

NDIR N₂O SENSOR MODULE

DATASHEET

LARK-1M N2O 10000PPM | Order No.: 001-0808-105

Applications

- N2O Content Detection

Merits

- Low Detection Limit
- Wide Temperature Range
- Small Size and Easy Installation
- Long Life
- Quick Response
- Low Humidity Inter

Dimensions

- Length: 126 mm ± 1 mm
- Width: 51 mm ± 1 mm
- Height: 39 mm ± 1 mm
- Weight: 208 g ± 5 g
- Screw Hole Diameter: 3 mm

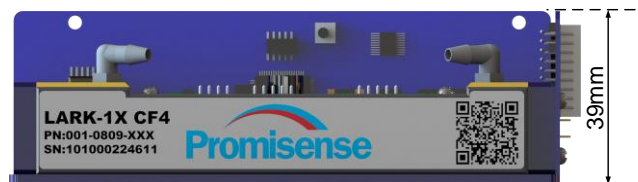
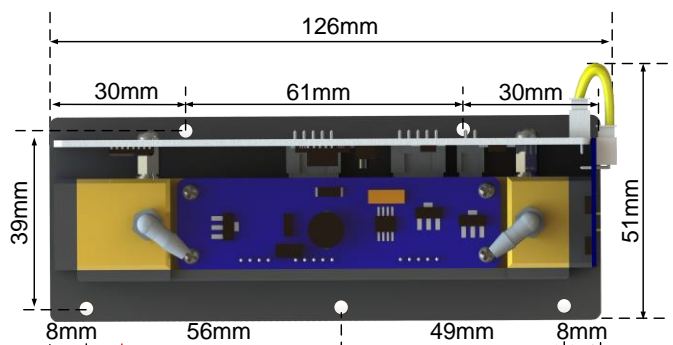
Parameters

Principle	NDIR
Range	0 ~ 10000 ppm N ₂ O (in N ₂)
Sampling Mode	Pumping
Response Time	≤ 8 s (@500 ml/min)
Recovery Time	≤ 8 s (@500 ml/min)
Long-term Stability*	TBD
Temperature	-20 °C ~ 50 °C
Tolerance	±150 ppm @ 20 °C
Zero Temp. Drift	TBD (Online Zero Calibration Available)
Resolution	10 ppm /sec
Reading Unit	ppm
Detection Limit	20 ppm

*Long-term Stability: 28 days of zero drift measured in clean air of 0~90% RH, 0~35 °C

Mechanics

Optic Path	Steel
Circuit Board	FR4 / Lead-free HASL
Solder	Sn / Ag / Cu
Mounting Plate	ABS

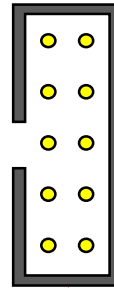


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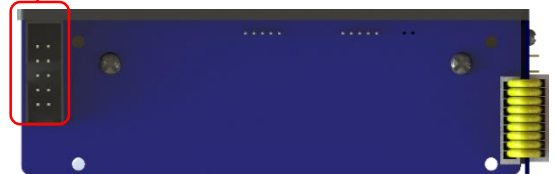
Electronics

Input Voltage	9 ~ 24 VDC (#9 pin)
Operating Current	< 0.15 A @9 VDC
Power	< 1 W Average < 1.5 W @Peak
Warm-up Time	3 minutes (Tolerance \pm 50 ppm) 60 minutes (Tolerance \pm 20 ppm)
Output Voltage	0.4 ~ 2.0 VDC (#2 pin) (0.3 ~ 0.4 V for Negative Reading)
Warranty	18 months*

Connector Definition



1.ALM	2.V _{out} (DAC)
3.RXD(TTL)	4.TXD(TTL)
5.RXD(RS232)	6.TXD(RS232)
7.CS1*	8.GND
9.PWR DC	10.GND



*CS1: 0-3.3 VDC Output, for RS485

Application Condition

Prefer Condition	Room Temperature, Dry, Clean
Safety	None Explosion-proof Design
Humidity	0% RH ~ 85% RH (No Condensation)
Flow Rate	300 ~ 800 ml/min
Pressure	0.5 ~ 1.5 ATM (Ambient air pressure measured, without pressure compensation)

Attachment

Tygon Tube

- Length 50 mm \times 2
- Diameter 3.2 mm \times 6.4 mm
- Polyethylene, Transparent

Ribbon Cable

- Length 200 mm \times 1
- 10-pin, 28 AWG, Gray
- Female Connector, 2 \times 5
- 2.54 mm Pitch

*Non-warranty Case:

- Polluted by condensation, water or dust; Dust and water removing is strongly suggested;
- Damaged by falling, hitting, disassembling, etching or over-loading;
- Label has been torn.

We reserves the right to modify this datasheet and will optimize the product in the future. If you use this product for specific application, please contact us for more technical support.