
O2 Sensor

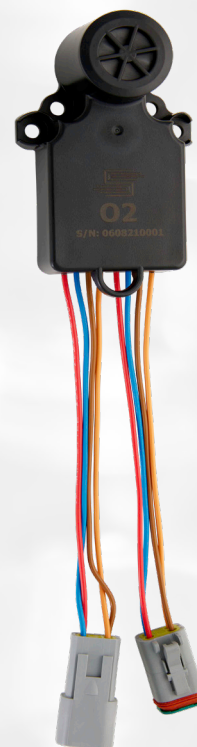
- Plug and play solution
 - High accuracy
 - Long service life
 - Easily connected to a controller
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Description

O2 sensors from Senmatic measure O2 in gaseous media within a concentration range from 0.10% - 25.0% O2.

This sensor uses a zirconia electrolyte cell in a amperometric design, this offers repeatability, long-term stability and high accuracy for the sensor.

The sensor features a Modbus communication protocol, which makes it easy to connect directly to a controller.



Application

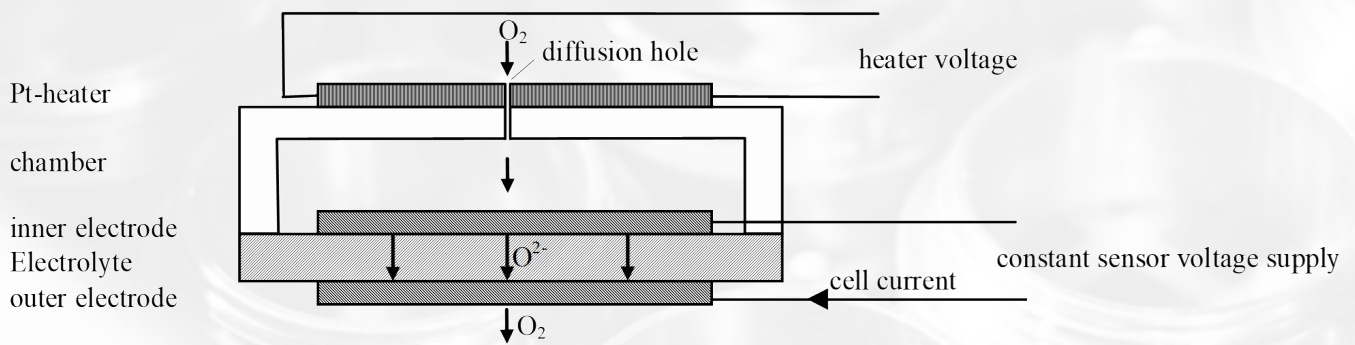


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Principle of operation

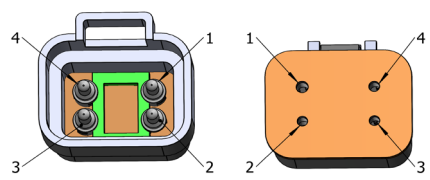
When voltage is applied to a zirconia electrolyte cell, oxygen is pumped through the zirconia disc from the cathode side to the anode side because the carriers of the current flowing through the zirconia electrolyte are oxygen ions.

By attaching a cap with a pinhole on the cathode side of the cell and by increasing the voltage over the cell the current shows saturation due to the rate limiting step in the transfer of oxygen to the cathode. This saturation current is called limiting current and is nearly proportional to the ambient oxygen concentration.



Specifications - O2 Sensor

Measurement range	0-25 % O2
Resolution	0.01 % O2
Accuracy	± 0.5 Vol %
Response time 63 %	< 500 sec
Voltage	7.0 -15 VDC
Current	NA
Operating humidity	0-98 % RH
Operating temperature	-20°C to 50°C
Storage temperature	-45°C to 70°C
Pressure dependency	150-800 mbar - 2.0% reading/100 mbar 800-5000 mbar - 0.05% reading/100 mbar
IP range	66
Pinout	Description
1	12 VDC
2	GND
3	RS485 A
4	RS485 B



Dimensions - O2 Sensor

