Mumusuki RS-WS-120-2D-LCD

Mumusuki RS-WS-120-2D-LCD Temperature and Humidity Transmitter Sensor User Manual

Model: RS-WS-120-2D-LCD

1. Introduction

This user manual provides detailed instructions for the installation, operation, and maintenance of the Mumusuki RS-WS-120-2D-LCD Temperature and Humidity Transmitter Sensor. This device is designed for industrial applications, offering high-accuracy measurement of temperature and humidity with a 4-20mA analog output and an integrated LCD display. Please read this manual thoroughly before using the product to ensure correct operation and to prevent damage.

2. Product Overview

The Mumusuki RS-WS-120-2D-LCD transmitter features an industrial wall-mounted enclosure, ensuring durability and protection. It incorporates a high-accuracy temperature and humidity sensor and an industrial-grade microprocessor chip for reliable performance. The integrated LCD screen provides clear digital readings. It supports a standard 4-20mA analog output, allowing connection to various industrial control systems such as digital displays, PLCs, inverters, and industrial control hosts.

Figure 2.1: Front view of the Mumusuki RS-WS-120-2D-LCD sensor, showing the LCD display and control buttons.

Key Features:

- **High Accuracy Sensor:** Detects temperature and humidity with precision for reliable data.
- **Clear LCD Display:** Provides real-time digital readings, enhancing user convenience.
- **Robust Design:** Features a dedicated analog circuit and 10-30V wide voltage input for excellent durability in industrial environments.
- **User-Friendly Interface:** Parameters can be easily set via integrated buttons.
- **Easy Installation:** Lightweight and compact design supports both wall mount and slide rail installation methods.

