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› XCHANG KB-5150 Temperature and Humidity Sensor User Manual

XCHANG KB-5150

XCHANG KB-5150 Temperature and Humidity Sensor User Manual

Model: KB-5150

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the XCHANG KB-5150 Temperature and Humidity Sensor. This sensor is designed for use with compatible MIDEA dehumidifier models, including DY-612S/25A3, DYD-D50A3, W20A3, and MD-35E. Please read this manual thoroughly before use to ensure optimal performance and longevity of the product.

2. PRODUCT OVERVIEW

The KB-5150 is a high-precision temperature and humidity sensor designed to accurately monitor environmental conditions. Its primary function is to provide data to a dehumidifier's control system, enabling efficient and precise humidity regulation. Key features include:

- **High Accuracy:** Humidity measurement error is $\leq \pm 2\%$ RH and temperature error is $\leq \pm 0.5^\circ\text{C}$, ensuring precise dehumidifier operation.
- **Fast Response:** Provides feedback within 3 seconds of humidity changes, adapting quickly to environmental fluctuations.
- **Robust Design:** Engineered to resist dust and water vapor erosion, enhancing durability.

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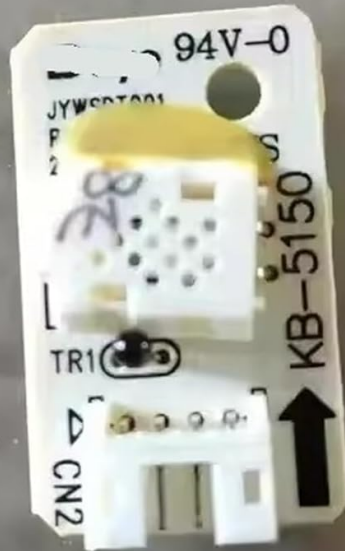


Figure 2.1: XCHANG KB-5150 Temperature and Humidity Sensor. This image shows the compact design of the sensor module.

3. INSTALLATION

Proper installation is crucial for the accurate performance of the KB-5150 sensor. Follow these guidelines:

1. **Placement:** Install the sensor at a height of 1.2 to 1.5 meters (approximately 4 to 5 feet) from the ground. This height helps in capturing the average humidity of the environment.
2. **Avoid Obstructions:** Do not install the sensor in corners or near air vents, as these locations can provide inaccurate readings due to localized air currents or stagnant air.
3. **Anti-interference:** To prevent measurement offset, ensure the sensor is positioned at least 10 cm (approximately 4 inches) away from heat sources such as compressors. Protect the sensor from dust and water vapor erosion.
4. **Connection:** Connect the sensor to the designated port on the dehumidifier's control board. Ensure the connection is secure.



Figure 3.1: KB-5150 Sensor connected to a dehumidifier control panel. This image illustrates the sensor's integration into a dehumidifier system, indicating its repair or replacement context.

4. OPERATION

Once installed, the KB-5150 sensor operates automatically in conjunction with your compatible MIDEA dehumidifier. It continuously monitors the ambient temperature and humidity, providing real-time data to the dehumidifier's control system. The dehumidifier uses this data to:

- **Initiate Dehumidification:** The dehumidifier will activate when the humidity level exceeds the set point, based on the sensor's accurate readings.
- **Terminate Dehumidification:** The dehumidifier will cease operation once the desired humidity level is achieved, preventing over-drying and conserving energy.
- **Respond to Changes:** The sensor's rapid response time ensures that the dehumidifier quickly adapts to sudden environmental changes, such as those experienced during the rainy season, maintaining consistent comfort.

5. MAINTENANCE

To ensure the long-term accuracy and reliability of your KB-5150 sensor, regular maintenance is recommended:

- **Regular Calibration:** Compare the sensor's readings with a certified standard hygrometer annually.
- **Professional Adjustment:** If deviations exceeding $\pm 3\%$ are observed during calibration, professional adjustment or replacement of the sensor may be required to maintain optimal performance.
- **Cleaning:** Periodically inspect the sensor for any dust or debris accumulation. Gently clean the sensor surface with a soft, dry cloth if necessary. Avoid using liquids or abrasive materials.

