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› [ECOWITT WN31 Wireless Multi-Channel Temperature and Humidity Sensor User Manual](#)

## ECOWITT WN31

# ECOWITT WN31 Wireless Multi-Channel Temperature and Humidity Sensor User Manual

Model: WN31

## INTRODUCTION

The ECOWITT WN31 (also known as WH31) is a wireless multi-channel temperature and humidity sensor designed for indoor monitoring. It provides real-time temperature and humidity readings, which can be viewed directly on its LCD display or remotely via a compatible Wi-Fi gateway and mobile application. This manual provides detailed instructions for the setup, operation, and maintenance of your WN31 sensor.

## PRODUCT OVERVIEW



Image: Front view of the ECOWITT WN31 sensor, displaying temperature and humidity on its LCD screen.

The WN31 sensor measures both temperature and humidity. It features an LCD display for local readings and can transmit data wirelessly to a compatible ECOWITT Wi-Fi gateway (sold separately) for remote monitoring through the WS View Plus/Ecowitt APP. The sensor supports up to 8 channels, allowing you to monitor multiple locations with additional WN31 sensors.

- **Wireless Connectivity:** Operates on a 915 MHz RF frequency (for US/CA regions).
- **Multi-Channel Support:** Monitor up to 8 distinct locations with additional WN31 sensors.
- **LCD Display:** Provides immediate temperature and humidity readings.
- **Remote Monitoring:** Requires an ECOWITT Wi-Fi gateway (e.g., GW1100, HP2551, WH2680, WN1900) for app integration and online data access.
- **Power Source:** Requires 2 AA batteries (not included).

## SETUP

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### 1. Battery Installation

1. Open the battery compartment cover on the back of the WN31 sensor.
2. Insert two (2) AA batteries, ensuring correct polarity (+/-).

3. Close the battery compartment cover securely.

## 2. Channel Configuration and Temperature Unit Selection

The WN31 sensor features dip switches inside the battery compartment to customize the channel number and select the temperature unit (Celsius or Fahrenheit).

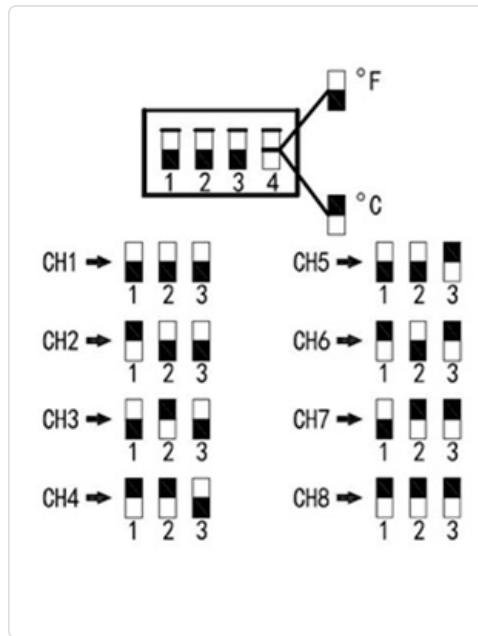


Image: Diagram illustrating the dip switch settings for channel selection (CH1-CH8) and temperature unit (°C/°F).

- **Channel Number (1st to 3rd Dip Switches):** Adjust these switches to set the desired channel number (1-8) for your sensor. This is crucial when using multiple WN31 sensors to avoid interference and identify data from specific locations.
- **Temperature Unit (4th Dip Switch):** Toggle the 4th dip switch to select between Celsius (°C) and Fahrenheit (°F).

After adjusting the dip switches, the sensor will display the selected channel and temperature unit on its LCD.

## 3. Gateway Pairing (Optional, for Remote Monitoring)

To view sensor data on your mobile application or the Ecowitt Weather Server, the WN31 sensor must be paired with a compatible ECOWITT Wi-Fi gateway (e.g., GW1100, HP2551, WH2680, WN1900). These gateways are sold separately.

## View Live Data on Free WS View App



The data can be streamed by GW1000 Wi-Fi Gateway(sold separately) and can be viewed on our WS View mobile application after the Wi-Fi configuration done.

Image: The WN31 sensor wirelessly transmitting data to an ECOWITT GW1000 Wi-Fi Gateway, with live data displayed on a mobile application.

