

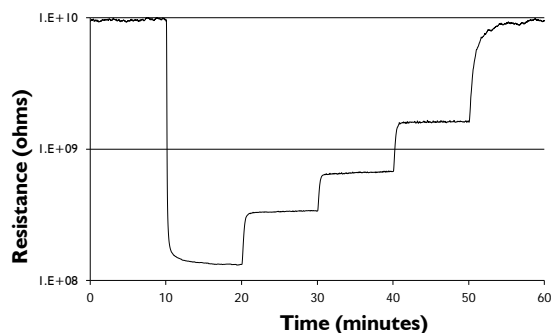
SENSOR FEATURES:

- Detection range of <25 to 10,000 ppm ammonia (NH₃).
- High selectivity to ammonia.
- Minimal response to changing environmental humidity.
- Response is unaffected by prolonged exposures to or high concentrations of ammonia.
- Sensor response is not affected by H₂S.

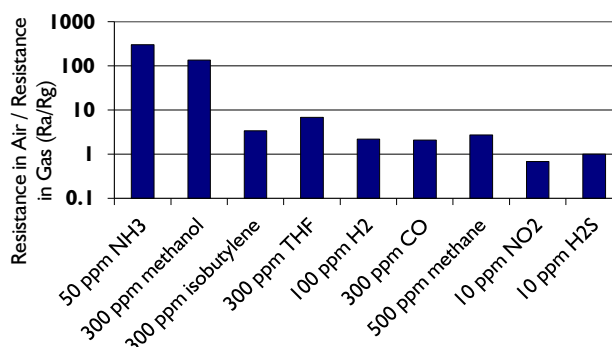


SENSOR RESPONSE CHARACTERISTICS

The figures below show typical response and selectivity data for sensors operated in clean, dry gas.



Typical sensor response to varying levels of ammonia.
Air – 300 ppm – 150 ppm – 75 ppm – 25 ppm – Air



Selectivity of ammonia sensor. Note Ra/Rg = 1 indicates no response to gas, Ra/Rg < 1 indicates sensor response in opposite direction.

ELECTRICAL CHARACTERISTICS

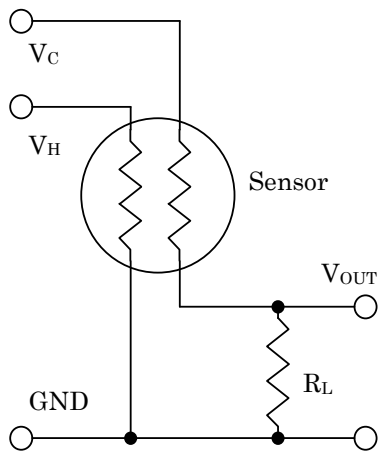
The electrical properties below are typical for Ammonia Sensors. If the actual values differ the customer will be notified with the shipment. Circuits are available that will be preset to the correct values.

PROPERTY	SYMBOL	VALUE	REMARKS
Heater Power Consumption	P _H	~ 975 mW	At V _H = 7.5
Heater Voltage	V _H	7.5 VDC	
Heater Resistance	R _H	30 Ω ± 2 Ω	At room temperature
Sensing Voltage	V _C	5.0 VDC	Recommended
Sensitivity (using 75 ppm NH ₃)	R _a /R ₇₅	1.5	Min
Sensitivity (using 25 ppm NH ₃)	R _a /R ₂₅	1.2	Min

*Note that all measurements were made in dry gas, at room temperature

BASIC MEASUREMENT CIRCUIT:

The sensor can be operated using a simple voltage divider. This requires two voltage supplies: heater voltage (V_H) and circuit voltage (V_C). V_H is applied to the heater in order to maintain a constant, elevated temperature, for optimum sensing. V_C is applied to allow a measurement of the output voltage (V_{out}) across a load resistor (R_L).



Pins 1 and 3 on the TO-39 header are attached to the heater. Apply V_H across these pins.

Pins 2 and 4 on the TO-39 header are attached to the resistive sensor element. Connect these pins in the measuring circuit.

Synkera supplies basic measurement circuitry for many of our sensors. Please inquire or refer to our website for information regarding circuitry for your application

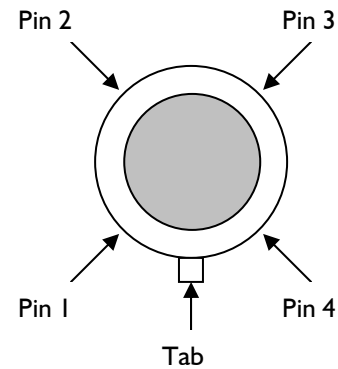
SENSOR RESISTANCE CALCULATION:

Sensor Resistance (R_s) is calculated using the following formula:

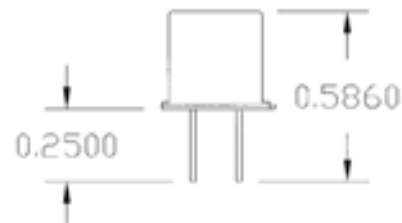
$$R_s = \frac{V_C - V_{out}}{V_{out}} * R_L$$

SENSOR PIN OUT:

Top view of sensor



SENSOR DIMENSIONS:



Synkera Technologies strives to be customer oriented. If you have a special application you would like to discuss, or questions you would like answered please contact us at info@synkera.com.