

NDIR CO SENSOR MODULE

DATASHEET

LARK-1 CO 10000PPM | Order No.: 001-0802-103



Applications

- Burning optimize control
- Flue gas monitoring
- H₂, H₂S exiting CO monitoring

Merits

- Low Detection Limit
- Wide Temperature Range
- Small Size
- Long Life
- Fast Response

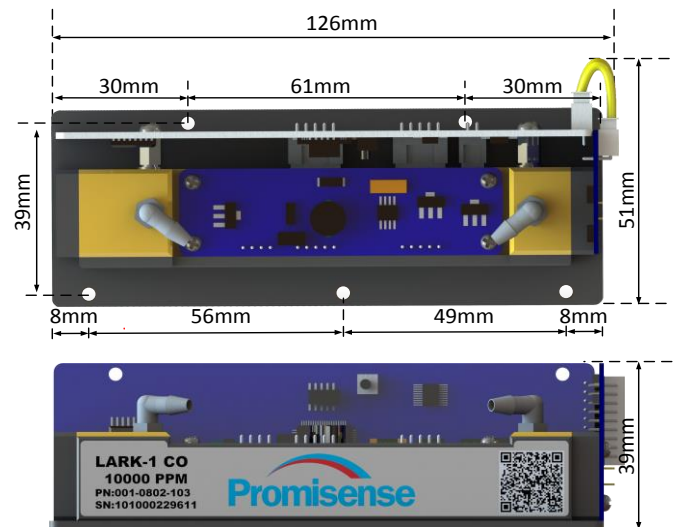
Parameters

Principle	NDIR
Range	0 ~ 10000 ppm CO
Sampling Mode	Pumping
Response Time	≤ 3 s (@500 ml/min)
Recovery Time	≤ 3 s (@500 ml/min)
Long-term Stability*	≤ ±500 ppm/month
Temperature	-20 °C ~ 50 °C
Tolerance	±100 ppm @20 °C (≤5000 ppm) ±2% FS @20 °C (≤10000 ppm) (Whichever is the less)
Zero Temp. Drift	±500 ppm (Online Zero Calibration Available)
Resolution	10 ppm
Reading Unit	ppm
Detection Limit	10 ppm

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

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



Mechanics

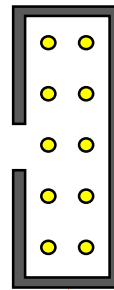
Optic Path	Steel
Circuit Board	FR4 / Lead-free HASL
Solder	Sn / Ag / Cu
Mounting Plate	ABS

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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 ± 500 ppm) 60 minutes (Tolerance ± 100 ppm / $\pm 2\%$ FS)
Output Voltage	0.4 ~ 2.0 VDC (#2 pin) (0.3 ~ 0.4V 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
Temperature	-20 °C ~ 50 °C
Humidity	0% RH ~ 85% RH (No Condensation)
Flow Rate	300 ~ 800 ml/min
Pressure	0.5 ~ 2.0 ATM (Ambient air pressure measured, without pressure compensation)

Attachment

Tygon Tube

- Length 50 mm × 2
- Diameter 3.2 mm × 6.4 mm
- Polyethylene, Transparent

Ribbon Cable

- Length 200 mm × 1
- 10-pin, 28 AWG, Gray
- Female Connector, 2 × 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.