

Point Sensor Multi Channel Pulse Counter Transmitter 3006-57



FEATURES

- (2) 30-Bit unique ID, (4) 24-bit Digital Counters with 418 MHz radio transmitter
- Switch for installation and service mode indication
- Counts up to 30 pulses per second
- Up to 600-foot range
- Transmission rates from 20 to 34 seconds random
- Up to 100 transmitters can coexist
- Battery lasts up to 2 years
- Very small (2.5" x 2.0" X 1.0") ABS Enclosure
- Complies with part 15 of the FCC rules
- Water resistant coating for wet environments
- Internal loop antenna
- Low cost

DESCRIPTION

The Point Sensor Multi Channel Pulse Counter use 4 external resistors in series with each of four switch closures. Each switch-resistor pair is placed in parallel on the two inputs to the counter. The resistor must be 1k, 2k, 4k and 8K Ohms within 2%. The part number list below is recommended; these parts are available from www.Digikey.Com.

Counter	Resistor Value	Digikey part number
Counter4	1000 ohms	1.00KXBK-ND
Counter3	2000 ohms	2.00KXBK-ND
Counter2	4020 ohms	4.02KXBK-ND
Counter1	8060 ohms	8.06KXBK-ND

The electronics are coated with a conformal material that provides a moisture barrier against condensation. Submersion in water is not recommended. A button on the top of the ABS cover permits a user to activate the service switch. When the service switch is pushed a data transmission occurs immediately and a special mark is introduced in the ID field of the transmitted data packet to indicate which sensor is in service or installation. The Sensor is shipped with the transmitter turned off (anytime the Sensor is to be shipped the transmitter should be turned off or must be placed in a shielded container to prevent interference that might cause shipping problems). Start the Sensor by removing the battery pull tab to engage the battery. The Point Sensor Multi Channel Pulse Counter can be turned off by re-inserting the battery pull tab or by removing the battery.

Transmission rate	20-34 seconds random
Shelf life with battery installed	10 Years in quiescent mode
Dimensions (enclosure)	2.5 W X 2.0 H X 1.0 D (inches)
Weight	1.5 oz.
Input	Switch closure (dry contact)
Storage Temperature	-40° to 85° C
Operating Temperature	-40° to 85° C
Humidity	0% to 90% non-condensing
Battery life with transmissions	Up to 2 years
Battery	3.6 volt Lithium
FCC Certified	FCC ID: M5ZP6EZIO

Point Six Wireless
Unique, High Value Wireless Solutions

Installation and Operation Instructions

Point Sensor Multi Channel Pulse Counter

The Point Sensor Multi Channel Pulse Counter transmits counter data, and a unique serial number to a 418 MHz receiver. The Point Sensor Pulse Counter/Temperature is enclosed in a high impact ABS enclosure for direct surface mounting in the environment to be measured. The counter produces two different dual counter packets. The serial numbers will vary by bit-3 in the most significant byte of the serial number. The two different packets are alternated in the transmitter function such that each packet is transmitted every 20-34 seconds.

Application: Apply the sensor to the surface to be monitored with double-sided adhesive tape. Make sure that the side with the product label is away from any metal surfaces.

Service Function: The sensor has an installation mode switch (pushbutton located in center of enclosure lid). When the pushbutton is momentarily pressed, the device will transmit a special installation status mark in the data packet immediately after the service switch is released. The immediate transmission of counts, ID and installation status mark will occur anytime this switch is pressed. The Point Sensor Multi Channel Pulse Counter may be placed in a quiescent state by re-installing the battery pull tab or removing the battery.

Battery: A 3.6 Volt lithium battery powers the wireless Multi Channel Pulse Counter. The battery will last for more than 5 years in the quiescent state (as shipped from the manufacturer). The device will transmit data for as long as 2 years at a rate of once every 20-34 seconds once started. The electronic components are completely covered with a water resistant coating to protect from condensation. The user can replace the battery.

**FCC ID: M5ZP6EZIO
MADE IN USA**

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES, OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESERED OPERATION

FCC Radio Frequency Interference Statement

Multi Channel Pulse Counter

FCC ID: M5ZP6EZIO

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15, Subpart B, of the FCC Rules. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause interference to radio communications.

The limits are designed to provide reasonable protection against such interference in a residential situation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna of the affected radio or television
- Increase the separation between the equipment and the affected receiver.
- Connect the equipment and the affected receiver to power outlets on separate circuits.
- Consult the dealer or an experienced radio/TV technician for help.

MODIFICATIONS

Changes or modifications not expressly approved by **Point Six Wireless** could void the user's authority to operate the equipment.

Wireless Transmitter Packet-Data Specification

The counter produces two different dual counter packets. The serial numbers will vary by bit-3 in the most significant byte of the serial number. The two different packets are alternated in the transmitter function such that each packet is transmitted every 20-34 seconds.

For example:

Base serial number is 90624068 then the second serial number will be 98624068.

Counter1 and Counter2 will be transmitted as the base serial number 90.....

Counter3 and Counter4 will be in the packet with serial number 98.....

Counter1 and Counter3 will be in the "bbbbbb" field.

Counter2 and Counter4 will be in the "aaaaaa" field.

When the service button is pressed a service packet with the base serial number will be transmitted within one second and three seconds later a second service packet will be transmitted with the 98..... serial number.

Test should be performed with a 4K and 8K ohm resistor to produce counts in Counter1 and Counter2 in the base serial number. There is no need to test the alternate packet or counters.

The serial number on the tractability label should be the base serial number only.

"DualCtr" (11/10)

IDSSSSSSSSaaaaaabbabbbCCCCKK<CR>

Note: All fields are in ASCII Hex

"ID"

The device type field: Dual Counter 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 Dual Counter. The LS-2 bits are meaningless in the dual counter.

"aaaaaa"

This 24-bit field is the Counter2 and Counter4 data stored LS-byte first.

"bbbbbb"

This 24-bit field is the Counter1 and Counter2 data stored LS-byte first.

"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>.

Note: "Blocked" is meaningless in the quad counter..