Introducing the XIAO compatible VOC Sensor Shield, a versatile and compact PCB designed for seamless integration with the XIAO microcontroller and compatibility with other Arduino boards. This board comes pre-fitted with three sensors: the SHT-40 for high-precision temperature and humidity measurements, the SGP40 for VOC air quality monitoring, and the ICP-10111 for accurate barometric pressure readings.

Whether you're building a sophisticated environmental monitoring system or a smart home application, this PCB provides all the essential data points to create robust, reliable solutions. It ensures easy plug-and-play connectivity, streamlining your development process and expanding the functionality of your projects.

Arduino IDE (2.3.3) notes:
The attached Arduino IDE code was tested on a XIAO ESP32C3.
Initial configuration for the Arduino IDE

Add to File Preferences → Additional Boards Manager URLs:
https://raw.githubusercontent.com/espressif/arduino-esp32/gh-pages/package_esp32_index.json

In Library Manager:
search for and install “Adafruit SHT4x Library”
search for and install: “Adafruit SGP40Sensor”
search for and install: “Adafruit_ICM20X”
search for and install: “DFRobot_ICP10111”

Start a new sketch
Replace the default sketch with WeatherShield.ino, select the XIAO_ESP32C3 (or the board you are using), attach your XIAO with the VOC Shield properly attached, select the correct com port, select Upload in Arduino IDE.

The code should compile correctly, upload and run. Monitor the data using the Serial Monitor.

Note: VOC will initially read “0” but it will start to display actual values after a few minutes.

Example reading:
Temperature: 75.94 °F, Humidity: 42.19 %
RAW Index: 30447
Voc Index: 64
Read air pressure:32778Pa
Read temperature:25.28?
Read altitude:268.12m
