage to the thermometer due to the leaking battery fluid.
- Operating Environment: 0°C ~ +60°C, <95% RH. (non-condensing)
- Storage Environment: -10°C ~ +60°C, <70% RH. (non-condensing)
- Cleaning and Maintenance : Cigarette ashes and dust on the humidity sensor can slow down the sensor's response time, while causing inaccuracy in measurements. Clean up the sensor periodically by simply blowing away the dust particles. Do not apply water or other chemical solvent like alcohol when cleaning.
- Do not place the Temperature / Humidity Meter inside any liquid to prevent damage to the Thermometer.

3 Compliance Statements



EMC

 -EMC : EN61326-1

This product complies with requirements of the following European Community Directives: 89/336/EEC (Electromagnetic Compatibility) and 73/23/EEC (Low Voltage) as amended by 93/68/EEC (CE Marking). However, electrical noise or intense electromagnetic fields in the vicinity of the equipment may disturb the measurement circuit. Measuring instruments will also respond to unwanted signals that may be present within the measurement circuit. Users should exercise care and take appropriate precautions to avoid misleading results when making measurements in the presence of electronic interference.

4 Product Contents and Inspection

This unit is tested prior to shipment. It is therefore ready for immediate use upon receipt. An initial

physical inspection should be made to ensure that no damage has been sustained during shipment.

Inspect the packing box on receipt for any external damage. If any external damage is evident, remove the instrument and visually inspect its case and parts for any damage. If damage to the instrument is evident, a description of the damage should be noted on the carrier's receipt and signed by the driver or carrier agent. Save all shipping packaging for inspection. Forward a report of any damage to the agent through which the unit is procured.

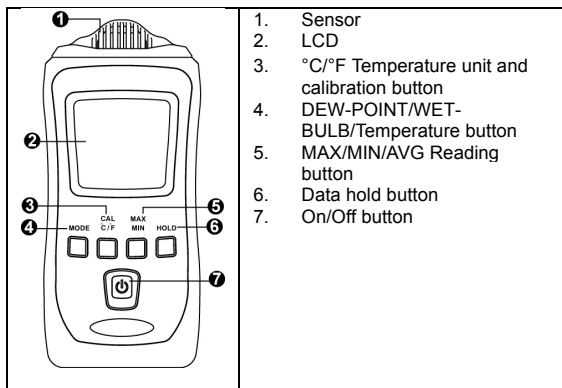
Retain the original packing in case subsequent repackaging for return is required. Use of the original packing is essential.

After the mechanical inspection, verify the contents of the shipment. The items included in this package are:

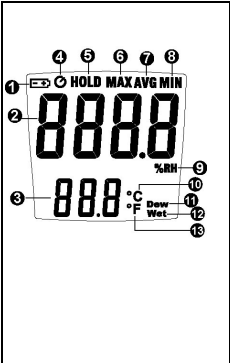
- M120 Meter
- User Manual
- Carrying Case
- 2 x AAA Batteries

5 Device Description

5.1 Meter Control Buttons



5.2 LCD Display Functions

 The diagram shows a digital LCD display with two rows of digits. The top row displays '8888' and the bottom row displays '88.8'. Above the top row are five function labels: 'HOLD', 'MAX', 'AVG', and 'MIN'. To the right of the top row is a '%RH' label. To the right of the bottom row are three temperature unit labels: '°C', '°F', and 'Dew Wet'. Numbered callouts point to the following features: 1. Low Battery Detect (battery icon) 2. Primary Display (top row of digits) 3. Secondary Display (bottom row of digits) 4. Auto-Power Off Indicator (P.O.O. icon) 5. Data Hold (HOLD label) 6. MAX Data Hold (MAX label) 7. AVG Reading (AVG label) 8. MIN Data Hold (MIN label) 9. Relative Humidity (%RH label) 10. °C Temperature unit (°C label) 11. DEW-POINT (Dew label) 12. WET-BULB (Wet label) 13. °F Temperature unit (°F label)	1. Low Battery Detect 2. Primary Display 3. Secondary Display 4. Auto-Power Off Indicator 5. Data Hold 6. MAX Data Hold 7. AVG Reading 8. MIN Data Hold 9. Relative Humidity 10. °C Temperature unit 11. DEW-POINT 12. WET-BULB 13. °F Temperature unit
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6 Device Operation

6.1 Switching Mode

During normal measurement, press “MODE” button to switch temperature→Dew-point→Wet-bulb in sequence.

6.2 CAL/°C/°F Button:

- Calibration point 55%RH and 25°C
 1. Prepare the 55%RH and 25°C environment
 2. Press CAL button and POWER button for more than 2 seconds to calibrate

3. Put the meter in the calibration environment
4. Presses the MODE key to select humidity or temperature (humidity and temperature must be done individually)
5. Press CAL button more than 2 second to complete the adjustment.



