taggle

Product Datasheet

SP3C-T2

Pulse Counter for New Zealand

10mW Transmitter for Pulse Output Meters and Sensors

KEY FEATURES

- Low Power (10mW) telemetry device suitable for most radio environments
- Suitable for use with both dry contact closure (reed switch, relay) and voltage (open collector, FET) pulses. This covers most water meters, rain gauges, electricity meters (kWhr), float-switch level sensors and on/off sensors of any type
- NFC Programming Port for rapid infield device installation
- 15+ year battery life based on hourly transmissions*
- IP68 rating provides high degree of protection against ingress of dust and moisture
- Light-weight and easy to install
- Suitable for both urban and rural deployments
- Low-cost, no maintenance device
- Transmits meter or sensor data, meter alarms such as backflow, tamper (where available), as well as temperature and battery status
- Transmissions are secured with AES 128 encryption

The SP3C is a battery powered wireless telemetry unit designed for domestic and commercial water meters and various sensors that have digital (on/off) or pulse outputs. The SP3C supports low cost, utility scale deployments based on Taggle Systems' Byron 915-928MHz SRD band digital spread spectrum radio technology.

The SP3C is the "low-power" 10mW transmitting device within the Taggle third generation transmitter range.

The SP3C accumulates both forward and reverse flow pulses from the connected device in a low-power, deep-sleep mode, and transmits the accumulated count values at a user programmable interval (generally once per hour).

Transmitting hourly, the SP3C has an expected battery life of over 15 years* depending on configuration.

All transmissions are encrypted and collected by the Taggle receiver network, which can handle up to 30,000 transmissions per receiver, every hour utilising the 915-928MHz SRD band.

The 10mW of power provided by the SP3C is efficient to meet most radio requirements, and as such, is the most widely used within the Taggle transmitter range.

Near Field Communications (NFC) connectivity enables error free data capture during installation.

APPLICATIONS

- Automatic Metering Infrastructure including residential, commercial and industrial meters
- Rain gauges
- Electricity meters (kWhr)
- Float-switch level sensors
- On/Off sensors of almost any type

OPERATING MODE

When in Operating Mode, the SP3C's microprocessor is programmed to wake from a low-power, deep-sleep mode at intervals set during assembly.

It then interrogates the attached meter or sensor and translates the data into a secure format for transmission on the Taggle network. The device will then return to a deep sleep mode until the next time interval expires.

HISTORY OF THE SP3C

The SP3C is the third generation of the Taggle ADC-1 Communication Module, which has been in successful deployment across Australia since 2011.

The ADC-1 has proven diversity after being used in many applications and across many diverse radio environments. It's flexibly across meter and sensor types and ease of installation, has proven the device to be a vital part of the Taggle product range.

TECHNICAL DETAILS

Dimensions	215mm (L) x 46mm (D) 215mm (L) x 58mm (D) for external SMA variant
Weight (approx)	270g +/- 10% 480g +/- 10% for external SMA variant
Enclosure Material	Ultradur PBT
Ingress Protection	Hermetically sealed; IP68
Temperature	-10°C to 60°C (Average temperature not to exceed 30°C)
Sealed	Electronics and battery fully potted
Cable/length	40cm standard - customisable

BATTERY

Type/Size	3.6 V Lithium Thionyl Chloride (non-replaceable) C-cell
Battery life	15 years*

SENSING/INPUTS

Input Types	Dry contact closure (reed switch, relay) and voltage (open collector, FET) pulses
Max Pulse Rate	100kHz

COMMUNICATIONS

ASIC	Taggle Byron A31
Operating Frequency/Band	915-928MHz SRD band
Signal Type	Direct Sequence Spread Spectrum
Communication Type	One-Way Communication
Operating Range	~1-2km Urban ~2-5km Rural (Dependent on local installation conditions)
Power	10mW
Local Interface	Near Field Communication - NFC
Data Encryption	AES 128 encryption
Antenna	Internal (optional - external SMA connector)

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LICENSE AND CERTIFICATION
NZ RSM GURL for SRD

*Battery life is average battery life with hourly transmissions with an average temperature between 10°C and 30°C