Metoluar WS1070

Wireless Weather Station User Manual

Brand: Metoluar | **Model:** WS1070

1. Introduction

Thank you for choosing the Metoluar Wireless Weather Station. This professional 5-in-1 weather station is designed to provide real-time, comprehensive weather data for both indoor and outdoor environments. It measures temperature, humidity, rain, air pressure, wind speed, and wind direction, helping you stay informed about local weather conditions.

This manual provides detailed instructions for setting up, operating, and maintaining your weather station to ensure optimal performance and longevity.

2. Product Overview

The Metoluar Wireless Weather Station consists of two main components: an outdoor 5-in-1 sensor array and an indoor display console.

2.1. Outdoor 5-in-1 Sensor Array

The outdoor sensor array integrates multiple sensors into a single unit for efficient data collection. It is solar-powered with battery backup.

Figure 2.1: Components of the Outdoor Sensor Array. This image illustrates the main parts of the outdoor sensor unit, including the wind speed cups, wind direction vane, rain collector, and the solar panel for power.

- **Anemometer (Wind Speed Cups):** Measures wind speed.
- **Wind Vane:** Determines wind direction.
- **Rain Collector:** Measures rainfall accumulation.
- **Thermo-Hygrometer Sensor:** Measures outdoor temperature and humidity.
- **Solar Panel:** Provides primary power to the outdoor unit and charges internal capacitors.

2.2. Indoor Display Console

The indoor display console features a large color LCD screen that presents all collected weather data in an easy-to-read format.

Figure 2.2: Indoor Display Console Interface. This image highlights the various data points displayed on the console, such as temperature, humidity, wind, rain, and atmospheric pressure.

- **Time and Date:** Current time and calendar display.
- **Indoor/Outdoor Temperature & Humidity:** Real-time readings.
- **Wind Speed & Direction:** Current wind conditions.
- **Rainfall:** Daily, weekly, or monthly rainfall data.
- **Atmospheric Pressure:** Current pressure and historical trend.
- **Weather Forecast:** Icon-based forecast based on pressure changes.
- **Backlight:** Adjustable backlight for visibility in various lighting conditions.

3. Package Contents

Please check the package contents to ensure all items are present and in good condition:

- Metoluar Indoor Display Console
- Metoluar 5-in-1 Outdoor Sensor Array

- Mounting Pole and Hardware (as indicated in specifications)
- User Manual (this document)
- AC Power Adapter for Display Console (may not be included, check packaging)

Note: 3x AAA batteries for the display console and 3x AA batteries for the outdoor sensor are ***not included*** *and must be purchased separately.*

4. Setup and Installation

Proper installation of the outdoor sensor array is crucial for accurate readings. Choose a location that is open, free from obstructions, and allows for direct sunlight exposure to the solar panel.

4.1. Outdoor Sensor Assembly

Follow these steps to assemble the outdoor sensor array:

