

CO₂ Sensor Module



Datasheet of IRsenTec G8 LP (Ver 1.1)

Applications

- Indoor Air Quality
- HVAC Systems
- Environment
- Greenhouses

Feature

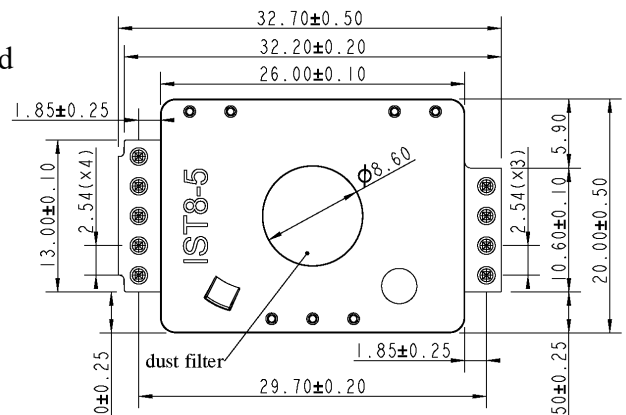
- Non-Dispersive Infrared (NDIR) technology used to measure CO₂ levels
- (PACal) Periodical Automatic Calibration and (MCal) Manual Calibration are available

General Performance

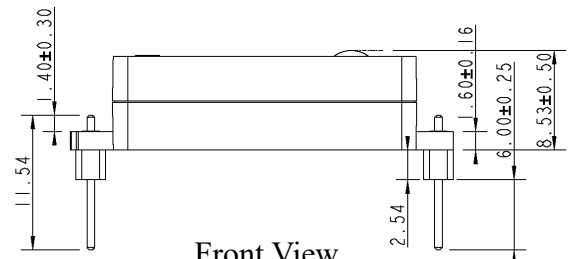
- Target gas
- Operating Principle
- Measurement range
- Measurement interval
- Accuracy
- Response time(T90)
- Warming-up Time

CO₂
 (NDIR)Non-dispersive infrared
 400 to 2000ppm. 0 to 10000 ppm extended range
 4 seconds
 ±50ppm±3% of reading^{(1), (2)}
 120s
 6s(for Operation), 3 minutes (for Accuracy)

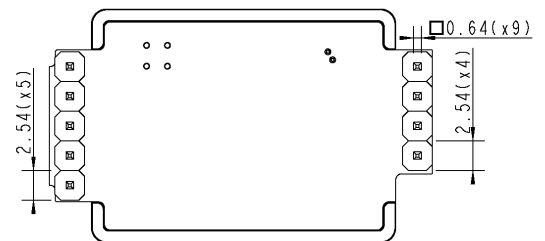
Mechanical Properties



Top View

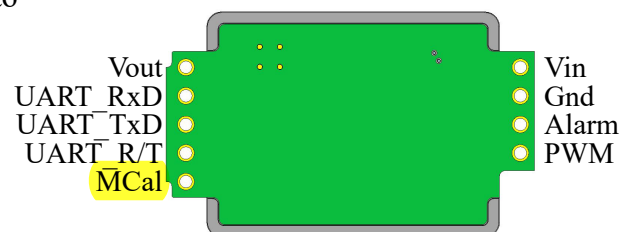


Front View



Bottom View

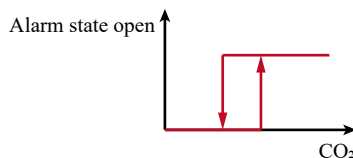
Pin assignment



Operating Conditions

- Operating temperature
- Operating Humidity
- Storage Temperature
- Life expectancy
- Operation Voltage
- Power Consumption
- Serial communication
- Alarm output, Open Collector

0 to 50°C
 0 to 95%RH (non-condensing)
 -40°C to 70°C
 10 years
 4.5 to 5.25V unprotected against surges and reverse connection
 300mA peak, <30mA average
 UART (TTL), Modbus protocol
 1000/800 ppm Normal state is conducting max 100 mA. Transistor open at CO₂ high or at sensor failure



- PWM output, 1kHz

0% to 100% duty cycle for 0 to 2000 ppm, 3.3 V push-pull CMOS output, unprotect

- Maintenance

Maintenance-free for normal indoor application

- Weight

<5grams

- Size

33.5mm×21mm×10mm

(1) Accuracy is specified at room temperature +25°C and at normal pressure 101.3kPa.
 (2) IAQ application, accuracy is defined after minimum 3 times automatic calibration for 3 weeks.