



HydroTerra

Environmental Monitoring Specialists

Yabby 4

Low-Cost Groundwater Satellite Battery Powered IoT Sensor Hub

Yabby 4 is a low-cost groundwater Nanosatellite battery powered IoT sensor hub with integrated level sensor. Connectivity is provided via Australian company Myriota's Low Earth Orbiting constellation providing affordable, massively scalable, long battery life and global connectivity.



Overview

Various mounting options includes bracket and pole and for tanks and storages.



Nanosatellite - retrieve data from anywhere on earth



Up to 200m depth, cable and housing material options to suit installation environment



Weatherproof, compact and ultra-rugged housing with easy field access to the battery compartment and micro USB port



Ultra-low power (3-4 years battery life), powered by 2 AA lithium batteries (e.g. Energizer L91)



Global Navigation Satellite System (GNSS) for geolocation and tracking



Unit can easy be removed from installation bracket by simply unclipping



SMARTS

Configurable Alerts	Configure email and sms alerts based on levels remotely from our cloud-based device management system.
Nanosatellite	Lower cost, faster to build and cheaper to launch than traditional satellites and can do almost everything a conventional satellite does. With these low barriers to entry, they are a cost-effective option for new technology.
Location	Weekly GPS location updates

TECHNICAL SPECIFICATIONS

Power

Power Supply	Built-in replaceable 2 x AA Lithium Batteries
Power Consumption	Sleep 1.5 uA, MCU Processing 23 mA, Receive 34 mA and Transmission 380 mA
Battery Life	3 - 4 years based on 4 readings and 1 messages per day
Supported Battery Types	Ultimate Lithium Energizer

Water Level Sensor

Level Accuracy	5m Cable $\pm 1.2\text{cm}$ 10m Cable $\pm 2.5\text{cm}$ 20m Cable $\pm 5.0\text{cm}$
Resolution	5m Cable $\pm 0.5\text{mm}$ 10m Cable $\pm 1.0\text{mm}$ 20m Cable $\pm 2.0\text{mm}$
Pressure Reference	Vented Gauge
Compensated Temperature Range	0 ~ +60 °C
Cable Length	up to 200m

Physical Specification

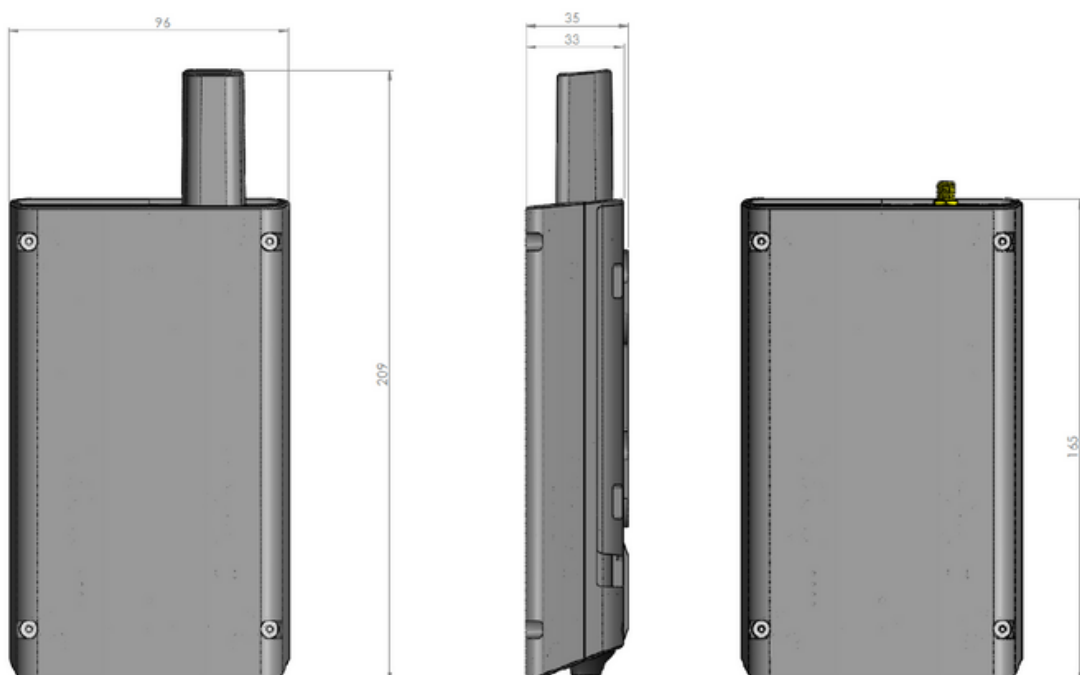
Materials	Enclosure - ABS Polycarbonate Plastic Water Level Sensor - Stainless Steel (316) or optional polycarbonate
Dimensions	Enclosure - 191 x 80 x 60 mm Water Level Sensor - 110 H x 26.6 Diameter mm
Weight	800g with 5m cable
IP Rating	Enclosure - IP66 rated housing Water Level Sensor - IP68

