



# HydroTerra

Environmental Monitoring Specialists

## **Stygo 2** **Groundwater Low Latency Satellite** **IoT Sensor Hub**

Stygo 2 is a powerful yet compact multi-communications enabled IoT device designed specifically for remote environmental monitoring. Connect to any standard environmental sensor and transmit data from anywhere via Satellite. The optional patented well-cap device is designed to simplify groundwater bore monitoring, making it easy to automate the measurement of groundwater levels and quality parameters.



# Overview

The versatile device allows connection to all standard sensor types offering the ability to use across a wide variety of monitoring applications. The ease of use means that field installations can be completed in a fraction of the time of other systems offering significant cost savings and minimising risk by reducing time in the field.



Smart multi communications transmitter in one compact unit, making remote monitoring easy. Connect to any environmental monitoring sensor for transmission to DataStream.



The internal module receiver operates with extremely low current while the satellite transceiver can remain completely off for the majority of the time. The satellite transceiver only needs to be briefly powered for message transmissions.



Easily change settings, log time, transmission rate, alarms with OTA firmware updates onsite over the Iridium Satellite Network.



Simply activate Bluetooth by pressing the button and connect via our free mobile Android and Apple mobile app for all your device configuration requirements



Compact form factor 45mm x55mm x 120mm



**DataStream™**

by **HydroTerra**



Environment • Water • Geotechnical • Data

*Powered by EWS, through our  
official partnership*



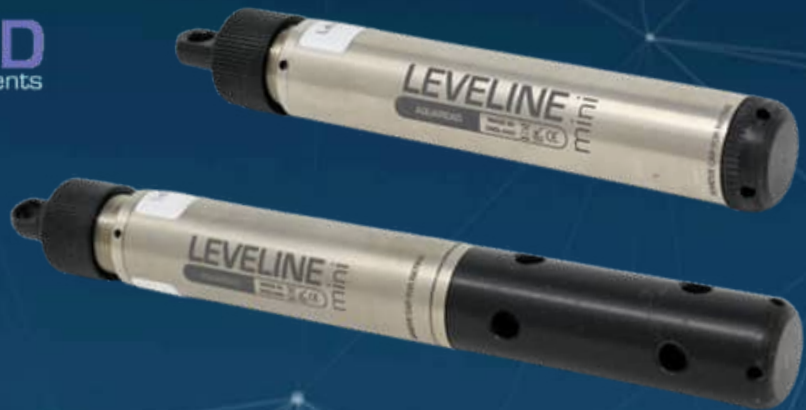
# Stygo 2

## Integrated Sensor Examples

**Seametrics**



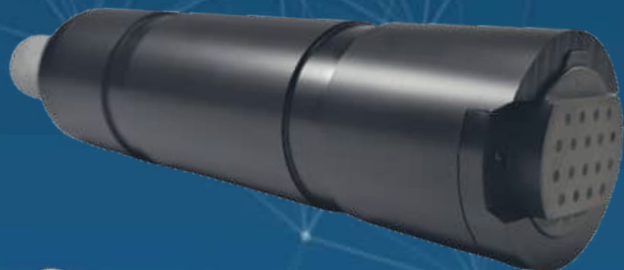
**AQUAREAD**  
water monitoring instruments



**PHATHOM**



**ANB Sensors**



**WAK**



# HydroTerra Platform

## FEATURES



Monitor environmental sensors and device locations and parameters



Configure sample rates, device outputs and variable alerts



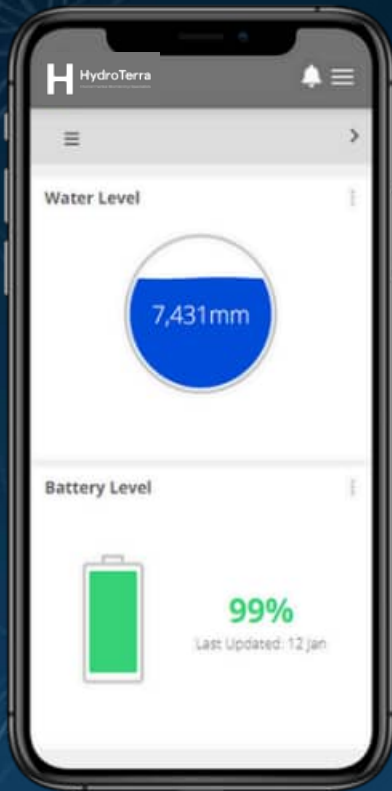
Control device outputs such as pumps, valves and gates



