



Ethernet Gateway

User Manual

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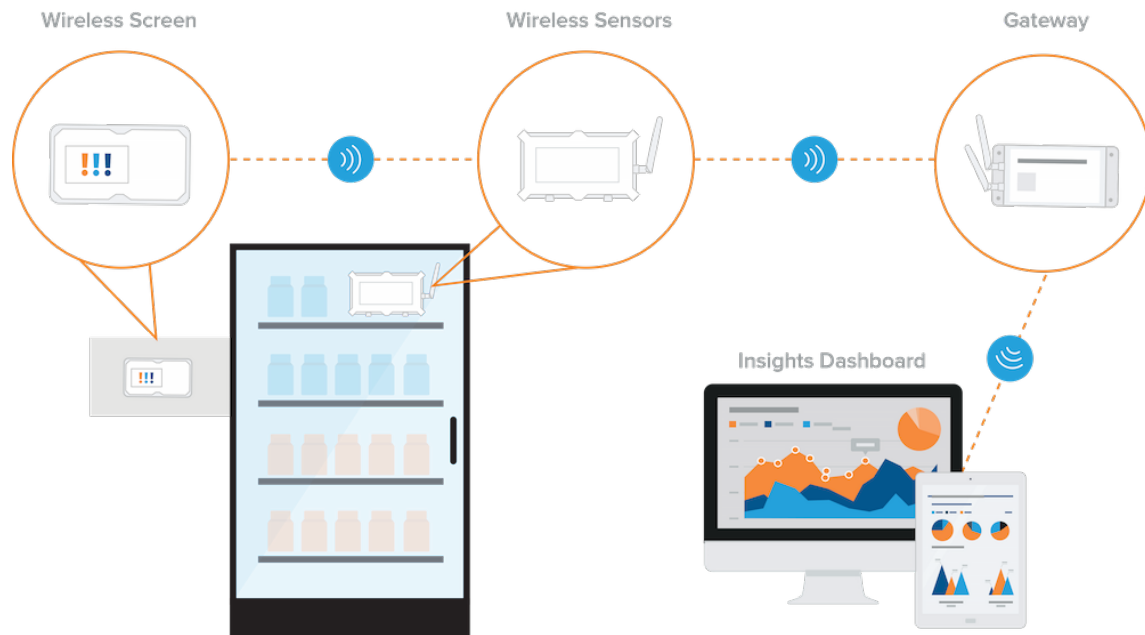
Introduction

Thank you for choosing TempAlert's Ethernet Gateway as your preferred monitoring solution! Follow this user manual for proper use of your new system. Please keep this guide handy for future operational reference.

At a Glance

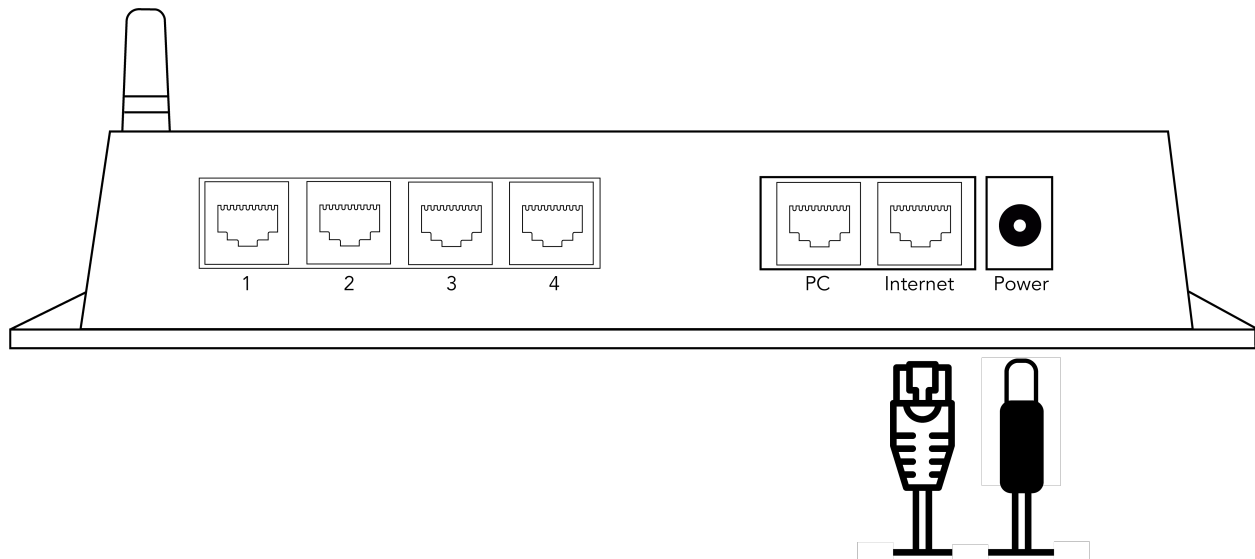
The Ethernet Gateway (Model # TM-WIFI440-Z) is a remote monitoring system that connects directly to the Internet through Ethernet cable connection (DHCP or Static IP). Connect Wireless Sensors to the Ethernet Gateway to remotely monitor temperature, humidity, and more, and configure alerts when conditions fall outside of your set ranges.

