

Walfront PM6508

Walfront PM6508 Digital Temperature Humidity Meter User Manual

Model: PM6508

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1. INTRODUCTION

This manual provides detailed instructions for the safe and effective use of the Walfront PM6508 Digital Temperature Humidity Meter. This device is designed for high-precision measurement of ambient temperature and relative humidity, offering features such as data hold, backlight display, and wet bulb/dew point temperature calculations. It is suitable for various applications including home, office, industrial settings, and environmental monitoring.

2. SAFETY INFORMATION

Please read and understand all safety warnings and operating instructions before using this instrument. Failure to follow these instructions may result in electric shock, fire, or injury.

- Do not operate the meter if it appears damaged or if the battery cover is not properly closed.
- Avoid exposing the meter to extreme temperatures, direct sunlight, or high humidity for prolonged periods.
- Do not attempt to repair or modify the meter. Refer all servicing to qualified personnel.
- Remove batteries if the meter is not used for an extended period to prevent leakage.
- Keep the sensor area clean and free from obstructions to ensure accurate readings.

3. PRODUCT OVERVIEW

The Walfront PM6508 is a compact and portable digital meter designed for accurate environmental measurements. It features an easy-to-read LCD display with backlight and intuitive button controls.



Figure 3.1: Front view of the Walfront PM6508 meter with key components labeled. This includes the temperature and humidity sensor at the top, the HD display, various control buttons (Power, Max/Min, Data Hold, Data Storage, Unit Switch, Backlight), and an anti-fall protective sleeve.

3.1 Key Features

- **High Precision Sensor:** Provides accurate temperature and humidity readings.
- **LCD Display with Backlight:** Ensures clear readability in various lighting conditions.
- **Data Hold Function:** Freezes the current reading on the display.
- **Data Storage:** Stores up to 100 groups of measurement data.
- **Wet Bulb & Dew Point Temperature:** Calculates and displays these critical environmental parameters.
- **Unit Switching:** Easily switch between Celsius (°C) and Fahrenheit (°F).
- **Automatic Shut-down:** Conserves battery life.
- **Low Power Indicator:** Alerts when batteries need replacement.

3.2 Package Contents

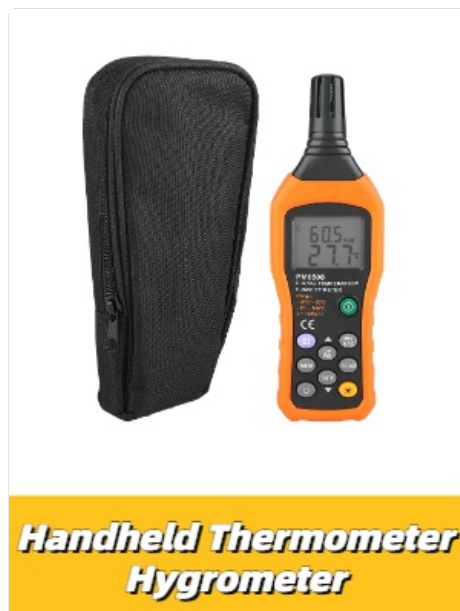


Figure 3.2: The Walfront PM6508 meter shown alongside its portable storage bag, indicating typical package contents.

- Walfront PM6508 Digital Temperature Humidity Meter
- Portable Storage Bag
- User Manual

4. SETUP

4.1 Battery Installation

The PM6508 meter requires 4 x 1.5V AAA batteries (not included) for operation.

1. Locate the battery compartment cover on the back of the meter.
2. Slide the battery cover downwards to open it.
3. Insert four AAA batteries, ensuring correct polarity (+ and -) as indicated inside the compartment.
4. Replace the battery cover by sliding it back into position until it clicks securely.



Figure 4.1: Rear view of the meter showing the open battery compartment for AAA battery installation.

5. OPERATING INSTRUCTIONS

5.1 Power On/Off

- Press the **green power button** (



) to turn the meter on.

- Press and hold the **gray power button** (



) for approximately 2 seconds to turn the meter off. The meter also features an automatic shut-down function to conserve battery life.

