



Technical datasheet Cairsens SO₂

(Document prone to modifications)

Range	0 – 1000 ppb (0 –960 ppb analog)
Limit of detection ^(1, 2)	50 ppb
Repeatability at zero ^(1, 2)	+/- 10 ppb
Repeatability at 80 % of the range ^(1, 2)	+/- 15 %
Linearity ^(1, 2)	<10 %
Uncertainty	< 25 % ^(2, 3)
Short term zero drift ^(1, 2, 4)	< 2 ppb / 24h
Short term span drift ^(1, 2, 4)	< 1 % FS ⁽⁵⁾ / 24h
Long term zero drift ^(1, 2, 4)	< 10 ppb / 1 month
Long term span drift ^(1, 2, 4)	< 5 % FS ⁽⁵⁾ / 1 month
Rise time (T10-90) ^(1, 2)	< 60 s
Fall time (T10-90) ^(1, 2)	< 60 s
Effect of interfering species ^(1, 2)	NO ₂ , O ₃ : ~ -125 % H ₂ S: ~ 5 % CO, H ₂ : <1 %
Temperature effect on sensitivity ⁽²⁾	< 0.2 % / °C
Temperature effect on zero ⁽²⁾	ND
Maximum exposure	100 ppm
Annual exposure limit (1 hour average)	9000 ppm
Operating conditions	-20°C to +50°C / 15 to 90 % R.H. (non-condensing) 1013 mbar +/-200 mbar
Recommended storage conditions	Temperature : between 5 and 20 °C Relative humidity : > 15 % non-condensing
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: 32 mm, length: 62 mm
Weight	55 g
Protection	IP 42 (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.

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