The Ethernet Gateway can use either wired sensors (connected directly to the unit) or wireless sensors. Each Ethernet Gateway unit can be linked up to 15 wireless sensors and up to four wired sensors. Each sensor reading is transmitted to our monitoring dashboard: Insights™; and if our monitoring dashboard does not hear from your gateway(s), you will be notified via Missed Report alerts as part of our system Health Check feature.

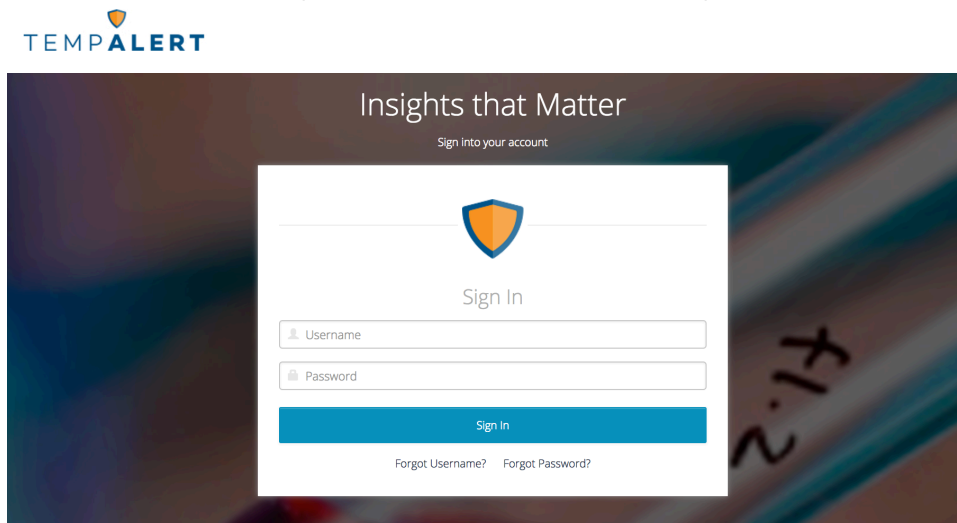


Ethernet Gateway Setup via DHCP

1. Connect the Ethernet Gateway to power using the power adapter and cable included in the product box. You will see a blue light flashing as the device boots up. Connect the Internet router to the Internet port on the Ethernet Gateway using an Ethernet cable (*not included*).



2. Open a web browser on your computer and go to **insights.tempalert.com**. Once the page loads, enter the login credentials provided to you at the time of purchase.



3. Set up your preferences, device and sensor alerts. For more information, please view the Insights™ User Manual for more set up help, tips, and suggestions for optimal performance.

Jacks, Buttons, and Ports

- **Sensor Ports 1, 2, 3, and 4**
 - Accepts any RJ12 type sensor made for the Ethernet Gateway.
- **Power Jack**
 - The Ethernet Gateway can be powered by connecting a 5V 1A power supply to a North American electrical outlet. The power jack accepts DC 2.1/6.3mm coaxial power connectors of 12VDC at 1A.
- **Reset Button**
 - The reset button is located in a small pinhole on the bottom of the Ethernet Gateway below the device ID label. Pressing and holding the reboot button for 20 seconds will factory reset the device to its DHCP configuration.
- **PC Port**
 - This connection is only used for initial setup for Static IP using the web GUI of 10.99.99.1 only unless pre-configured by the manufacturer. *Connecting from this port will cause the Gateway to act as a DHCP server and may cause problems on your network.*
- **Internet Port**
 - This Ethernet port is used for a permanent hardwire connection between your Ethernet Gateway and Internet router.

