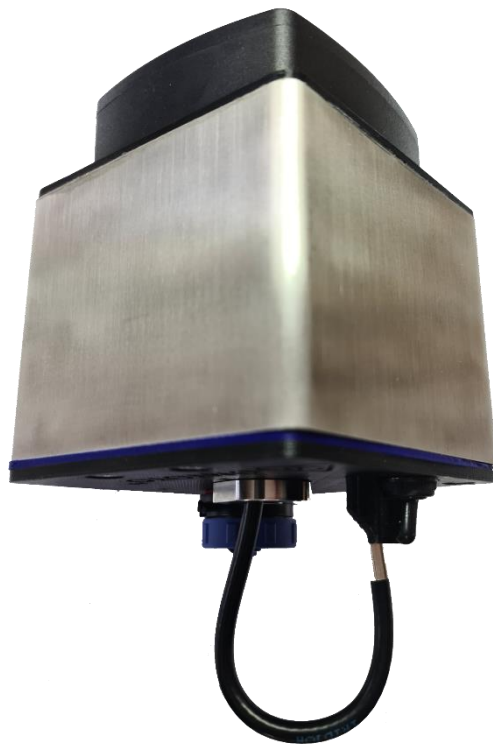




## **Astro Satellite Data Logger**

The fully integrated low power satellite telemetry solution



Your data, anywhere.

Designed and made in Australia

## Feature Description

Using this data logger, you will be able to monitor and manage your monitoring bore remotely once the installation has been completed. With simplicity in mind there is only one toggle switch, one SMA aerial connection and one sensor connector visible on the external casing.

- Satellite connectivity.
- Sensor data stored in flash memory on board as a backup.
- Network synchronised utilising universal co-ordinate time (UTC) for all data points.
- The default configuration has a 4 hour sample interval and weekly reporting frequencies.
- User customisable with site set up tools via Android and MAC IOS app.
- Strong and durable casing to protect the internal hardware.

## Astro Optional Extras

- Hi power lithium battery with extended temperature range.
- Various sensor options including water level, EC, pH and turbidity.
- Third party sensor adaptor.

## Certification

The Astro Satellite Data Logger has been designed to comply with the Australian Standards:

- AS/NZS 3820:2009 for low voltage battery powered devices.

## Site Expectations

- The Astro Satellite Data Logger is a scientific instrument that needs to be installed correctly. If the logger is not installed correctly the accuracy of its data cannot be relied upon.
- The site needs to have a clear view of the sky for best possible satellite connectivity.
- We recommend using a fixed steel monument to mount the Astro. Animals have been known to use the structure as a rubbing post, plastic monuments are easily broken which may then cause network connectivity complications.



## Easy Installation

The Astro Satellite Data Logger is a simple turn-key solution. It is designed to be installed into standard 100x100mm or larger steel monument casings with a single bolted connection allowing for easy retrofitting into existing assets onsite.



## Battery Specifications

The provided battery pack is comprised of three Lithium-based batteries (ER2500M) in parallel with the following specifications:

- Voltage: 3.6 V
- Capacity: 6000 mAH
- 2500 mA pulse current
- Long shelf life: less than 1% self-discharge rate at 25°C per year
- Temperature range: -55°C to +85°C



# Device Specifications

## Product Features

- Compatible with a range of intelligent digital sensors including water level, pH and pressure.
- Satellite connectivity via Iridium network.
- Battery powered device, up to 5 years between battery changes (sleeping current draw of only 2 $\mu$ A).
- Remotely configurable by the end user via our Android application and our Web Portal.
- Sampling and reporting frequencies from as little as one minute, to as much as one year.
- Occupies the available space in standard steel monuments for a simple onsite retrofit.
- No proprietary software to receive or access the data.
- Complimentary web portal for device & data management.
- Sensor Power 5V, 12V
- MODBUS
- SDI-12
- Designed and made in Australia.

## Technical Specifications

- MODBUS – Holykell sensor provides an operational water column range from 0.5 to 200m.
- Stainless steel and PET casing ensure longevity.
- Operational temperature range from -20 to 80 degrees C.
- Dimensions 90mm (W) x 90mm (L) x 95mm (H).
- Product Weight: 870grams (including batteries)

## Sensor specifications

The devices are programmed to support a variety of sensors. The specifications are available on our website. The device also has a built-in pressure sensor for atmospheric correction if needed, the specifications of which are listed below:

### MS5607 pressure sensor

- Measures atmospheric pressure with a range of 100-1200 mbar
- Resolution: 0.024 mbar
- Accuracy:  $\pm 1.5$  mbar at 25°C, 750 mbar
- Maximum error of  $\pm 2.5$  mbar within operating conditions (-20°C to +85°C, 300-1100 mbar)



## Installing 3rd Party Sensors On The Astro Satellite Data Logger

With the mobile application, the device firmware can be modified on-the-fly to support custom sensors. To reconfigure the device, the following requirements are required:

- Internet connection. This is needed to download the new firmware from the server. The firmware can be stored on a phone for later downloading in the field.
- Stable Bluetooth connection. The device should be no more than 2m away from the phone.

## Warranty

Ontoto Pty Ltd will warrant the entire product (excluding the batteries) for 5 years from the date of delivery for parts and labour.





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