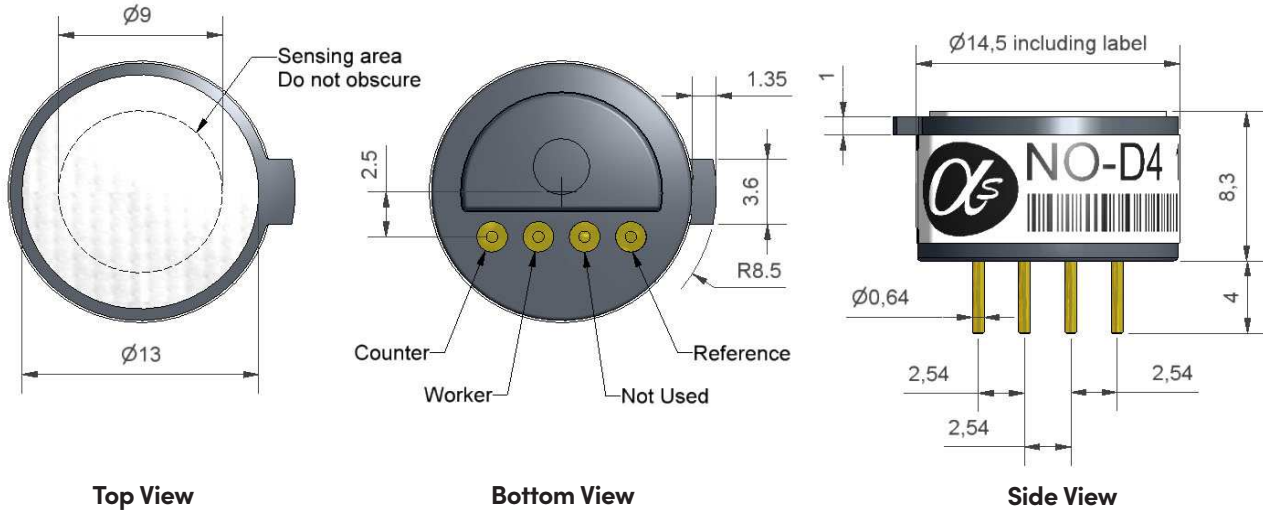


NO-D4 Nitric Oxide Sensor – Miniature Size



Dimensions are in millimetres (± 0.1 mm).

| | | | |
|-----------------------------|---|---|-------------------------------------|
| Performance | Sensitivity | nA/ppm in 40ppm NO | 450 to 600 |
| | Response time | t90 (s) from zero to 40ppm NO | < 15 |
| | Zero current | ppm equivalent in zero air | < 0 to 1.5 |
| | Resolution | RMS noise (ppm equivalent) | < 0.1 |
| | Range | ppm limit of performance warranty | 100 |
| | Linearity | ppm error at full scale, linear at zero and 40ppm | < ± 1.5 |
| | Overgas limit | NO maximum ppm for stable response to gas pulse | 400 |
| Lifetime | Zero drift | ppm equivalent change/year in lab air | < 0.4 |
| | Sensitivity drift | % change/year in lab air, monthly test | < 5 |
| | Operating life | months until 80% original signal (24-month warranted) | > 18 |
| Environmental | Sensitivity @ -20°C | % (output @ -20°C/output @ 20°C) @ 40ppm NO | 65 to 80 |
| | Sensitivity @ 50°C | % (output @ 50°C/output @ 20°C) @ 40ppm NO | 102 to 115 |
| | Zero @ -20°C | ppm equivalent change from 20°C | < ± 0.5 |
| | Zero @ 50°C | ppm equivalent change from 20°C | < 1.5 to 6 |
| Cross-sensitivity | H ₂ S sensitivity | % measured gas @ 20ppm | H ₂ S < 5 |
| | NO ₂ sensitivity | % measured gas @ 10ppm | NO ₂ < 5 |
| | Cl ₂ sensitivity | % measured gas @ 10ppm | Cl ₂ < 5 |
| | SO ₂ sensitivity | % measured gas @ 10ppm | SO ₂ < 0.5 |
| | CO sensitivity | % measured gas @ 400ppm | CO < 0.1 |
| | H ₂ sensitivity | % measured gas @ 400ppm | H ₂ < 0.1 |
| | C ₂ H ₄ sensitivity | % measured gas @ 1000ppm | C ₂ H ₄ < 0.1 |
| | NH ₃ sensitivity | % measured gas @ 20ppm | NH ₃ < 0.1 |
| CO ₂ sensitivity | % measured gas @ 5% | CO ₂ < 0.1 | |
| Key Specifications | Temperature range | °C | -20 to 50 |
| | Pressure range | kPa | 80 to 120 |
| | Humidity range | % rh (see note below) | 15 to 90 |
| | Storage period | months @ 3 to 20°C (stored in sealed pot) | 6 |
| | Bias voltage | mV (working electrode above ground) | 300mV |
| | Load resistor | Ω (for optimum performance) | 10 to 47 |
| | Weight | g | < 2 |

