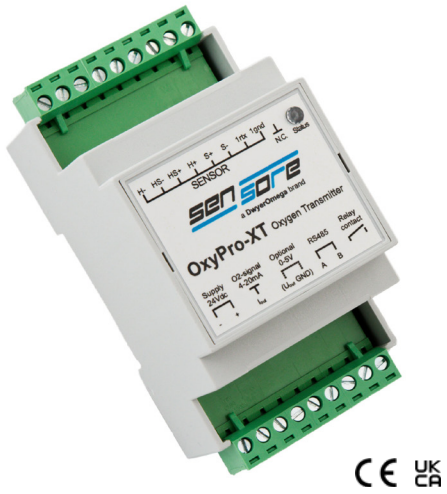
SMART Oxygen Transmitter

OxyPro-XT

a DwyerOmega brand

- No calibration required
- Measurement ranges from 10 ppm to 96% O2 defined by selected smart sensor
- Pre-calibrated smart sensors
- Analog 0...5 V, 4...20 mA and RS485 Modbus RTU output
- User Programmable O2-alarm / Relay



Description

The OxyPro-XT uses SMART sensors based on O2 diffusion-limiting zirconia technology, delivering a long-life, reliable solution. Each smart sensor is individually calibrated against an O2-reference. The resulting calibration data is stored within the sensor. Upon connection of the sensor, the calibration and operating parameters are uploaded into the transmitter, allowing a plug and play approach in the application.

The transmitter is compatible with many sensors and thread/flange types from the SENSORE product range. The **OxyPro-XT is a single channel / single range solution**. For the combination of two different measurement ranges please refer to the **dual channel solution OxyPro-XT2.**

Specifications

General sensor specification	
O2 Accuracy	See page 2
Maximum flow velocity	6 m/s (19.7 ft/s)
Pressure range	700...1300 mbarA (10...19 psia)
Maximum safe pressure	1500 mbarg (21 psig)
Response time (T90)	Depends on selected sensor housing (fastest option < 5 seconds)
Operating temperature range (sensor head)	Depends on sensor cable configuration, in all cases +10...+100 °C (+50...+212 °F)
Operating temperature range (sensor plug)	+10...+75 °C (+50...+165 °F)
Life expectancy (application dependent)	Up to 5 years
Humidity (with normal use)	0 %RH to 90 %RH @ 40 °C (104 °F) non-condensing
Available housing configurations	D0 (M16 x 1.5 male), D2 (M16 x 1.5 male), D3 (M18 x 1.5 male), B1 (TO8 + flange)
Shelf life	Unlimited
Calibration interval	No calibration required. Calibration data stored in smart sensor.

Analyzer (Monitor)	
Electrical	
Output signal	4...20 mA (19 mA error or special condition) 19 mA = analog full-scale
Digital communications	RS485 / Modbus RTU
Relay contact output	24V DC / 100 mA controlled by an O2-alarm-level (programmable via RS485)
Electrical interface	8-pin M12 on sensor, extension cable from sensor plug to screw terminal on monitor
Operating temperature range (monitor)	+10...+50 °C (+50...+122 °F)
Power Supply	24V DC +/- 10 %
Maximum power consumption	6 W or 0.25 A
Mechanical	
Ingress protection	IP40 (monitor), IP66 (sensor plug)
Housing material	PC (UL 94 V-0)
Mounting	DIN rail
Sensor cable length (supplied)	50 cm (19.6 in) with 8 pin M12 connector
Extension cable length	Standard: 1 m (3.28 ft) Optional: 3 m (9.8 ft)
Compliance	
CE: According to EU machinery directive EN ISO13849 (performance level non-SIL applications only) and EN 61010-1	

Sensors				Zirconia (ZR)			
Available measurement ranges				**O2 concentration in volumetric % or ppm**			
Nominal sensor range	1000 ppm	1.00 %	2.00 %	5.00 %	25 %	40 %	96 %
Analog full scale (19 mA)	1125 ppm	1.17 %	2.35 %	5.86 %	23.5 %	46.9 %	93.8 %
Usable digital range (RS 485)	1200 ppm	1.25 %	2.5 %	6.25 %	25 %	50 %	100 %
Typical accuracy	20 ppm	100 ppm	200 ppm	500 ppm	0.25 %	0.40 %	1.0 %
Output resolution (4...19 mA)	< 1 ppm	< 10 ppm	< 20 ppm	< 50 ppm	< 0.025 %	< 0.04 %	< 0.1 %
Lower detection limit	10 ppm	100 ppm	100 ppm	500 ppm	0.1 %	0.2 %	1.0 %
*Nominal sensor range is the specified maximal O2 concentration, overrange operation should be avoided							

Dimensions (mm)

58

53

106.7

Extension Cord

Housings: Measuring Side: porous sinter metal disc or cap 1.4404 stainless steel

DO: M16 x 1.5 MALE nickel-plated steel housing, with porous stainless steel sinter cap

D2: M16 x 1.5 MALE aluminium housing, with porous stainless steel sinter disc

D3: M18 x 1.5 MALE housing, with porous stainless steel sinter cap

B1: Flange nickel plated housing with stainless steel mesh

O P X T - X X - X X X - X X X

Sensor Type
D0 (M16 x 1.5 MALE Steel)
D2 (M16 x 1.5 MALE Al)
D3 (M18 x 1.5 MALE)
B1 (TO8) Flange

Nominal Sensor Range
960 (96%)
400 (40%)
250 (25%)
050 (5%)
020 (2%)
010 (1%)
001 (1000 ppm)

Ext Cable Length
100 (1m)
300 (3m)

We adopt a continuous development program, which sometimes necessitates specification changes without notice.

For technical assistance or enquiries about other options, please contact us here: sensors@dwyeromega.com

Sensore Electronic GmbH Aufeldgasse 37-39 A-3400 Klosterneuburg, Austria, Tel: +43 2243 450-0 I email: sensors@dwyeromega.com