


Technical datasheet Cairsens NO₂

(Document prone to modifications)

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| Range | 0-250 ppb (0-240 ppb analog) |
| Limit of detection ^(1,2) | 20 ppb |
| Repeatability at zero ^(1,2) | +/- 7 ppb |
| Repeatability at 40% of range ^(1,2) | +/- 15 % |
| Linearity ^(1,2) | < 10% |
| Uncertainty | < 30% ^(2,3) |
| Short term zero drift ^(1,2,4) | < 5 ppb / 24 H |
| Short term span drift ^(1,2,4) | < 1% FS ⁽⁵⁾ / 24 H |
| Long term zero drift ^(1,2,4) | < 10 ppb / 1 month |
| Long term span drift ^(1,2,4) | < 2% FS ⁽⁵⁾ / 1 month |
| Rise time (T10-50) ^(1,2) | < 90s (180s if large variation of RH) |
| Fall time (T10-50) ^(1,2) | < 90s (180s if large variation of RH) |
| Effect of interfering species ⁽¹⁾ | Cl ₂ : around 80% Reduced sulphur compounds : negative interference O ₃ : possible interferences if high concentration |
| Temperature effect on sensitivity ⁽²⁾ | < 0.5 % / °C |
| Temperature effect on zero ⁽²⁾ | +/- 50 ppb maximum under operating conditions |
| Maximum exposure | 50 ppm |
| Annual exposure limit (1 hour average) | 780 ppm (NO ₂) |
| Annual exposure limit (1 hour average) | 180 ppm of oxidant species (O ₃ eq.) |
| Operating conditions | - 20°C to 40°C / 10 to 90% RH non-condensing 1013 mbar +/- 200 mbar |
| Recommended storage conditions | Temperature: between 5°C and 20°C Air relative humidity: > 15% non-condensing Ambient air free from O ₃ |
| Power supply ⁽⁶⁾ | 5 VDC/500 mA (rechargeable by USB via PC or 100 V-240 V/5 V 0.8 A-1.0 A with adapter) |
| Communication interface | USB, UART Analog (UART & 4-20 mA / 0-5 V converter) |
| Dimensions | Diameter: 32mm - Length: 62mm |
| Weight | 55g |
| Protection | IP42 (according IEC60529) |
| Electrical certification |  Conform to UL Std. 61010-1 Certified to CSA Std. C22.2 N°. 61010-1  |
| Parameters Set up / Downloading | Software: Cairsoft (for USB versions), Cairmap or Caircloud (for UART versions) |

¹ According to our operating conditions during tests in laboratory: 20°C +/- 2°C / 50% RH +/- 10% / 1013 mbar +/- 5%

² Values possibly affected by exposures to high gradients of concentration

³ In accordance with the Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe

⁴ Full scale continuous exposure

⁵ FS = Full Scale

⁶ The complete discharge of a device (screen turned off) can lead to a deterioration of its performances

For an optimal quality of use, please keep the Cairsens in a vertical position in accordance with indications on the device

Any use of the sensor not complying with the conditions specified in herein, including exposures, even short ones, to environments other than ambient air, to dry and / or devoid of oxygen air or other atmosphere not composed in majority of air, even during calibration, will invalidate the warranty.

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| Main options | Cairtub: protection for outdoor use and power for 21 days. Cairnet: protection for outdoor use, autonomous power (solar panel) and wireless communication for distant access to data |
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