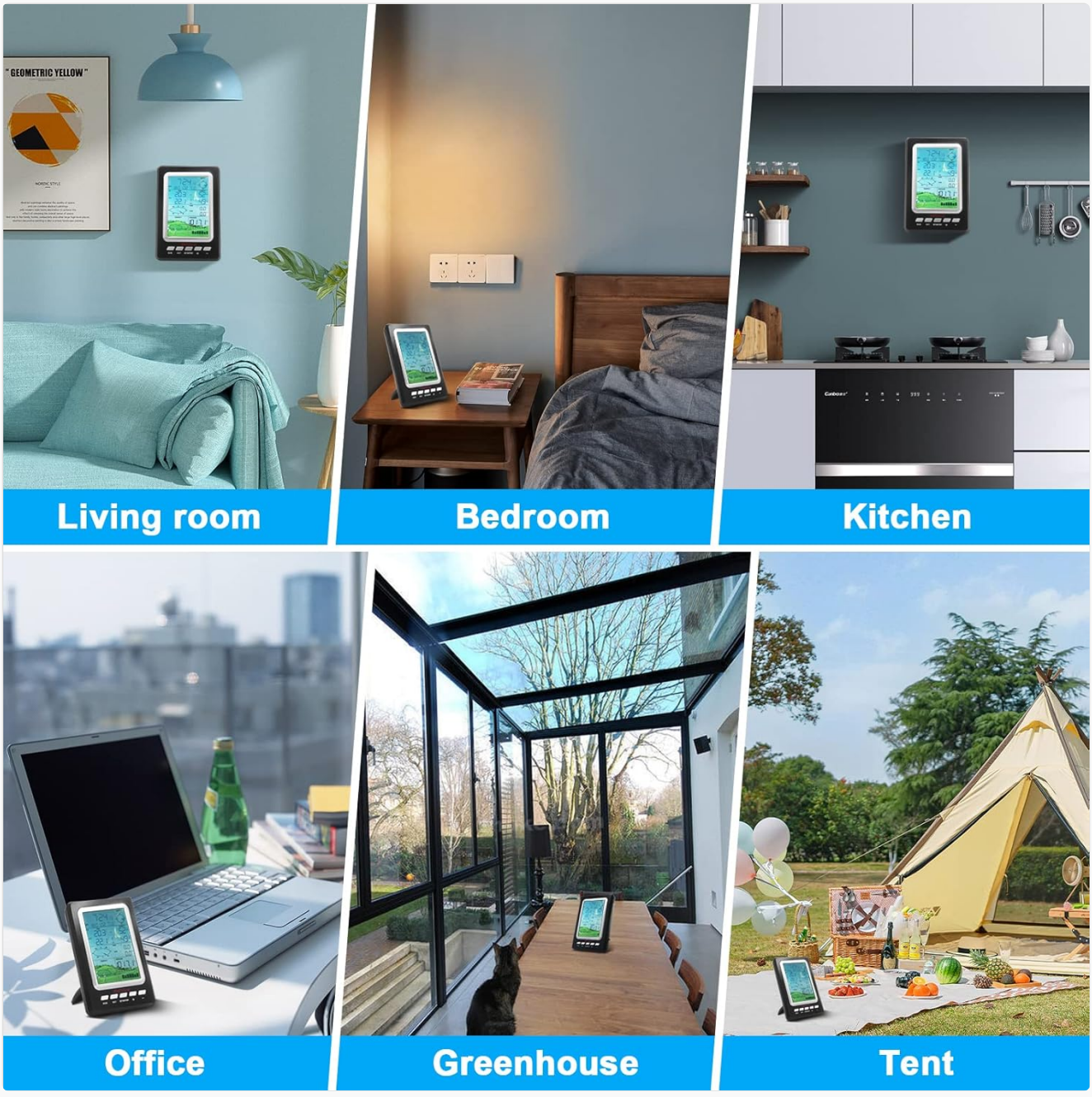

Figure 4.1: Outdoor Sensor Assembly Steps (Part 1). This image provides a visual guide for the initial assembly of the sensor components.

1. **Step 1:** Insert the stainless steel pipe into the base. Secure it by pressing an M3 screw nut into the nut slot

and then fastening with a PM3.0*25mm screw.

2. **Step 2:** Insert the transmitter holder into the stainless steel pipe. Secure it with a PM3.0*22mm screw and an M3 screw nut.
3. **Step 3:** Insert the rain gauge holder onto the short side of the transmitter holder. Secure it via a PM3.0*25mm screw and an M3 screw nut. Then, install the rain gauge onto the rain gauge holder, securing it with two PA3.0*8mm screws.
4. **Step 4:** Press an M3 screw nut into the nut slot of the small side of the wind sensor holder. Insert the wind sensor holder onto the transmitter holder. Secure it with a PM3.0*22mm screw.
5. **Step 5:** Insert the wind direction component into the wind speed component. Insert the wind direction RJ45 into the 623K hole of the wind speed component. Insert an M3 screw nut into the big side of the wind sensor holder, and then install the whole wind sensor onto the holder, securing it with a PM3.0*22mm screw.
6. **Step 6:** Open the battery compartment, install the rechargeable batteries, then cover the battery door. Insert the whole transmitter holder, and establish them with a PM3.0*18mm screw. At last, insert the wind speed wire RJ45 into the "WIND" 623K hole of the transmitter.