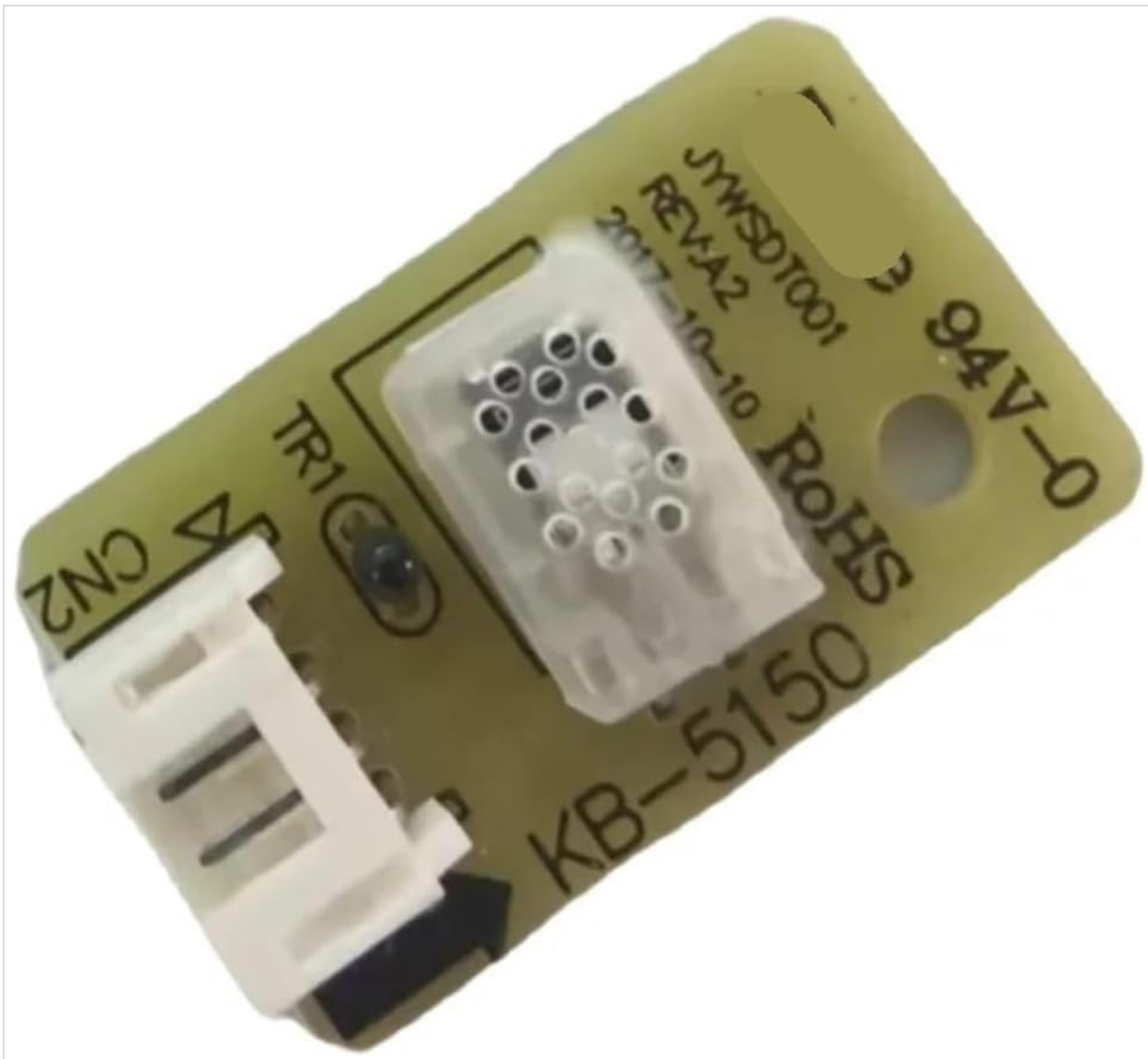
6. TROUBLESHOOTING

This section addresses common issues you might encounter with your KB-5150 sensor. If the problem persists after following these steps, contact customer support.

- **Inaccurate Readings:**
 - Check sensor placement: Ensure it is not in a corner, near vents, or too close to heat sources.
 - Verify calibration: Perform an annual calibration as described in the Maintenance section.
 - Inspect for damage: Look for any visible damage to the sensor or its connections.
- **Dehumidifier Not Responding:**
 - Check sensor connection: Ensure the sensor is securely plugged into the dehumidifier's control board.
 - Consult dehumidifier manual: Refer to your dehumidifier's instruction manual for specific error codes or troubleshooting related to sensor input.