Figure 1 Sensitivity Temperature Dependence

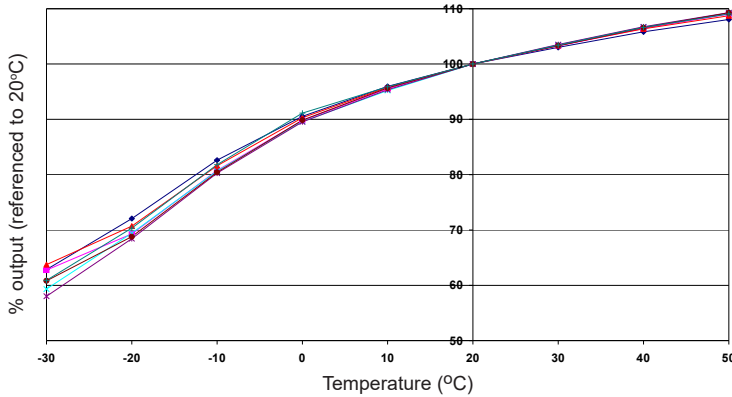


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

Figure 2 Zero Temperature Dependence

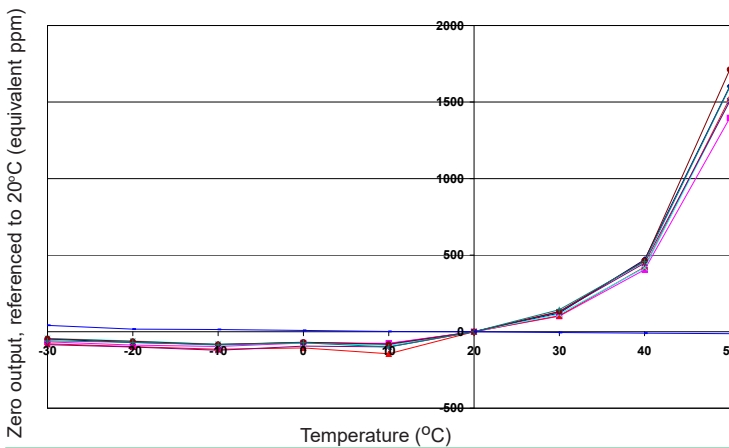
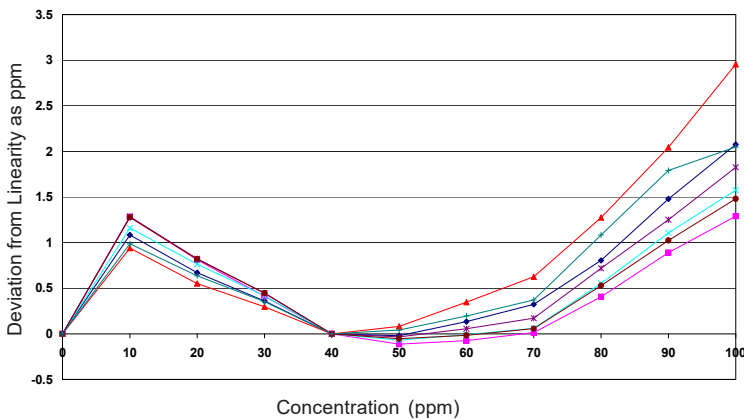


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Linearity to 100ppm NO



Sensors show nearly ideal linearity from 0 to 100ppm NO.

NOTE: All sensors are tested at ambient environmental conditions, with 10 ohm load resistor, unless otherwise stated. As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors are suitable for their own requirements.

At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste, but contact the instrument manufacturer, Alphasense or its distributor for disposal instructions. NOTE: all sensors are tested at ambient environmental conditions unless otherwise stated. As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors are suitable for their own requirements.

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