3. Specifications

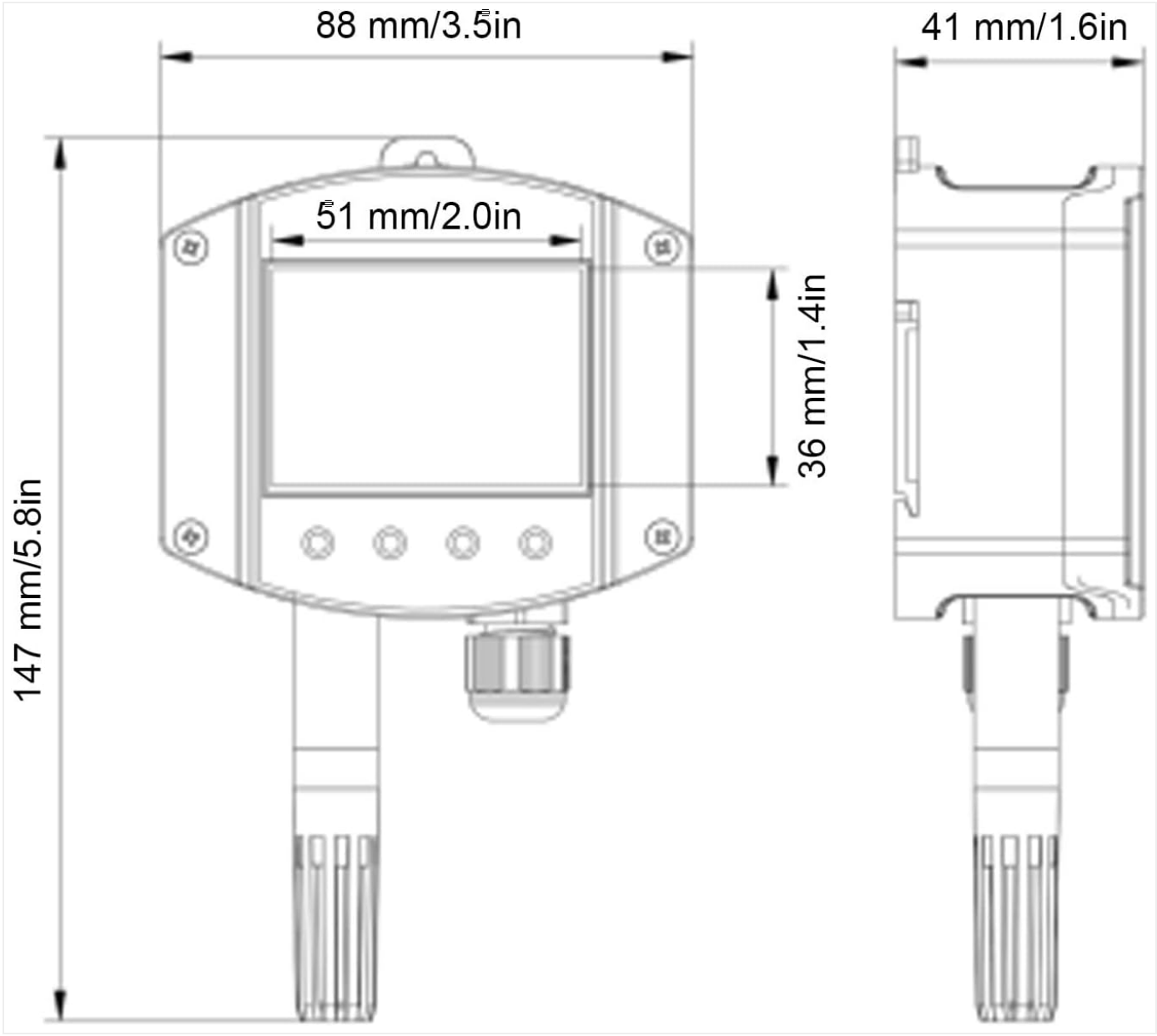

Figure 3.1: Dimensional drawing of the sensor, showing measurements in millimeters and inches.

Table 3.1: Technical Specifications

Parameter	Detail
Model	RS-WS-120-2D-LCD
Power Supply	DC 10~30V
Maximum Power Consumption (Current Output)	1.2W
Accuracy (Humidity)	±2%RH (60%RH, 25℃) for A Accuracy, ±3%RH (60%RH, 25℃) for B Accuracy
Accuracy (Temperature)	±0.4℃ (25℃) for A Accuracy, ±0.5℃ (25℃) for B Accuracy
Temperature Range	-40℃~+120℃ (Default: -40℃~+80℃)
Humidity Range	0%RH-100%RH
Transmitter Circuit Working Temperature and Humidity	-20℃~+60℃, 0%RH~95%RH (Non-Condensing)
Probe Operating Temperature	-40℃~+120℃ (Default: -40℃~+80℃)
Probe Working Humidity	0%RH-100%RH
Long Term Stability (Humidity)	≤1%RH/y
Long Term Stability (Temperature)	≤0.1℃/y
Response Time (Humidity)	≤8s (1m/s Wind Speed)
Response Time (Temperature)	≤25s (1m/s Wind Speed)
Output	Current Output: 4~20mA
Load Capacity (Current Output)	≤600Ω
Product Size	Approx. 147 x 88 x 41mm / 5.79 x 3.46 x 1.61in
Hole Size (for mounting)	Approx. 70mm / 2.76in
Weight	Approx. 178 g / 6.28 oz

4. Package Contents

Please check the package contents upon receipt to ensure all items are present and undamaged:

- 1 x Temperature and Humidity Transmitter Sensor (RS-WS-120-2D-LCD)
- 2 x Screws
- 2 x Wall Plugs
- 1 x User Manual (this document)

5. Installation

The Mumusuki RS-WS-120-2D-LCD sensor supports both wall mounting and slide rail mounting. Choose the method most suitable for your application.

5.1 Wall Mounting

For wall mounting, use the provided screws and wall plugs. Mark the desired mounting location, drill two holes

approximately 70mm apart, insert the wall plugs, and then secure the sensor using the screws.

