

Technical datasheet Cairsens O3/NO2

(Document prone to modifications)

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 (T10-90) ^(1,2)	<90s (180s if large variation of RH)
Fall time (T10-90) ^(1,2)	<90s (180s if large variation of RH)
Effect of interfering species ⁽¹⁾	Cl ₂ : around 80% Reduced sulphur compounds : negative interference
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
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
Power supply ⁽⁶⁾	5 VDC/500mA (rechargeable by USB via PC or 100V-240V/5V 0.8A-1.0A with adapter)
Communication interface	USB, UART Analog (UART + 4-20 mA / 0-5 V converter)
Dimensions	Diameter: 32 mm - 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 On the basis of recommendations of 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 for and its enlargement to other gases

⁴ Full scale continuous exposure

⁵ FS = Full Scale

⁶ VRSC = Volatile Reduced Sulfur Compounds

⁷ The complete discharge of a device (screen turned off) can lead to a deterioration of its performances

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.

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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