Operational description of the IR Proximity Counter, Model Point Sensor IRProx2

Description of the circuit functions, ground system and antenna of the Point Six, IRProx2 Wireless transmitter

The Point Six proximity IR Counter transmitter is a lithium battery operated, microprocessor based, 418 MHz. transmitter that transmits IR beam, open-state counter and total beam open time counters and a unique 30-bit serial number. The microprocessor is brought up from a power down state every 1/16 second by a 32768 Hz, oscillator connected to ripple carry counter divider to produce a wakeup period of 1/16 second. The microprocessor looks for IR pulses from an IR sensor connected to an input of the microprocessor, and determines the beam open/closed status from these pulses. The microprocessor counts the beam interrupt cycles and then combines the counts and IR sensor status with the serial number data from an onboard stored unique serial number and then transmits the entire data packet serially with a Linx Technologies TXM-418-LC-R 418 MHz. Transmitter module. The microprocessor then powers down into a quiescent state to wait for the next interrupt from the oscillator divider.

The PC board bottom layer is a ground plane and the antenna is a 1/4-wave loop that has been etched in PC board material and placed into the ABS enclosures cover.