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Sensor Link Room Temperature Transmitter

HTC Product #	Doc #	Rev.	Date
904710-00	EDR006	A	11/6/02

Purpose

This non technical document briefly describes the operation of the Sensor Link Room Temperature Transmitter.

General Description

The Room Temperature Sensor Link Transmitter measures room temperatures. It is installed by attaching it to a wall and is powered by batteries. The antenna is an integral part of the unit. Once every approximately 4.5 minutes, it measures the temperature and sends it by RF to a receiver. The transmission RF frequency is fixed. The receiver forwards this information to a Heat Timer's Panel. The transmitted peak power is about 1mW and it lasts for about 40ms.

Operation

The transmitter operates at either Normal or Test modes.

Normal Mode

Following battery insertion, the unit checks batteries power. It blinks an LED 3 times if the power is adequate for operation. Then it measures the temperature level and transmits it 7 times at 5 seconds intervals. Each time, the unit blinks an LED to indicate a transmission in process. Along with the temperature value, the transmitter sends its own ID number. At the end of this process, the transmitter switches to regular 4.5 minutes transmission intervals. Once every approximately 4.5 minutes, it measures the temperature level and transmits it on the RF link. Between transmissions, the unit automatically reduces its power consumption by operating at a minimum configuration. The LED does not blink in Normal mode.

Test Mode

This mode allows testing connectivity between the Sensor Link Room Temperature Transmitter and a Sensor Link Receiver. When the on board switch is momentarily pressed, the transmitter enters the Test mode. In this mode it measures and sends the temperature information once every 5 seconds for a period of 5 minutes. Each time, it blinks an LED to indicate a transmission in process. At the end of the 5 minutes period, the unit reverts to its Normal operational mode.

Characteristics

- ♦ The transmitter operates best between 0°C to 70°C (32°F to 158°F). At this temperature range, the batteries will last a minimum of 3 years and a maximum of 8 years. Although the unit can operate at a wider temperature range, its battery life span is longer at the range specified above.
- ♦ Temperature measurement accuracy is $\pm 0.5^{\circ}\text{C}$ ($\pm 0.9^{\circ}\text{F}$).
- ♦ The frequency of transmission is 915.37MHz.
- ♦ Power source: 3 AAA type batteries.
- ♦ Wall mounted unit.