

Overview

The SatMag Water Metering Logger has been designed specifically for the Seimens MAG8000 Flow Meter. Easy to install, it fits within the casing of the meter retaining the original patent approval, utilising the existing mains power supply with additional battery backup. The only additional external device is a small antenna. Utilising the Iridium satellite network, location will never be an issue for remotely monitoring your meter. Cost effective, efficient and easy to install and use, the SatMag Water Metering Logger will provide accurate, auditable data direct to your desktop.



Special Features

- Satellite connectivity.
- Piggybacks off the water meter power supply.
- Indefinite retention of sensor data stored in flash memory on board as a backup.
- Fault detection including power interruptions.
- OTA firmware updates via the phone application.
- Device configuration with BLE via Ontoto Connect Android or iOS App.
- Light sensor for tamper detection.
- The default configuration has a 10 minute sample interval and daily reporting frequencies.
- Custom packet to optimise data usage, resulting in significant reduction of transmission costs.
- Real-time customer support and debugging with the Ontoto Connect App.

Site Expectations

- The site needs to have a clear view of the sky for best possible satellite connectivity. The antenna should be magnetically mounted and free from any nearby obstructions.
- The 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.

Certification

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

- AS/NZS 3820:2009 for low voltage supercapacitors powered devices
- Iridium Certification

Technical Specifications

Power Source	• Lithium ion supercapacitor, charged by water meter power supply
Supercapacitor	• Voltage: 3.6 V • Capacity: 40mAh • Temperature range: -55°C to +80°C
Transmission	• Satellite via L-band (1525-1660 MHz)
Clock accuracy	• ± 2 seconds per day, automatically resynced on a transmission
Memory	• 128MB NAND flash memory, up to 1 million samples of local storage
Bluetooth	• BLE 4.2
Operating temperature	• -40°C to +80°C

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 satellite 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.

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.

Warranty

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