

NDIR DMC SENSOR MODULE

LARK-1QM DMC 500PPM | Order No.: 001-0A25-102

DATASHEET



Parameters

Principle	NDIR
Range	0 ~ 500 ppm (CH ₃ O) ₂ CO
Sampling Mode	Pumping
Response Time	≤ 10 s (@500 ml/min)
Recovery Time	≤ 10 s (@500 ml/min)
Long-term Stability*	Testing
Temperature	-20 °C ~ 50 °C
Tolerance	± 5 ppm @ 20 °C
Zero Temp. Drift	Testing (Online Zero Calibration Available)
Resolution	1 ppm @ 0 ppm
Reading Unit	ppm
Detection Limit	1 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

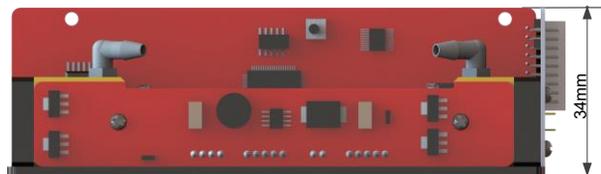
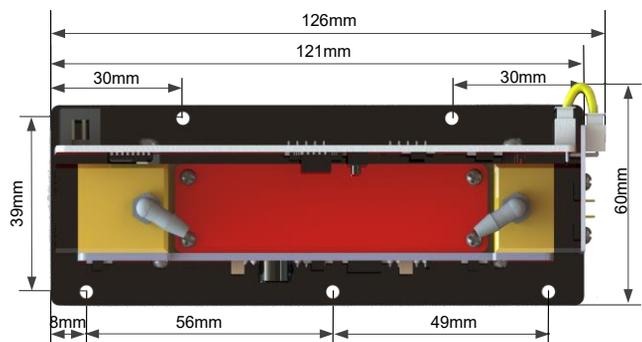
- Lithium-ion battery thermal runaway dimethyl carbonate (DMC) monitoring

Merits

- Low Detection Limit
- Wide Temperature Range
- Small Size
- Long Life
- Fast Response
- RS485 modbus RTU
- Can detect ethyl methyl carbonate (EMC)

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

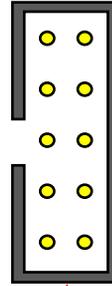


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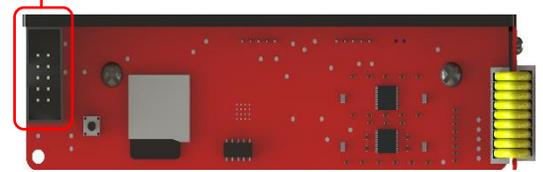
Electrical Parameters

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 ± 4 ppm @ 0 ppm) 60 minutes (Tolerance ± 2 ppm @ 0 ppm)
Output Voltage	0.4 ~ 2.0V (#2 pin) (0.3 ~ 0.4V for negative drift)
Warranty	18 months*

Connector Definition



1. NC	2. Vout(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, erosion or over-loading;
- Label has been torn.

Accessories Included

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

* 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.