Refer to the quick start guide provided with your specific ECOWITT Wi-Fi gateway for detailed Wi-Fi configuration and pairing procedures. Once configured, the sensor data will be streamed to the gateway and become accessible via the WS View Plus/Ecowitt APP.

### 4. Mounting the Sensor

The WN31 sensor can be mounted in various ways to suit your monitoring needs. It is designed primarily for indoor use.



5"

Temperature, Humidity,  
Sensor

ecowitt

1.65"

Image: Illustrations demonstrating how to mount the WN31 sensor using a screw or by hanging it.

Choose a location that provides accurate readings for the area you wish to monitor. Avoid placing the sensor in direct sunlight, near heat sources, or in areas with high airflow that could skew readings.

## OPERATION

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### 1. LCD Display Readings

The WN31 sensor features an LCD screen that displays the current temperature and humidity. The selected channel number is also shown.

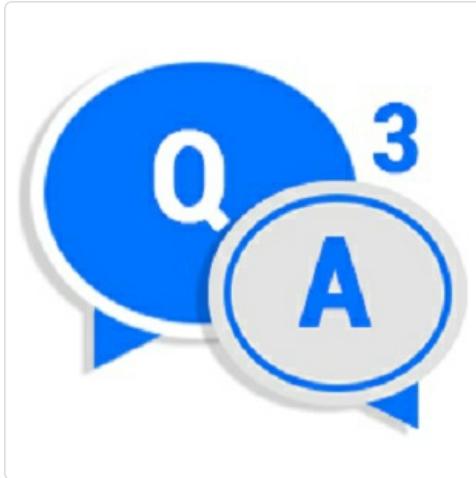
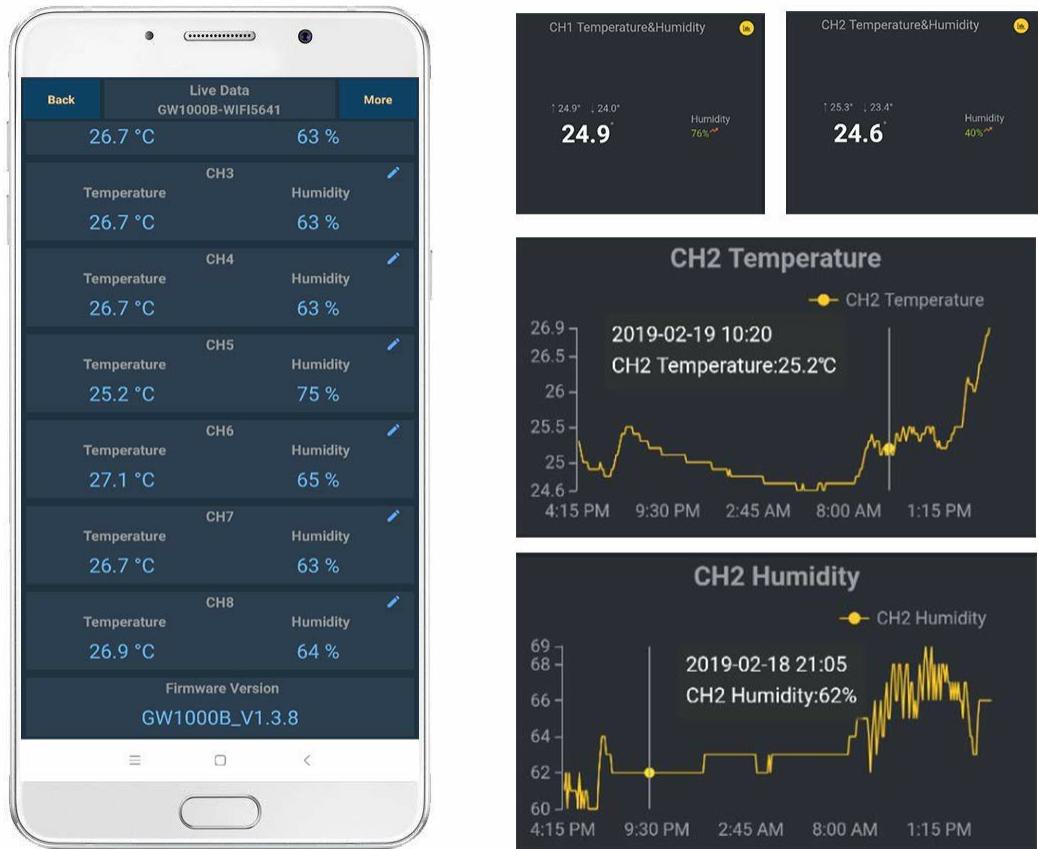


Image: Detailed view of the WN31 LCD display, indicating temperature (e.g., 82.5°F), humidity (e.g., 49% RH), and channel (e.g., CH3).

