

NO₂ | Industrial Sensor | Type I-56D**:: KEY FEATURES ::**

Factory calibrated amperometric gas sensor with no warm-up time, designed to detect NO₂ concentrations in the ppm range, digital I²C sensor output signal, EEPROM and temperature sensor on PCB.

All characteristics are based on conditions at 25°C, 50% RH and 1013 hPa, gas flow 300 mL/min. All digital values are based on a gain factor of 1 (AD-Converter).

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|--|---|--|
| Operating Principle: | 3-electrode potentiostatic driven cell (potentiostat integrated, battery buffered) | |
| Warm-Up Time: | none | |
| Measurement Range: | 1 to 800 ppm | |
| Maximum Overload: | 1500 ppm | |
| Expected Operating Life: | 24 months, depending on application | |
| Sensitivity: | 8 to 25 Digits/ppm ($\hat{=}$ 20.8 to 65.5 nA/ppm, depending on flow, flow feeding to the sensor, tubing system and dead spaces in manifold, gain factor AD-Converter 1) | |
| Zero Offset (Baseline Current): | < \pm 115 Digits ($\hat{=}$ < \pm 300 nA, digital electronic offset compensated, gain factor AD-Converter 1) | |
| Response Time t₉₀: | < 30 s (depending on flow, flow feeding to the sensor, tubing system and dead spaces in manifold) | |
| Sensitivity 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 % (50 to 500 ppm) | |
| 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: | < 1.0 mW (1000 ppm NO ₂ ; 5.0 V supply voltage) | |
| Supply Voltage: | + 3.3 V (verified), + 5.0 V (possible), > 5.5 V (PCB damage) | |
| Gas Connector: | fits for M16x1 DIN 13 | |
| Temperature Compensation: | MCP9808 on sensor PCB (sensor signal is not temperature compensated; 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] | < 1.0 % of NO ₂ sensitivity |
| | O ₂ [100 Vol.%O ₂] | < 0.1 % of NO ₂ sensitivity |
| | CO [249 ppm] | < 0.1 % of NO ₂ sensitivity |
| | CO ₂ [5 Vol.%] | < 0.1 % of NO ₂ sensitivity |
| | H ₂ [480 ppm] | < 0.1 % of NO ₂ sensitivity |
| Weight: | Approx. 24 g | |
| Material in Contact with Media: | PP, PPS, PTFE, stainless steel, FKM | |



Product Specification of:

NO₂ | Industrial Sensor | Type I-56D



:: STORAGE CONDITIONS IN UNOPENED ORIGINAL PACKAGE ::

| | |
|--------------------------------|--|
| Temperature Range: | 15 to 25 °C recommended -20 to 50 °C maximum (< 72 hours) |
| Humidity Range: | up to 100 %rH (non-condensing) |
| Ambient Pressure Range: | 500 to 1250 hPa |

:: RELATED PRODUCTS ::

| Product | Part-no. | Other specifics |
|-------------------------------|----------|--|
| NO ₂ -Sensor I-56D | 48 00 52 | potentiostat integrated, digital I ² C sensor output signal, EEPROM and temperature sensor on PCB |