



Orbisphere K1200 LDO Oxygen sensor, 0 - 40 ppm, 28 mm Orbisphere fitting

Product #: K1200-S00H

ZAR Price: Contact Hach

The first maintenance-free optical oxygen sensor for power plants.

The Hach Orbisphere K1200 sensor is a high accuracy Luminescent Dissolved Oxygen (LDO) sensor that has been optimized for measurements in water processes in the power and steam industry.

Designed for mechanical robustness to extend service life and optimize total cost of ownership, the sensor, combined with the Orbisphere Controllers, offers a new way to monitor dissolved oxygen in power plants. Based on good engineering practice the Orbisphere K1200 LDO sensor is suitable for nuclear plant application.

Maintenance and operating costs are significantly reduced due to the absence of membrane and electrolyte and sensor accuracy is unaffected by process changes such as flow changes.

One calibration per year

One zero point calibration per year is all that is needed with the K1200 sensor. Traditional electrochemical (EC) sensors display significant drift after only a few months, demanding regular re-calibration and substantial operator time. Due to its luminescent technology, the K1200 sensor is designed for minimal drift, resulting in it being the most stable sensor with the longest calibration interval in the industry.

No membranes = two minutes of maintenance

With no membranes to replace and no electrolyte solution to replenish, the K1200 is virtually maintenance-free requiring only two minutes of maintenance per year. Sensor accuracy is unaffected by process changes or low flow events with no polarization time, eliminating

unnecessary operator interventions in radioactive zones. In addition, corrosive or hazardous chemicals are not required, making the annual task faster, easier and safer without reducing measurement precision.

Low cost retrofit

The complete system consists of a Controller, cable, and the K1200 Luminescent Dissolved Oxygen Sensor. The sensor is compatible with Hach Orbisphere 28 mm flow chambers previously used with EC sensors, eliminating the need for engineering changes to weld, add, and test new connections - an ideal retrofit. The installation is fast and easy and does not require special preparation. The plug-and-play sensor is immediately ready for measurement.

A new level of confidence

The K1200 optical sensor is the first to use luminescent measurement technology to measure low level oxygen in nuclear power plants. Since 1978, when the first patent on EC sensors was granted, Hach Orbisphere sensors have set the industry standard for oxygen measurement by delivering confidence to every water chemistry manager. The new K1200 maintains this tradition in the industry and offers significant operating and cost benefits.

Specifications

Accuracy: ± 0.02 ppm or 3 % whichever is greater

Ambient Temperature: -5 - 50 °C

Analogue Outputs: 3 Smart 0/4 to 20 mA (500 Ohms) programmable as linear or tri-linear, configurable to send diagnostics or alarm informations.

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| Application: | Power |
| Calibration: | Two points at cap replacement (zero and air), one during use (air) with standard 99.9% nitrogen (quality 3.0) or equivalent oxygen free gas |
| Certifications: | 2004/108/EC - EN 61326-1 |
| Communication Capabilities: | 3 x 0/4-20 mA; RS485; Ethernet |
| Display Resolution: | 0.1 ppb |
| Lowest Detection Limit : | 0.015 ppm |
| Mounting: | 28 mm Orbisphere fitting |
| Parameter: | Oxygen |
| Power requirements (Voltage): | 100 - 230 VAC |
| Range: | 0 - 40 ppm dissolved O ₂ (DO) |
| Relays: | Measurement board: 3 measurement alarm relays (1A-30 VAC or 0.5A-50 VDC), configurable to send diagnostics information. Main board: 1 system alarm relay (1A-30 VAC or 0.5A-50 VDC). |
| Repeatability: | ± 0.015 ppm or 2 % whichever is greater |
| Reproducibility: | ± 0.02 ppm or 3 % whichever is greater |
| Response time: | (90%) <10 s (gas phase); <50 s (liquid phase) |
| Sample Flow Rate: | 50 - 300 mL/min |
| Sample Pressure: | 1 - 20 bar absolute (14.5 - 290 psi) |
| Sample Temperature: | -5 - 50°C |
| Sensors: | K1200 LDO |
| Storage conditions: | -5 °C - 100 °C |
| Temperature Range: | Accurate from -5 - 50 °C Resistant - temperature from -5 - 100 °C |
| Warranty: | 12 months |
| Weight Sensor: | 0.6 kg |
| What's included?: | K1200 Sensor only Controller, sensor cable, flow-chamber or process connection must be ordered separately |

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