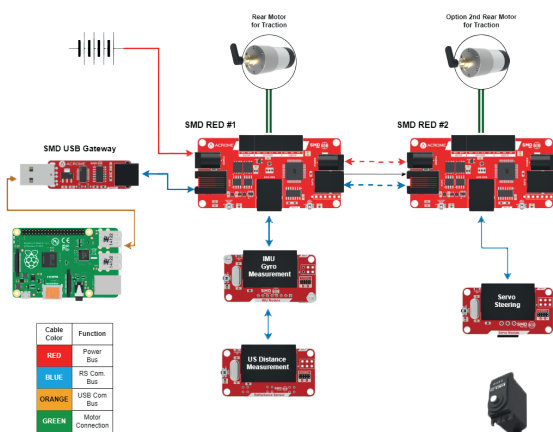
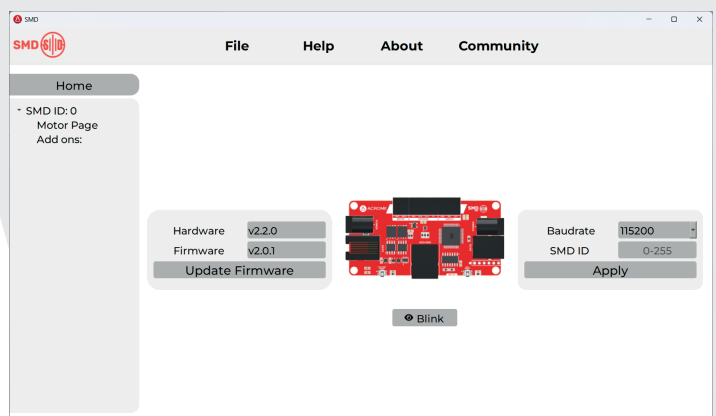
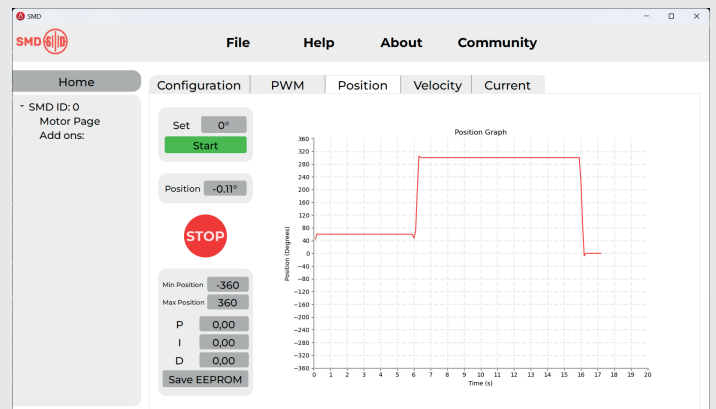


SMART MOTION DEVICES EDUCATION KIT

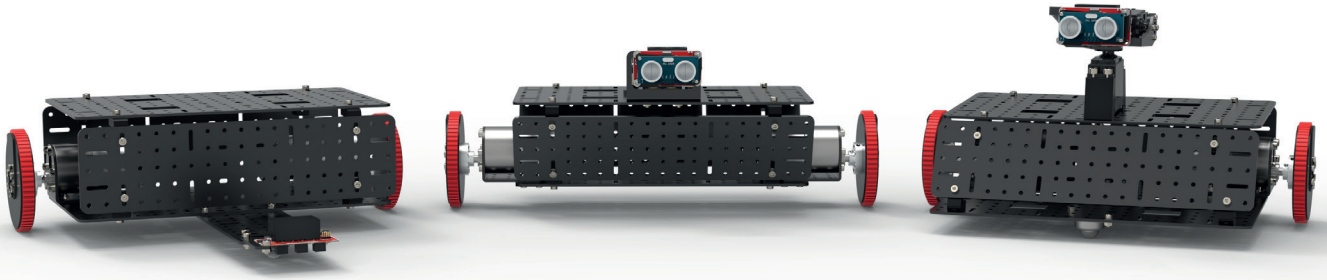
Smart Motion Devices - Education Kit is a ready-to-use training kit to demonstrate the fundamentals of the commonly used robotic sensors and actuators.

INTRODUCE ROBOTICS COMPONENT AND THEIR APPLICATIONS

Introductory mechatronics course requires understanding and application of sensors commonly used in today's industry. The Mechatronics Sensors and Actuators kit introduces students to various sensors, their advantages and limitations and the way they are used in a real-world application setting. Designed exclusively for LabVIEW™ and Matlab™ software, the kit also exposes students to measurement and calibration fundamentals.



The Kit features 12 interconnected SMD modules, including vibration, potentiometer, temperature sensor, ultrasonic and light sensors, quadrature encoders, buzzer, tri-color LED, on/off button. For motion generation, the kit includes most popular brushed DC, stepper and RC-Servo motors.



FEATURES

10 Types of Sensors

1. 3-axis vibration (XYZ)
2. 2-axis orientation (RP)
3. Potentiometer
4. Ultrasonic sensor
5. On/off button
6. Light sensor
7. Motor current
8. QTR sensor
9. Encoder (Quad)
10. Joystick

5 Types of Actuators

1. DC-brushed motor
2. RC-Servo motor
3. Stepper motor
4. Buzzer
5. Tri-color LED

EXAMPLE PROJECTS

Autonomous Lighting:

Students designs a project to automatically control the state of an LED based on the ambient light conditions, providing an energy-efficient solution for various environments.

Security System:

Students designs a project to activate an alarm and visual warning signals if the detected distance falls below a predetermined threshold.

Pan-Tilt Control:

Students designs a project to manipulate the position of a connected device in both horizontal (pan) and vertical (tilt) axes using the joystick module, allowing for precise and intuitive control over the device's orientation.

SPECIFICATIONS

- Fully compatible with LabVIEW™ and Matlab™ software.
- Examples for LabVIEW, Matlab, Python and Arduino (optional)
- Ability to synchronize multiple sensors and DC motors simultaneously
- Current measurement range 0 – 2.5 A
- Modular design with easy to connect cable connectors, suitable to build new projects.
- Ultrasonic distance measuring range 5 to 30 cm
- Optical sensor measurement range 0 – 10 Lux
- Potentiometer mechanical measurement angle range 0 to 280 degree

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