Operating Guidelines

- **Placement**
 - The unit should be placed indoors on a flat and level surface. The unit can be mounted vertically on a wall or other surface with additional user supplied hardware (such as screws, mounting tape, or industrial strength Velcro).
- **Using Wired Sensors**
 - When using the wired sensors, care should be taken so that the cable is managed in such a way that it is not accidentally unplugged from the unit. If the external sensor is removed from the unit, the unit will not be able to monitor the environmental conditions.
- **Wireless Reception**
 - The Ethernet Gateway has one antenna. This antenna allows for wireless connection to TempAlert wireless sensors.
- **Powering the Unit**
 - We recommend that the unit be connected to an uninterruptible power supply (UPS) or battery backup. If power to the Ethernet Gateway is lost, readings from

hardwired sensors stored in the local memory will be lost and the Gateway will not be able to record temperatures and send alarms. We recommend disconnecting power for 10 seconds or more before powering up the Gateway again. Passive PoE can be used as an alternative means of power. It is recommended to use the Passive PoE injectors purchased directly from us to ensure proper performance. The Gateway is not compatible with Active PoE.

Troubleshooting the Ethernet Gateway

LED Indicator Lights

Use the following table to troubleshoot your Ethernet Gateway

LED	No Blink	1 Blink	2 Blinks	3 Blinks	4 Blinks	Flashing
LAN	No network connection	Good connection to the network		Attempting to send wireless sensor readings		Attempting to send local Gateway readings
Internet	No connection to Insights™	Last transmission to Insights™ was successful				
Activity		No wired sensors are connected to the Gateway	Wireless sensor(s) connected	Ethernet starting up		
Failure			Incorrect network configuration	Gateway not registered on Insights™	Unable to connect to Insights™ server	Last transmission to Insights™ was unsuccessful

Restoring Factory Defaults

Performing a factory reset will restore the Gateway to its initial factory settings with DHCP configuration. This will remove any changes made. *A factory reset should only be used if all other attempts to access the Gateway's web GUI have failed.*

Steps to Factory Reset Ethernet Gateway:

1. Plug the Ethernet Gateway into a power source using the provided AC adapter.
2. Locate the pinhole on the underside of the Gateway. You'll need a pin or paper clip in order to access the reset button.
3. Press and hold the reset button for 20 seconds then release. *There will be no visual indication of a reset.*
4. Wait 90 seconds to allow the device to reboot before connecting to a PC if you are looking to use Static IP configuration.
5. If you are using Static IP configuration, go to the web GUI 10.99.99.1 and you will notice all factory settings have been restored to the factory defaults.

Unit Does Not Power On

Check to make sure the unit is connected to wall power with the included power adapter or the unit is connected to a Passive PoE connection with a power injector. *Active PoE via powered hub or switch is not supported. You must use a power injector if you choose to utilize PoE.*

Cannot Connect to the Web Admin Interface

Check Connections to Ports

Ensure that the unit is receiving power. For initial Static IP setup, ensure that the unit is connected directly to your computer's Ethernet port via the jack labeled "PC". *Do not connect the unit to a router, switch or hub for initial setup.* After you connect the device to power, you'll need to wait about 1 minute for the Ethernet Gateway to fully boot up.

Check the Computer's Ethernet Settings

Check to be sure your computer's Ethernet adapter is set to obtain an IP address automatically (DHCP). If this is the initial setup, your device is already set to use DHCP configuration.

Cannot Receive Email from Insights™

Verify that the test and alert messages are not being automatically sorted into your junk or SPAM folder. You may need to whitelist the messages in your email client to prevent them from being sent to your junk or SPAM folder. Please see your email client's documentation for more details.

If you are using a distribution group, check if the group allows emails from outside your company.

No Readings

Ensure the Gateway has Started Up

It is recommended that sensor probes are plugged in before powering the Ethernet Gateway on. After you connect the power you'll need to wait about one minute for the Gateway to fully startup. During this time, you may not see the web based admin site or you may not see any readings on Insights™. After one minute, refresh the page and the sensor readings should start appearing in your monitoring dashboard.

Check Sensor Connections

Ensure there is at least one sensor connected to the sensor ports on the side of the unit or at least one wireless sensor is powered on. The unit does not have any built-in internal sensors. Contact support if you are unable to view a reading with a sensor cable connected or unable to view readings from a wireless sensor.

