

Diving Oxygen Sensors



As a prime supplier of oxygen sensors to the commercial diving industry and medical industry for more than 30 years, Teledyne Analytical Instruments is a recognized leader in the field of oxygen analysis for use in life support equipment. Whether it is an infant clinging to life in an incubator or a diver beneath the waves, Teledyne's sensors provide critical life sustaining information.

Teledyne has developed sensors and instrumentation specifically for measuring and controlling the oxygen levels for divers, descent vehicles, and deck chambers under hyperbaric conditions up to ten (10) atmospheres.

Today Teledyne manufactures over 75 different types of galvanic oxygen sensors for use in a wide variety of applications including automotive emission testing equipment, medical monitors, and life support equipment. We also produce sensors for process control analyzers, confined space monitoring, and closed circuit diving equipment.

Teledyne presently offers five oxygen sensors specifically for use in diving -- the R10DS, R17D, R22D, R22DHO and the K1D.

Many of these sensors utilize our patented temperature compensation system and patented Rhodium sensing cathode. These innovations provide superior response and tracking characteristics as well as long term stability.

In addition, the sensors include hydrophobic membranes to reduce the effects of water condensation and conformal coated PC boards to protect internal components.

Recent comparison tests by rebreather manufacturers and government agencies have clearly demonstrated that Teledyne sensors provide superior performance in all critical areas including temperature tracking, response time, and long term stability.

Diving Sensor Specifications

					
Sensors	R-10DS	R-17D	R-22D	R-22DHO	K-1D
Application	Commercial and sports diving; for use in Mark 15/16	Sports diving with 3.5 mm mini phone jack connector	Sports diving with Molex 3 pin connector	High output with Molex 3 pin connector	Small sensor; 2 pin connector where size is critical
Output	25 ±2mV	10.5 ±2.5mV	10.5 ±2.5mV	25 ±2mV	10 ±3mV
Range	0-1 ATM PO ₂	0-1 ATM PO ₂	0-1 ATM PO ₂	0-1 ATM PO ₂	0-2 ATM PO ₂
Accuracy*	±1% of FS	±1% of FS	±1% of FS	±1% of FS	±1% of FS
Response time	90% in <6 sec	90% in <6 sec	90% in <6 sec	90% in <6 sec	90% in <10 sec
Operating temperature	0-40° C	0-40° C	0-40° C	0-40° C	0-40° C
Storage temperature	0-50° C	0-50° C	0-50° C	0-50° C	0-50° C
Required load	6K ohms	10K ohms	10K ohms	3.2K ohms	Minimum 100K ohms
Expected life**	36 months	36 months	36 months	36 months	15 months
Shelf life	24 months	24 months	24 months	24 months	24 months
Warranty	24 months	24 months	24 months	24 months	24 months

* At constant temperature, pressure, and calibrated using 100% oxygen

** In air at 25° C and 50% RH

Note: To view all specifications on our diving sensors, please go to the OEM section of our web site at www.teledyne-ai.com

TELEDYNE ANALYTICAL INSTRUMENTS

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Warranty

Instrument is warranted for 1 year against defects in material or workmanship

NOTE: Specifications and features will vary with application. The above are established and validated during design, but are not to be construed as test criteria for every product. All specifications and features are subject to change without notice.

