ROHM Sensor Platform Kits

ROHM-SENSEKIT1-EVK101

SENSEKIT2-EVK101

ROHM Semiconductor USA, LLC

Overview

- What is ROHM's Sensor Platform Kit?
- How does it work?
- How can you use it?
- Sensor Details
- Sensor Applications

What is ROHM's Sensor Platform Kit?

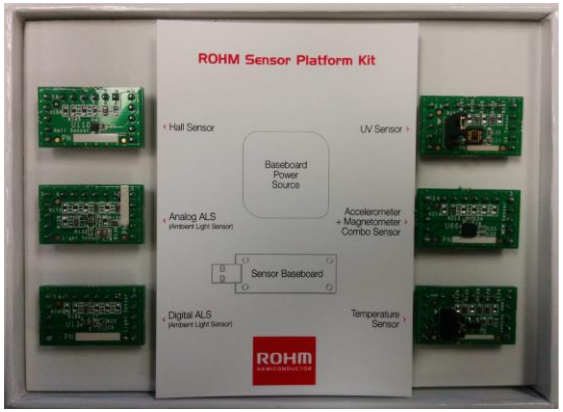
ROHM's Sensor Platform Kit is a combined evaluation/development kit that contains the following

- 1 Base Board Platform
- 2 Ambient Light Sensors (1 digital, 1 analog)
- 1 Analog Temperature Sensor
- 1 Omnipolar Hall Sensor
- 1 UV Sensor
- 1 MEMs Accelerometer + Magnetometer Sensor
- 1 ROHM branded USB backup Battery (ROHM-SENSEKIT1-EVK-101)

Part Number	Sensor					Battery
	Light	Temp	Hall	UV	Accel+ Mag	
ROHM-SENSEKIT1-EVK-101	√	√	√	√	√	√
SENSEKIT2-EVK-101	√	√	√	√	√	-

What is ROHM's Sensor Platform Kit?

ROHM-SENSEKIT**1**-EVK-101

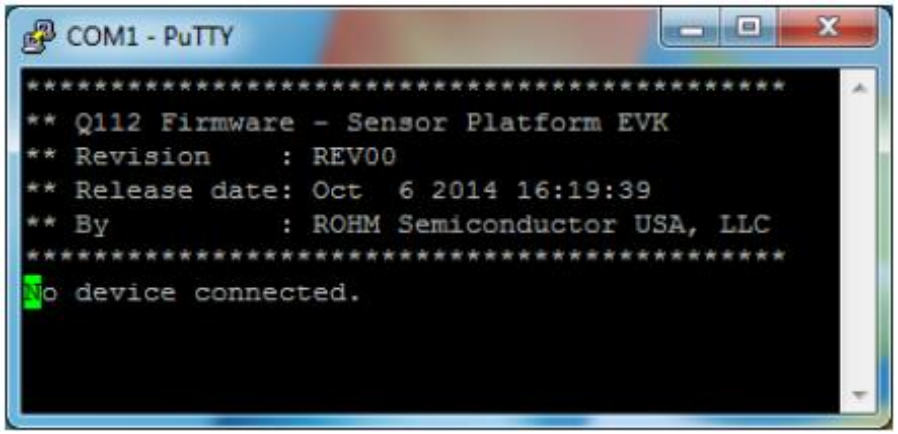


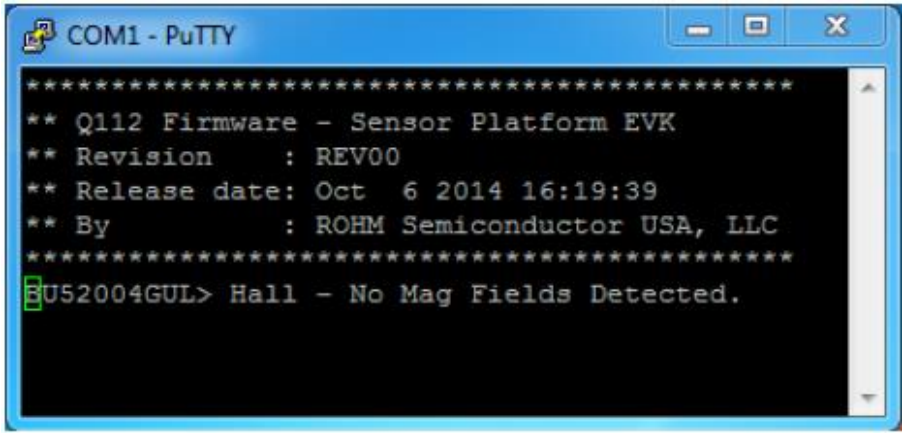
SENSEKIT**2**-EVK-101

How does it work?

