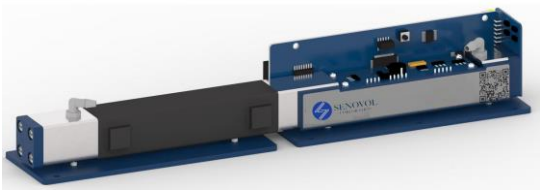
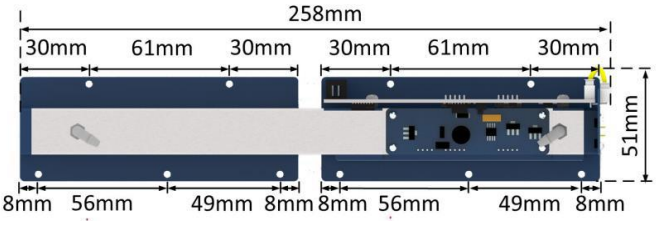
Non-dispersive Infrared (NDIR) Gas Sensors

NDIR-C2H4-1000 ppm, Part Number: NDI-0010-1001

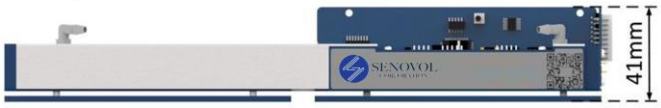
Senovol NDIR-C2H4-1000 ppm sensor is designed using Non-dispersive Infrared (NDIR) technology for the continuous detection of Ethylene (C2H4) up to 1000 ppm in sensitivity. It is a high-performance, industrial-grade and long-life C2H4-specific sensor with minimized cross-sensitivities from other gases.



Product Dimensions



Top View



Side View

All dimensions in mm

Performance

Sensor principle	non-dispersive infrared (NDIR)
Measurement range	0 ~ 1000 ppm C2H4
Sampling Mode	Pumping (300~800ml/min)
Response time	≤ 10 seconds @500 ml/min
Recovery time	≤ 10 seconds @500 ml/min
Long-term stability	See *Note 1
Resolution	1 ppm/sec
Reading unit	ppb
Accuracy	±25 ppm @20ºC
Detection limit	3 ppm

Electrical

Supply voltage	9 ~ 24 VDC
Working current	< 0.15 A @ 9 VDC
Power consumption	< 1.0 W Average
	< 1.5 W @ peak
PTC Heating	< 8 W @ 5 VDC
Warm-up time	3 min (tolerance ±60 ppm)
	30 min (tolerance ± 30 ppm)
Output voltage	0.4 ~ 2.0 VDC (Pin#2)
	(0.3~0.4 for negative reading)

Mechanical

Optical path	gilt stainless steel
Solder	Sn, Ag, Cu
Weight	540 grams
Mounting Plate	ABS

Environmental

Temperature range	0 ℃ ~ 50 ℃
Pressure range	0.5 – 1.5 atm
Humidity range	0 % ~ 85 % RH non-condensing

Lifetime

Storage temperature	-20 ℃ ~ 50 ℃
Operating lifetime	> 5 years
Storage life	> 5 years
Warranty	18 months

Approvals

Pending

* Note 1: There is no sensitivity drift during the continual operation of 28 days in clean air at 0~90% RH and 0~35 °C. Online zero calibration is available.

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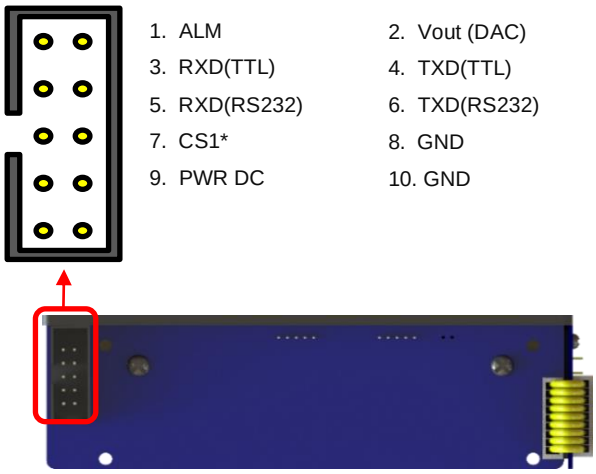
Caution

The presence of condensed water and dust has the potential to harm the sensor, so adding filters to keep them out is highly recommended. Additionally, sensor damage can result from mechanical shock and electrical overload.

Pinout Details



* Note: CS1: 0~3.3 VDC output, RS485 read and write.

Cross-Sensitivity Data

Gas	Concentration (ppm)	Output (ppm C2H4 equivalent)
CO	100,000	1 ~ 5
CO2	100,000	4 ~ 10
C2H2	10,000	7 ~ 8

Accessories Included

Tygon Tube: Polyethylene (Transparent), Length 50 mm × 2, Diameter 3.2 mm × 6.4 mm
Ribbon Cable: Length 400 mm, 10-pin, 28 AWG, Gray, Female Connector (2 × 5), 2.54 mm pitch

Safety Note

If the sensor is used in certain instruments for life critical applications, it is required to read the instrument user's guide carefully and comply with the calibration procedures by using the certified target calibration gas before each use. Failure to do so may cause serious injury and/or fatality. It is highly recommended for customers to validate the sensor performance using this document as a reference for their product designs or applications.