Figure 5.1: Rear view of the sensor with mounting holes, suitable for wall installation.

5.2 Slide Rail Mounting

For slide rail mounting, attach the appropriate bracket to the sensor, then secure it onto a standard 35mm DIN rail. Ensure the sensor is firmly seated on the rail.

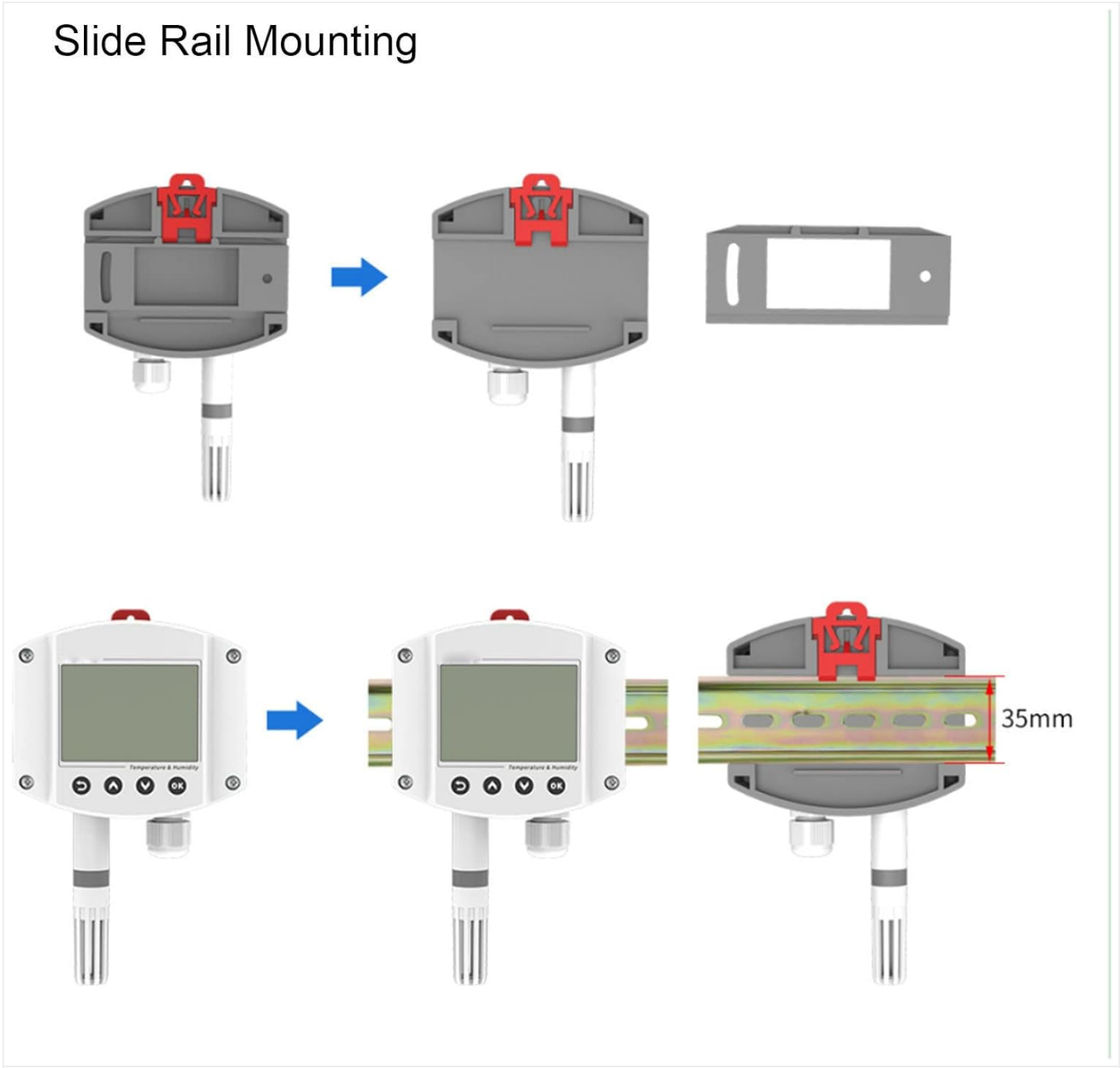

Figure 5.2: Step-by-step guide for installing the sensor onto a slide rail (DIN rail).