Temperature Reading is a Few Degrees Warmer or Colder than Expected

Check Sensor Position

If the sensor is positioned near the exhaust fan or near a cold air fan. Micro-climates can cause inaccurate readings. Our sensors are rated to be within $\pm 0.5^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$) and can be NIST/ISO certified by an accredited lab to ensure this reading accuracy.

Comparing Against Our Sensors

When comparing the temperature readings from our sensors to another thermometer or data logger, it's important to be mindful of the following:

- 1. The margin of error of the comparison tool:** Many thermostats will have a much higher margin of error than our sensors, $\pm 0.5^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$).
- 2. The temperature gradient of the room, refrigerator, or any other placement is in three dimensions:** Measuring the temperature in one part of the location can yield different results than in another part of the same location due to micro-climates.
- 3. Air temperature changes faster than the temperature of a large amount of liquid:** Air temperature in a refrigerator may rise dramatically when the door is opened, but the temperature of the contents of the refrigerator will rise more slowly due to their increased thermal mass. We recommend the use of a buffer vial (virtual or physical) to ensure proper readings are obtained at all times.
- 4. IR guns measure surface temperature while our sensors measure ambient air temperature or buffered temperatures.**

Using Wireless Sensors

When using wireless sensors, please refer to below:

Setting Up the Hardware

Ensure the Ethernet Gateway is powered on. Once the gateway is powered on, it will attempt to connect to Insights™. After a successful connection is made, the Ethernet Gateway will be accessible wirelessly to the battery-powered Wireless Sensors.

To use a battery-powered wireless sensor, simply press and release the power button to turn on the unit. The wireless sensor will turn on and begin searching for a gateway within its range and transmit a reading to the cloud. The unit is operating correctly if you do NOT see the red failure light blink.

Your Wireless Sensor node transmits sensor readings via 2.4GHz radio waves to the Ethernet Gateway. In order for the unit to operate, **it must be within range of a gateway** (up to 300ft with obstructions and up to 1000ft line of sight).

Turning on the Wireless Sensor

To use a battery-powered wireless sensor, simply press and release the power button to turn on the unit. All lights will briefly light up and the unit will be turned on.

Turning off the Wireless Sensor

Wireless sensors are shipped in the Off mode. To power off the wireless sensor manually, PRESS AND HOLD the power button for 5 seconds. During power down, you will see all lights turn on and the status light will flash. When the lights start going off in order one by one, you can release the power button. The unit is now powered off. While fully powered off, the unit will not send or record any temperature readings at any time. All indicator lights will be off.

Pausing your Insights™ account does not power off the Wireless Sensor.

Battery Life

Wireless Sensors will run up to 5 years on the two included Energizer Advanced Lithium AA batteries. The units can transmit as frequently as every 5 minutes and be in ambient temperatures down to -20°C without shortening the battery life. There are several situations that will shorten the battery life:

- Sensor configurations that require the sensor to constantly remain powered, such as rainfall and wind speed, will reduce the battery life. Standard sensors such as temperature, humidity, and dry contact *will not* reduce the battery life.

- Wireless sensors that are not within range of a gateway for an extended period of time will experience a decrease in battery life. If you are using the wireless sensors in those conditions, make sure you have low battery alert notifications setup.

Changing the Batteries

The status of the batteries can be seen from the Wireless Sensor view page on the Insights™ monitoring dashboard. In addition, you can setup a low battery alert notification to notify you when the batteries are low on power. To change the batteries, carefully unscrew the cover. Remove the two AA batteries and replace them with the same type (two Energizer Advanced Lithium AA Batteries). Standard alkaline cells can be used, but they will not perform well in cold conditions and will provide a much shorter lifespan.