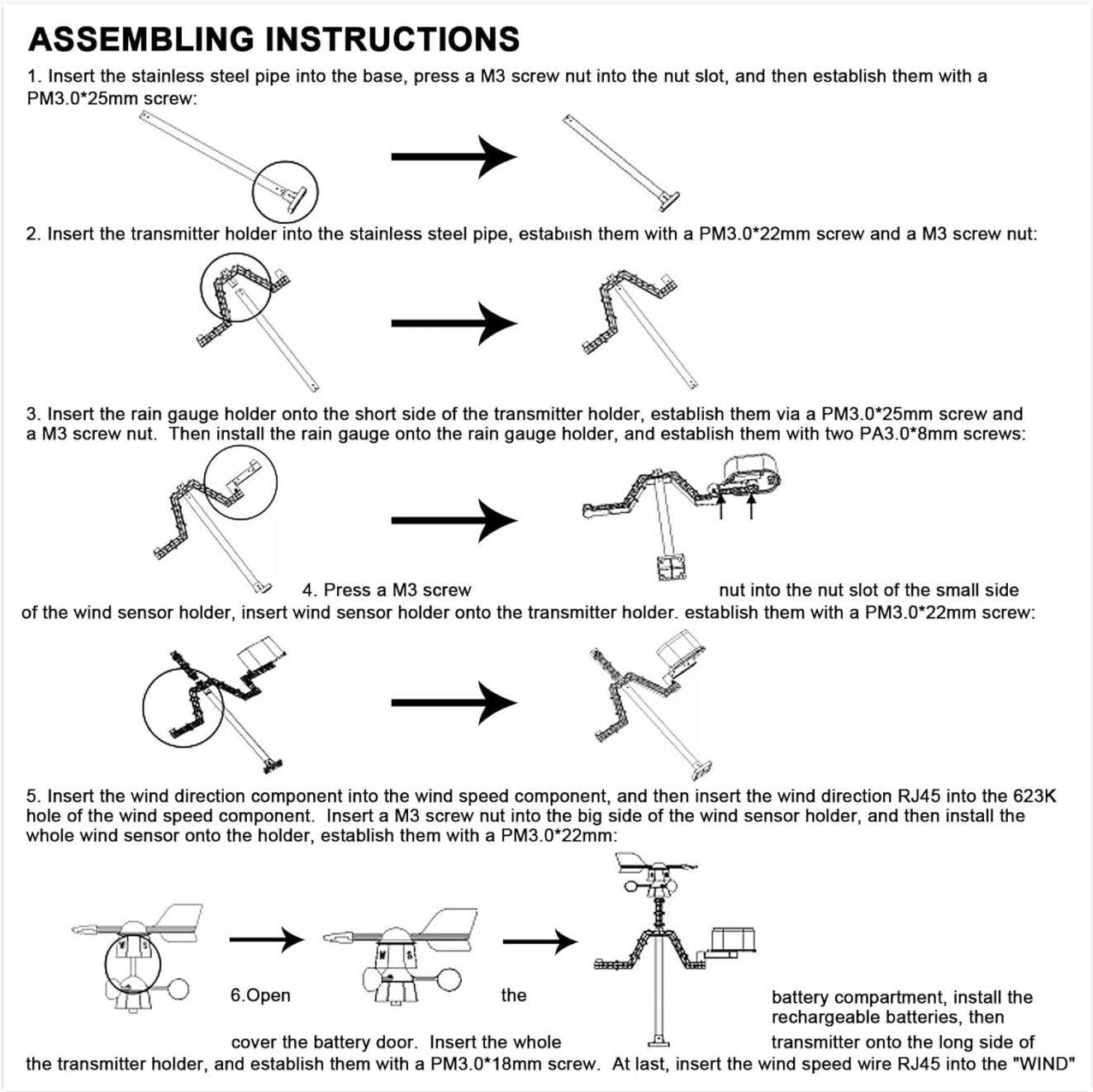

Figure 4.2: Outdoor Sensor Assembly Steps (Part 2). This image continues the assembly process, focusing on wiring and final mounting.

7. **Step 7:**

a. Put the rain gauge wire across the waterproof tower case, and then insert the RJ45 into the 623K hole of the solar component.
b. Put the solar wire across the waterproof tower case, and then insert the RJ45 into the "RAIN" 623K hole of the transmitter.
c. Insert an M3 screw nut into the top nut slot of the waterproof tower case, then insert the solar component into the top of the waterproof tower case, establish them with a PM3.0*8mm screw (Note: insert the screw from the screw nut side of the solar component).

8. **Step 8:** Suit the assembled waterproof tower case onto the assembled transmitter, and then suit the wires onto the slots of the transmitter holder.
9. **Step 9:** Suit four green plastic screw nuts into the base, and then establish the base and ground with four KA4.0*40mm screws.

4.2. Powering the Units

Figure 4.3: Power Supply Options. This image illustrates how to power both the indoor display unit and the outdoor sensor array.

- **Outdoor Sensor:** The outdoor sensor is primarily powered by its integrated solar panel. For continuous operation and backup, install 3x AA batteries (not included) into the battery compartment.

- **Indoor Display Console:** The display console can be powered by an AC adapter (not included) or 3x AAA batteries (not included). For best performance and continuous backlight, use the AC adapter.

Ensure batteries are inserted with correct polarity.

4.3. Initial Synchronization

Once both units are powered, they should automatically attempt to synchronize. Place the indoor console near the outdoor sensor during initial setup to facilitate connection. Allow a few minutes for data transmission to begin.

5. Operation

5.1. Display Console Functions

The display console features several buttons for navigation and settings adjustment:

- **MODE:** Cycles through display modes or enters setting mode.
- **NEXT:** Moves to the next setting option or view.
- **SET/HISTORY:** Enters setting mode or views historical data.
- **+/- Buttons:** Adjusts values during settings or navigates through history.
- **Backlight Button:** Located at the top of the display. Long press for 3 seconds to keep backlight always on; double click to cancel.

