

HP3D Pulse Counter

500mW Transmitter
for Pulse Output
Meters and Sensors



KEY FEATURES

- High Power (500mW) for better performance in challenging 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 and configuration
- 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
- Optional - available with external SMA connector to enable use of external antenna

The HP3D 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 HP3D supports low cost, utility scale deployments based on Taggle Systems' Byron 900MHz band digital spread spectrum radio technology.

The HP3D is the "high-power" 500mW transmitting device within the Taggle third generation transmitter range.

The HP3D 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 HP3D has an expected battery life of 15 years*.

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 900MHz ISM/LIPD band.

The extra power provided by the HP3D allows its signals to be received over a greater distance and in more challenging radio environments than other devices in the Taggle transmitter range.

These capabilities allow the HP3D to meet remote sensing and telemetry needs in the most difficult signal propagation environments.



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 HP3D'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 HP3D

The HP3D is the third generation of the Taggle HP-1 Communication Module, which has been in successful deployment across Australia since 2011.

The HP-1 has been used in pits with metal lids, in basements, in rural areas with large distances, and other challenging radio environments. It has proved to be a vital part of the Taggle product range.

TECHNICAL DETAILS

Dimensions	215mm (L) x 58mm (D)
Weight (approx)	480g +/- 10%
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) D-cell.
Battery life	15 years; 1-hour transmit interval* 20 years; 2-hour transmit interval*

SENSING/INPUTS

Input Types	Contact closure (reed switch, relay) and voltage (open collector, FET) pulses
Max Pulse Rate	8kHz

COMMUNICATIONS

ASIC	Taggle Byron A31
Operating Frequency/Band	915-928MHz LIPD band in Australia 902-928MHz ISM band in USA
Signal Type	Direct Sequence Spread Spectrum
Communication Type	One-Way Communication
Operating Range	~5-10km Urban ~10-50km Rural (Dependent on local installation conditions)
Power	500 mW
Local Interface	Near Field Communication - NFC
Data Encryption	AES 128 encryption
Antenna	Internal (optional - external SMA connector)

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LICENSE AND CERTIFICATION

ACMA LIPD Class License
FCC Part 15.247

*Battery life is dependent on the battery configuration, with an average temperature between 10°C and 30°C

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