SentrOxy PAT Series

Optical oxygen sensors ready for CIP process application

Simple operation and very low maintenance

- Cleaning in place (CIP) ready
- Long term stable, pre-calibrated sensing element placed in robust cap for easy replacement
- No fragile oxygen membrane and no electrolyte-related problems
- No consumption of oxygen, no polarisation time
- No cross sensitivity to e.g. CO_2, H_2S and no flow dependency
- For inline- / online measurements usable



Smart sensor design

- 12mm sensor shaft compatible with conventional electrochemical probes and Fixtures
- PG13.5 thread (POM or stainless steel)
- Stainless steel shaft and inert POM housing, IP68 / NEMA 6
- Integrated temperature measurement and large internal data logger
- Surprising affordable price

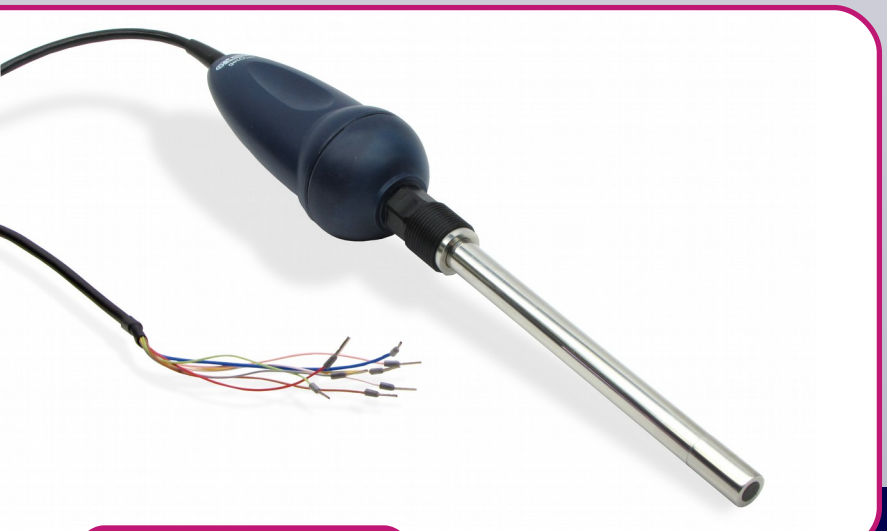


Highly reliable

- Patented modern optical technology with two separate measurement channels for real-time referencing according to SIL
- Monitoring of the health status and the status of the sensing element

Versatile connection

- Fieldbus RS485 with Modbus RTU protocol and 2x 4(0)-20mA protect your investment
- 2x separate configurable trigger input / alarm output
- SentroCON USB converter, battery powered communication device
  SentroCON PPA and software package available optionally



SentrOxy PAT A3201



Made in Germany

SentrOxy PAT A3201

The new PAT solution for optical pO2 and DO measurement for R&D, process development, production and quality control.

Based on the modern principle of optical oxygen measurement, SentrOxy PAT Aseries combines high measurement performance with low maintenance. The use of precise fibre optics with two separate measurement channels permits signal referencing and self-diagnosis of the sensor status in real time.

The 12mm sensor shaft with a PG13.5 thread is compatible with conventional electrochemical probes. Due to the robust design the probe can withstand harsh process conditions and standard CIP procedures. The smooth surface makes it easy to clean. For measurement of gaseous oxygen the probe tip can be heated to prevent condensation.

The pre-calibrated measuring cap with the solid sensing element is easy to replace and ready to use without additional maintenance. As the optical sensing principle does not consume any oxygen the measurement is flow independent. Furthermore, it is not influenced by H_2S, CO_2 or other compounds.

The sensor can be connected directly to various control systems by using the 4(0)-20mA analogue output signal or the digital RS485 interface with Modbus RTU protocol. Optionally, Sentronic can provide a USB adapter or a battery powered wireless communication device with software package.

Technical specifications	
Technology	Optical oxygen sensor based on fluorescence quenching
Electronics	Microprocessor controlled opto-electronics
Power supply	7-40VDC
Interface	2x 4(0)-20mA RS485 with Modbus protocol Optional: USB converter, wireless communication module
Memory	EAN, S/N Calibration data Calibration history Cap ID User ID
Trigger / Alarm function	Watchdog: >21mA on analogue output; 2x configurable digital trigger in / alarm out
Data logging	Internal data logger
Design characteristics	
Probe diameter	12mm
Probe length	120mm,160mm, 225mm, 325mm others on request, even <120mm
Process connection	PG13.5 thread (POM or stainless steel)
Materials with media contact	Stainless steel, silicon (FDA), sapphire
Optics	Fibre optics with two independent channels
Temperature measurement	Integrated in probe tip
Operating conditions (probe tip)	Tmperature: 0-80°C (active measurement) Pressure: -1– 6bar
Reference	Internal integrated second oxygen channel and red light for online hardware compensation
Specifications of measuring cap SentrOxy DIS A0101 PAT	
Analyte	gaseous or dissolved oxygen
Measurement range (standard membrane)	0.01mg/l – 20mg/l 0.1% – 200% air sat. 1mbar – 400 mbar pO_2
Resolution	0.01mg/l
Detection limit	0.01mg/l
Accuracy at 25°C	± 0.5% upper range value (< 100% air sat.) ± 1% upper range value (>200% air sat.)
Response time 25°C, air to N_2	t_{90}< 60s
Interferences	Insensitive to CO_2, H_2S, $S0_2$ etc.
CIP	5% NaOH, 90°C, 30min 3% H_3PO_4, 50°C, 30min

CONNECTION OPTIONS

4-20mA Transmitter



- 1st 4(0)-20mA – oxygen signal
- 2nd 4(0)-20mA – temperature signal
- RS485 - A
- RS485 - B
- GND
- Power
- 1st Alarm / Trigger
- 2nd Alarm / Trigger

PCS / RS485-Modbus RTU



- 1st 4(0)-20mA – oxygen signal
- 2nd 4(0)-20mA – temperature signal
- RS485 - A
- RS485 - B
- GND
- Power
- 1st Alarm / Trigger
- 2nd Alarm / Trigger

SentroCON serie / LabSoft





- Sensor configuration
- Calibration
- Data visualization and recording
- Read data logger

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