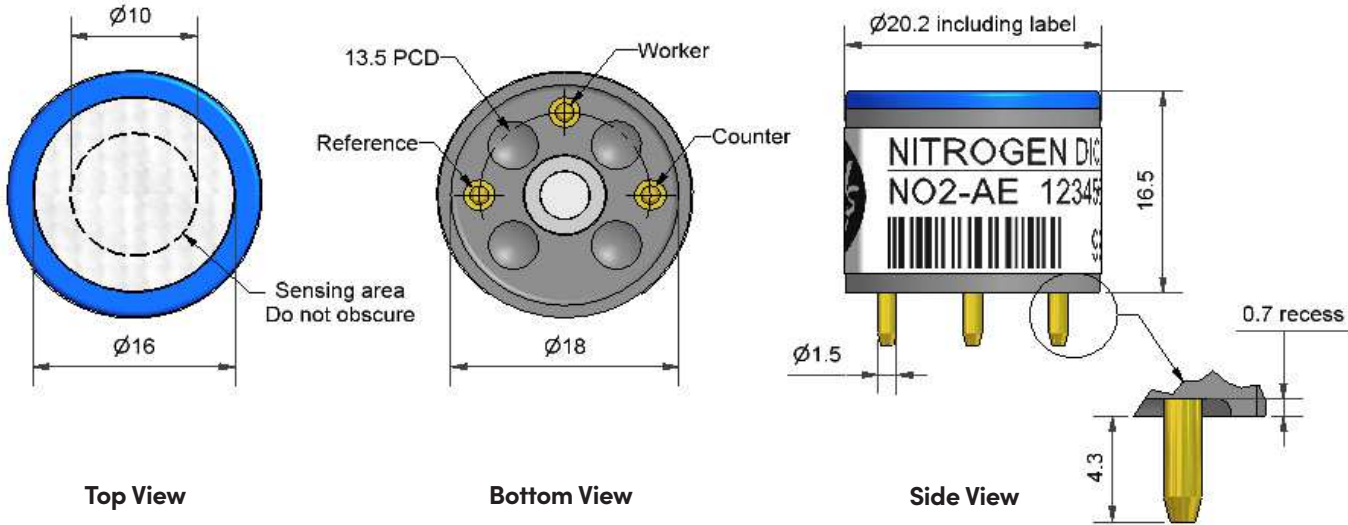


NO2-AE Nitrogen Dioxide Sensor



Dimensions are in millimetres (± 0.1 mm).

| | | | | |
|--------------------|---|--|-------------------------------|-------------|
| Performance | Sensitivity | nA/ppm @ 20°C in 10ppm NO ₂ (33Ω Load Resistor) | | -70 to -170 |
| | Response time | t90 (s) from zero to 10ppm NO ₂ (33Ω Load Resistor) | | < 40 |
| | Zero current | ppm equivalent in zero air | | < ± 1.5 |
| | Resolution | RMS noise (ppm equivalent) (33Ω) | | < 0.1 |
| | Range | ppm limit of performance warranty | | 200 |
| | Linearity | ppm error at 200ppm, linear at 30 and 100ppm NO ₂ | | < 2 to 11 |
| | Overgas limit | maximum ppm for stable response to 10 minute gas pulse | | > 1,000 |
| | | | | |
| Lifetime | Zero drift | ppm equivalent change/year in lab air | | nd |
| | Sensitivity drift | % change/month in lab air, twice monthly gassing | | < 2 |
| | Operating life | months until 80% original signal (24 month warranted) | | > 24 |
| Environmental | Sensitivity @ -20°C | % (output @ -20°C/output @ 20°C) @ 10ppm NO ₂ | | 75 to 95 |
| | Sensitivity @ 50°C | % (output @ 50°C/output @ 20°C) @ 10ppm NO ₂ | | 98 to 110 |
| | Zero @ -20°C | ppm equivalent | | < ± 0.5 |
| | Zero @ 50°C | ppm equivalent | | < 0 to -5 |
| Cross-sensitivity | CO sensitivity | % measured gas @ 400ppm | CO | < 3.5 |
| | NO sensitivity | % measured gas @ 50ppm | NO | < 2 |
| | SO ₂ sensitivity | % measured gas @ 20ppm | SO ₂ | < -30 |
| | Cl ₂ sensitivity | % measured gas @ 5ppm | Cl ₂ | < 90 |
| | H ₂ sensitivity | % measured gas @ 400ppm | H ₂ | < -0.8 |
| | H ₂ S sensitivity | % measured gas @ 200ppm | H ₂ S | < -220 |
| | C ₂ H ₄ sensitivity | % measured gas @ 400ppm | C ₂ H ₄ | < 0.1 |
| | NH ₃ sensitivity | % measured gas @ 20ppm | NH ₃ | < -1 |
| | CO ₂ sensitivity | % measured gas @ 5% volume | CO ₂ | < 0 |
| | O ₃ sensitivity | % measured gas @ 100ppb | O ₃ | < 120 |
| Key Specifications | Temperature range | °C | -20 to 50 | |
| | Pressure range | kPa | 80 to 120 | |
| | Humidity range | % rh continuous | 15 to 90 | |
| | Storage period | months @ 3 to 20°C (stored in sealed pot) | 6 | |
| | Load resistor | Ω (for optimum performance) | 33 | |
| | Weight | g | < 6 | |



