

Installation Instructions

IRHT-01 Indoor Humidity/Temperature Sensor

The IRHT-01 Indoor Humidity/Temperature sensor measures relative humidity and air temperature and transmits them via two 4-20mA current loop interfaces. Please follow these instructions to connect the IRHT-01 to the NMEA 2000® network via a Maretron Current Loop Monitor (CLM100). Please note that the IRHT-01 gets its power to operate from the CLM100 through the –RH+ connections. This means the IRHT-01 will operate with just the humidity channel connected, but in order to get temperature, the humidity channel must also be connected. The wiring diagram appears in Figure 1 below. The diagram shows a connection to the CLM100 channels #0 and #1, but connections to other channels are similar.

1. Remove the faceplate from the IRHT-01 by pressing down on the latch at the top with a pen or tool and rotating the faceplate down away from the back of the device.
2. Mount the back of the IRHT-01 to the wall using screws or wall anchors, as appropriate.
3. The IRHT-01 is supplied with a 15' four-conductor cable. Connect the red and black wires from one end of the cable to the temperature channel of the IRHT-01, which is labeled “T”, and connect the red and black wires at the other end of the cable to an unused CLM100 current loop channel. In both cases, ensure that the red wire is connected to the positive (+) terminal of the channel, and the black wire is connected to the negative (-) terminal of the channel. The example in Figure 1 shows the temperature channel of the IRHT-01 connected to CLM100 channel 0 with the red wire connected to “P0+”, and the black wire connected to “P0-”.
4. Connect the white and green wires from one end of the cable to the humidity channel of the IRHT-01, which is labeled “RH”, and connect the white and green wires at the other end of the cable to an unused CLM100 current loop channel. In both cases, ensure that the white wire is connected to the positive (+) terminal of the channel, and the green wire is connected to the negative (-) terminal of the channel. The example in Figure 1 shows the humidity channel of the IRHT-01 connected to CLM100 channel 1 with the white wire connected to “P1+”, and the green wire connected to “P1-”.

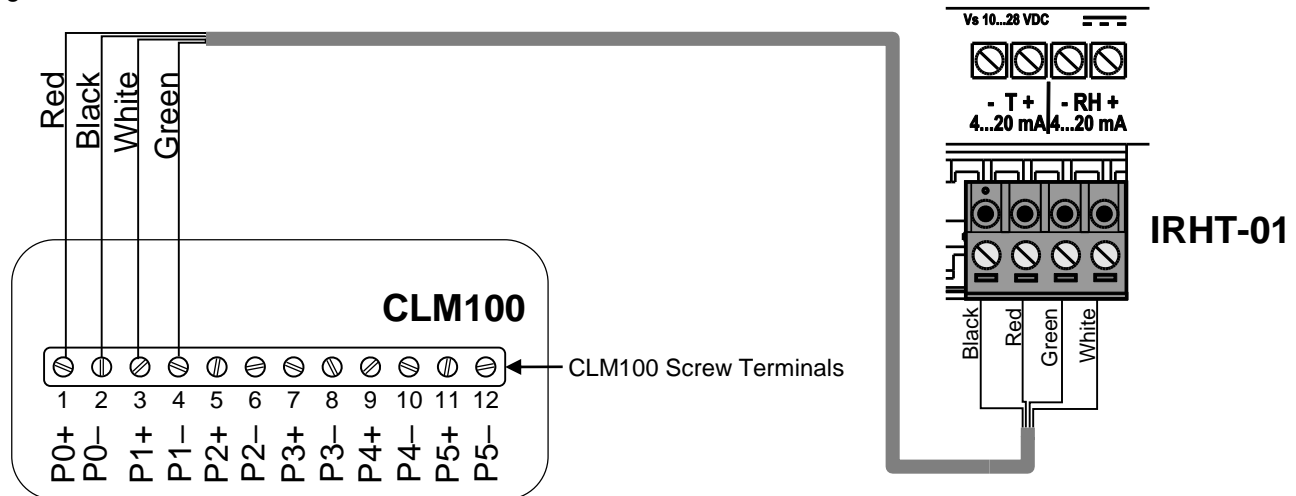
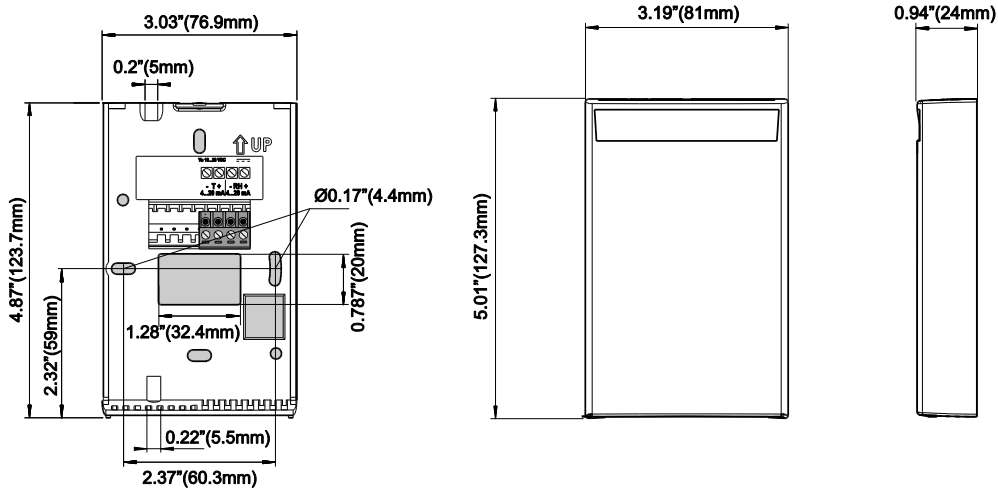


