L54215 Single Channel Pulse Counter
L54230 Two Channel Pulse Counter

Features

- The H2O Degree L54215/L54230 is a battery powered wireless pulse counter that has two (L54230) or one (L54215) dry contact channels.

- Device provides a LoRaWAN radio interface to remotely collect utility consumption. Model L54215 collects from (1) pulse meter while the L54230 collects from up to two (2) separate pulse meters (any combination of gas or water meters with dry contact).

- LoRaWAN radio infrastructure provides the longest range in the industry for communication distances, eliminating the need for repeaters, all over a secure open protocol network.

- Distance: Pulse counter without repeater or additional gateway.
  - Line of sight - 10+ Miles line-of-sight
  - Garden-Style Property - 1,000 ft radius from Gateway, max 70 acre property
  - High-Rise Property - 15 story radius from Gateway, max 30 story property

- Radio is compatible with LoRaWAN Class A secure wireless 915 MHz.

- Device can connect to new or retrofit meters including (sample list):
  Water meters with pulse output:
  - Badger
  - Elster (AMCO)
  - Master Meter
  - Neptune
  - Norgas
  - SENSUS

  Gas meters with pulse output:
  - Dattus
  - Itron Metris
  - Norgas

- Channel 1 and 2 can interface to dry contact pulse inputs only.

- Consumption packet data reported (60 minute interval default).

- By using a magnet, the installer can force a radio transmission and receive a LED sequence feedback on radio connectivity in real time.

- Non-volatile memory maintains last reading in the event of a power failure.

- Optimize battery life with adjustable send intervals (from 1 minute to 255 minutes.).

- System reports battery life to end user for maintenance.

- Ten year battery life.

- Ten year warranty.

Overview

The H2O Degree L54215/L54230 wireless LoRaWAN-based pulse counters monitor and record dry contact pulses from utility meters to determine energy or water consumption.

State-of-the-art LoRaWAN wireless technology is integrated into the pulse counter to provide best-in-class wireless communication. The wireless system can communicate over a 1,000 foot radius from the gateway within a garden-style apartment complex and up to 30 stories within high-rise properties without any repeaters.

The LoRaWAN network provides an open protocol network compatible with other products on a secure and reliable platform.

The devices are designed to support water and gas pulse meters. The pulse counter device uses a battery powered wireless radio (10 year battery life) to report consumption. There is a 32-bit unsigned cumulative pulse counter register for each of the one or two channels. The pulse counter continues to count pulses even if the radio is unable to transmit the data.

Compatibility:
- Water meter with pulse output
- Gas meter with pulse output

Ordering Information

Model	Description
L54215	L54215 One Channel Pulse Counter Radio (Battery Powered) 915 MHz
L54215-O	L54215 One Channel Pulse Counter Radio (Battery Powered) 915MHz with Outdoor Enclosure
L54230	L54230 Two Channel Pulse Counter Radio (Battery Powered) 915 MHz
L54230-O	L54230 Two Channel Pulse Counter Radio (Battery Powered) 915MHz with Outdoor Enclosure

* See Separate Specifications for LoRaWAN Gateways

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Technical Specifications

Electrical
- Voltage Input 3.6 Volts
- Battery: 1 D Lithium

Regulatory approvals
- FCC IO T9JRN2903
- Complies with FCC CFR47 Part 15 Sub Part I
- Complies with Industry Canada L

Radio
- LoRaWAN 18.5 dBm output power
- High sensitivity -146 dBm
- FSK, GFSK, LoRa Technology Modulation
- Antenna 1.3 db trace antenna or SMA connector for a 2.0 db whip antenna

Environmental
- Operating temperature -40 to 85 degree C
- Storage temperature -40 to 115 degrees C

Security
- AES 128 Encryption Keys

Installation Indicators
Reed switch used with magnet to force radio transmission
Two LEDs (green and red) to indicate status of transmission

Length of Signal Wires
The L54215/L54230 battery pulse counter has been tested with 22 AWG stranded wire between the meter and the L54215/L54230 pulse counter for up to 100 feet in length. This length of wire proved to be 100% pulse accurate.

Physical
- (H x W x D) 5.36 (with flanges) x 3.33 x 1.73
- Color: black
- Weight / shipping weight < 9 oz. / 1 lbs.

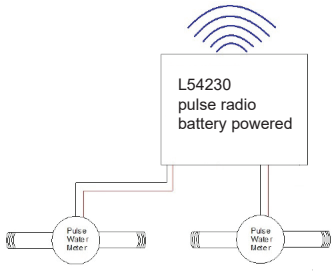
Warranty
- Ten Years

Battery Life
- Ten Years

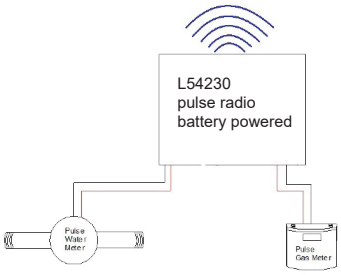
Pulse Electrical Characteristics
- Open state impedance is greater than 1 mega ohm
- Closed state impedance is less than 1 kilo ohm
- Pulse width of qualifying pulse (active low) is greater than 25 milliseconds
- Pulse frequency of qualifying pulses is greater than 1 Hz (one pulse per second)

Wiring & Installation Instructions

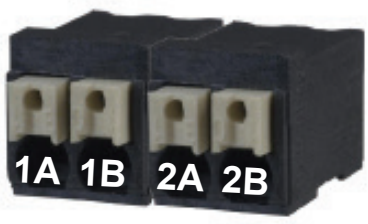
L54230 Meter - Two Water Meters



L54230 Meter - One Water & One Gas Meter



L54230 Signal Wiring
(Push connectors with press to release. Not polarity Sensitive.)



Channel 1 A Terminal - Signal
Channel 1 B Terminal - Ground
Channel 2 A Terminal - Signal
Channel 2 B Terminal - Ground

The push connectors can accomodate 18-22 gauge wire either solid or stranded. If the wire is stranded, the end should be tinned to prevent shorts/wire breaks.