

KEYESTUDIO 37 in 1 Sensor Kit

KEYESTUDIO 37-in-1 Sensor Module Starter Kit User Manual

Model: 37 in 1 Sensor Kit

1. INTRODUCTION

The KEYESTUDIO 37-in-1 Sensor Module Starter Kit is designed for beginners interested in programming and electronics. This kit provides a diverse collection of 37 basic sensor modules, enabling users to explore various electronic concepts and build numerous projects. It is compatible with popular development platforms such as Arduino R3, MEGA 2560, NANO, and Raspberry Pi. Please note that the main controller board (e.g., Arduino or Raspberry Pi) is not included in this kit and must be acquired separately.

2. KIT CONTENTS

This kit includes 37 distinct sensor modules, each individually packaged for protection. The modules are designed for easy integration into projects using solderless breadboards and Dupont wires.

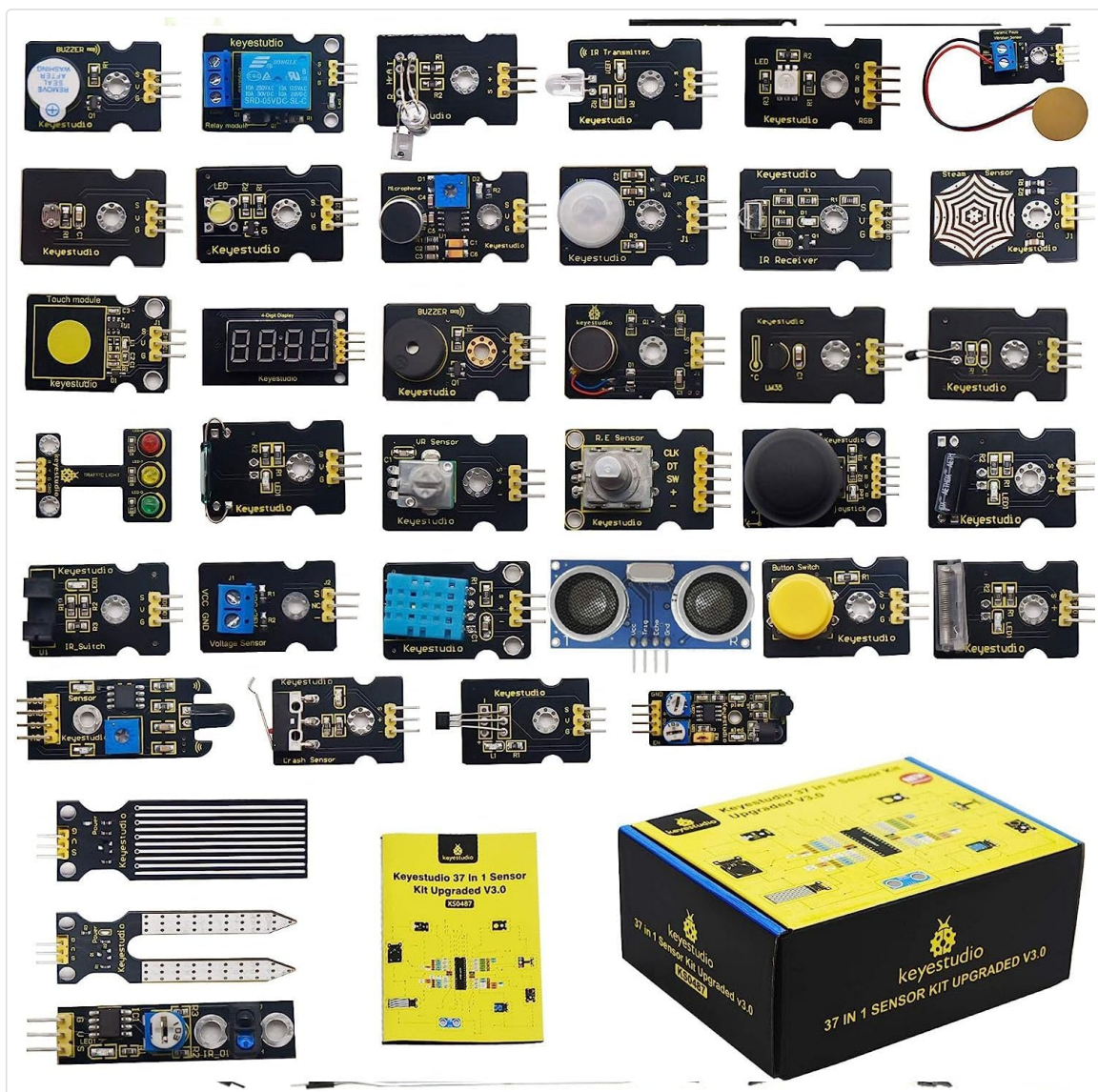
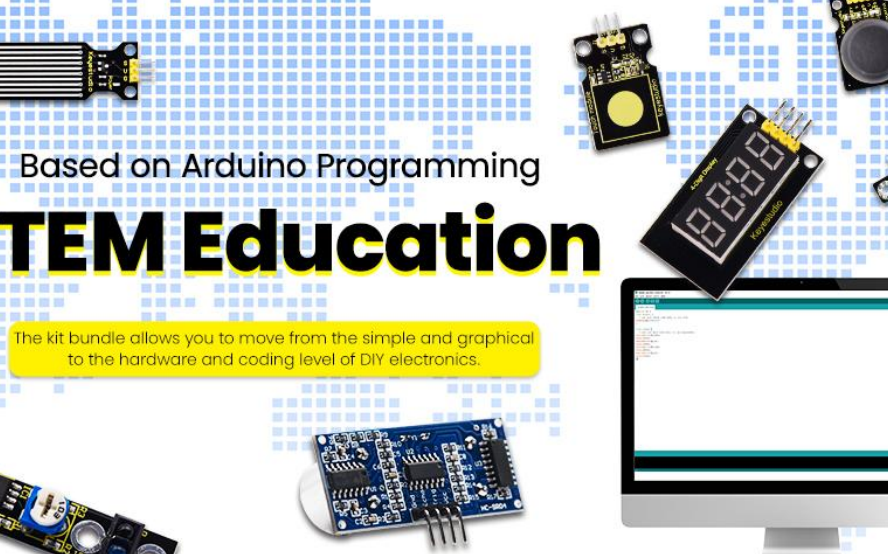


