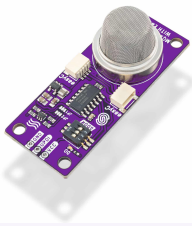


PRODUCT DATASHEET



Benzene, Toluene, Acetone, Formaldehyde Sensor MQ138 Breakout With Qwiic

333128

Monitor indoor air quality with the MQ138 sensor, detecting harmful VOCs like formaldehyde and benzene through a user-friendly Qwiic interface.

Full product documentation, files and tutorials: solde.red/333128

CORE ATTRIBUTES

SKU **333128**WEIGHT **11 g**BARCODE **732388665709**

DESCRIPTION

Protect your place from dangerous organic compounds with the MQ138 formaldehyde sensor. Formaldehyde, benzene, toluene, and acetone are invisible health hazards commonly found in new furniture, building materials, paints, and cleaning products - but now you can detect them before they become a problem. Perfect for indoor air quality monitoring, smart home safety systems, and industrial hygiene applications, this intelligent sensor features an onboard microcontroller for accurate, calibrated readings through the convenient Qwiic interface.

Engineered with an integrated microcontroller, this sensor delivers pre-calibrated readings through the Qwiic interface, eliminating analog signal processing and calibration requirements. Please note that you will have to use our Arduino library for the project to ensure correct communication with the onboard microcontroller. Don't worry, using our documentation, you should find it easy to get started. The digital output provides reliable, consistent measurements while the Qwiic system enables tool-free connection to all Soldered development boards and others which support the Qwiic/STEMMA-QT interface. The 3.3V operation with onboard regulation ensures compatibility with modern microcontroller systems, while four mounting holes enable secure installation in monitoring applications.

This sensor is ideal for detecting formaldehyde levels in new homes, furniture, and workplace safety monitoring. The LED indicator provides immediate visual feedback when harmful VOC levels are detected. Allow an initial heat-up period (48 hours first run and then each consecutive run 5 mins heat up time) for optimal accuracy. The sensor provides relative concentration readings perfect for trend monitoring and threshold detection. Ideal for triggering ventilation systems or safety alerts. Four mounting holes enable permanent installation in HVAC systems, indoor air quality monitors, or portable testing devices. Compatible with Arduino, Raspberry Pi, and ESP32 through the Qwiic interface. Includes documentation

and example code for immediate implementation in air quality monitoring projects. Custom selectable I2C address via onboard switch ensures compatibility with existing projects.

TECHNICAL DETAILS

- **Detects:** VOC (toulene, acetone, alcohol, hydrogen)
- **Voltage:** 3V3
- **Output:** digital
- ATTiny404 microcontroller onboard
- qwiic connectors
- **Dimensions:** 54 × 22 mm / 2.1 × 0.9 inch

SPECIFICATIONS

INTERFACE	I2C
QWIIC COMPATIBLE	Yes
I2C ADDRESS DEFAULT	0x30
I2C ADDRESS CHANGEABLE	Yes
BREADBOARD COMPATIBLE	Yes
MEASUREMENT TYPES	Gas
IC PART NUMBER	MQ138
MCU PART NUMBER	ATTINY404
SUPPLY VOLTAGE MIN V	3.3
SUPPLY VOLTAGE MAX V	3.3
LOGIC LEVEL	3V3 Only

LINKS

Arduino Library	https://github.com/SolderedElectronics/Soldered-MQ-Gas-Sensor-Arduino-Library/tree/main
Open Source Hardware Files	https://github.com/SolderedElectronics/Benzene--Toluene--Acetone--Formaldehyde-sensor-MQ138-breakout-with-easyC-hardware-design
Full Documentation	https://docs.soldered.com/mq/overview/
Arduino: Get Started	https://docs.soldered.com/mq/arduino/geting-started/
Hardware Details	https://docs.soldered.com/mq/hardware/
Arduino Library Documentation	https://docs.soldered.com/mq/arduino/initialization-qwiic/
Pinout	https://cms.soldered.com/products/333128/media/333128_pinout-png_11a292.svg

GALLERY

