

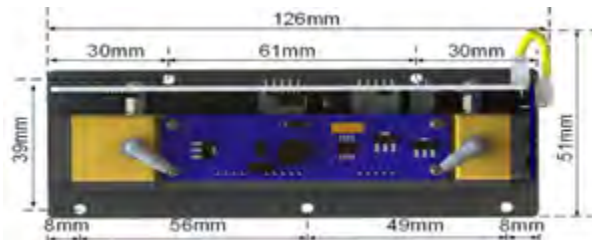


## EOC-GDM-NF3 Non-dispersive Infrared (NDIR) Gas Sensors

EOC's NDIR-NF3 sensor is designed using Non-dispersive Infrared (NDIR) technology for the detection of Nitrogen Trifluoride (NF3). NF3 is toxic and mainly used to remove silicon and silicon compounds during the manufacturing of semiconductor devices. It is a high-performance, industrial-grade NF3-specific sensor with minimized cross-sensitivities from other gases.



### Product Dimensions



Top View



Side View

All dimensions in mm

### Performance

Sensor principle	non-dispersive infrared (NDIR)
Measurement range	0 ~ 40 ppm NF3
Resolution	< 1 ppm
Response time (T90)	< 8 seconds
Linearity	R <sup>2</sup> > 0.999
Repeatability	< 2 ppm
Humidity effect	< 0.016% v/v

### Electrical

Supply voltage	9 ~ 24 VDC
Working current	< 150 mA at 9 V
Power consumption	< 1.0 W Average < 1.5 W @ peak
Warm-up time	3 min (±0.1%vol ± 5% True Value) 60 min (±0.1%vol ± 3% True Value)
Output voltage	0.4 ~ 2.0 VDC (0.3 ~ 0.4 V for Negative Reading)

### Mechanical

Optical path	gilt stainless steel
Weight	208 grams

### Environmental

Temperature range	0°C ~ +40°C
Pressure range	1 atm ± 50%
Humidity range	0 % ~ 85 % RH non-condensing

### Lifetime

Storage temperature	-40 °C ~ 50 °C
Operating lifetime	> 5 years
Storage life	> 5 years
Warranty	18 months

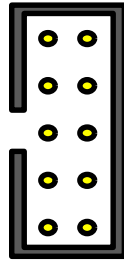
### Approvals

Pending

### Caution

Inappropriate use of the pins in product design will affect the sensor functionality. Exposure to high concentrations of solvent vapors should be avoided under any condition. Mechanical overstress may cause deformation of the sensor enclosure and damage the internal components.

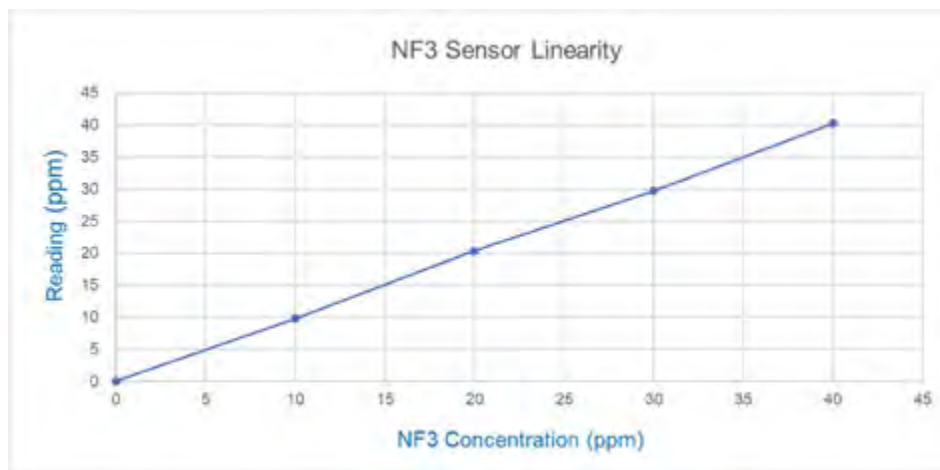
## Pinout Details



- |               |               |
|---------------|---------------|
| 1. ALM        | 2. Vout (DAC) |
| 3. RXD(TTL)   | 4. TXD(TTL)   |
| 5. RXD(RS232) | 6. TXD(RS232) |
| 7. CS1        | 8. GND        |
| 9. PWR DC     | 10. GND       |



## Linearity Data



## Cross-Sensitivities

SF6  $\approx$  -9.3%    CF4  $\approx$  0    IPA  $\approx$  -7.6%    Alcohol  $\approx$  3.2%    Water vapor  $\approx$  0.016%

## Safety Note

If the sensor is used in certain instruments for life critical applications, it is required to read the instrument user's guide carefully and comply with the calibration procedures by using the certified target calibration gas before each use. Failure to do so may cause serious injury and/or fatality. It is highly recommended for customers to validate the sensor performance using this document as a reference for their product designs or applications.