5.2 Taking Measurements

Once powered on, the meter will immediately begin displaying real-time temperature and humidity readings on the LCD screen. Ensure the sensor at the top of the device is exposed to the environment you wish to measure.



Figure 5.1: The meter in use, displaying temperature and humidity readings on its LCD screen.

5.3 Unit Switching (°C/°F)

To switch between Celsius (°C) and Fahrenheit (°F) temperature units:

- Press the °C/°F button (



) located on the keypad. The display will update to show readings in the selected unit.

5.4 Backlight Function

To activate or deactivate the display backlight:

- Press the **backlight button** (



) to toggle the backlight on or off. This is useful for reading in low-light conditions.

5.5 Data Hold (H)

To freeze the current readings on the display:

- Press the **H button** (



-).
- The "H" icon will appear on the display, indicating that the data is held.
 - Press the **H button** again to release the data hold and resume real-time measurements.

5.6 Maximum/Minimum (MIN/MAX) Measurement

To view the maximum or minimum recorded values:

- Press the **MIN/MAX button** (



) once to display the maximum temperature and humidity recorded since the meter was powered on or the function was reset.

- Press the **MIN/MAX button** again to display the minimum temperature and humidity.
- Press the **MIN/MAX button** a third time to exit the MIN/MAX mode and return to real-time readings.

5.7 Data Storage (MEM) and Retrieval (READ)

The meter can store up to 100 groups of measurement data.

- **To Store Data:** Press the **MEM button** (



) to save the current temperature and humidity readings. The display will briefly show a memory location number.

- **To Retrieve Data:** Press the **READ button** (



) to enter data retrieval mode. Use the **MEM button** to scroll through stored data records.

- **To Exit Retrieval:** Press the **READ button** again to exit data retrieval mode.

5.8 Wet Bulb (WB) and Dew Point (DP) Temperature

To display Wet Bulb or Dew Point temperatures:

- Press the **DP/WB button** (



) once to display the Dew Point temperature.

- Press the **DP/WB button** again to display the Wet Bulb temperature.
- Press the **DP/WB button** a third time to return to standard temperature and humidity display.

6. MAINTENANCE

6.1 Cleaning

- Wipe the meter's casing with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Keep the sensor area clean and free from dust or debris to ensure accurate readings. Do not insert any objects into the sensor opening.

6.2 Storage

- When not in use for extended periods, remove the batteries to prevent leakage and damage to the device.
- Store the meter in a cool, dry place, away from direct sunlight and extreme temperatures.
- Utilize the provided portable storage bag for protection during storage and transport.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Meter does not power on.	<ul style="list-style-type: none"> Batteries are dead or incorrectly installed. Battery compartment not closed properly. 	<ul style="list-style-type: none"> Check battery polarity and replace with new AAA batteries. Ensure battery cover is securely closed.
Inaccurate readings.	<ul style="list-style-type: none"> Sensor is dirty or obstructed. Meter has not stabilized in the environment. Extreme environmental conditions. 	<ul style="list-style-type: none"> Clean the sensor area gently. Allow the meter to acclimate to the environment for several minutes. Ensure operating within specified temperature and humidity ranges.
Display is dim or flickering.	<ul style="list-style-type: none"> Low battery power. 	<ul style="list-style-type: none"> Replace batteries with new ones.
Cannot store or retrieve data.	<ul style="list-style-type: none"> Memory is full. Incorrect button sequence. 	<ul style="list-style-type: none"> The manual does not specify how to clear memory. If memory is full, new data may overwrite old data or storage may be prevented. Refer to advanced documentation if available. Review Section 5.7 for correct data storage and retrieval procedures.

8. SPECIFICATIONS

The following table outlines the technical specifications for the Walfront PM6508 Digital Temperature Humidity Meter.

