

RS-W

Wireless Remote Temperature sensor

Smart Temp

The Smart Temp RS-W is a precision manufactured wireless remote temperature sensor with many advanced capabilities. Please take time to read and understand these instructions as if properly installed the RS-W will prove to be an accurate and reliable temperature sensor.

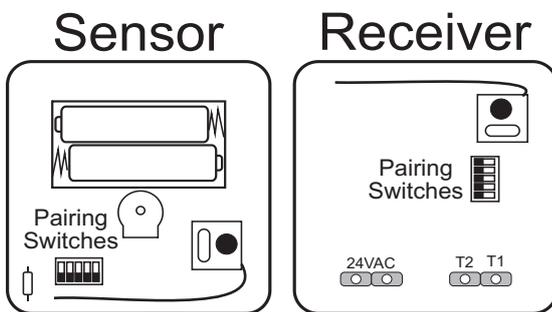
Please contact Smart Temp or an authorised distributor should you have questions about the RS-W sensor not covered in this manual

Setup

The Smart Temp RS-W remote sensor is made up of two parts, the battery powered temperature sensor transmitter and the 24V powered temperature receiver module. These matched pairs serve to communicate temperature information from the sensor to the receiver module via 433 MHz RF signal. The temperature data is then read by the thermostat.

Pairing

The RS-W sensor sender and receiver module must first be "paired" before they can be communicate and transmit temperature data. This simply involves setting the DIP switches in both the receiver and transmitter to the same value (code).



The sensor and receiver are fitted with a red switch block with 5 white switches. These switches are marked 1 to 5. Before inserting batteries or powering the receiver simply set the same combination of On and Off on both the transmitter and receiver switch blocks to pair the two devices. This must done while powered down as these switch settings are "remembered" on power up.

This method of pairing using hardware switches is a quick and normally error free way of pairing. It also permits visual confirmation of the pairing making it simple to confirm which sensor and receiver set are paired.

Pairing ensures no cross talk if you have multiple sensors within a single building, provided they all use different switch combinations (codes).

You are permitted to have 1 sensor communicate with multiple receivers if all are using the same combination. This permits you to send outside air data from 1 sensor to multiple thermostats within a building if desired.

Sensor



The wall sensor consists of a temperature sensor, a low powered radio transmitter, 2 AAA batteries and a small indicator LED.

This sensor will transmit temperature data to the paired receiver at least once every 5 minutes or with every 0.5c of measured temperature change; what ever occurs first.

The communication between the sensor and receiver is bi-directional. After sending temperature data to the receiver the sensor waits for acknowledgement of the data being received. If acknowledgement is NOT received the sensor will continue to re-transmit the data.

At any time should you wish to confirm communication between the sensor and the receiver, simply press the button on the bottom of the sensor for 3 seconds, if the status LED on the sensor illuminates then communication between the sensor and receiver is confirmed.

The sensor is powered by 2 AAA Alkaline batteries. The battery life is typically greater than 1 year.

Smart Temp are able to offer remote sensors that provide temperature adjustment (RS-WA) suitable for use with the Smart Temp family of thermostats. When using the sensor with the Smart Temp SMT-770 & SMT-920 thermostats, the status button on the bottom of the sensor also initiates the after hours run timer. The RS-W status LED's will light when the receiver confirms the after hours run signal has been received.

Receiver



The receiver is powered by 24VAC and provides temperature data to the thermostats remote temperature sensor terminals.

3 LEDs on the receiver provide visual indication of the receivers function.

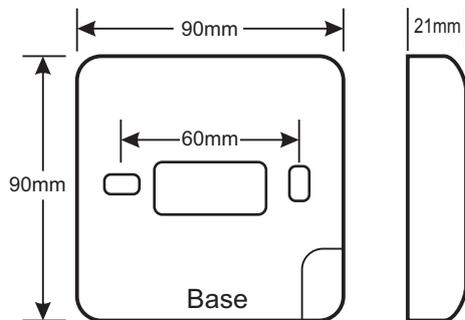
The power LED indicate that the sensor is powered. The data LED blinks when temperature data has been received. The status LED illuminates when the sensor switch has been pressed.

