Ontoto

Your data, anywhere

Overview

Designed and manufactured in Australia, the Ontoto Razar can be used across a number of applications including measuring levels in bodies of water through to more specialised monitoring of V-notch weirs. The device measures the time between transmitted and reflected microwave pulses to extrapolate the distance between the sensor and the target with high accuracy in low profile.

Special Features

- Device configuration with BLE via Ontoto Connect Android or iOS App.
- Firmware updates via LTE and BLE.
- Remote configuration by downlink messages through the Ontoto Web Portal.
- Sampling and transmission periods ranging from as short as ten minute, to as long as one week.
- Custom packet to optimise data usage, resulting in significant reduction of transmission costs.
- Real-time customer support and debugging with the Ontoto Connect App.
- Local alarming based on configurable thresholds.

Applications

- Liquid level measurement
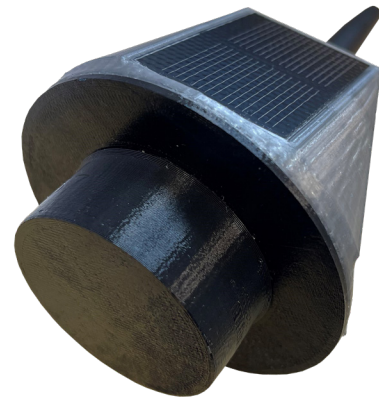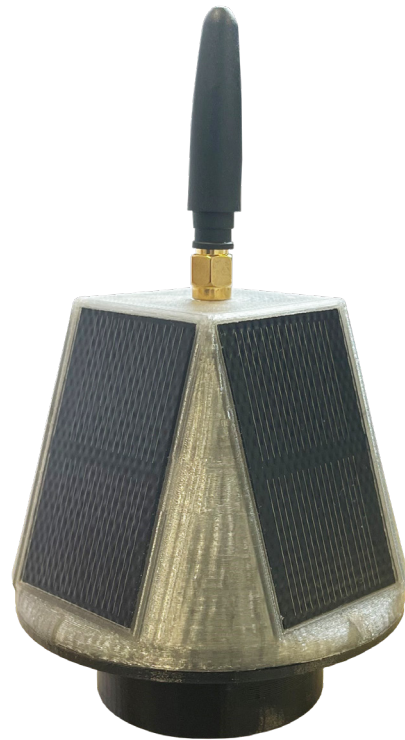- Tank level detection
- Distance measurement

Certification

The Ontoto Razar has been designed to comply with the Australian Standards:

- AS/NZS 3820:2009 for low voltage solar powered supercapacitor devices.
- ISO 27001.

Site Expectations

- The site needs LTE Cat-1 Direct To Cell signal to take advantage of the remote telemetry feature of the device.
- The Ontoto Razar is a scientific instrument that needs to be installed correctly.
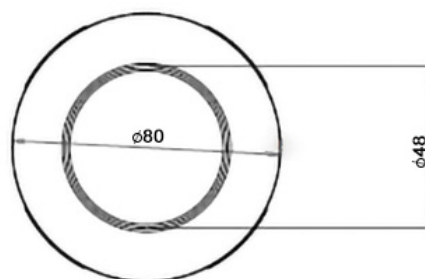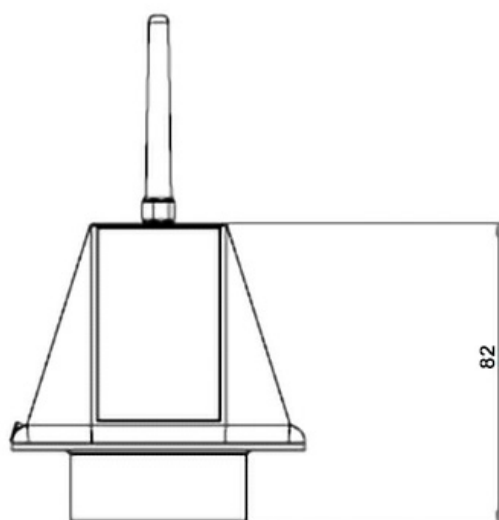
Technical Specifications - Data logger

Power Source	• Solar-powered lithium-ion supercapacitors
Supercapacitor	• Voltage: 3.6 V • Capacity: 3 x 40mAh
Service life	• >10 years
Solar panel	• 4 x 0.1W monocrystalline
Transmission	• LTE Cat-1 Direct To Cell
Network communication protocols	• CoAP • UDP
Clock accuracy	• ± 2 seconds per day, automatically resynced on a transmission
Memory	• 128MB NAND flash memory, up to 8 million samples of local storage
BLE	• BLE 4.2
Operating temperature	• -40°C to +85°C
Environmental	• IP68

Technical Specifications - Radar Sensor

Accuracy	• ±1mm or ±0.2%, whichever is larger
Resolution	• 1mm
Range	• 0 to 5 m
Deadband	• 100 mm
Frequency	• 60 GHz

Technical Specifications - Dimension

Software-as-Service
Free Ontoto Web Portal For User

The Ontoto Web Portal is a free and fully integrated cloud platform.

The features of this portal include:
- Remote configuration for all devices, for example configuring sampling and transmission periods, alarm thresholds and firmware updates.
- View raw and derived data in customisable charts.
- Custom charts can be configured to compare data between multiple data loggers.
- Generate and send customised reports according to client requirements.
- Data from grouped devices can be downloaded into a single CSV file.
- Static water level from Australian Height Datum (AHD), Below Top of the Column (BTOC) and custom datum is derived by using the water level above sensor and dip info entered via mobile app.
- Create and manage users.
- Track and notify device health:
  » Data fault detection.
  » Missed reporting cycle detection.
  » Device malfunction detection.
  » Site wakeup detection.
  » Device status and battery, signal strength.
- Data forwarding to SCADA systems via FTP, SFTP and API.

Software-as-Service
Device Management Portal

Ontoto develops partnerships with all its clients to enhance their experience of managing their data. For clients with a larger number of users and devices, access is provided to Ontoto's free Device Management Portal. This provides all the functionality of the Ontoto Web Portal with additional features to enable advanced management of devices, including:
- Quality assurance.
- Firmware update management.
- Debug log Information.
- SIM and data usage management.
- Device production record.
- User management.
- Support ticket system.
- Billing system.

Ontoto Connect App
(iOS and Android)

The Ontoto Connect mobile app allows onsite management of the data logger to be undertaken wirelessly via BLE. There is no need to connect a laptop directly to the device.

The key features of the Ontoto Connect App are:
- **Data logger configuration**
  Configure the device name, sampling period, transmission period, and alarm threshold.
- **Firmware update**
  Available firmware updates can be downloaded from the Ontoto server and uploaded to the device.
- **Sensor Test**
  The device will scan through each connected sensor. The measurements of each sensor and any detected errors will be displayed.
- **Network Test**
  Tests for LTE connectivity and signal strength and displays any detected faults.
- **Update the device location**
  The location of the device will be updated with the GPS coordinates of the phone and transmitted to the Ontoto Web Portal.
- **Read data log**
  The device stores all recorded data in persistent memory for redundancy and auditing purposes. The data log is processed into a CSV file.
- **Real-time debug log streaming**
  While using the app, the debug log received from the device is automatically streamed to the Ontoto server, allowing for seamless debugging during deployment.

Warranty

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