Image 2.1: Overview of the KEYESTUDIO 37-in-1 Sensor Kit components and packaging.



Based on Arduino Programming

STEM Education

The kit bundle allows you to move from the simple and graphical to the hardware and coding level of DIY electronics.

KEYESTUDIO 37 IN 1 BOX SENSORS MODULES STARTER KIT

Image 2.2: Detailed list of the 37 sensor modules included in the KEYESTUDIO kit.

The kit typically contains modules such as:

- White LED Module
- RGB LED Module
- Traffic Light Module
- Buzzer Beeping Module
- Passive Buzzer Module
- Motor Module
- Digital Push Button Module
- Collision Sensor Module
- Line Tracking Module
- Infrared Obstacle Avoidance Module
- Photo Interrupter Module
- Hall Magnetic Module
- Knock Sensor Module
- Digital Tilt Sensor Module
- Capacitive Touch Module
- Flame Alarm Module
- Reed Switch Module
- PIR Motion Sensor Module
- Analog Rotation Module
- Photocell Module
- Active Buzzer Module
- Water Level Module
- Digital IR Receiver Module
- Digital IR Transmitter Module
- Analog Temperature Module
- Analog Sound Module
- Analog Ceramic Vibration Module
- Ultrasonic Ranger Module
- Rotary Encoder Module
- Hall Sensor Module
- Temperature and Humidity Display Module
- Photo Interrupter Module
- Steam Moisture Module
- Pulse Rate Monitor Module
- Single Relay Module
- 4-Digit LED Display Module
- Voltage Detection Module
- RGB LED Module

3. SETUP

To begin using the sensor modules, you will need a compatible main controller board (e.g., Arduino Uno, Mega 2560, or Raspberry Pi). Each module features 3-4 pins for easy connection.

3.1 Connecting Modules

1. **Identify Pins:** Each sensor module has clearly labeled pins, typically for Power (VCC), Ground (GND), and Signal (SIG). Refer to the individual module's documentation for specific pinouts.
2. **Power Supply:** Connect the VCC pin of the module to the 5V or 3.3V output of your controller board, and the GND pin to the Ground pin of the controller board. Ensure correct voltage to avoid damage.
3. **Signal Connection:** Connect the SIG pin of the module to an appropriate digital or analog input/output pin on your controller board. The specific pin will depend on the module and your project requirements.
4. **Breadboard Usage:** For prototyping, use a solderless breadboard to make connections between the modules and the controller board. Dupont wires are recommended for this purpose.



