

# NDIR R134a SENSOR MODULE

LARK-1QM R134a 1000PPM | Order No.: 001-0A0S-101

# DATASHEET



## Parameters

Principle	NDIR
Range	0 ~ 1000 ppm R134a
Sampling Mode	Pumping
Response Time	T90 ≤ 10 s (@500 ml/min)
Recovery Time	RT90 ≤ 10 s (@500 ml/min)
Long-term Stability*	Testing
Temperature	-20 °C ~ 50 °C
Tolerance	± 3 ppm (0 ~ 100 ppm)
(@ 20°C)	± 6 ppm (100 ~ 1000 ppm)
Zero Temp. Drift	testing
Resolution	1 ppm/sec
Reading Unit	ppm
Detection Limit	3 ppm
Reading Refresh Rate	16 Hz

\* 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

## Applications

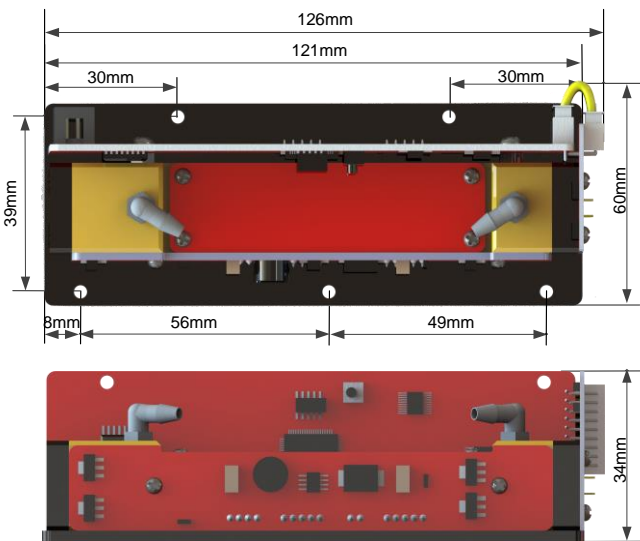
- R134a leakage detection

## Merits

- Small error
- Small size
- Fast response
- High reading refresh rate
- RS485 modbus RTU

## Dimensions

- Length: 126 mm ± 1 mm
- Width: 60 mm ± 1 mm
- Height: 34 mm ± 1 mm
- Weight: 208 g ± 5 g
- Screw Hole Diameter: 3 mm

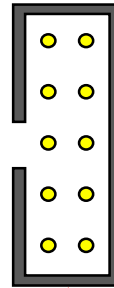


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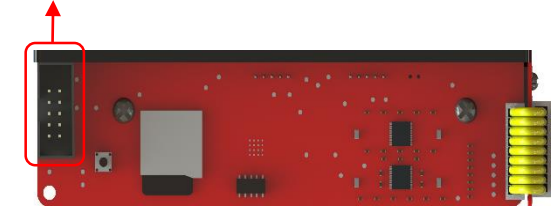
## Electrical Parameters

Input Voltage	9 ~ 24 VDC (#9 pin)
Operating Current	< 0.15 A @9 VDC
Power	< 1 W for Average < 1.5 W @ Peak
Warm-up Time	3 minutes (Tolerance $\pm 5$ ppm @ zero) 60 minutes (Tolerance $\pm 3$ ppm @ zero)
Output Voltage	0.4 ~ 2.0 VDC (#2 pin) (0.3 ~ 0.4 V for negative reading)
Warranty	18 months*

## Connector Definition



1. NC	2. V <sub>out</sub> (DAC)
3. RXD(TTL)	4. TXD(TTL)
5. A+(RS485)	6. B-( RS485)
7. NC	8. GND
9. PWR DC	10. GND



\* Communication protocol is modbus RTU.  
ID can be modified in SD card.

## 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)

### \*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.

## Accessories Included

### 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

\* The heating module is not included, but can be purchased as an option.

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.