Communication

Nanosatellite	- Default setup with 4 readings and 1 message per day- - Current median latency of 4 hrs with a roadmap to improve with additional satellites
GPS	GNSS for geolocation and tracking
Integration	Third-Party Integration Webhook, TCP or HTTPS

Warranty 12 Months from date of purchase

Dimensions Drawings



TECHNICAL SPECIFICATIONS

Level Accuracy

Level 0.2% FS

Stability

Level 0.25% FS/year

Pressure Reference

Vented Gauge

Temperature

-20 ~ 85 °C

Cable Length

5m Standard

10m to 200m Optional

Materials

Housing

Stainless Steel 304 (Standard Option)

Stainless Steel 316 (Saline Water)

Polypropylene (Corrosive and Acidic Water)

Cable

Polyvinyl Fluoride (Standard Option)

PTFE (Corrosive Medium)

IP Rating

IP68

Dimensions

Standard - 110mm L x 23 mm diameter

Sludge Head - 116mm L x 47.5mm diameter

FEATURES

1 High Durable and Anti-corrosion

- ▶ Thickened SS304/ SS316L housing
- ▶ Anti corrosive cables PE/PTFE



2 Good Ingress Protection

- ▶ Double o-ring provide better sealing
- ▶ Special gasket inclination design



3 High Accuracy 0.2%FS

- ▶ High performance diffused silicon pressure sensor



4 Various outputs

- ▶ Modbus RS485, 4~20mA, 1-5V
I2C, SPI, 0.5-4.5V, 0-5V
and other outputs for other model



HydroTerra Platform

FEATURES



Monitor environmental sensors and device locations and parameters



Configure sample rates, device outputs and variable alerts



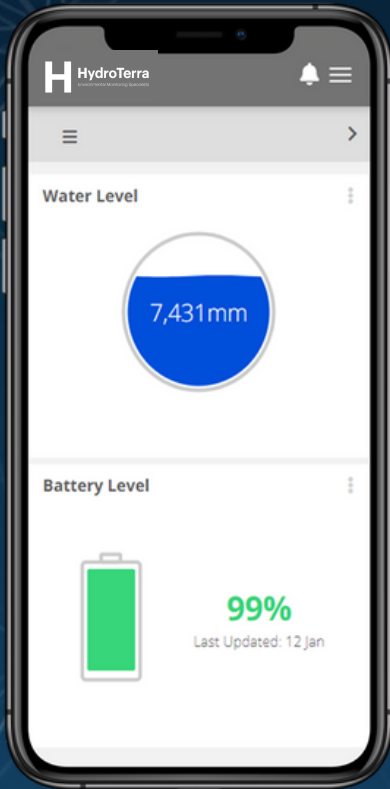
Control device outputs such as pumps, valves and gates



Receive SMS or email alerts based on variable thresholds



Download device data as csv files and images



OVERVIEW

Sensors are remotely monitored with our custom cloud based platform. Interrogate volume and level trends, change sampling intervals and set SMS and email alerts. Our platform is flexible and modular meaning we can set it up the way you like from our library of maps, charts, gauges and controls.

OTHER SERVICES

- Integrate other sensors to our platform
- White label the platform with your company branding
- Send your sensor data to third party platforms



DataStream™

by HydroTerra