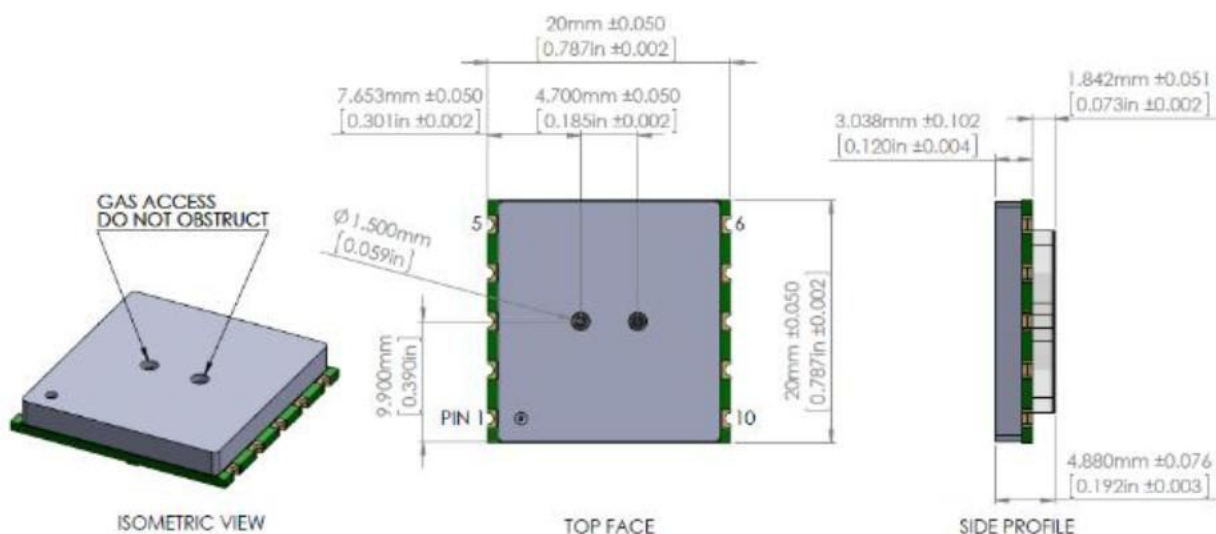


3SP_CO_1000 Encapsulation 120-101

15x15 Carbon Monoxide Sensor 1000 Ppm, Side Welded Installation



characteristic

- Small size, low profile (20x20x4.9 mm)
- Long life (10 years life expectancy)
- Quick response (<15 seconds)
- Long-term stability (through 5000 ppm overload)
- Low power (0mW @ 0 mV bias)
- Individual calibration (NIST traceable)
- Pass ROHS certification

apply

- Residential and commercial carbon monoxide monitoring
- Industrial carbon monoxide monitors
- Ventilation control
- Carbon monoxide monitoring in recreational vehicles and marine vessels
- Indoor air quality
- Outdoor air quality

Description

Screen-printed electrochemical sensors have revolutionized current technological standards, offering innovative applications for consumer and industrial safety monitoring. These sensors deliver superior performance at competitive prices. Their ultra-thin design enables seamless integration into wireless, handheld, and networked systems. With their high performance, cost-effectiveness, and compact size, these sensors stand out as ideal solutions for health, environmental, industrial, and residential monitoring needs.

Consistency of	0 - 1000 ppm
minimum detection values in measurement range	<80 ppb (depending on instrument) <+/-1% of the reading
response time	<15 seconds
Sensitivity @ 3 mV bias overload	4.75 +/- 2.75 nA/ppm
Expected service life working temperature range	Through EN20291-1 Sec. 5.3.6 5000 ppm overloads > 5 years (10 years @ 23+/-3C; 40+/-10% RH)
Working relative humidity-non-condensation power consumption	-40-70°C (-20-40°C continuous) 0 -100% RH (15-95% sustained) depends on circuit & surrounding carbon monoxide

