

PO2ES-103D 100vol.% Digital Oxygen Industrial Sensor

KEY FEATURES

Lead free sensor, RoHS conform, long life-expectancy, fully CO₂ resistant, digital sensor output signal.

All characteristics are based on conditions at 25°C, 50% RH and 1013 hPa and gas flow ≥ 2.5 litre/min. All digital values are based on a gain factor of 1 (AD-Converter)

Measurement Range:	0.01 to 100 Vol.%																						
Resolution:	15 Bit used (16 Bit processor, 1 Bit for algebraic sign)																						
Output signal	0 to 32768 Digits																						
Initial Output Signal Range:	2546 to 4455 Digits @ dry ambient air (gain factor AD-Converter 1)																						
Electrical Connector:	4-pin Molex (digital sensor output signal, I ² C interface)																						
Power Consumption:	< 15 mW @ dry ambient air																						
Supply Voltage:	+3.3 V (verified), +5.0 V (possible), > 5.5 V (PCB damage)																						
Mechanical Mating Connector:	fits for M16x1 DIN 13 or 5/8-24 UNEF																						
Nominal Sensor Life:	~ 1,200,000 Vol.% h																						
Expected Operating Life:	< 6 years @ ambient air, depending on application																						
Response Time t₉₀:	< 10 s																						
Drift:	< 1 % per month, averaged across 12 months																						
Linearity Error:	0 to 35 Vol.%O ₂ : ± 0.1 Vol.%O ₂ (absolute) or ± 0.5% (relative), whichever is greater																						
Repeatability:	± 1 % Vol. O ₂ @ 100 Vol.% O ₂ applied for 5 min																						
Zero Offset Equivalents:	< 0.3 Vol.%O ₂ @ 100 Vol.%N ₂ applied for 5 min																						
Operating Temperature:	0 to 45 °C																						
Pressure Range:	700 to 1250 hPa																						
Influence of Humidity:	- 0.03 % rel. O ₂ reading per % RH																						
Temperature Compensation:	NTC on sensor PCB																						
Interferences:	<table> <tr><td>100 Vol.% CO</td><td>< 20 ppm O₂ response</td></tr> <tr><td>100 Vol.% CO₂</td><td>< 20 ppm O₂ response</td></tr> <tr><td>100 Vol.% C₃H₈</td><td>< 20 ppm O₂ response</td></tr> <tr><td>100 Vol.% H₂</td><td>< 400 ppm O₂ response</td></tr> <tr><td>3000 ppm NO bal. N₂</td><td>< 20 ppm O₂ response</td></tr> <tr><td>3000 ppm Ethanol</td><td>< 100ppm O₂ response</td></tr> <tr><td>3000 ppm 1-Butanthiole</td><td>< 100ppm O₂ response</td></tr> <tr><td>3000 ppm Dimethyl disulfide</td><td>< 200ppm O₂ response</td></tr> <tr><td>2000 ppm H₂S bal. N₂</td><td>< 500 ppm O₂ response</td></tr> <tr><td>1000 ppm Benzene bal. N₂</td><td>< 20 ppm O₂ response</td></tr> <tr><td>500 ppm SO₂ bal. N₂</td><td>< 20 ppm O₂ response</td></tr> </table>	100 Vol.% CO	< 20 ppm O ₂ response	100 Vol.% CO ₂	< 20 ppm O ₂ response	100 Vol.% C ₃ H ₈	< 20 ppm O ₂ response	100 Vol.% H ₂	< 400 ppm O ₂ response	3000 ppm NO bal. N ₂	< 20 ppm O ₂ response	3000 ppm Ethanol	< 100ppm O ₂ response	3000 ppm 1-Butanthiole	< 100ppm O ₂ response	3000 ppm Dimethyl disulfide	< 200ppm O ₂ response	2000 ppm H ₂ S bal. N ₂	< 500 ppm O ₂ response	1000 ppm Benzene bal. N ₂	< 20 ppm O ₂ response	500 ppm SO ₂ bal. N ₂	< 20 ppm O ₂ response
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Weight:	approximately 25 g																						
Material in Contact with Media:	ABS, PVC, PPS, PTFE, stainless steel																						



STORAGE CONDITIONS IN UNOPENED ORIGINAL PACKAGE

Temperature Range:	recommended: 5 to 30 °C maximum (≤ 10h): -20 to 50 °C
Humidity:	up to 100 % RH, non-condensing
Ambient Pressure:	600 to 1250 hPa
Shelf Life:	< 6 months recommended

We are here for you. Addresses and Contacts.

Headquarter Switzerland:

Angst+Pfister Sensors and Power AG
Thurgauerstrasse 66
CH-8050 Zurich
Phone +41 44 877 35 00
sensorsandpower@angst-pfister.com

Office Germany:

Angst+Pfister Sensors and Power Deutschland GmbH
Edisonstraße 16
D-85716 Unterschleißheim
Phone +49 89 374 288 87 00
sensorsandpower.de@angst-pfister.com

Office North America:

Angst+Pfister North America Inc.
10391 Brecksville Rd.
US-Brecksville, OH 44141
Phone +1 440 375-5212
info.apus@angst-pfister.com

Scan here and get an overview of personal contacts!



<https://sensorsandpower.angst-pfister.com/en/>