6. Wiring Diagram

The transmitter requires a DC 10-30V power input and provides a 4-20mA analog output. Connect the sensor according to

the following diagram for integration with your industrial control system.

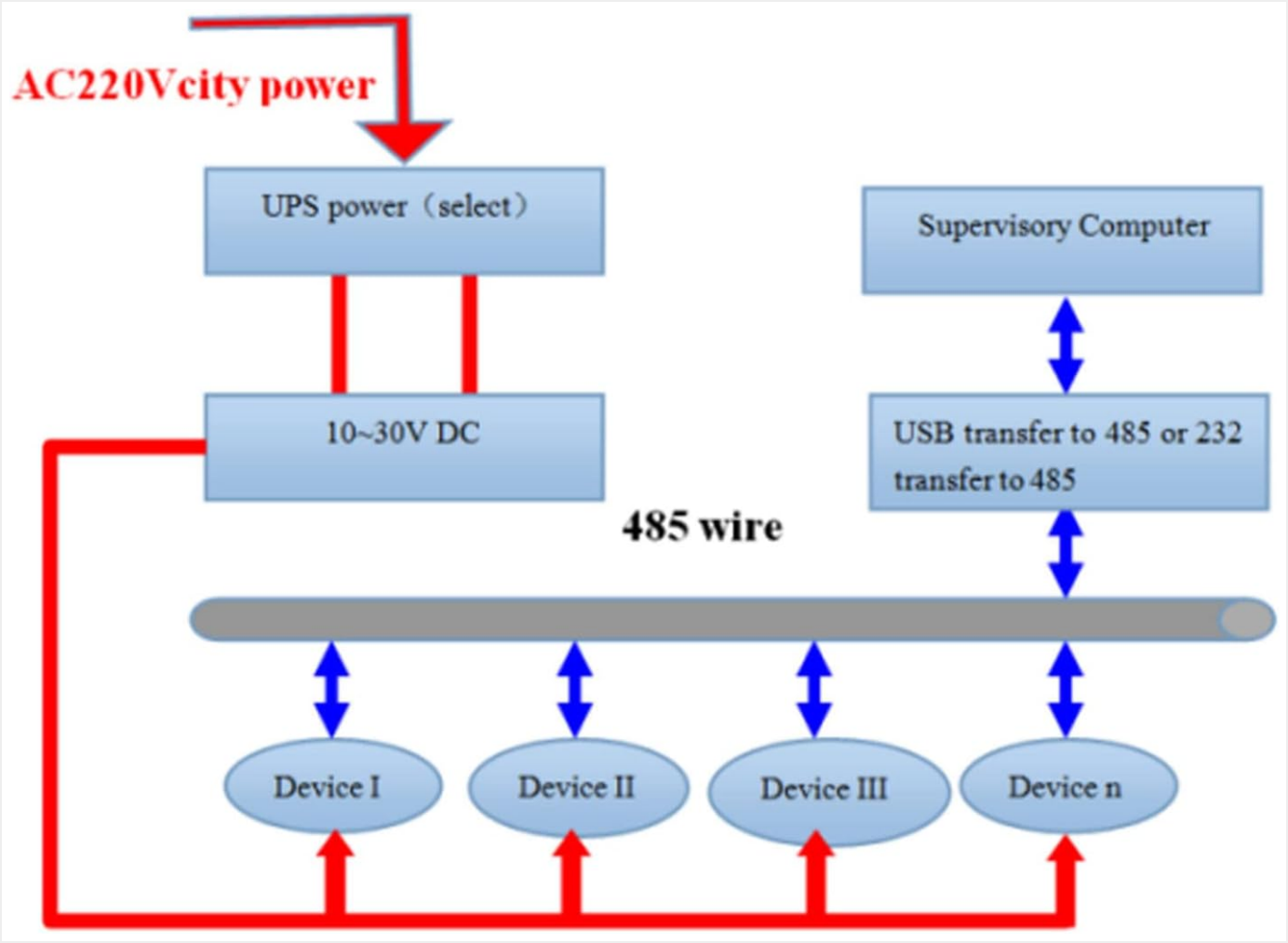

Figure 6.1: Wiring schematic showing power input (10-30V DC), 485 wire connections to multiple devices, and connection to a supervisory computer.

Important: Ensure power is disconnected before performing any wiring to prevent electrical shock or damage to the device.

7. Operation and Parameter Settings

The Mumusuki RS-WS-120-2D-LCD features an intuitive interface for parameter configuration. Settings can be modified directly using the buttons on the device or through compatible software, if available.

Figure 7.1: Detailed view of the LCD screen and the 'Return', 'Up', 'Down', and 'OK' buttons for navigation and parameter adjustment.

7.1 Button Functions:

- ↶ **(Return/Back):** Used to go back to the previous menu or exit a setting.
- ▲ **(Up Arrow):** Used to navigate up in menus or increase a value.
- ▼ **(Down Arrow):** Used to navigate down in menus or decrease a value.
- **OK:** Used to confirm a selection or enter a menu.

Refer to the on-screen menu for specific parameter options and adjustment procedures. Detailed software instructions, if

applicable, would be provided separately or within the software interface.

8. Maintenance

To ensure the longevity and accurate performance of your Mumusuki RS-WS-120-2D-LCD sensor, follow these general maintenance guidelines:

- **Cleaning:** Periodically clean the exterior of the sensor with a soft, dry cloth. Avoid using abrasive cleaners or solvents that could damage the housing or display.
- **Probe Care:** Keep the sensor probe free from dust, debris, and moisture accumulation. Do not obstruct the ventilation slots on the probe.
