

Product Specification of:

O₂ - Industrial Sensor / Type I-103D



:: 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 L/min.

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 (gain amplifier 1)	
Initial Output Signal:	2546 to 4455 Digits @ dry ambient air	
Output Signal Range:	1591 to 4773 Digits @ dry ambient air	
Electrical Connector:	4-pin Molex (digital sensor output signal, I ² C interface)	
Power Consumption:	< 15 mW @ dry ambient air	
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 2 Vol.% O ₂ : ± 0.1 absolute ; 2.1 to 100 Vol.% O ₂ : ± 0.5 relative	
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:		
	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
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	

:: RELATED PRODUCTS ::

Product	Part-No.	Housing Colour	Other Specifics
O ₂ -Sensor I-103D	48 15 14	white	RoHS compliant, lead free, digital sensor output signal
O ₂ -Sensor I-103	48 03 14	white	RoHS compliant, lead free, analog sensor output signal

This data sheet is subject to change without prior notice. [I-103D-Rev05-2019_0925.doc]