

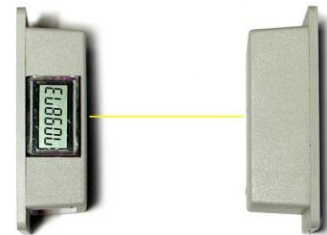


Battery Operated IR People Counter with an Integrated RF Transmitter

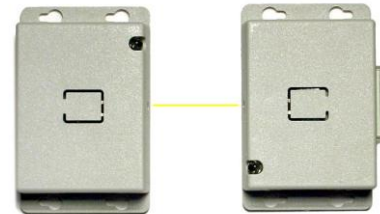
Features

- IR beam-interrupt 24-bit People Counter
- Battery operated for a truly wireless installation
- Front or Side Firing IR Beam
- Radio interface operates with all Point Six Receivers
- Unique serial number embedded in radio data packets
- Integrated 6-digit LCD display indicating total counts
- Integrated mounting flange
- Up to 30 Ft. IR transmission range
- Up to 600 Ft. radio range
- Counts beam interruptions and total beam interrupt duration
- CRC-16 error checked radio data packets
- 2.5" X 2.0" X 1.0" ABS enclosures
- Energy managed low power modes for long battery life
- Complies with part 15 of the FCC rules
- Patent pending
- User replaceable batteries

Front Firing



Side Firing



Description

The Point Six IR Point Sensor-LL is a battery operated infrared beam People Counter with a 418/433 MHz radio transmitter. The sensor consists of two parts; the IR transmitter and the IR receiver. The IR receiver has an integrated 6-digit LCD counter and a radio transmitter for truly wireless installation and operation. The IR transmitter produces 32 pulses of high intensity IR each second across a distance of up to 30 feet. The nature of these IR pulses is such that the IR receiver can distinguish them from any other source of IR. This characteristic allows the IR sensor to operate in almost any environment without interference from ambient lighting.

The IR Point Sensor is designed to require very little energy; the internal 3.6 Volt Lithium thionyl chloride battery will operate the IR receiver for up to 2.5 years in normal operation. The IR transmitter can operate on two 3.6 Volt internal Lithium thionyl chloride batteries for 2.5 years.

Operation

The IR receiver and IR transmitter can be placed in a **Shipping Mode** to lower energy usage and to prevent Radio transmissions during shipping. Holding the pushbutton down for a period of time greater than 8 seconds and then releasing will enter Shipping Mode. IR receiver Shipping mode is indicated by the LCD display counting automatically 1 count each second and a rapid flashing of the LED when the pushbutton is pressed for less than 2 seconds. When shipped from the manufacturer the IR counter will always be in Shipping Mode. A rapid flashing of the LED indicates IR transmitter shipping mode when the pushbutton is pressed for less than 2 seconds.

Shipping mode is terminated by entry into **Online Mode**. Online mode is entered from Shipping Mode by pushing and holding the pushbutton until the LED is solid on the IR Transmitter and for the IR receiver until the LCD display clears to zero.

While in Online Mode the user can place the IR receiver in **Setup Mode** by pushing the pushbutton for a short time of 1- 2 seconds. The receiver will be placed in Setup Mode to aid in alignment of the transmitter and receiver. For a period of 2 minutes the LED on the receiver will glow to indicate the reception of the IR beam from the transmitter. After two minutes or 8-seconds of uninterrupted beam the receiver will exit Setup Mode and return to Online Mode. In Online Mode the LED on the front of the receiver will flash briefly each time the IR beam is interrupted. The LCD counter will count each beam interruption and the internal 24-bit counters will count the beam- interruption and the beam-interruption-time.

The LCD counter and the internal 24-bit counters will perform a **Counter Reset** each time the push button on the IR receiver is pushed and held for more than 2 seconds. Counter reset is best performed after the receiver and transmitter have been setup for Online Mode operation using Setup Mode.

Every 30 to 37 seconds or within 10 seconds of a beam status change the receiver will transmit a data packet using the onboard 418/433 MHz radio. Data packets consist of:

X2 Object Counter” (11/10)

IDSSSSSSSSooooooffggggCCCKK<CR>

Note: All fields are in ASCII Hex

“ID”

The x2 object counter device type field: “DualCounter” has device type 11 hex. A 10 hex when in service mode.

“SSSSSSSS”

The MS-30 bits of these 4-bytes are the serial number of the sensor. The LS-2 bits are the status flags for the open and closed beam status. An **Open beam exists whenever the beam cannot be seen**. A **Closed beam exists whenever the beam can be seen**. The LS bit (bit-0) is the Open beam state flag and the next most significant bit (bit-1) is the Closed beam state flag. Whenever **both these bits are low** a **BLOCKED** state exists. Blocked occurs whenever the IR beam is blocked (Open) for more than 6.5 seconds.

“oooooo”

This 24-bit field is the **Object Counter** stored LS-byte first.

“ff”

THIS 8-BIT FIELD IS THE FRINGE PERFORMANCE EVENT COUNTER. A NON-ZERO VALUE IN THIS FIELD INDICATES THAT FRINGE IR RECEPTION EXISTS AND SHOULD BE CORRECTED FOR PROPER PERFORMANCE OF THE COUNTER. THIS COUNT RETURNS TO ZERO WHEN PROPER ALIGNMENT EXISTS.

“gggg”

This 16-bit field is the **Total-Blocked-Time** in accumulated seconds stored LS-byte first.

This counter accumulates the total time the beam has been blocked in seconds and is cleared

To zero when the object counter is cleared.

“CCCC”

This field is the CRC-16 error check as was originally received and checked. This CRC is over the first 11 bytes of the packet starting with the device type and ending with but not including CRC-16.

“KK”

This field is the mod 256 sum of all the binary data values as represented by the ASCII hex values in the response but does not include the <CR>.

Operating Parameters

PARAMETER	MIN	TYP	MAX	UNITS
Battery life IR receiver	-	2.5	-	Years
Battery life IR transmitter	-	2.5	-	Years
Battery type; Tadiran TL-2100	-	-	-	-
IR range	.5	-	30	feet
Radio range	-	600	-	feet
IR receiver pushbutton down to reset time	-	2	-	seconds
IR receiver pushbutton down to ship mode	-	8	-	seconds
IR transmitter pushbutton down to wake time	-	2	-	seconds
IR transmitter pushbutton down to ship mode	-	8	-	seconds
Enclosure 2.5”X2.0”X.1.0” ABS Plastic	-	-	-	-

Installation Illustration

