

# NDIR CO SENSOR MODULE

# DATASHEET

LARK-1 CO(LX) 10%VOL | Order No.: 001-0802-10E



## Applications

- Burning optimize control
- Flue gas monitoring
- CO monitoring where CO<sub>2</sub> existing

## Merits

- Low Detection Limit
- Wide Temperature Range
- Long Life
- Fast Response
- Low CO<sub>2</sub> cross sensitivity

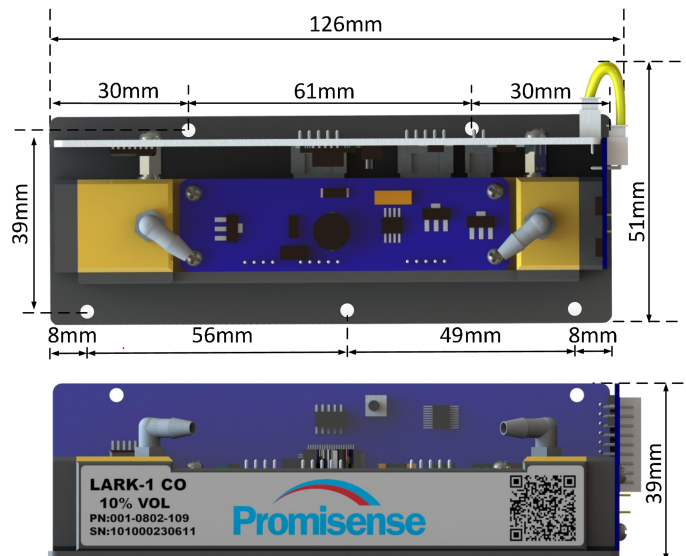
## Parameters

Principle	NDIR
Range	0 ~ 10%vol 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	±150 ppm @20 °C (≤ 5000 ppm) ±1% FS @20 °C (5000ppm ~ 10%vol)
Zero Temp. Drift	±500 ppm (Online Zero Calibration Available)
Resolution	25 ppm
Reading Unit	ppm
Detection Limit	50 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

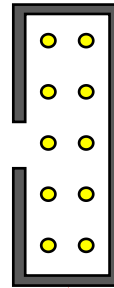
Optic Path	Steel
Circuit Board	FR4 / Lead-free HASL
Solder	Sn / Ag / Cu
Mounting Plate	ABS

# DATASHEET

## 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 $\pm 500$ ppm $\pm 1\%$ FS) 60 minutes (Tolerance $\pm 150$ ppm / $\pm 1\%$ 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 <sub>out</sub> (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 ~ 1.5 ATM ((Ambient air pressure measured, without pressure compensation)

## Accessory

### 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.