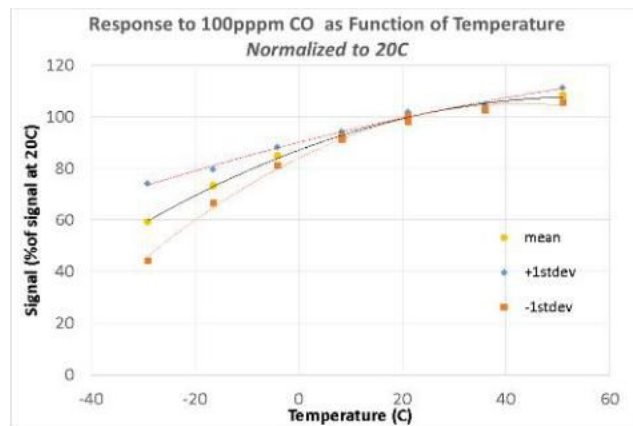
3SP_CO_1000 Encapsulation 120-101

cross sensitivity

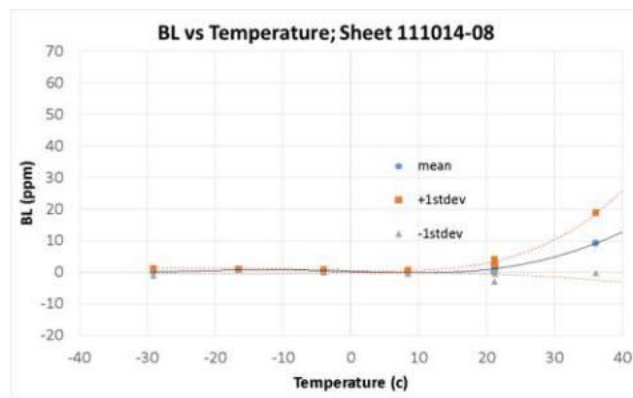
gas / water vapor	potency	Typical response PPM CO
carbon dioxide	5000 ppm	< 1
ethane	3000 ppm	< 1
ammonia	100 ppm	< 1
nitrogen dioxide	10 ppm	< 1
hepatic gas	25 ppm	< 1
carbon monoxide	400 ppm	400
ozone	5 ppm	< 1
sulfur dioxide	20 ppm	< 1
chlorine	10 ppm	< 1
n-heptane	500 ppm	< 1
methylbenzene	200 ppm	< 1
isopropanol	200 ppm	1.3
acetone	200 ppm	< 1

temperature effect

Temperature fluctuations have predictable and easily compensatable effects on sensor signals. The following chart shows the typical temperature characteristics of the 3SP_CO_1000 sensor under constant humidity (40-50% RH). The temperature characteristics are consistent, which is easy to compensate for.



Information indexing

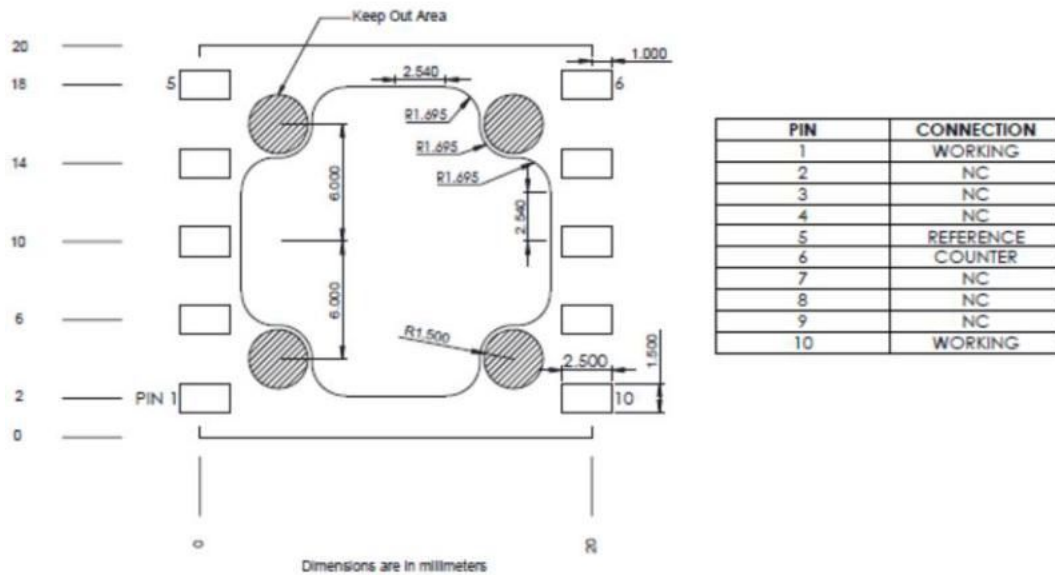


3SP_CO_1000 Encapsulation 120-101

Each sensor is printed with a serial number and individual NIST traceable calibration data.



PCB layout, for reference



Important considerations

All sensors are designed for air monitoring (at 1 atm ± 0.2 atm). As the application environment is uncontrollable, the provided information is legally disclaimer-free. Customers should conduct testing in the actual application environment to ensure sensor compliance. For applications exceeding human breathing range, please contact the manufacturer to discuss relevant matters.

- Condensate (1)
- Contaminated brackish water (1)
- . More than 1 month high temperature work (> 70°C)
- More than 3 months of low humidity operation (<15% RH)
- High bias
- Air is highly polluted for a long time
- High concentration of particulate matter or soot (unless proper filtration is provided)

(1) This problem can be solved by using porous PTFE film or filter cap)

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