

Ace Instruments AI-RHT1-PH LAN

Ace Instruments AI-RHT1-PH LAN Temperature and Humidity Monitor User Manual

Model: AI-RHT1-PH LAN | Brand: Ace Instruments

1. INTRODUCTION

The Ace Instruments AI-RHT1-PH LAN is a sophisticated temperature and humidity monitoring device designed for various critical environments. It features fast and accurate sensors for precise measurements and is equipped with specially designed humidity sensors capable of operating effectively in condensed environments. This device offers a standard temperature range of 0 to 50 °C (32°F to 122°F) and a humidity range of 0 to 100% RH (non-condensing).

Key features include password-protected admin level access for security compliance, a bright and large backlight display for clear visibility, and QC/QA certification to meet standard compliance for temperature-maintained environments. Each unit is factory calibrated, with a calibration certificate traceable to National Standards (NABL Accredited Lab) provided.

Typical applications for the AI-RHT1-PH LAN monitor include server rooms, pharmaceuticals, warehouses, green houses, laboratories, bio labs, and IT offices, ensuring optimal environmental conditions are maintained.

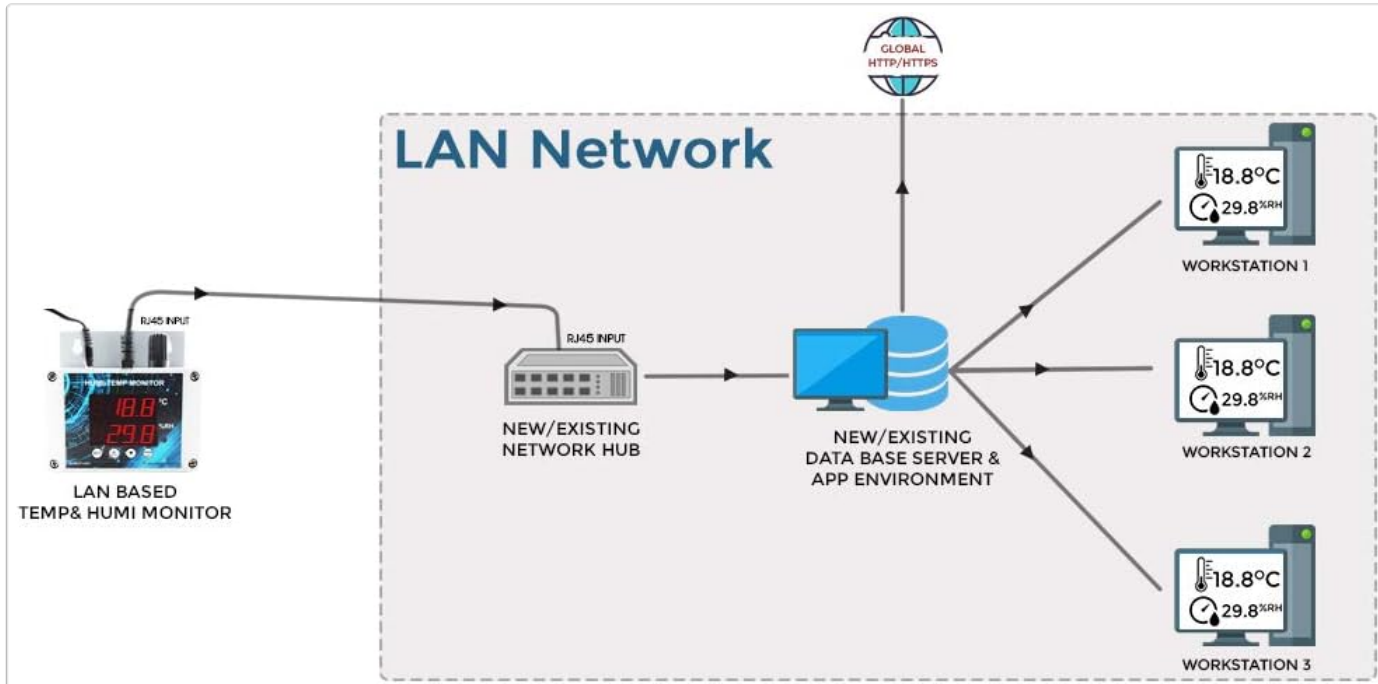


Figure 1: Front view of the AI-RHT1-PH LAN monitor, showing the digital red LED display for temperature and humidity readings.