If no valid temperature data has been received for 10 minutes, or a low battery condition is measured the receiver will continually hold the temperature output to the thermostat to a fixed 21C.

When the sensor battery is low, the status light on the receiver will continually flash.

Specifications

Size	90 x 90 x 21mm
Mounting	60mm spaced
Material	ABS/PC blend UV & fire resistant
Sensor	10K NTC type II
Operating temp	-5 to 45c
Storage temp	-30 to 95c
RS-WA range	+/- 2 @25c
Terminals	2mm cage 50V rated
RF Frequency	433 Mhz
Communication	2 way with verification
Range	30 M in building up to 80 M open air
Transmitter power	<0.1watt
LEDS	Power Data (sending & receiving) Status - (AH function called)
Batteries	Sensor 2 x AAA
Battery life	> 1 year typical
Low Bat warning	Yes - Receiver LEDES Flash
Transmitter	24VAC powered
Data transmission	5 mins or 0.5c change (what ever occurs first)
Approvals	FCC part 15 Certificates available upon request
Warranty	3 years RTB

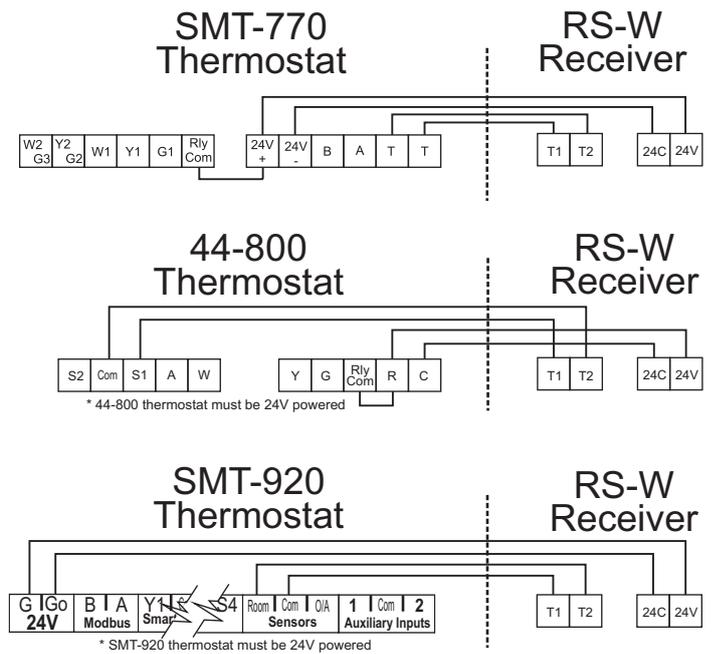


The Smart Temp RS-W sensor works best with the range of Smart Temp thermostats fitted with remote (or outside) temperature sensor inputs.

This sensor will work equally well with many other brands of thermostats on the market provided they use a 10K type II NTC sensor.

If additional information is required please contact Smart Temp or an authorised distributor.

Typical wiring examples



The Smart Temp RS-W is powered by 24VAC and simulates a standard two wire sensor (10 K NTC type II) to the thermostat it is connected to. The wiring is not polarity dependent. Simply connect the RS-W to 24VAC power and the T1 T2 terminals to the thermostat or zoning systems remote or outside air sensor terminals as required.

Three examples of typical wiring is provided above.

LED Codes

The Smart Temp RS-W has indicator LEDES to provide feedback of the operation of the sensor. please refer to the table below for these LEDES function.

Sensor

Status Will illuminate after test / AH button is pressed if successfully paired with a receiver.

Receiver

Power Shows the sensor is powered.
Data Will flash when it receives data from the sensor.
Status Illuminates when sensor test A/H button on sensor is pressed.
Will flash when sensor low battery condition is detected.