6. To exit calibration mode, press the "  " key.
- Press this button to alternate between °C and °F units.

6.3 MAX/MIN/AVG Button:

The MAX/MIN feature reads and updates the display to show the maximum or minimum or AVG value measured after you press the MAX/MIN button. Pressing the MAX/MIN button for less than 1 second will put the meter into a mode of displaying the maximum, minimum, average readings. Each time the MAX button is pressed, the meter will cycle between MAX and MIN and AVG readings. Press the MAX/MIN button for more than 2 seconds to exit this mode.

6.4 Data Hold Button:

Press the "HOLD" button to enter the Data Hold mode. The LCD will display the "HOLD" symbol and hold both the temperature and humidity readings at the same time. Press the "HOLD " button again to exit this mode.

6.5 Power Button:

Press the " button more than 2 seconds to power on the meter.

6.6 Auto Power-Off:

To save battery life, the meter powers down automatically after approximately 12 minutes of inactivity. You can disable or enable Auto Power-Off by pressing the " button more than 2 second the LCD " symbol will disappear or appear.

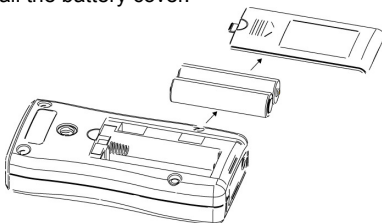
6.7 Battery Replacement:



WARNING

If the symbol "  " appears on the LCD, please replace the battery immediately

- Remove the battery cover
- Replace the battery.
- Install the battery cover.



7 Technical Specifications

Display	Dual LCD display. The maximum value on the primary display is 999. The maximum value on secondary display is 999.
Sampling Rate	1 sample per second
Measuring Range	-20.0°C ~ +50.0°C (-4.0°F ~ +122.0°F) 1.0% ~ 99%RH
Accuracy	Humidity : $\pm 3.5\%$ for 20~90% $\pm 5\%$ for 1~19.9 and 90.1~99 Temperature : $\pm 1.0^{\circ}\text{C}$, $\pm 1.8^{\circ}\text{F}$
Power Supply	2 AAA Batteries
Battery life	50 hours during consecutive use
Dimensions	107 × 48 × 23 mm (H × W × D)
Weight	80g (excluding the battery)
Warranty	Limited two-year warranty
Validity	Above specifications tested at: Temperature: 25°C, Humidity: <90% RH)

8 Service, Repairs, Calibration

- The following are instructions regarding policies for servicing, repairing or calibrating Anaheim Scientific products. Turnaround time is usually less than ten (10) working days unless expedited service is requested and pre-arranged.
- Send an email to service@anaheimscientific.com requesting an RMA number specifying your request for either service/repair and/or calibration with your product's model number.
- Once you receive a reply from service@anaheimscientific.com, you will be asked to ship prepaid to the address below. Package the unit carefully using filler or bubble wrap, and if possible, ship in the original box. Ship each unit separately. (Anaheim Scientific is not responsible for any shipping damage that may occur.)
- Include a packing list with each unit shipped stating what type of service is required and include the return shipping information: name, address and telephone number.
- If the unit is in warranty, please provide the following: proof of purchase or copy of the original invoice.
- If the unit is out of warranty, prepayment is required by Check, Money Order or Credit Card.
- Return all merchandise to Anaheim Scientific with pre-paid shipping. The flat-rate repair charge for Non-Warranty Service does not include return

shipping. Return shipping to locations in North American is included for Warranty Service.

- For overnight shipments and non-North American shipping fees please contact Anaheim Scientific

Anaheim Scientific
ATTN: Service/Repair
22820 Savi Ranch Parkway
Yorba Linda, CA 92887

www.anaheimscientific.com

9 Limited Two-Year Warranty

- Scientific warrants to the original purchaser that its products and the component parts thereof, will be free from defects in workmanship and materials for a period of two years from date of purchase.
- Anaheim Scientific will, without charge, repair or replace, at its option, defective product or component parts. Returned product must be accompanied by proof of the purchase date in the form of a sales receipt.
- To help us better serve you, please complete the warranty registration for your new instrument via our website www.anaheimscientific.com
- Exclusions: This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs. The warranty is void if the serial number is altered, defaced or removed.
- Anaheim Scientific shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. Some states do not allow limitations of incidental or consequential damages. So the above limitation or exclusion may not apply to you.
- This warranty gives you specific rights and you may have other rights, which vary from state-to-state.



22820 Savi Ranch Parkway
Yorba Linda, CA 92887

www.anaheimscientific.com

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