Figure 2: The AI-RHT1-PH LAN monitor is suitable for diverse applications such as server rooms, UPS rooms, battery rooms, and warehouses.

2. SETUP AND INSTALLATION

2.1 Unpacking and Inspection

Carefully unpack the monitor and all included components. Verify that the package contains: 1 Unit of Temperature Humidity Alarm Monitor, Power Adaptor, Instruction Manual, and Calibration Certificate. Inspect the device for any visible damage. If any components are missing or damaged, contact your supplier immediately.

2.2 Mounting the Device

The AI-RHT1-PH LAN features a wall-mounting type ABS plastic enclosure with a wall bracket, providing IP65 splash proof protection. Select a suitable location for mounting, ensuring it is away from direct heat sources, ventilation outlets, or areas with extreme air currents that could affect readings. Use appropriate screws and anchors to securely mount the device to a wall.



Figure 3: Side view of the monitor, illustrating the wall mounting bracket and various connection ports.

2.3 Sensor Connection

The monitor supports both an inbuilt sensor and an optional pre-wired 3-meter external sensor. The sensor type includes Polymer Sensing for temperature and Capacity Polymer Sensing for relative humidity. If using an external probe, connect it to the designated port on the device. Ensure the connection is secure.



Figure 4: The monitor connected with an optional external probe for flexible sensor placement.

2.4 Power Supply

Connect the provided 12 VDC power adaptor to the monitor's power input port. Ensure the adaptor is connected to a stable power source. The device requires a minimum of 2 Amp current rating from the adaptor.



Figure 5: Connecting the 12 VDC power adapter to the monitor.

2.5 Network Connection (LAN)

Connect an RJ45 Ethernet cable from the monitor's LAN port to your network hub or switch. This enables data acquisition and integration with existing Building Management Systems (BMS), SCADA, or other acquisition systems. Technical guidance and assistance for integration can be provided upon request.



Figure 6: LAN Network Diagram for data acquisition and monitoring.

3. OPERATING INSTRUCTIONS

3.1 Powering On

Once the power adaptor is connected, the device will automatically power on. The bright red LED display will illuminate, showing the current temperature and humidity readings.

3.2 Display Readings

The monitor features a 2x4 Digital Red LED Display of height 0.4 inches, with one display for temperature and one for humidity. Readings are updated continuously. The temperature is displayed in °C and humidity in %RH.

- **Temperature Range:** 0 to 50 °C (32°F to 122°F)
- **Temperature Accuracy:** $\pm 0.3^{\circ}\text{C}$
- **Temperature Resolution:** 0.1°C
- **Humidity Range:** 0 to 100% RH
- **Humidity Accuracy:** $\pm 1.8\%$ for 10 to 95%RH, $\pm$ for all other Ranges
- **Humidity Resolution:** 0.1% RH

3.3 Button Functions

The device includes buttons for 'SET', 'ACK', and 'PROG'. Refer to the detailed programming guide (if provided separately or within the full manual) for specific functions related to setting alarms, acknowledging events, and programming parameters. The device offers password-protected admin level access for configuration changes.

3.4 Data Acquisition

The AI-RHT1-PH LAN supports two primary data acquisition options:

1. **Option 1: Integration with Existing Systems:** The device can be integrated into an end-user's existing BMS/SCADA or any other acquisition system. Technical guidance and assistance are available for this integration.
2. **Option 2: Web Server Setup:** A new web server setup can be hosted at the end-user's location. This option allows for pushing data to a cloud service for SMS/Email alerts. Contact the store for more details on this advanced setup.

