



Coiliot Sense Thermo-Hygrometer

Sense-RS-TH10

QUICK START GUIDE

1. Product Overview

The Coiliot Sense RF Thermometer is a battery-powered temperature monitoring device designed to measure temperature and transmit data to a compatible Coiliot gateway using sub-1G FSK radio. The device supports long-range transmission with an expected line-of-sight signal coverage of around half a mile under typical open-area conditions. The device can be used indoors or outdoors, but it is not water resistant and must be protected from rain, splashes, and condensation.

2. Intended Use

This product is used to monitor temperature in typical residential or light commercial environments. The thermometer transmits temperature data to a gateway for cloud upload and viewing in the Coiliot application or integrated cloud platform.

3. In the Box

- 1x One RF Thermo-hygrometer
- 1x One CR2450 battery (may be pre-installed depending on packaging)
- 1x Quick User Guide
- 1x Pin for reset button
- 1x Plastic coin for opening the battery cap

4. Power and Battery

Battery type is CR2450 lithium coin cell. Nominal battery voltage is 3.0 VDC. Install the battery with correct polarity as marked in the battery compartment. If the device will not be used for a long period, remove the battery to avoid potential leakage damage.

5. Installation

- Open the battery compartment and insert one CR2450 battery with the correct polarity.
- Close the battery compartment securely.
- Place the device in the location where temperature should be monitored. Avoid placing the device directly against metal surfaces or inside fully enclosed metal containers, as this can reduce RF transmission performance.
- Keep the device away from direct water exposure, condensation, and direct heat sources such as heaters or ovens.

6. Pairing and Setup with Gateway

- Ensure the Coiliot Sense gateway is powered on and connected to Wi-Fi.
- Place the thermometer close to the gateway during initial setup to ensure reliable reception, after pairing, you can put the sensor within its half mile signal range.
- From the Coiliot Sense app
 - Go to Device tab
 - Locate the gateway you want to pair the sensor with
 - Click Add sensor button
 - In the redirected sensor list screen, the sensor would automatically show up if its signal has been received by the gateway.
- You can use the pin and hold the button for around 10 seconds, the sensor will transmit signal for a shorter interval to make sure the signal will be received by the gateway.
- After successful discovery, assign a name or location to the thermometer in the application.

7. Normal Operation

After power-up, the thermometer will transmit several initial messages to improve discovery reliability.

During normal operation, the thermometer sends periodic temperature updates.

If a rapid temperature change is detected, the thermometer may transmit updates more frequently for a short period.

Actual reporting intervals and behavior depend on firmware configuration and the gateway system settings.

8. Radio Information

Operating frequency is 433.92 MHz. Modulation is FSK. Data rate is 2.4 kbps. Frequency deviation is 5 kHz. Antenna type is an internal spring antenna. The radio output power is fixed at the design value.

9. Signal Coverage and Placement Recommendations

- Expected signal coverage is around half a mile in open areas with clear line of sight. Actual range depends on terrain, obstacles, mounting height, antenna orientation, and local RF interference.
- The device can be used indoors or outdoors, but outdoor use requires a dry, sheltered location because the device is not water resistant.
- For best RF performance, keep a clear path between the thermometer and the gateway where possible.
- Avoid placing the thermometer inside closed metal cabinets, behind large appliances, or directly next to thick reinforced concrete walls.
- If you experience missing data, move the gateway closer, reposition the thermometer, or reduce obstacles between them.

10. Contact

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FCC Warning:

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 or more 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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.