Image 3.1: Example of a sensor module connected to a development board and laptop for project setup.

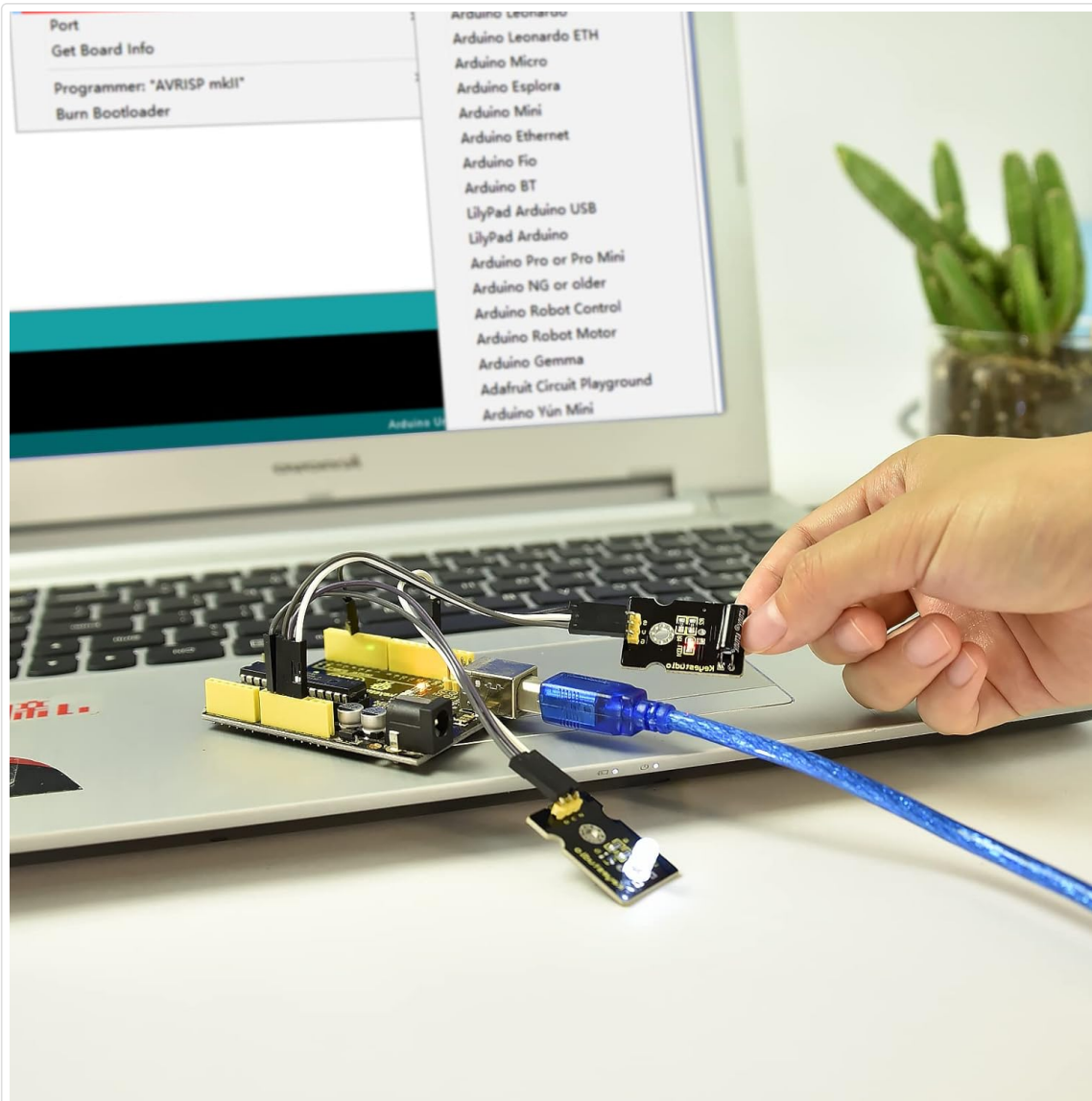


Image 3.2: Another perspective of a sensor module connected to a development board, illustrating readiness for programming.

