



AquaPlus Portable Dissolved Oxygen meter

The AquaPlus handheld dissolved oxygen meter is a simple to use, accurate device which incorporates a combined optical dissolved oxygen, electrical conductivity and temperature sensor. Supplied with our Aquaplug meter the portable water quality meter can be used to collect manual readings via the devices display or record readings to the Aquaplug handheld's large internal memory.

Why Optical?

Traditionally, DO measurement in portable field equipment has been done using membrane covered detectors known as Clark Cells. This type of cell suffers from problems including membrane fouling, calibration instability and worst of all, oxygen consumption. During measurement, a Clark Cell will consume oxygen making it necessary to have a constant flow of water over the cell.

Optical technology eliminates all these problems allowing high precision, membrane-free, long-term stability along with infrequent calibration and immunity to fouling by sulphides and other gases.

The Aquaread AquaPlus is the only Optical DO system that measures salinity directly. This allows for automatic salinity compensation giving you the highest accuracy in any type of water.

Tech behind the AquaPlus

The Aquaread AquaPlus works on the principle of Dynamic Luminescence Quenching. A gas-permeable material known as a luminophore is excited with short bursts of blue light, which causes molecules in the luminophore to emit red photons.

By measuring the delay of the returned red photons with respect to the blue excitation, the level of dissolved oxygen present can be determined. The optical method has various advantages over the historical galvanic method for measuring dissolved oxygen.



Advantages

The most important being that as no oxygen is consumed across a membrane, the sensor does not require a flow of liquid passing over it to achieve a stable reading. Other advantages include:

- Very low maintenance
- Caps last over two years
- No Electrolyte to replace
- Hold Calibration for longer

Auto salinity compensation

When measuring % saturation the salinity of the water has an influence on the dissolved oxygen % saturation measurement. The AquaPlus has a built in conductivity sensor meaning that the salinity is calculated, this value is then used for auto compensation giving the most accurate measurements with no extra user input.

AquaPlus Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. Max 10m**
Operating Temperature	-5 °C - +70 °C
Dimensions (L x Dia)	250mm x 24mm
Weight	400g
Range	0 - 500.0% / 0 - 50.00mg/L
Resolution	0.1% / 0.01mg/L
Accuracy	0 - 200%: ± 1% of reading, 200% - 500%: ± 10%

** 50m submersion for period of 12 hours, 10m submersion suitable for permanent deployment.