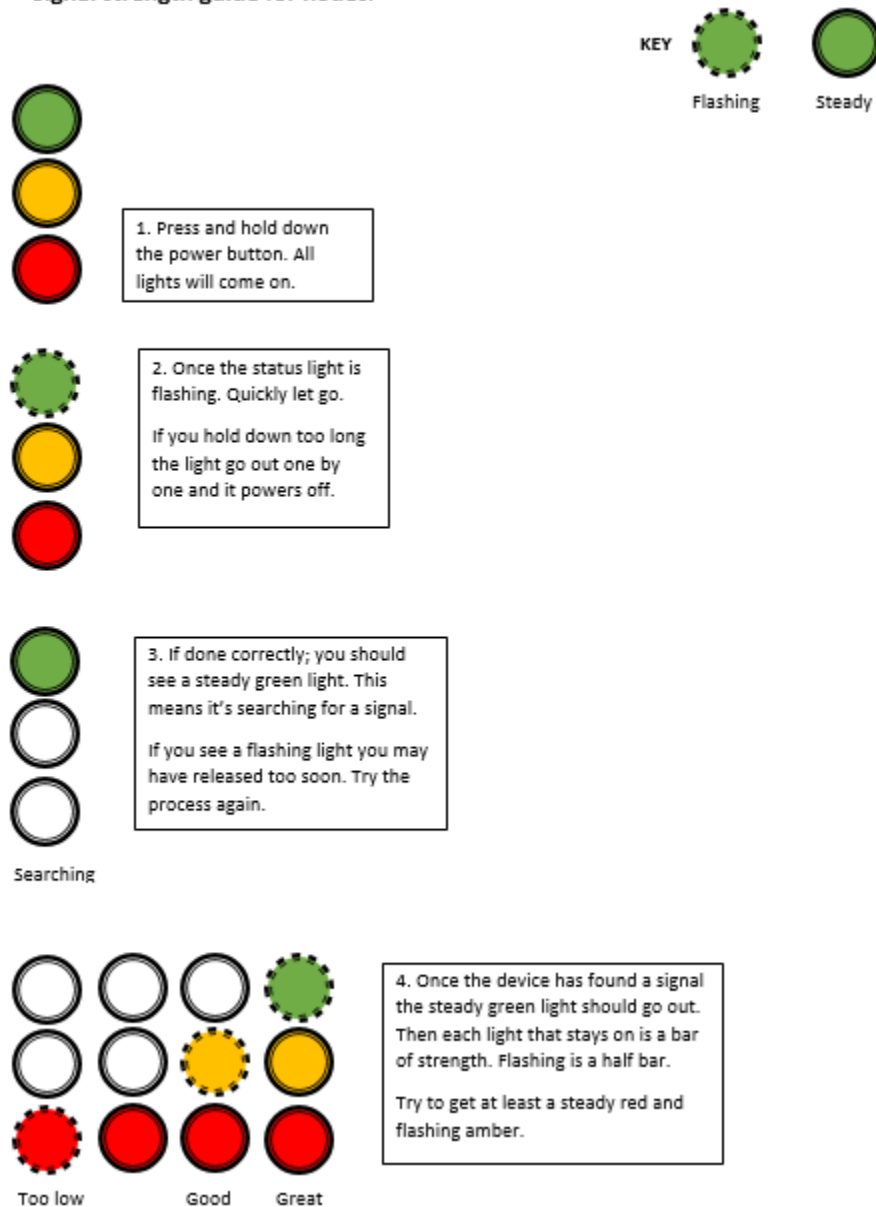
Troubleshooting the Wireless Sensor

Signal Strength Indicator Mode

This mode is used to discover how strong the signal is between the wireless sensor and the closest gateway.

To Enter Signal Strength Mode:

Signal strength guide for nodes.



LED Indicator Lights

LED	1 Blink	2 Blinks	3 Blinks	Fast Blinking
Status	Last transmission to the gateway successful	Last transmission to the gateway successful but low signal		Attempting to transmit to the gateway
Information	No external sensor	Low battery		
Failure	Not registered on Insights™	No signal	Failed to communicate with wireless radio module	

Failure light blink/not reporting to cloud

First make sure the Gateway is powered on and communicating. If it is, try bringing the failing wireless sensor near the Gateway and pressing the power button once to reboot. If it transmits after a few seconds then you can use signal strength mode to find the ideal placement for it.

All three lights turn on and then off without pressing anything

This light pattern may indicate potential hardware damage, please contact our support team at support@tempalert.com.

No lights turn on

The battery may have discharged. Try replacing them with two AA batteries.

Important Usage Information

WARNING:

Changes or modifications not expressly approved by TempAlert could void the user's authority to operate the equipment.

FCC STATEMENT:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Contains Transmitter Module FCC ID: SZ9TMWIFI440Z

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help."

"This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

INDUSTRY CANADA (IC) STATEMENT:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Contains Transmitter Module IC: 10490A-TMWIFI440Z

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



This device is protected by United States Patent Numbers:

7,952,485; 8,547,226; 8,248,252; 8,599,012; 8,779,926; 9,247,322; and 9,500,532

Contact Us

For questions or support, please contact support@tempalert.com 24/7 for expedited technical support service