WSG RTD WIRELESS TEMPERATURE SENSOR

The WSG RTD Wireless Temperature Sensor provides extended temperature monitoring from -199.7 to 120 degrees C utilizing a 100 Ohm platinum RTD probe. The sensor is available with either a 1" or 14" stainless steel probe and a 10' cable. Temperature data is sent from the sensor to the WSG30 via an integrated 2.4GHz Wireless radio. The device can transmit its signal up to 300' indoors and even greater distances when it has line-of-site. The WSG30 series of Wireless sensors also feature mesh networking technology, which allows each sensor to be used as either a Wireless sensor/router or as a low-power battery operated sensor (also referred to as an end point). When used as a router, greater distances can be realized because each sensor/router adds another 300' of range to the system. The sensor comes with 2 AA Lithium batteries which will power the sensor for up to 2 years (end point mode). An optional plug-in power supply is also available, in which case the batteries function as backup power if main AC power fails (power supply required for router mode).

NOTE: Do not install the sensor in a dirty, humid, or corrosive environment. Do not install the sensor in close proximity to other 2.4GHz devices (WiFi, bluetooth, etc). Do not install the device inside of a metallic enclosure as this will impede it's ability to wirelessly communicate with the WSG30.

NOTE: In order for the WSG30 RTD Sensor to work properly your WSG30 main unit must have firmware version 1.73 (or greater) installed. Firmware can be downloaded from the support section of the Sensaphone website at www.sensaphone.com

Note: Do not submerge the RTD cable in liquid nitrogen. This will cause premature failure of the cable and the epoxy seal on the probe. The RTD sensor with the 14" stainless steel probe is better suited for applications where the probe must be submerged.

PACKAGE CONTENTS

(1) Wireless Temperature Sensor   (1) 100 Ohm Platinum RTD Probe w/10' cable

(2) AA Lithium batteries   (1) Plastic drywall anchors   (1) #6 Metal tapping screws

INSTALLATION SUMMARY

1) Locate the sensor serial number on the small white label inside the sensor enclosure .

2) Enter the serial number into the WSG30 using the web page or keypad.

3) Mount the sensor.

4) Attach power supply if using as a router and install the batteries.

5) Watch the LCD or web page to confirm that the sensor has connected with the WSG30.

SENSOR REGISTRATION

Before you power-up the sensor you must enter the serial number, located on the small white label inside the sensor enclosure, into the WSG30. You can do this with the WSG30 web page or you can enter it using the WSG30 keypad (see Sensor Registration earlier in this manual). Just be sure to jot down the serial number before you attach the sensor to the wall.

BATTERY INFORMATION

The Wireless Temperature Sensor can operate for up to 2 years on a good set of AA lithium batteries when the sensor is configured as an end-device with a 5 second sampling interval. Sensors configured as routers must use a plug-in power supply. Faster sampling intervals will reduce battery life. Lithium batteries are recommended for optimal battery life.

BATTERY INSTALLATION

Carefully separate the top of the enclosure from the bottom. Locate the battery holder on the circuit board. Take note of the polarity markings identifying the positive and negative ends of the batteries. Install the batteries. Re-attach the top and cover.

POWER SUPPLY WIRING (ROUTER MODE)

When using your wireless sensor in Router mode, you must use an external power supply (Sensaphone Part #XFR-0041). This is required because router mode uses more power than can be supplied by batteries alone for an extended period of time. You can also use a power supply when the sensor is configured as an End Point, which will greatly extend the life of the batteries and minimize the need to change them.

To connect the power supply, remove the sensor cover and locate the screw terminals labeled "5V DC". connect the positive wire from the power supply to the "+" terminal. Plug the power supply into an appropriate outlet.

MOUNTING

The temperature sensor can be mounted directly on a flat surface. Consideration should be given as to whether or not an electrical outlet will be required if using the optional power supply. Mount the sensor as high as possible to provide for optimal Wireless transmission. When installed within a building where the Wireless signal must travel through several obstructions, the sensor should be located within 250' of the WSG30 or within 300' of a sensor/router.

Use a pencil to mark the hole locations at the top and bottom of the housing. Install the drywall anchors (if necessary) to the wall. Attach the housing to the wall using #6 tapping screws.

1.375"
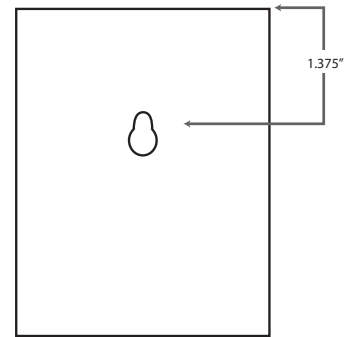
RTD WIRING

The RTD probe includes a 3-wire 10' Teflon cable. DO NOT change the length of the cable! Extending or reducing the cable length will affect the accuracy of the temperature measurement. Two wires in the RTD probe cable will be of the same color and one wire will be a different color. Connect the two wires of the same color to the sensor positive "+" and "RTD Sense" terminals on the sensor. Connect the third wire to the sensor negative terminal "-". Take care not to flex the cable when installed in very cold temperatures (e.g. below -50 deg C)

SPECIFICATIONS

Operating Temperature Range: 32° to 122° F (0° to 50° C)

Monitoring Temperature Range: -326° to 248° F (-199.7° to 120° C)

Operating Humidity: 5- 90% RH non-condensing

Sensor Type: 100 Ohm Platinum RTD

Accuracy: ± 1° C

Range (Indoor/Urban): Up to 300' (90m)

Transmit Power Output: 79mW (+19dBm)

Operating Frequency: ISM 2.4 GHz

Power: (2) AA lithium batteries and/or 5VDC (300mA) plug-in adapter

Battery Life: Up to 2 years @ Sampling interval = 5 sec, Endpoint mode

Dimensions: 3.1" x 3.8" x 1.1"

Housing: White plastic

*Specifications subject to change without notice