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



# Specifications.

## Physical property

|                                 |  |                           |
|---------------------------------|--|---------------------------|
| <b>Dimensions ( W x H x D )</b> | Rechargeable - Approx 66 x 126 x 43 mm       |                           |
|                                 | Non - rechargeable - Approx 66 x 126 x 60 mm |                           |
|                                 | Cable length from housing - Approx 400 mm    |                           |
| <b>Body weight</b>              | without battery                              | Approx 264 g (For 18650)  |
|                                 |  | Approx 274 g (For D cell) |
| <b>Waterproof level</b>         | IP67 rating                                  |                           |

## Operating environment

|                           |               |   |
|---------------------------|---------------|---|
| <b>Temperature (1, 2)</b> | -20 ... 65 °C | Storage (Without battery) -40 ... 65 °C |
| <b>Humidity</b>           | 5 ... 60% RH  |   |

## Power source

|                           |  |  |
|---------------------------|--|--|
| <b>Internal power (3)</b> | 2x Rechargeable 18650 battery / Suggested model: ICR18650-26JM             |  |
|                           | 1x Non-rechargeable (D cell) battery / Suggested model: ER34615M (LiSOCL2) |  |
| <b>External power</b>     | DC 12 ... 24 V / 1 A   |  |
|                           | Battery or Solar power with M8 connector                                   |  |

## Output Option

|                             |                          |  |
|-----------------------------|--------------------------|--|
| <b>Function / interface</b> | RS485 Modbus RTU x1      | Baud rate 300 - 230400 / Parity (N, E, O)      |
|                             |                          | 12 V / 0.26 A supply with adjustable ON period |
|                             | 4-20 mA Current loop x2* | +/- 0.5% Full Scale                            |
|                             | Pulse counter x2*        | Dry contact                                    |
|                             |                          | Frequency 1 ... 500 Hz                         |
|                             | SDI-12 x1                | ASCII  |
| Relay contact x1*           | 12V / 0.26 A             |  |

## Connectivity

|                 |              |
|-----------------|--------------|
| <b>USB</b>      | 1x Micro USB |
| <b>Wireless</b> | Bluetooth 5  |

## System

|                      |  |                                   |
|----------------------|--|-----------------------------------|
| <b>Clock</b>         | RTC  | Accuracy 70 ppm (20 ppm at 25 °C) |
|                      | Network time Sync support  |                                   |
| <b>Display</b>       | LEDs indicating status   |                                   |
| <b>Configuration</b> | Remotely change setting with two-way communications established via an application gateway |                                   |

## Logging

|                           |   |                           |
|---------------------------|---|---------------------------|
| <b>Number of channels</b> | 60                                      |                           |
| <b>Reading interval</b>   | sec/min/hr                              | Max. 24:00:00             |
| <b>Memory</b>             | 4MB / 256,000 Events (Non-volatile-Log) |                           |
| <b>Software</b>           | EWS Logger V00.01.137 or higher         | Compatible with Window 10 |
| <b>File format</b>        | .csv                                    |                           |

# Specifications.

## Built-in sensor / function

Internal battery voltage Yes

External voltage supply Yes

Temperature Yes

Radio signal Yes

GPS tracking Optional

Barometer Optional

Pressure

Range 10 ... 1200 mbar

Accuracy 25 C, 750 mbar -1.5 ... +1.5 mbar

Temperature

Range - 40 ... 85 °C

Accuracy -0.8 ... +0.8 °C

## Network communication

Iridium Protocols Short Burst Data

Coverage Worldwide

4G Cellular LTE-M/NB-IOT Protocols MQTT

Network support Telstra (Australia)

Most major networks globally

Coverage 4 million Sqr km

## Antenna type

Built-in antenna Yes

External antenna Optional



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