4. OPERATING INSTRUCTIONS

The KEYESTUDIO sensor kit is designed to facilitate learning and experimentation. Detailed tutorials are provided to guide you through various projects.

4.1 Accessing Tutorials

The kit includes comprehensive tutorials with pictures and code examples for 37 projects. These tutorials are primarily designed for the Arduino platform. While the modules can be used with Raspberry Pi, specific Raspberry Pi tutorials are not included in the provided documentation.

Provide supporting tutorials

Tutorial examples for each sensor

Part of the show



Image 4.1: Sample tutorial pages illustrating step-by-step instructions and code for sensor modules.

4.2 Project Examples

The tutorials explain each project step-by-step, covering wiring diagrams, code, and expected outcomes. Examples include controlling LEDs, reading sensor data (e.g., temperature, light, sound), and implementing basic automation.

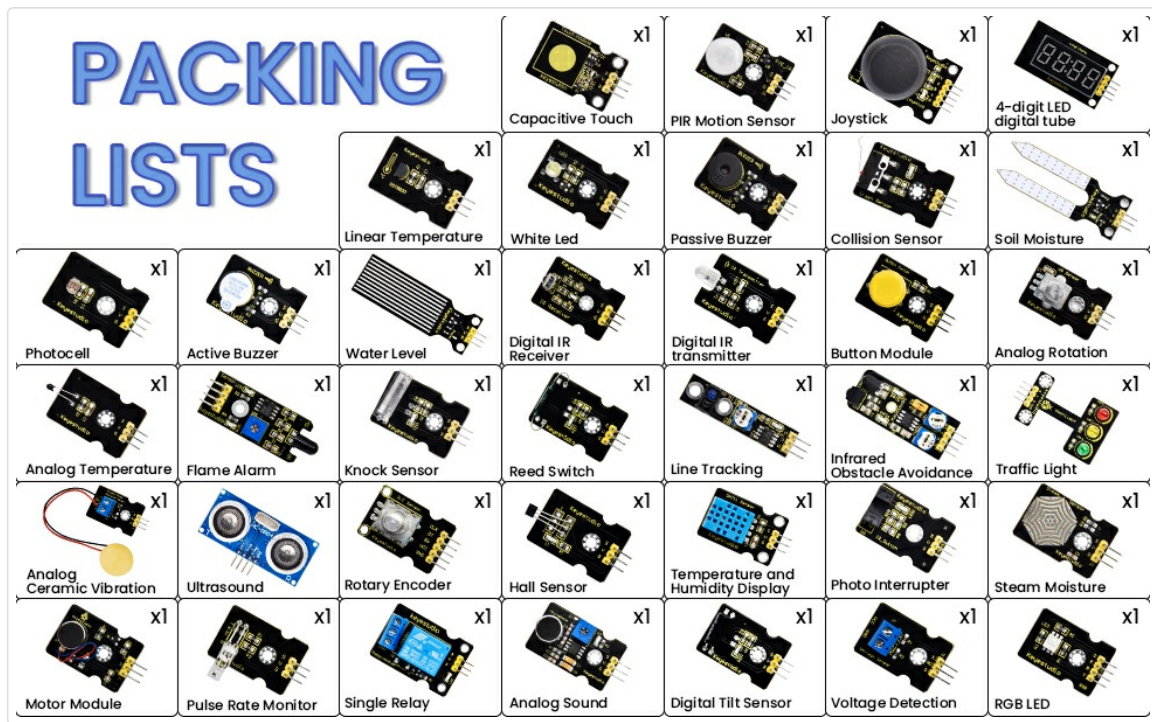


Image 4.2: Visual representation of various experiments and projects achievable with the sensor kit.

4.3 Video Demonstrations

For a visual guide on the kit's capabilities and project implementation, refer to the official product video:

Your browser does not support the video tag.

Video 4.1: A detailed demonstration of the KEYESTUDIO 37-in-1 Sensor Kit, showcasing various modules and project setups for Arduino and Raspberry Pi.