### 2. Remote Monitoring via Mobile Application

Once paired with an ECOWITT Wi-Fi gateway, you can monitor the WN31 sensor's data remotely using the WS View Plus or Ecowitt APP on your smartphone or tablet. The app allows you to view live data, historical graphs, and manage multiple sensors.

## Remote Monitor Upto 8 Channel Temp & Humidity



**Note:** All the data graph & history records can be viewed and downloaded on [ecowitt.net](http://ecowitt.net) after uploading.

Image: Screenshots of the mobile application displaying multi-channel temperature and humidity readings, along with historical data graphs for specific channels.

### 3. Ecowitt Weather Server and Email Alerts

The ECOWITT system supports uploading data to the free Ecowitt Weather Server ([ecowitt.net](http://ecowitt.net)). On this platform, you can view data graphs, download historical records, and set up email alerts for all your connected sensors. This feature is particularly useful for monitoring conditions in areas like freezers or basements and receiving notifications if thresholds are exceeded.

### 4. Supported Platforms

The ECOWITT system integrates with various weather platforms, allowing you to share and view your weather data through different services.



Image: Visual representation of various weather platforms compatible with ECOWITT devices, including Ecowitt.net, Weather Underground, Met Office, and Weathercloud.

## MAINTENANCE

- **Battery Replacement:** When the battery indicator on the LCD display or in the app shows low power, replace both AA batteries with new ones. Ensure correct polarity.
- **Cleaning:** Wipe the sensor with a soft, dry cloth. Avoid using abrasive cleaners or solvents.
- **Environmental Protection:** The WN31 is designed for indoor use. While it can tolerate some outdoor conditions, it is not fully waterproof. Avoid exposing the sensor to direct rain or excessive moisture to prevent damage, especially to the hygrometer component.

## TROUBLESHOOTING

### 1. No Readings on LCD or App

- **Check Batteries:** Ensure batteries are correctly installed and not depleted. Replace if necessary.
- **Gateway Connection:** If using the app, verify that your Wi-Fi gateway is powered on, connected to your network, and properly paired with the WN31 sensor. Refer to your gateway's manual for troubleshooting its connection.
- **Sensor Range:** Ensure the sensor is within the wireless range of your gateway. Obstacles like thick walls or metal structures can reduce range.

### 2. Inaccurate Readings

- **Sensor Placement:** Ensure the sensor is not in direct sunlight, near heat sources (e.g., vents, appliances), or in areas with extreme drafts, which can affect accuracy.
- **Moisture Exposure:** If the sensor has been exposed to water, the humidity readings may become inaccurate or the sensor may fail.

### 3. WN31 vs. WN32 Sensor Differences

It is important to understand the distinctions between the WN31 and WN32 sensors, as they are designed for different applications:

Feature	WN31 (WH31)	WN32
Channels	8-channel temp-hygrometer sensor	Single channel sensor
Recommended Use	Indoors (e.g., storage rooms, freezers)	Outdoors
Additional Data	Does not provide "feels like" or "Dew Point" data	Provides "feels like" and "Dew Point" data
App Module Display	Displayed on "Temp and Humidity CHX" module (X=1-8)	Displayed on "Outdoor" module

### 4. RF Frequency Compatibility

The WN31 (WH31) Thermometer & Hygrometer operates on a specific RF frequency. For devices sold in the US/CA, the frequency is 915 MHz. Ensure that any other ECOWITT products you intend to pair with this sensor also operate on the same frequency (e.g., 915 MHz for US/CA, 868 MHz for Europe, 433 MHz for

Australia).

## SPECIFICATIONS

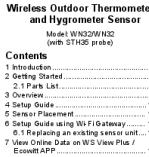
Specification	Detail
Model Number	WN31
Product Dimensions	1.97 x 1.97 x 5.12 inches
Item Weight	2.47 ounces
Power Source	2 AA batteries (not included)
Connectivity Technology	Wireless (915 MHz for US/CA)
Special Feature	High Accuracy
Material	Plastic
Recommended Uses	Indoor use

## WARRANTY AND SUPPORT

For warranty information, technical support, or further assistance with your ECOWITT WN31 sensor, please visit the official ECOWITT website or contact their customer service. Keep your purchase receipt for warranty claims.

