# GROUNDWATER MONITORING









### Groundwater Selection Guide

Groundwater monitoring is crucial for many use cases, from flood warning to aquifer characterization and more. Our OTT HydroMet instruments provide reliable, integrated groundwater monitoring solutions for every step of the data transmission journey to measure, collect, and remotely transmit data from the field to your office, for both short- and long-term monitoring.

We offer both all-in-one systems to maintain only one instrument, and customizable systems to mix and match components based on your unique monitoring needs.

All of our water level measurement sensors for continuous monitoring are fitted with the following common attributes for resilience in the field and easy maintenance:



Simple and Quick Maintenance



904L Stainless Steel





Ceramic Pressure Measurement Cell

## Applications

- Data collected continuously or as manual measurements to better assess:
  - Drought
  - Climate change
  - Flooding
  - Dams
  - Aquifer characterization
  - Impact of civil work
  - And more
- Detecting changes in the water table, for water availability and water use over time
- Developing groundwater models to provide long- and short-term forecasts of changing groundwater conditions
- Long-term and short-term monitoring, for ground and surface water, using in-well or in-pipe solutions
- Remote monitoring sites and well sites requiring two-way communication that can mix and match between satellite, cellular, and radio transmissions to allow for consistent data



### Technology to build a custom solution



\*NEW\* OTT ecoLog 1000



OTT PLS Pressure Sensor



OTT CTD and OTT

**Orpheus Mini** 

Contact Gauge



Groundwater Well Cap



SUTRON XLink 100/500

## Complete Groundwater Monitoring Solution



Satellite (Iridium, MeteoSat)





Cellular: 4G (LTE)

Supports multiple sensors like:

depth/water level



#### SUTRON Groundwater Well Cap with Built-in Logging Transmitter

-OTT PLS for water level and OTT PLS-C for conductivity, temperature, and

-Supports additional sensors i.e. precipitation gauge

OTT ecoLog 1000

-Compact system -Water level -Temperature



### Remote Measurement

Remote groundwater monitoring gives you access to data when you need it most and saves trips to the field, via multiple remote communication techniques. These instruments deliver accurate measurements with a reduced number of components for a straightforward integration.

All-In-One System



OTT ecoLog 1000

All-in-One Solution Offers:

Self-contained, cellular groundwater level logger for water level and temperature.

- Integrated two-way mobile communication and integrated Bluetooth Low Energy (BLE)
- Robust design with ceramic pressure cell for level measurement
- Configurable alarm management for threshold monitoring
- Support for local operation mobile devices, smart phones, and tablets operating with iOS, Android, Mac or Windows 10
- Supports data transmission via 4G/2G cellular using FTP, HTTP, HTTPS or SMS
- Version for NBIoT /CAT-M1 available
- Integrated programmable datalogger, to store up to 1,000,000 measurements, and internal battery



## View and Manage Remote Data



### Configuration System - LinkComm

- Program used with ecoLog 1000 and XLink 100/500 to view and configure groundwater equipment
- Runs on Windows 10 PC, Mac, iPhone/iPad, and Android platforms

LinkComm Software



#### Web-Based Data Visualization - Hydromet Cloud

• Provides secure real-time data access from almost anywhere in the world via HydrometCloud.com and the Hydromet Cloud Mobile App

Hydromet Cloud



HYDRAS 3 NET

#### Web-Based Data Visualization - Hydras 3 Net

- Provides the possibility to offer network management for ecoLog 1000 networks. Monitor and control the status of the network anytime and from anywhere
- Practical, user-friendly software structure for the collection, processing, interpretation, evaluation and transmission of measured data from sensors and stations

With LinkComm you can:

- View current status and measurement data
- Enter observer values
- Download data and graph the log
- Create and save configurations for every station

• Includes alarm management and processing

• Has backend infrastructure to receive, ingest, decode, process, display, and store measurement data from nearly any remote Hydromet monitoring station via a cloud-based data hosting platform

### Continuous or Manual Measurement

We offer the following solutions if automatic data recording is not in consideration:

All-In-One System



OTT CTD and OTT Orpheus Mini

- For continuous monitoring depth to water, water level, and temperature
- Available with high accuracy temperature or conductivity measurement
- Integrated programmable datalogger, stores up to 500,000 measured values



Manual Measurement



Contact Gauge

- For monitoring depth to water, temperature, and conductivity
- Drum held by a stable frame and easy to carry
- Available with display for output values, and suitability for depth profile measurement
- Measuring tape lengths include 15 ... 750 m (KL010), 25 ... 500 m (KL010-TM), and 30 ... 500 m (KL010-TCM)



### Selection Table

	OTT ecoLog 1000	OTT ecoLog 800	OTT CTD	OTT Orpheus Mini	OTT PLS-C	OTT PLS	SUTRON XLink 1
Parameters							
Water Level/Depth	X	X	X	X	X	X	
Conductivity		X	X		X		
Temperature	X	X	X	x	X	X	
Remote Communication							
Cellular: 4G/2G	X						X
Cellular: 3G/2G		X					X
Cellular: NBIoT / CAT-M1							
Satellite: Iridium							x
Output/Data Protocols							
SDI-12					X	X	X
RS485 using SDI-12					X	X	X
420mA						X	X
Local Wireless Communication	X	X	X	X			X
HTTP, FTP, SMS	X	X					X
HTTPS (TLS 1.2)	X						x

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### Service

For every instrument purchase, we offer configuration recommendations and standard configurations with order numbers which can be added on to any order, for our staff to handle set-up before the instrument is shipped.

We also offer complete system installation and maintenance on-site by our certified experts, with optional on-site training.



# **Insights for Experts**

### For more information, please contact

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