Figure 1 – Indoor Humidity/Temperature Sensor Connection Diagram

5. Reinstall the IRHT-01 faceplate by engaging the tabs at the bottom and rotating it up until it snaps into place.
6. Use a Maretron DSM150 or DSM250 display (firmware version 1.6.2.3 or higher), or Maretron N2KAnalyzer® software (version 2.2.1.2 or higher), to configure the CLM100. Configure the following settings for the CLM100 channel connected to the temperature output of the IRHT-01 (channel 0 in this example), and set the instance to a value which does not conflict with other NMEA 2000 devices:
 - Function: **Temperature**
 - Source: **Inside Temperature**
 - Value at 4mA: **-5°C(23°F)**
 - Value at 20mA: **55°C(131°F)**
7. Configure the following settings for the CLM100 channel connected to the humidity output of the IRHT-01 (channel 1 in this example), and set the instance to a value which doesn't conflict with other NMEA 2000 devices:
 - Function: **Humidity**
 - Source: **Inside Humidity**
 - Value at 4mA: **0%**
 - Value at 20mA: **100%**
8. Supply power to the NMEA 2000 network and verify that the humidity and temperature channels indicate valid humidity and temperature readings using a Maretron display product or Maretron N2KAnalyzer®.

Mechanical Drawings



Technical Specifications

Specification	Value	Comments
Outputs	Two 4 – 20mA channels, loop powered	Humidity, Temperature
Excitation Voltage	10 VDC – 28 VDC	Provided by CLM100
Storage Temperature	-40°F – +140°F (-40°C – +60°C)	
Operating Temperature	+23°F – +131°F (-5°C – +55 °C)	
Operating Humidity	0% – 100% RH, Non-Condensing	
Temperature Measurement Range	+23°F – +131°F (-5°C – +55 °C)	
Temperature Accuracy	±0.9°F (±0.5°C)	+50°F – +86°F (+10°C – +30°C)
	±1.8°F (±1.0°C)	+23°F – +50°F and +86°F – +131°F (-5°C – +10°C and +30°C – 55°C)
Relative Humidity Measurement Range	0% – 100% RH	
Relative Humidity Accuracy	±3%RH	+50°F – +86°F (+10°C – +30°C) 0%RH – 70%RH
	±5%RH	+50°F – +86°F (+10°C – +30°C) 70%RH – 100%RH
	±7%RH	+23°F – +50°F and +86°F – +131°F (-5°C – +10°C and +30°C – 55°C) 0%RH – 100%RH
Relative Humidity Stability	±2%RH	Over 2 years
Maximum Wind/Flow Speed	67.1MPH (30m/s)	
EMC Compatibility	EN61326-1, Industrial Environment	
Weight	3.8 oz. (108g)	
Supplied Cable	15' (4.57m) four-conductor 22AWG unshielded	For connection to CLM100

For installation support, please contact:

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