5. MAINTENANCE

Proper care of your sensor modules will ensure their longevity and reliable performance:

- **Storage:** Store modules in a dry, anti-static environment, preferably in their original packaging or a dedicated component box, to prevent damage from static discharge or moisture.
- **Handling:** Handle modules by their edges to avoid touching sensitive components. Static electricity can damage electronic parts.
- **Cleaning:** If necessary, gently clean modules with a soft, dry brush or a lint-free cloth. Avoid using liquids or abrasive materials.
- **Power:** Always ensure correct voltage and polarity when connecting modules to a power source. Incorrect connections can lead to permanent damage.

6. TROUBLESHOOTING

If you encounter issues while using the sensor kit, consider the following troubleshooting steps:

- **Check Connections:** Verify that all wires are securely connected to the correct pins on both the module and the controller board. Loose or incorrect connections are a common cause of problems.
- **Power Supply:** Ensure your controller board and modules are receiving adequate power. Check power indicators on the board if available.
- **Code Verification:** Double-check your code against the provided tutorial examples. Small typos or logical errors can prevent proper operation.
- **Module Functionality:** If a specific module is not working, try testing it with a known working example from the tutorials to isolate whether the issue is with the module itself or your custom setup.
- **Controller Board:** Confirm that your Arduino or Raspberry Pi board is functioning correctly by running a simple test sketch (e.g., blinking an onboard LED).

7. SPECIFICATIONS

Feature	Detail
Brand	KEYESTUDIO
Product Dimensions	11.42 x 6.93 x 1.77 inches
Item Weight	7 ounces
Manufacturer	keyes
Connectivity Technology	GPIO
Operating System Compatibility	Arduino IDE, Linux

8. WARRANTY AND SUPPORT






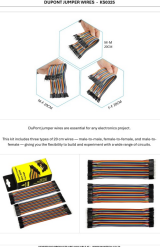
KEYESTUDIO is committed to providing quality products and support. While specific warranty details are not provided in this manual, general support and resources are available to assist users.

8.1 Online Resources

Detailed step-by-step instructions, including a WIKI, downloadable PDFs, and videos related to each module, are available on the official KEYESTUDIO website. These resources are invaluable for learning how to configure and use each module effectively.

For further assistance, please visit the official KEYESTUDIO website or contact their customer support team. They are dedicated to addressing any questions or feedback regarding their products.

Related Documents - 37 in 1 Sensor Kit

	<p>KS0428 Keyestudio Mini Tank Robot V2 – Návod a Projekt</p> <p>Komplexní uživatelský manuál a průvodce projekty pro KS0428 Keyestudio Mini Tank Robot V2. Obsahuje montážní návody, nastavení softwaru a vzdělávací projekty pro Arduino, ideální pro výuku elektroniky a programování.</p>
	<p>Keyestudio NANO CH340: Development Board Guide and Arduino IDE Setup</p> <p>A comprehensive guide to the Keyestudio NANO CH340 development board, covering technical specifications, pinouts, and a step-by-step tutorial for setting up the Arduino IDE and uploading code.</p>
	<p>Keyestudio ESP32 Development Board: Features, Specifications, and Usage Guide</p> <p>Explore the Keyestudio ESP32 Development Board, a versatile WiFi and Bluetooth enabled microcontroller compatible with Arduino. Learn about its features, specifications, pinout, and test code for IoT and smart home projects.</p>
	<p>Keyestudio KS0309 Thin-film Pressure Sensor - Product Overview</p> <p>Discover the Keyestudio KS0309 Thin-film Pressure Sensor, an eco-friendly and waterproof component featuring flexible nano pressure-sensitive material. This analog sensor converts detected pressure into an electrical signal, ideal for various electronic projects. Specifications include a supply voltage of 3.3-5V and a current draw of >5mA.</p>
	<p>KEYESTUDIO KS0026 Digital IR Receiver Module for Arduino Projects</p> <p>Overview of the KEYESTUDIO KS0026 Digital IR Receiver Module for Arduino projects. This module enables IR remote control functionality, featuring a 5V power supply, digital interface, and 38KHz modulation frequency. Find more details and resources on the KEYESTUDIO website.</p>
	<p>DUPONT JUMPER WIRES KS0325 by KEYESTUDIO - Electronics Components</p> <p>Explore the KEYESTUDIO DUPONT JUMPER WIRES KS0325, a versatile kit featuring 20cm male-to-male, female-to-female, and male-to-female jumper wires for electronics projects, breadboards, and Arduino.</p>