01 / Specification			
Technical index	Range	Resolution	Precision
Ambient Temperature	- 20 to 0 °C (-4 to 32 °F)	0.1 °C / °F	(± 1.5 °C)
	-0 to 45 °C (32 to 113 °F)	0.1 °C / °F	(± 0.5 °C)
	45 to 60 °C (113 to 140 °F)	0.1 °C / °F	(± 1.5 °C)
Relative Humidity	0% - 20%	0.1%	(± 4.0%)
	20% - 80%	0.1%	(± 3.0%)
	80% - 100%	0.1%	(± 4.0%)
Wet Bulb Temperature	- 20 to 0 °C (4 to 32 °F)	0.1 °C / °F	(± 1.5 °C)
	0 to 45 °C (32 to 113 °F)	0.1 °C / °F	(± 0.5 °C)
	45 to 60 °C (113 to 140 °F)	0.1 °C / °F	(± 1.5 °C)
Dew point temperature	- 50 to 0 °C (- 58 to 32 °F)	0.1 °C / °F	(± 1.5 °C)
	0 to 45 °C (32 to 113 °F)	0.1 °C / °F	(± 0.5 °C)
	45 to 60 °C (113 to 140 °F)	0.1 °C / °F	(± 1.5 °C)
02 / Characteristic			
Data Storage	100 groups		
Data Retention	✓		
Back Light	✓		
Maximum/Minimum Measurement	✓		
Undervoltage Indication	✓		
03 / General Parameters			
power supply	4×1.5V AAA Battery(not included)		
Dimensions	254g/9oz		
Weight	180×60×29mm / 7.1×2.4×1.1in		

Figure 8.1: Detailed technical specifications including ranges, resolution, and precision for temperature, humidity, wet bulb, and dew point measurements, along with general parameters.

Parameter	Value
Model	PM6508
Ambient Temperature Range	-20 to 60 °C (-4 to 140 °F)
Ambient Temperature Precision	±1.5 °C (-20 to 0 °C, 45 to 60 °C), ±0.5 °C (0 to 45 °C)
Relative Humidity Range	0% - 100% RH
Relative Humidity Precision	±4.0% (0-20%, 80-100%), ±3.0% (20-80%)
Wet Bulb Temperature Range	-20 to 60 °C (4 to 140 °F)
Wet Bulb Temperature Precision	±1.5 °C (-20 to 0 °C, 45 to 60 °C), ±0.5 °C (0 to 45 °C)
Dew Point Temperature Range	-50 to 60 °C (-58 to 140 °F)
Dew Point Temperature Precision	±1.5 °C (-50 to 0 °C, 45 to 60 °C), ±0.5 °C (0 to 45 °C)
Resolution	0.1 °C / °F / %RH
Data Storage	100 groups
Power Supply	4 x 1.5V AAA Battery (not included)
Dimensions (L x W x H)	180 x 60 x 29 mm (7.1 x 2.4 x 1.1 in)
Weight	254 g (9 oz)
Operating Humidity	0% - 100% (non-condensing)

9. APPLICATIONS

The Walfront PM6508 is suitable for a wide range of applications requiring accurate temperature and humidity monitoring.

APPLICATION



Aquaculture



Industrial production



Storage humidity
temperature



Greenhouse seedling



R&D laboratory



Warehouse storage

Figure 9.1: Examples of environments where the PM6508 meter can be effectively used for temperature and humidity

monitoring.

- **Residential and Office Environments:** Monitoring indoor climate for comfort and health.
- **Industrial Production:** Ensuring optimal conditions for manufacturing processes.
- **Warehousing and Storage:** Protecting goods sensitive to temperature and humidity, such as in wine cellars or general storage.
- **Agriculture:** Monitoring conditions in planting sheds, greenhouses, and aquaculture.
- **Research and Development Laboratories:** Maintaining precise environmental controls for experiments.
- **HVAC Systems:** Assisting in the evaluation and maintenance of heating, ventilation, and air conditioning systems.

10. WARRANTY AND SUPPORT

Walfront products are designed for reliability and performance. For warranty information, technical support, or service inquiries, please refer to the contact information provided with your purchase or visit the official Walfront website. Please retain your proof of purchase for warranty claims.