

QL40 Ocean Multiparameter water quality probe

The QL40 OCEAN sub combines the multi-parameter sensor unit manufactured by IDRONAUT Srl and the ALT electronic interface. This water quality probe is specifically designed for groundwater and borehole investigations. It uses reliable, accurate and drift free high quality sensors and records a continuous profile of the borehole fluid properties.

As a standard configuration, the QL40 OCEAN is equipped with six sensors measuring different parameters including for example pressure, temperature, fluid conductivity, pH, dissolved oxygen and reduction-oxidation potential (Redox). The probe can be customized upon request with up to seven sensors from a list of additional ION selective sensors (Nitrate, Ammonia, Chloride,...).

In operation the user can define the conductivity range for fresh or sea water environment and configure the tool processor for computing fundamental properties as:

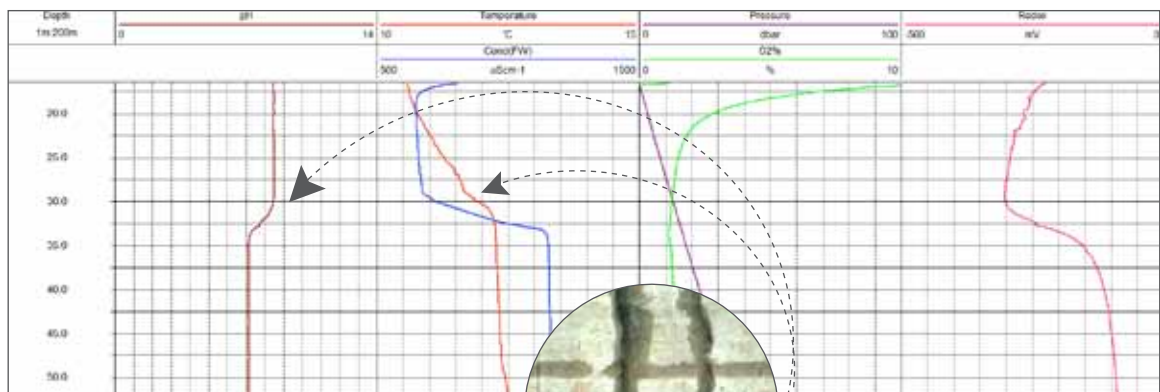
- Conductivity corrected at 20°C and at 25°C
- Fluid density
- Salinity
- Speed of sound
- O₂ saturation in ppm

The QL40-OCEAN is supplied as a bottom sub. It can be combined with other logging tools of the QL (Quick Link) product line or can be operated as a standalone tool. It is compatible with Matrix, BBOX and ALTlogger acquisition systems.



Application

- Sea water and fresh water properties
- Salt water intrusion
- Groundwater flows in open/cased hole
- Location of water intervals of different quality
- Location of aquifers
- Water-well monitoring
- Geothermal gradient logging



QL40 Ocean Multiparameter water quality probe

Principle of measurement

The QL40 OCEAN probe combines the multi parameter sensor unit manufactured by Idronaut and the ALT electronic interface that enables the probe to be run with the ALT surface system.

The system converts raw data sent by the sensors into a calibrated data with their corresponding units using either factory calibration coefficients stored in the tool memory or those defined by the user.

Operating Conditions

- Open or cased borehole
- Water filled borehole
- Centraliser recommended
- Always run downwards as the first log in order to minimize the fluid disturbance
- Compatible with Matrix, BBOX and ALTlogger systems
- Can be combined with other QL subs

Technical Specifications

- Diameter: 43mm
- Length: 1.41m
- Measurement point: 0.15m (from bottom)
- Weight: 5.45 kg
- Max. Temp: 50°C
- Max. Pressure: 150bar

Measurements sensors

The standard probe can be equipped with sensors to measure the following parameters:

Sensor	Parameter	Range	Accuracy	Resolution	Time cst
	Pressure	0..1000 dbar ⁽¹⁾	0.05 %FS.	0.0015% F.S.	50 ms
	Temperature	1..+50°C	0.005 °C	0.001 °C	50 ms
	Conductivity				
	<i>Salt water</i>	0..70 mS/cm	0.007 mS/cm	1.1 mS/cm	50 ms ⁽¹⁾
	<i>Fresh water</i>	0..7000 µS/cm	5 µS/cm	0.1 µS/cm	50 ms
	Oxygen	0..50 ppm	1.1 ppm	1.1 ppm	3s ⁽¹⁾
		0..500 %sat.	1.2 1 %sat.	1.2 0.1 %sat.	3s ⁽²⁾
	pH	0..14 pH	0.01 pH	0.001 pH	3s
	Redox	+/- 1000mV	1 mV	0.1 mV	3s

⁽¹⁾ At 1m/sec flow rate

⁽²⁾ From nitrogen to air

⁽³⁾ Other standard pressure transducers available: 100, 200, 500, 2000 dbar

Optional sensors or ION selective sensors are available upon request

The specifications are not contractual and are subject to modification without notice.



Mount Sopris Instrument Co. Inc. | 4975 E. 41 st Ave. Denver | CO 80216 | USA | Ph. 303 279 3211 | www.mountsopris.com



Zoning de Solupla Bât A | route de Niederpallen | L-8506 Redange | Luxembourg | Tel. +352 23 649 289 | www.alt.lu
36th Floor, Menara Maxis | Kuala Lumpur City Centre | 50088 Kuala Lumpur | Malaysia | Tel. +60 3 2615 7261 | www.alt.lu