

NEW Oxygen Sensor with a Brain

Photo of sensor here

Teledyne has introduced a new breed of electrochemical oxygen sensor to meet the ever-increasing demand for intelligent sensors. Patented by Teledyne in 1964 the Micro Fuel Cell oxygen sensor concept has evolved into an industry standard for the measurement of oxygen in a wide variety of applications including automotive emission test equipment, life support devices and numerous medical products. Drawing on its 40 plus years in producing electrochemical sensors the new model 1AS smart sensor **Combines** Teledyne's field proven **Micro Fuel Cell with Micro Chip technology** to create a smart sensor. The new sensor provides the ability to communicate with the host device through a product specific keyed and encrypted RS232 output. Output data includes serial number, manufacture date, remaining life, signal level and diagnostics. See screen sample below.

MAIN ADVANTAGES

Keyed Encrypting:

Establishes a means to protect the performance of your product by preventing unauthorized replacement sensors from being used in your equipment.

Remaining life:

The amount of fuel consumed by the sensor is stored in memory and compared to a fixed value that represents 100% of the sensors fuel capacity. The difference between the fuel capacity and consumed value is display as the sensors REMAING LIFE in %. This information is useful in preventing "In Service" failures and for scheduling maintenance.

Diagnostics:

The diagnostics provides information critical to the sensors performance and signal condition. The measured parameters include zero offset, abnormal quiescence, output range too low or too high and erratic signals.

Screen sample here.

Patent pending

SPECIFICATIONS

Analysis Range	0 to 100% or 0 to 2 ATM
Full Scale Accuracy	+/- 2% at constant temperature and pressure
Response time	90% of step change in < 5 seconds
Offset	Less than 0.5% of oxygen equivalent at 25 C in zero gas after 36 seconds
Humidity	0-99% (none condensing)
Operating Temperature range	0 to 40 C
Temperature compensation error	+/- 2% of full scale over operating temperature range. Worst case tracking error after maximum temperature change is +/- 5% of full scale. Note: Tracking error assumes sample gas is at same temperature as sensors.
Power requirements	+ 5 vdc
Storage Temperature	0 to 50 C
Communication protocol	RS232 9600 baud rate (No parity 8 data bits 1 stop bit)
Expected life	36 months in air @ 25 °C, Sea level
Shelf life	24 months
Warranty	24 months against defects in material and workmanship. Life is warranted for worst-case condition i.e. continues exposure to 100% oxygen.
Dimensions	Diameter 1 5/32 (29.5 mm Length 2 3/16 (55.0 mm)
Weight	1.3 oz
DATA OUTPUT	
Serial Number	SER: XXXXXXX
Manufacture date	MFG: XX/XX/XX
Remaining life	LIFE: XXX % (0-100%)
Signal output	SENS: 0-1023
DIAGNOSTICS	
Binary representation. Output is in decimal format	
Offset	
Offset OK	XXXX XXXX XXXX XXX0
Offset not OK	XXXX XXXX XXXX XXX1
Output	
Output normal	XXXX XXXX XXXX XX0X
Abnormal quiescence	XXXX XXXX XXXX XX1X
Output range (low)	
Output within dynamic range	XXXX XXXX XXXX X0XX
Output below dynamic range	XXXX XXXX XXXX X1XX
Output range (high)	
Output within dynamic range	XXXX XXXX XXXX 0XXX
Output above dynamic range	XXXX XXXX XXXX 1XXX
Output stability	
Output is normal	XXXX XXXX XXX0 XXXX
Erratic signal detected	XXXX XXXX XXX1 XXXX