- **Environmental Conditions:** Ensure the sensor operates within its specified temperature and humidity ranges to prevent damage and maintain accuracy. Avoid direct exposure to strong vibrations or corrosive gases.
- **Calibration:** While the sensor is factory-calibrated, periodic re-calibration may be necessary for applications requiring extreme precision over extended periods. Consult a qualified technician for calibration services.

9. Troubleshooting

This section provides basic troubleshooting steps for common issues. If the problem persists, please contact customer support.

Table 9.1: Common Troubleshooting Guide

Problem	Possible Cause	Solution
No display/No power	Incorrect power supply voltage; Loose wiring; Power failure.	Verify power supply is within 10-30V DC. Check all wiring connections for security. Ensure power source is active.
Inaccurate readings	Sensor probe obstructed or dirty; Sensor operating outside specified environmental conditions; Need for calibration.	Clean the sensor probe. Ensure the operating environment is within specifications. Consider professional calibration if accuracy issues persist.
No 4-20mA output	Incorrect wiring; Load resistance too high; Device malfunction.	Check output wiring for correct polarity and connections. Ensure load resistance is ≤600Ω. If issues persist, contact support.
Buttons unresponsive	Temporary software glitch; Physical damage to buttons.	Try power cycling the device. If buttons remain unresponsive, contact customer support.

10. Warranty and Support

This product is covered by a standard manufacturer's warranty against defects in materials and workmanship. For specific warranty terms and conditions, please refer to the documentation provided at the time of purchase or contact your vendor. For technical support, troubleshooting assistance beyond this manual, or inquiries regarding parts and service, please contact Mumusuki customer service through your purchase channel or the official Mumusuki website.