

Self-contained groundwater level logger for measuring water level and temperature with integrated mobile communication

- **Application**
  Surface water, Groundwater

- **Measurement technology**
  Vented pressure cell

- **Parameters measured**
  Waterlevel/pressure, water temperature

- **Product Highlights**
  Integrated modem (4G / 2G), Bluetooth Low Energy (BLE), operation via APP, Lithium Powerpack with plug, exact battery level indicator, service life > 10 years, IP data transmission, cable can be shortened on site

- **Measurement range**
  0 ... 4, 10, 20, 40, and 100 m

- **Accuracy**
  ± 0.05 % FS

- **Internal data logger**
  Yes

The OTT ecoLog 1000 is a self-contained, cellular groundwater level logger for measuring water level and temperature. It provides reliable system up-time and accurate

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measurements while avoiding data gaps. It's simple to operate using just a smart phone or PC via integrated Bluetooth Low Energy (BLE) - no additional tools for maintenance or battery replacement. It supports mobile devices, smart phones, and tablets operating with Android, iOS or Windows 10. Configure and monitor your data remotely with integrated two-way mobile communication to avoid unnecessary, expensive trips to your measurement site and send encrypted data with automatic retries if transmission fails.

The ecoLog 1000 with 4G/2G module will replace the ecoLog 500.

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Measurement range	
Measurement range pressure	0 ... 4 m (13 ft), 0 ... 10 m (33 ft), 0 ... 20 m (66 ft), 0 ... 40 m (131), 0 ... 100 m (328 ft) water column
Resolution pressure	0.001 m / 0.1 cm / 0.01 ft / 0.1 inch / 0.0001 bar / 0.001 psi
Accuracy pressure	± 0.05 % full scale
Long-term stability (linearity + hysteresis)	± 0.1 %/a full scale
Units	Water level m/cm/mbar/ ft, inch, psi
Pressure sensor	ceramic / temperature-compensated
Temperature-compensated operating range	(compensated) -5 °C (ice-free) ... +45 °C
Measurement range temperature	-25 °C ... +70 °C
Resolution temperature*	0.1 °C
Accuracy temperature*	± 0.5 °C
Unit temperature	°C

Electrical data	
Power supply	3.6 V / 26 Ah - Lithium power pack with connector
Battery life time	> 10 years @ average temperature of 20 °C/68 °F, 1 hour sampling and 1 transmission per day
RTC Clock Accuracy	± 26 s / month (at 25 °C / 77 °F) / < ± 3 s using SNTP

Interfaces	
Modem	Mobile network LTE Cat-1(4G): B3 (1800 MHz), B8 (900 MHz), B20 (800 MHz)
Local interface	BLE 5.0 - up to 10 m (free line of sight)
Antenna	SMA connector with Penta Band Stubby Antenna

Measurement	
Measurement values	Water level / water pressure
Sample/storage interval	5 s ... 24 h

Data transmission

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Transmission interval	1 min ... 1/week
SMS	SMS data transmission / commands

Data memory	
Measurement memory	28 MB (> 970.000 values)
Operating environment	
Temperature range, operating	-30 °C ... +85 °C (-22 °F ... +185 °F)
Temperature range, storage	-40 °C ... +85 °C (-40 °F ... +185 °F)
Humidity	5% ... 95 % (non-condensing)
IP rating logger unit	Flooding without damage for 1 week / 1 m (3.3 ft) water column
IP rating senor	IP68

Dimensions	
Logger unit	LxØ: 525 x 50 mm (2") / LxØ: 20.7 x 2.0 inch
Pressure probe	LxØ: 195 x 22 mm (<1") / LxØ: 7.7 x 0.9 inch
System length**	2 ... 200 m (±1 % ±5 cm) / 6 ... 656 ft (±1 % ±1 inch) (cable length incl. communication unit and pressure probe)
Installation	2" and up

Weight	
Logger unit incl. battery pack	~ 900 g (~ 31.7 oz)
Pressure probe	~ 670 g (~23.6 oz)
Pressure probe cable	~42 g/m (~1,48 oz/m)

Material	
Pressure probe housing	Stainless steel 1.4539 (904L)
Logger housing	Aluminum / POM
Cable jacket	PUR - certified for drinking water

Directives compliance	
EU directives compliance	CE
US directives compliance	FCC / IC
* higher resolution/accuracy on request	
** larger system length on request	

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