



DATASHEET

JANUARY 2019

FEATURES

- measures the environmental values eCO², TVOC, barometric pressure, temperature and humidity values
- detects lightning or electronic discharge that are up to 40 km away
- shows values on a 2.8-inch touch screen
- open source and fully Arduino based
- implemented logging function on SD card (not included)
- special designed hardware with pre-programmed software for a plug-and-play, ready-to-use experience
- easy to expand and modify



SPECIFICATIONS

- development board:
 - microcontroller: ATmega2560
 - operating voltage: 5 VDC (USB)
 - free pins after build: 30 digital / 5 analog
- touch screen:
 - TFT resolution: 320 x 240
 - TFT colour depth: 262 000 colour
- enclosure material:
 - laser cut wood (VM211)
 - plexi enclosure (VM211SE)
- CCS811 sensor:
 - Total Volatile Organic Compound (TVOC) sensing from 0 to 1,187 parts per billion
 - eCO₂ sensing from 400 to 8,192 parts per million
- BME280 sensor:
 - temp range: -40°C to 85°C
 - humidity range: 0-100% RH, ±3% from 20-80%
 - pressure range: 30,000 Pa to 110,000 Pa, relative accuracy of 12 Pa, absolute accuracy of 100 Pa
 - altitude range: 0 to 30,000 feet (9.2 km), relative accuracy of 3.3 feet (1 m) at sea level, 6.6 (2m) at 30,000 feet
- dimensions: 135 x 40 x 84 mm
- weight: 215 g



Special edition with plexi enclosure (VM211SE).

WARNINGS

- The Earth Listener needs a burn-in time of 48 hours and at least 20 minutes of logging before the eCO² and TVOC values are stable.
- This experimental kit is for indicative purposes only. Values should be interpreted while considering the environmental situation. Keep your living space well ventilated.