Two Primary Modes of Operation

- Standalone Mode (No PC Required)
  - "Range" based outputs (UV, Light, Temp) shown using LED output in binary format (0 to 255)
  - For any "non-ranged" outputs (Accel, Hall), different LED output schemes are used to show functionality
- Precision Output Mode (PC Required)
  - Connect USB to PC. Simple COM port interface raw and scaled data

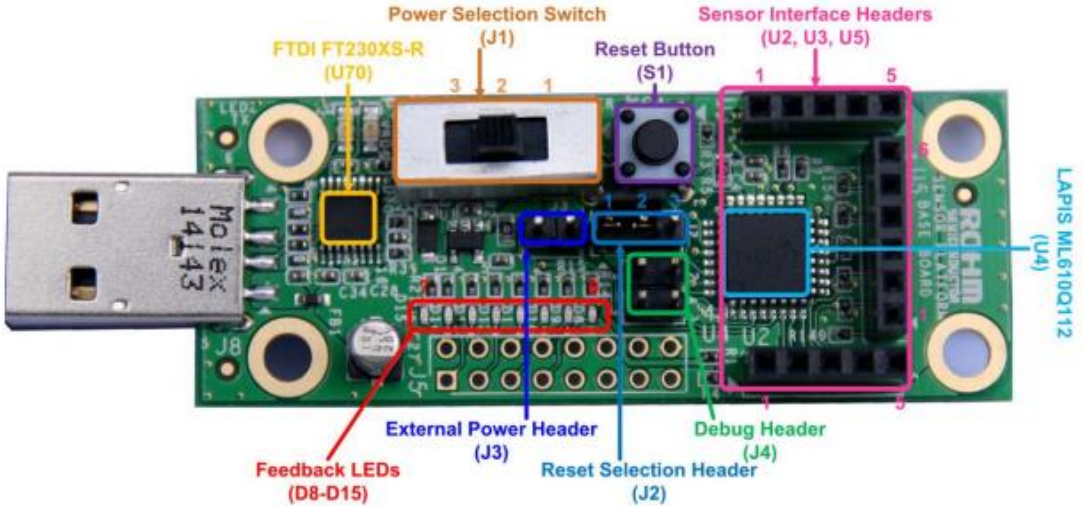




How to use it?

- Use as a Demonstration Tool
  - Demonstrate ROHM's diverse sensor lineup
  - USB backup battery (ROHM-SENSEKIT1): operate directly out of the package

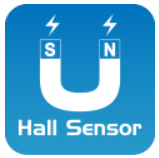
- Use as an Engineering Development Board
  - Quick evaluation of sensor features and accuracy
  - Modular sensor boards can be removed and connected to the user's design
  - Open hardware and open source firmware design
    - https://github.com/ROHMUSDC/ROHMSensorPlatformEVK



ROHM Included Sensor Details

- BH1721FVC – Digital Ambient Light Sensor (I2C)
  - 1 to 65528 Lx Range (16bit ADC)

- BH16120FVC – Analog Ambient Light Sensor
  - Different Gain Modes allow for 0 to 100,000 Lx Range



- BU52011HVF – Omnipolar Hall Sensor
  - ±3mT switch operation point, dual output for N and S polarity
  - Different PNs in lineup have different mT operating points

- BDE0600G – Temperature Sensor
  - High Accuracy Output (±3.5C @ Ta = 30C)
  - Different PN's in lineup have different thermostat trigger interrupt pin function triggering from +55C to +115C @ 5C Steps

- ML8511 – Analog UV Sensor
  - Sensitive to UV-A and UV-B. Can be used to calculate UV Index. Outputs in mW/cm²

- KMX61 – Accelerometer + Magnetometer Sensor
  - Accel: ±2g, ±4g, ±8g
  - Mag: ±1200µT
  - General: 14bit ADC, I2C

ROHM Sensor Applications

- Ambient Light Sensors
  - Phones, TV, Notebook PC, Wearables, IOT/E, Portable Gaming, Digital Camera, LCD Displays
- BU52011HFV – Omnipolar Hall Sensor
  - Contact-less SW, Tablet/PC/Phone Covers
- BDE0600G – Temperature Sensor
  - Thermal Protection for Electrical Equipment, FAN Control for Thermal Management
- ML8511 – UV Sensor
  - Smartphone, Watches, Wearables, IOT/E, Weather Stations, Bicycle Navigation
- KMX61 – Accel and Mag Sensor
  - Phone/Tablet/PC, Wearables, Game Controllers, Vehicle Stability

Summary

- ROHM SENSEKIT1 and SENSEKIT2 are quick and easy way to evaluate and develop with ROHM's sensors

- Kit contains the following sensors:
  - Ambient Light Sensors BH1721 (digital) and BH1620 (analog)
  - Hall Sensors BU52011
  - Temperature Sensor BDE0600G
  - Ultraviolet Sensor ML8511
  - Accelerometer + Magnetometer Sensor KMX61

- Boards are available NOW

- For more information visit:
  http://www.rohm.com/web/global/sensor-platform-kit