Figure 1 Sensitivity Temperature Dependence

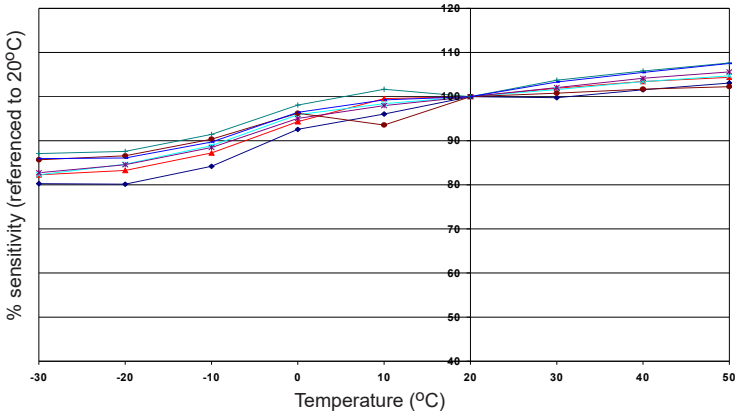


Figure 1 shows the variation in sensitivity caused by changes in temperature.
This data is taken from a typical batch of sensors.

Figure 2 Zero Temperature Dependence

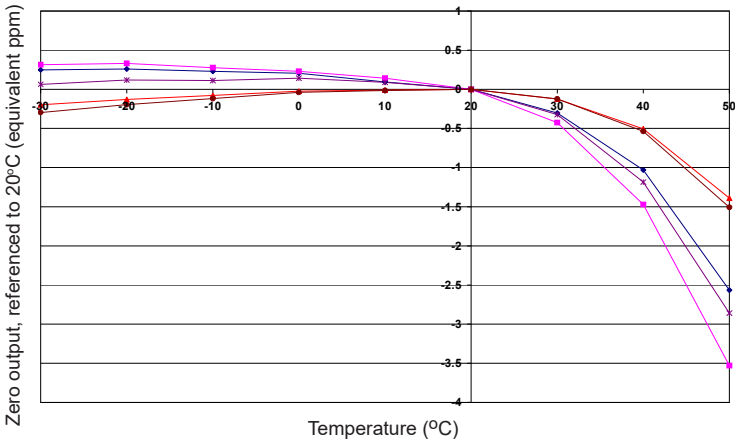


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.
This data is taken from a typical batch of sensors.

Figure 3 Linearity to 200ppm NO₂

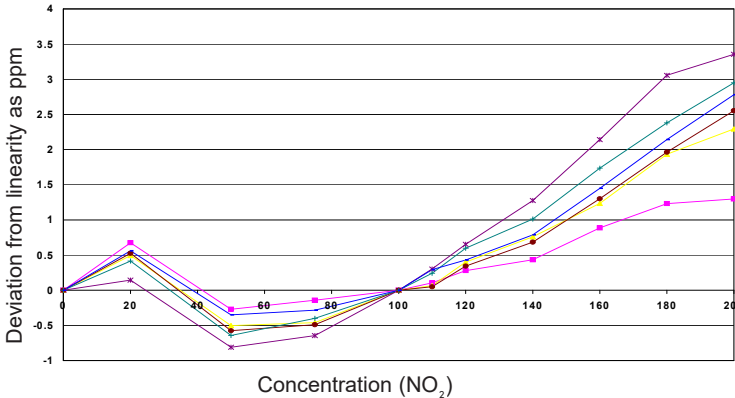


Figure 3 shows excellent and repeatable linearity to 200ppm NO₂ which allows this sensor to be used at high concentrations.