

.: KEY FEATURE .:

Factory programmed amperometric gas sensor designed with no warm-up time, designed to detect NO concentrations in the high 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 and gas flow 300 mL/min All digital values are based on a gain factor of 1 (AD-Converter).

Operating Principle:	3-electrode potentiostatic driven cell (potentiostat integrated, battery buffered)
Warm-Up Time	none
Measurement Range:	1 - 1000 ppm
Maximum Overload:	1000 ppm
Expected Operating Life:	24 months, depending on application
Sensitivity:	3 - 10 Digits/ppm (94 - 313 nA/ppm, depending on flow, flow feeding to the sensor, tubing system and dead spaces in manifold, gain factor AD-Converter 1)
Baseline (zero offset):	< ± 30 Digits (938 nA, digital electronic offset compensated, gain factor AD-Converter 1)
Response Time t₉₀:	< 20s (depending on flow, flow feeding to the sensor, tubing system and dead spaces in manifold)
Drift:	< 10% signal/year, depending on application
Repeatability:	< 2% (300s test gas - 300s zero gas - 300s test gas; 1 ppm NO bal. N ₂ ; constant environmental conditions)
Linearity Error:	< 10% (20 to 1000ppm)
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 interface
Power Consumption:	< 2 mW (1000ppm NO; 5.0V supply voltage)
Supply Voltage:	+3.3V (verified), +5.0V (possible), >5.5V (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 ₂ [5ppm] < 2.5% of NO sensitivity CO [249ppm] < 0.2% of NO sensitivity CO ₂ [5 Vol.%] < 0.1% of NO sensitivity H ₂ [480ppm] < 0.1% of NO sensitivity Ozone [1ppm] signal change lower than sensor resolution
Weight:	26 - 28g
Material in Contact with Media:	PVDF, PTFE, stainless steel, FKM



:: STORAGE CONDITIONS IN UNOPENED ORIGINAL PACKAGE ::

Temperature Range: recommended: 15 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.	Remarks
I-29D	48 00 34	potentiostat integrated, digital I ² C sensor output signal, EEPROM and temperature sensor on PCB