

Product Specification of:

NO - Sensor / Type I-27D



.: KEY FEATURE .:

Factory programmed amperometric gas sensor with no warm-up time, high sensitivity, measures down to ppb levels, digital I²C sensor output signal, EEPROM and temperature sensor on PCB.

All characteristics are based on conditions at 22°C, 50% RH, 1013 hPa and gas flow 100 mL/min. All digital values are based on a gain factor of 1 (AD-Converter).

Operating Principle:	3-electrode potentiostatic cell with potentiostat (potentiostat integrated, battery buffered)
Warm-Up Time:	none
Measurement Range:	5 to 800 ppb
Maximum Overload:	1 ppm
Expected Operating Life:	24 months
Sensitivity:	4800 - 25600 Digits/ppm (300 - 1600 mV/ppm; depending on flow, flow feeding to the sensor, tubing system and dead spaces in manifold, gain factor AD-Converter 1)
Baseline (zero offset):	< 1440 Digits (90 mV; gain factor AD-Converter 1)
Response Time t_{90}:	< 10 s (depending on flow, tubing system and dead spaces in manifold)
Drift:	< 5 % signal/year
Signal Difference:	< 6 % (1. to 2. Measurement, 25s testgas, 55s zero gas)
Linearity Error:	< ±5% (5 - 300 ppb); < ±10% (300 - 800ppb)
Resolution:	15 Bit used (16 Bit processor, 1 Bit for algebraic sign)
AD-C Output Range:	-32768 to + 32767 Digits
Electrical Connector:	4-pin Molex [®]
Electrical Interface:	I ² C, digital sensor output signal
EEPROM:	24LC32A, 32 Kbit, I ² C
Power Consumption:	< 3.5 mW (1ppm NO; 5.0V supply voltage)
Supply Voltage:	+3.3 V (verified), +5.0 V (possible), >5.5 V (PCB damage)
Gas Connector:	fits for M16x1 DIN 13 or 5/8-24 UNEF
Temperature compensation:	MCP9808 on sensor PCB (sensor signal is not temperature compensated; compensation by device software necessary)
Operating Temperature:	5 to 40 °C
Pressure Range:	500 to 1250 hPa (complete sensor exposed to under- / overpressure)
Humidity Range:	20 to 80 % RH (15% RH for more than 2 weeks may lead to an increase in response time)
Interferences:	100 ppb Acetaldehyde: < 1 % of NO sensitivity 10 ppm Acetone: < 0.5 % of NO sensitivity 100 ppb Acetonitrile: none 500 ppb Ammonia: < 0.5 % of NO sensitivity 8 % CO ₂ : none 50 ppm CO: none 165 ppm Ethanol: < 0.5 % of NO sensitivity 50 ppm H ₂ : none 1 ppm H ₂ O ₂ : < 0.5 % of NO sensitivity 1 ppm H ₂ S: < 5 % of NO sensitivity 1 ppm Isoprene: < 0.5 % of NO sensitivity 200 ppb NO ₂ : < 5 % of NO sensitivity 21% O ₂ : none 1 ppm Ozone: ≤ - 1% of NO sensitivity
Weight:	35 - 37g
Material in Contact with Media:	PTFE, PVDF, FKM



This data sheet is subject to change without prior notice. [I-27D-Rev09-2021_0106.doc]

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:: STORAGE CONDITIONS IN UNOPENED ORIGINAL PACKAGE ::

Temperature Range: recommended: 15 to 25 °C
maximum: -20 to 70 °C (< 72 hours)
Ambient Pressure: 500 to 1250 hPa
Humidity: 10 to 99 % RH (non condensing)

:: RELATED PRODUCTS ::

Product	Part-No.	Other Specifics
NO - Sensor I-27D	48 01 37	RoHS compliant, lead free, I ² C digital sensor output signal,