5.2. Setting Time and Date

Refer to the specific instructions in the full user manual for detailed steps on setting the time, date, and time zone.

5.3. Alarm Clock Function

The display console includes a digital alarm clock feature. Instructions for setting and managing alarms are typically found in the detailed manual.

6. Wi-Fi Connectivity and App Integration

The Metoluar Weather Station supports Wi-Fi connectivity to sync with live weather servers and a smartphone application, allowing you to track current data, view historical trends, and analyze graphs.

Figure 6.1: Wi-Fi Connectivity and App Integration. This image illustrates the weather station's ability to connect to Wi-Fi for data synchronization with a smartphone app and computer.

- **App Download:** Download the official Metoluar weather app by scanning the QR code in the full user manual or searching in your device's app store.
- **Bluetooth Pairing:** Connect the display console to your smartphone via Bluetooth to initiate the Wi-Fi setup process.
- **Wi-Fi Configuration:** Follow the in-app instructions to connect your weather station to your home Wi-Fi network.
- **Data Access:** Once connected, view real-time data, historical trends, and graphs directly on your smartphone.
- **Computer App:** Transfer historical data to a computer application via a data cable (if applicable, check product specifications) for more in-depth analysis.

The wireless range between the outdoor sensor and the indoor display console can extend up to 100 meters (330 feet) without interference.

7. Alerts and Notifications

The weather station allows you to customize alerts for various weather parameters, providing timely notifications for extreme conditions.

Figure 7.1: Alarm Function and Weather Alerts. This image details the types of alerts the weather station can provide.

- **Customizable Alerts:** Set high/low alerts for temperature, humidity, wind speed, and rainfall.
- **Barometric Pressure Drop:** Receive alerts for significant drops in atmospheric pressure, indicating potential weather changes.
- **Heat Index:** Alerts for high heat index values.
- **Pre-Alarm Notification:** The system can provide pre-alarms to give you advance notice of approaching thresholds.

Refer to the full user manual for detailed instructions on how to set and manage these alerts.

8. Maintenance

To ensure the longevity and accuracy of your weather station, regular maintenance is recommended:

- **Cleaning:** Periodically clean the outdoor sensor array, especially the rain collector and wind cups, to remove

debris, leaves, or insects that may affect readings. Use a soft, damp cloth.

- **Battery Replacement:** Replace batteries in both the outdoor sensor and indoor console as needed. Although the outdoor sensor is solar-powered, the AA batteries serve as a crucial backup.
- **Sensor Placement:** Ensure the outdoor sensor remains securely mounted and free from new obstructions (e.g., growing trees, new structures) that could interfere with readings.

9. Troubleshooting

If you encounter issues with your weather station, try the following common troubleshooting steps:

- **No Data on Display:**
  - Ensure both the outdoor sensor and indoor console have fresh batteries installed correctly.
  - Verify the outdoor sensor is within the wireless range (up to 100m) of the indoor console and there are no major obstructions.
  - Try resetting both units by removing batteries, waiting a few minutes, and then reinserting them.
- **Inaccurate Readings:**
  - **Temperature/Humidity:** Ensure the outdoor sensor is not in direct sunlight (except for its solar panel) or near heat sources/vents.
  - **Rainfall:** Check the rain collector for debris or blockages. Ensure it is level.
  - **Wind Speed/Direction:** Ensure the wind cups and vane spin freely and are not obstructed.
- **Wi-Fi Connectivity Issues:**
  - Ensure your Wi-Fi network is 2.4GHz (5GHz networks are often not supported by smart home devices).
  - Check your Wi-Fi password and network stability.
  - Restart your Wi-Fi router and the weather station console.

For more detailed troubleshooting or persistent issues, please refer to the comprehensive troubleshooting guide in the full user manual or contact Metoluar customer support.

10. Specifications

Feature	Detail
Brand	Metoluar
Model Number	WS1070
UPC	734730524207
Product Dimensions	18.54 x 12.45 x 3.05 cm; 1.85 kg
Power Source (Outdoor Sensor)	Solar Powered (with 3 AA battery backup, not included)
Power Source (Indoor Console)	AC Adapter (not included) or 3 AAA batteries (not included)
Display Type	LCD Color Display
Wireless Range	Up to 100 meters (330 feet) in open air

Included Components	Mounting Hardware

11. Warranty and Support

Warranty information for the Metoluar Wireless Weather Station is not provided within this document. For details regarding warranty coverage, terms, and conditions, please refer to the product packaging, the official Metoluar website, or contact Metoluar customer support directly.

For technical support, product inquiries, or assistance with troubleshooting beyond the scope of this manual, please visit the manufacturer's website or contact their customer service department using the contact information provided with your purchase or on the official Metoluar website.