Official ECOWITT Store: [ECOWITT Amazon Store](#)

## Related Documents - WN31

 <p>ecowitt® Wireless Multi-channel Thermometer and Hygrometer Sensor Model: WN31 (uses STHS3 probe) <a href="https://ecowitt.com/wn31.pdf">https://ecowitt.com/wn31.pdf</a></p>	<p><a href="#">Ecowitt WN31 Wireless Multi-channel Thermometer and Hygrometer Sensor User Manual</a></p> <p>User manual for the Ecowitt WN31 wireless multi-channel thermometer and hygrometer sensor, detailing setup, operation, specifications, and troubleshooting. Learn how to pair the sensor with Ecowitt gateways and view data on the Ecowitt app.</p>																						
 <p>ecowitt® Weather Station Console Manual Model: WS2910 <a href="https://ecowitt.com/ws2910.pdf">https://ecowitt.com/ws2910.pdf</a></p>	<p><a href="#">Ecowitt WS2910 Weather Station Console Manual - Setup &amp; Operation Guide</a></p> <p>Comprehensive user manual for the Ecowitt WS2910 Weather Station Console. This guide details setup, features, Wi-Fi connectivity, app integration, sensor management, troubleshooting, and specifications for accurate weather monitoring.</p>																						
 <p>ecowitt® Wireless Outdoor Thermometer and Hygrometer Sensor Model: WN32 (uses STHS3 probe) <a href="https://ecowitt.com/wn32.pdf">https://ecowitt.com/wn32.pdf</a></p> <p>Contents</p> <table><tr><td>1 Introduction</td><td>-4</td></tr><tr><td>2 Get Started</td><td>-5</td></tr><tr><td>2.1 Pair List</td><td>-5</td></tr><tr><td>3 Overview</td><td>-7</td></tr><tr><td>4 Sensor Probe</td><td>-10</td></tr><tr><td>5 Sensor Placement</td><td>-12</td></tr><tr><td>6 Setup using Ecowitt Gateway</td><td>-14</td></tr><tr><td>7 Pairing with Ecowitt Gateway</td><td>-15</td></tr><tr><td>7 View Online Data on WS View Plus / Ecowitt APP</td><td>-17</td></tr><tr><td>8 Specification</td><td>-20</td></tr><tr><td>9 Warranty Information</td><td>-21</td></tr></table>	1 Introduction	-4	2 Get Started	-5	2.1 Pair List	-5	3 Overview	-7	4 Sensor Probe	-10	5 Sensor Placement	-12	6 Setup using Ecowitt Gateway	-14	7 Pairing with Ecowitt Gateway	-15	7 View Online Data on WS View Plus / Ecowitt APP	-17	8 Specification	-20	9 Warranty Information	-21	<p><a href="#">Ecowitt WN32 Wireless Outdoor Thermometer and Hygrometer Sensor User Manual</a></p> <p>Comprehensive user manual for the Ecowitt WN32 Wireless Outdoor Thermometer and Hygrometer Sensor, covering setup, placement, specifications, and warranty information.</p>
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 <p><b>Wireless Indoor / Outdoor Thermometer with Indoor Humidity</b> User Manual</p>	<p><a href="#"><u>Ecowitt Wireless Indoor/Outdoor Thermometer with Indoor Humidity User Manual</u></a></p> <p>User manual for the Ecowitt WH0270 Wireless Indoor/Outdoor Thermometer with Indoor Humidity, providing detailed instructions for setup, operation, specifications, and troubleshooting.</p>																														
 <p><b>High Precision Digital Rain Gauge with Indoor Temperature and Humidity</b> Model: WH5360</p> <p>Thanks for your purchasing of the WH5360 High Precision Digital Rain Gauge with indoor temperature and humidity. To ensure you get the most out of your product, please read this manual and retain it for future reference.</p> <p>Note: The stainless steel pole for the rain gauge is not included.</p>	<p><a href="#"><u>ECOWITT WH5360 High Precision Digital Rain Gauge User Manual</u></a></p> <p>User manual for the ECOWITT WH5360 High Precision Digital Rain Gauge, detailing setup, installation, features, maintenance, and troubleshooting for indoor temperature and humidity monitoring.</p>																														
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