

iPOA | intelligent Paramagnetic Oxygen Analyser

**COMMERCIAL DIVE SYSTEM PRODUCTS**

Key Features:

- High accuracy O₂ monitoring
- Enhanced safety features to replace O₂ fuel cell
- Visual LCD status
- Sophisticated audible and visual alarms
- Stand-alone or integrated system
- Panel mount installation
- Touch membrane keypad
- Fully compliant



Product Overview:

The intelligent Paramagnetic Oxygen Analyser (iPOA) is a stand-alone oxygen analyser instrument designed specifically to provide an oxygen concentration percentage measurement of breathing gas samples. The iPOA performs a number of functions that are classified as 'safety critical':

- Providing accurate and reliable gas concentration readings to the Life Support Supervisors or Dive Supervisors responsible for maintaining the correct atmosphere for divers under pressure;
- Providing alarms and warnings to supervisors when conditions exceed user-set alarm thresholds;
- Monitoring and providing alarms for gas flowrate and sample line pressure for the gas sample being monitored.

These safety-critical functions require a greater level of integrity than would be required for non-safety critical functions, and the design features of the Analyser unit incorporates a variety of techniques and components to provide this capability.



There are a number of additional features included within the iPOA that enhance its capabilities and provide the operator with a comprehensive tool to make duties easier, safer and more reliable.

- Reliable oxygen gas sensor that has indefinite service life;
- Simple 2-point software calibration procedure;
- RS485 serial network connectivity, allowing the Analysers to connect to a Fathom Systems distributed DMS or other telemetry system;
- Automatic compensation of readings for changes in barometric pressure and pressure effects caused by sample gas flowrate;
- Measurement of sample gas flowrate to ensure the sample flow is in the approved range;
- Internal volt-free contact relay for remote indication of alarm conditions;
- Integral 'Watchdog' safety integrity system, to halt an out of control or faulty system;
- Non-volatile storage of system settings and calibration data;
- Static cable gland with 3m attached cable carrying the power input, RS485 telemetry signals, analogue output signal and volt-free alarm relay

iPOA specifications:

- Sensor range 0-100% oxygen
- Sensor accuracy $\pm 0.2\%$ oxygen
- Power requirements +15V DC to +30V DC @5W maximum
- Polycarbonate housing c/w clear cover and touch control membrane keypad
- Optimally sized 80 x 80 x 80mm (excluding connections)
- Electrical connector – 8-pin M12 Industrial connector
- Output signals ;
 - RS485 serial data
 - 4-20mA process loop
 - 0-5V, 0-10V
 - 0-125mV 'fuel-cell emulation' mode
- Operating temperature +5 to +50°C
- Gas flow 50ml/min to 200ml/min