7. SPECIFICATIONS

Feature	Specification
Model Number	KB-5150
Humidity Measurement Error	$\leq \pm 2\%$ RH
Temperature Measurement Error	$\leq \pm 0.5^\circ\text{C}$
Response Speed	Within 3 seconds of humidity change
Compatibility	MIDEA Dehumidifier models: DY-612S/25A3, DYD-D50A3, W20A3, MD-35E
Package Dimensions	0.39 x 0.39 x 0.39 inches
Item Weight	1.76 ounces
Manufacturer	changjucai



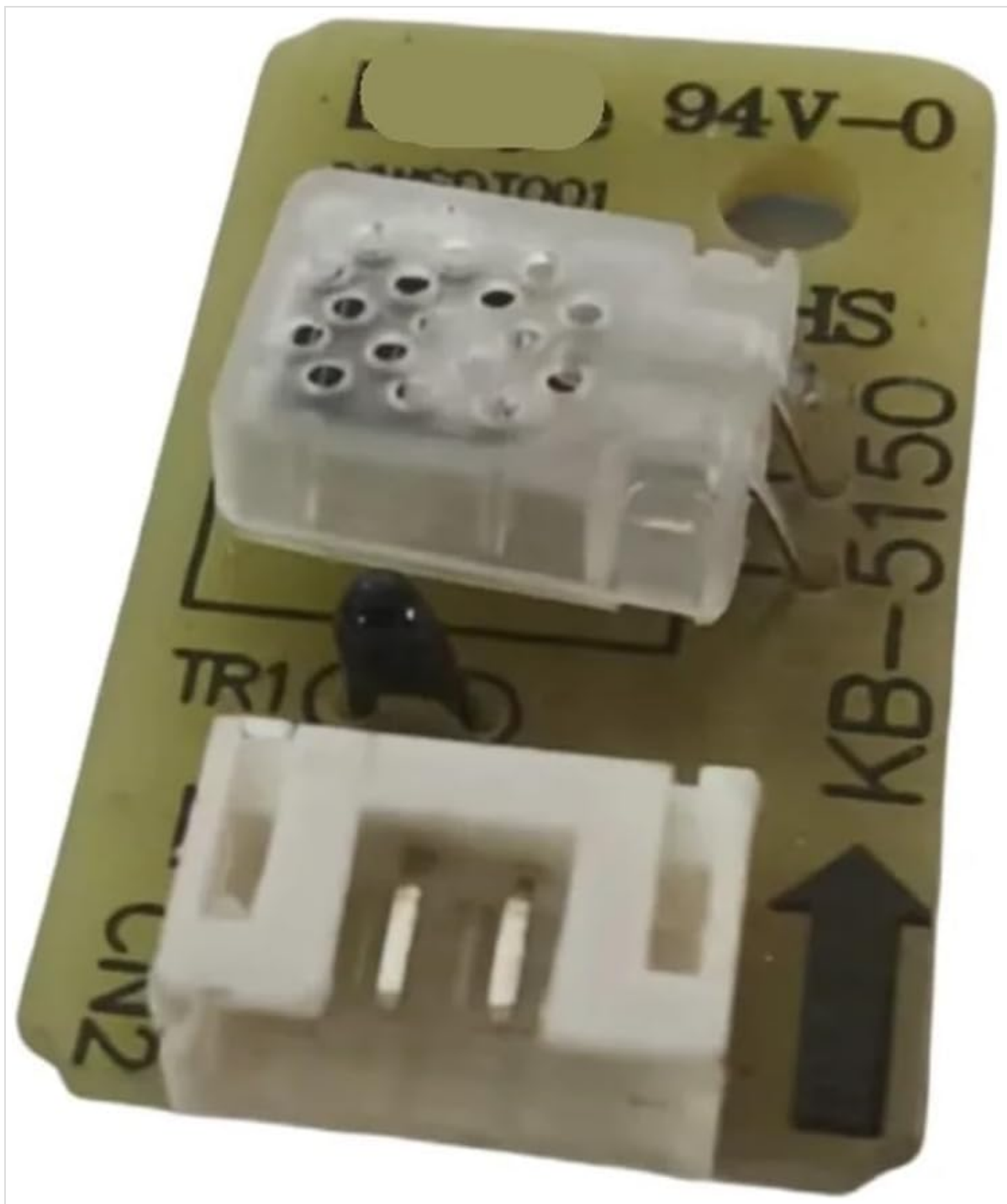


Figure 7.1: Front and back views of the KB-5150 sensor, showing detailed components and markings.

8. WARRANTY AND SUPPORT

Information regarding product warranty and customer support for the XCHANG KB-5150 Temperature and Humidity Sensor was not provided in the product details. Please refer to your purchase documentation or contact the seller directly for warranty terms and support options.