

Product Specification of:

NO₂ - Trace gas sensor / Type I-56D



:: KEY FEATURE ::

Factory programmed amperometric gas sensor with no warm-up time, designed to detect NO₂ concentrations in the ppm range, digital I²C signal.

All characteristics are based on conditions at 25°C, 50% RH and 1013 hPa, gas flow 300 mL/min.

Operating Principle:	3-electrode potentiostatic driven cell (potentiostat integrated)	
Measurement Range:	1 - 800 ppm	
Maximum Overload:	1500ppm	
Resolution:	15 Bit used (16 Bit processor, 1 Bit for algebraic sign)	
Output signal:	0 to 32768 Digits	
Power Consumption (maximum):	2.5 mW (1000 ppm NO ₂ test gas; 5.0 V supply voltage)	
Expected Operating Life:	24 months, depending on application	
Warm-Up Time	none	
Electrical Connector:	4 -pin Molex® (digital sensor output signal, I ² C interface)	
Gas Connector:	fits for M16x1 DIN 13	
Sensitivity:	6 - 16 Digits/ppm (depending on flow, flow feeding to the sensor, tubing system and dead spaces in manifold)	
Baseline:	< ± 60 Digits	
Response Time t₉₀:	< 60 s (depending on flow, flow feeding to the sensor, tubing system and dead spaces in manifold)	
Drift:	< 10%/year, depending on application	
Repeatability:	< 1% (180 s test gas – 180 s zero gas – 180 s test gas; 50 ppm NO ₂ bal. N ₂ ; constant environmental conditions)	
Linearity Error:	< 10% (50ppm to 500ppm)	
Temperature Compensation:	NTC on sensor PCB (sensor signal is not temperature compensated [separate temperature read out]; compensation by software necessary)	
Operating Temperature:	0 to 40 °C	
Pressure Range:	500 to 1250 hPa (complete sensor exposed to under-/overpressure)	
Humidity Range:	30 to 80 % RH	
Interferences:	NO [20 ppm]	< 1% of NO ₂ sensitivity
	O ₂ [100 Vol.%O ₂]	< 0.1% of NO sensitivity
	CO [249ppm]	< 0.1% of NO sensitivity
	CO ₂ [5 Vol.%]	< 0.1% of NO sensitivity
	H ₂ [480ppm]	< 0.1% of NO sensitivity
	Ozone [4 ppm]	< 14% of NO ₂ sensitivity
Weight:	26 - 28g	
Material in Contact with Media:	PVDF, PTFE, stainless steel, FKM	



:: STORAGE CONDITIONS IN UNOPENED ORIGINAL PACKAGE ::

Temperature Range:	recommended: 5 to 25 °C
	maximum: -20 to 50 °C (< 72 hours)
Ambient Pressure:	500 to 1250 hPa
Humidity:	up to 100% rH, non-condensing

:: RELATED PRODUCTS ::

Product	Part-No.	Housing Colour	Remarks
I-56D	48 00 52	-	potentiostat integrated, digital I ² C-signal

This data sheet is subject to change without prior notice. [I-56D-Rev01-2019_0724.doc]