



# SparkX Refrigeration Gas Sensor - ZMOD4450 (Qwiic)

SPX-16677



The ZMOD4450 gas sensor from Renesas is a unique Refrigeration Air Quality sensor designed to measure gases emitted by food ripening or rotting: ethylene, amines and volatile sulfur compounds. The sensor can measure Ethylene ( $C_2H_4$ ), Trimethylamine ( $C_3H_9N$ ) and Dimethyl sulfide ( $C_2H_6S$ ) in air with up to  $\pm 10\%$  repeatability and with additional calibration using a known organic compound can be accurate to  $\pm 15\%$ . With the ZMOD4450 you can finally quantify that funky smell coming from your refrigerator.

The ZMOD4450 firmware is closed-source so you will need to create an account with Renesas and agree to their terms prior to accessing any programming information or the firmware. The Renesas ZMOD4450 product page has links to get you started with their firmware.

Since the firmware is closed-source, we will not have any example code available for this breakout but we do have a helper manual with some low-level I<sup>2</sup>C functions linked in the Documents tab to help users get started.

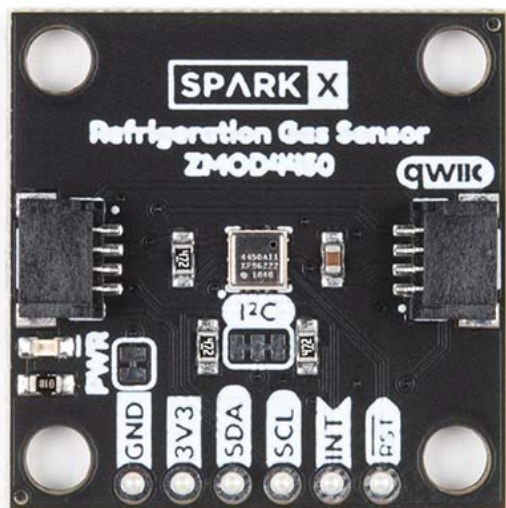
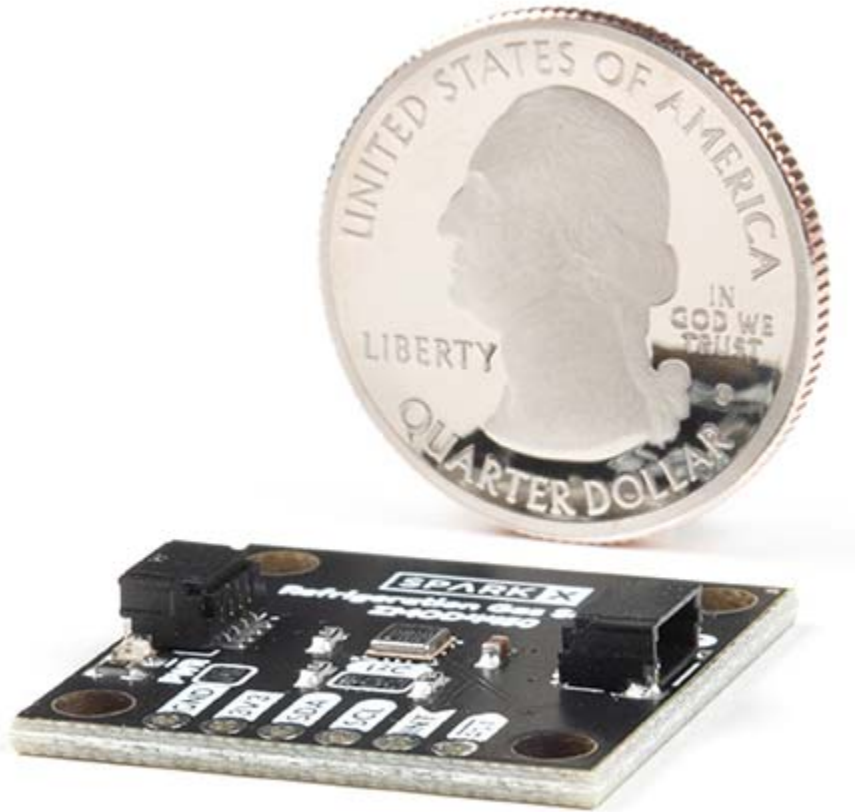
This board is one of our many Qwiic compatible boards! Simply plug and go. No soldering, no figuring out which is SDA or SCL, and no voltage regulation or translation required!

We do not plan to regularly produce SparkX products so get them while they're hot!

**Experimental Product:** SparkX products are rapidly produced to bring you the most cutting edge technology as it becomes available. These products are tested but come with no guarantees. Live technical support is not available for SparkX products. Head on over to our forum for support or to ask a question.

## FEATURES

- Uses I<sup>2</sup>C interface (Qwiic Enabled)
  - 7-bit Unshifted I<sup>2</sup>C Address: **0x32**
  - 2x Qwiic Connectors
- Supply voltage range
  - 1.7 - 3.6V
- Gas sensor measurement ranges (in air)
  - Ethylene: 0 to 10 ppm
  - Trimethylamine: 0 to 600 ppb
  - Dimethyl sulfide: 0 to 180 ppb
- Accuracy
  - Up to  $\pm 15\%$  (with additional calibration)
- Environmental operating conditions range
  - 0 - 25 °C
  - 0 - 95 %RH



<https://www.sparkfun.com/products/16677/7-22-20>