4. MAINTENANCE

4.1 Cleaning

To maintain the device's appearance and ensure proper functioning, wipe it clean with a soft, dry cloth. Avoid using abrasive cleaners, solvents, or harsh chemicals, as these can damage the enclosure and display. Ensure the device is powered off before cleaning.

4.2 Calibration

The device is factory calibrated and comes with a calibration certificate. Regular re-calibration may be required depending on application standards and regulatory requirements. Contact Ace Instruments or an authorized service provider for re-calibration services to ensure continued accuracy.

4.3 Sensor Care

While the humidity sensors are designed to work in condensed environments, prolonged exposure to extreme conditions or contaminants can affect their lifespan and accuracy. Ensure the sensor probe (if external) is kept clean and free from obstructions. Avoid physical damage to the sensor tip.

5. TROUBLESHOOTING

This section provides basic troubleshooting steps for common issues. For more complex problems, please contact technical support.

5.1 No Display/Device Not Powering On

- **Check Power Connection:** Ensure the 12 VDC power adaptor is securely connected to both the device and a working power outlet.
- **Verify Power Outlet:** Test the power outlet with another device to confirm it is supplying power.
- **Inspect Adaptor:** Check the power adaptor for any visible damage.

5.2 Incorrect Readings

- **Sensor Placement:** Ensure the sensor (inbuilt or external) is placed in an area representative of the environment being monitored and is not affected by localized heat sources, drafts, or direct sunlight.
- **Sensor Obstruction:** Verify that the sensor tip is clean and free from dust or debris.
- **Recalibration:** If readings are consistently inaccurate, the device may require re-calibration. Refer to Section 4.2.

5.3 No Network Connectivity

- **Check RJ45 Cable:** Ensure the Ethernet cable is securely connected to both the monitor and the network hub/switch.
- **Network Status:** Verify that your network hub/switch is operational and other devices on the network are functioning correctly.
- **Network Configuration:** If using a new setup, ensure network settings (IP address, subnet mask, gateway) are

correctly configured. Consult your IT administrator or Ace Instruments technical support.

6. SPECIFICATIONS

Parameter	Specification
Model	AI-RHT1-PH LAN
Temperature Range	0 to 50 °C (32°F to 122°F)
Temperature Accuracy	± 0.3°C
Temperature Resolution	0.1°C
Humidity Range	0 to 100% RH (Non Condensing)
Humidity Accuracy	±1.8% for 10 to 95%RH, ± for all other Ranges
Humidity Resolution	0.1% RH
Display	2x4 Digital Red LED Display, Height 0.4" (1 Each for Temperature & Humidity)
Sensor Type (Temperature)	Polymer Sensing
Sensor Type (Humidity)	Capacity Polymer Sensing
Sensor Options	Wired External Probe or Integrated Probe fixed to body
Cable Length (External Sensor)	Optional Pre-wired 3 Metres External Sensor Available
Power Supply	12 VDC Input with Minimum 2 Amp Current Rating Adaptor
Enclosure	Wall Mounting Type ABS Plastic Enclosure with Wall Bracket (IP65 Splash Proof)
Operating Temperature (Instrument)	0 to 50°C
Dimensions (HxWxD)	120x80x60 mm
Data Acquisition	Option 1: To End User Scope with Existing BMS/SCADA/any Other Acquisition System. Option 2: Web Server (New Setup) Hosting at End User's Location. Option to Push Data on Cloud for SMS/Email Alert.
Included Components	1 Unit of Temperature Humidity Alarm Monitor, Power Adaptor, Instruction Manual, Calibration Certificate

Parameter	Specification
Care Instructions	Wipe Clean

7. WARRANTY

This product is sold with **NO Warranty** as per the manufacturer's specifications. Please refer to your purchase agreement or contact your vendor for any specific return or replacement policies that may apply.

8. SUPPORT

For technical assistance, detailed programming guides, or inquiries regarding data acquisition system integration, please contact Ace Instruments or your authorized distributor.

- **Contact Store:** +91 8142350506 (for optional pre-wired 3 Metres External Sensor availability and advanced data acquisition options)
- **General Inquiries:** Refer to the contact information provided with your purchase documentation.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

