



Solution Summary

Vibration Harvester Unit (EH12) can generate power from slight vibration like walking motion. If BLE communication board is connected to EH12, board can transmit BLE signal with the generated power. EH12 uses the Electro-magnetic method.

Features/Benefits

- Power is generated by moving the magnet with respect to the coil
- Highly efficient power generation by reducing leakage flux
- Highly durable and highly reliable

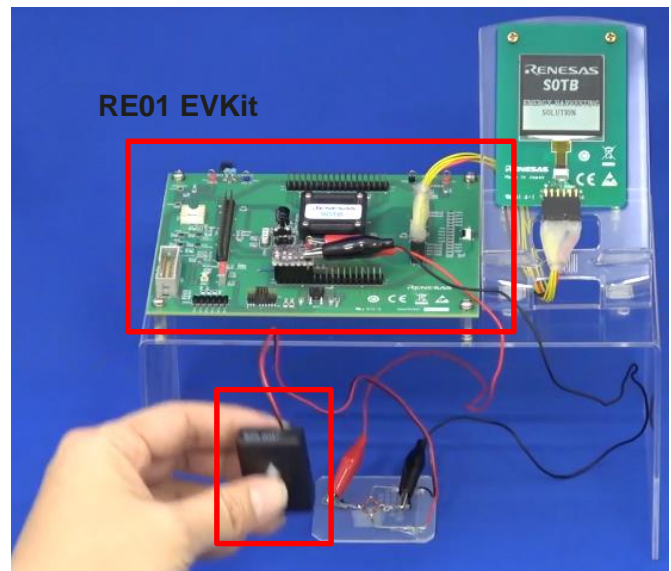
Graphics



EH12

Small Vibration Harvester Unit

Toyo Electronics Vibration Harvester Unit (EH12) and [RE01 Evaluation Kit](#) demonstrates LCD display for continuous operation of RE embedded controller with only slight vibration.



Vibration Harvester Unit EH12

Target Markets and Applications

- Wearable Devices
- IoT Products
- Small Gadgets

TOYONICS

Company Introduction

Toyo Electronics Corp. was established in 1974. Since its founding, we create high reliable equipment for ship and patrol board, re-write card terminal which implements high functional application and annunciator for monitor and alarm system consistently. We has a presence in each market. Based on these experience, we has started energy harvester device business in 2018. Our product lineup is introduced as below. Now we are focusing on location management system at factory and hospital with using our energy harvesting device.



Energy Harvesting Device Lineup

Vibration harvester beacon EB10-B

EB10-B can transmit BLE signal by slight vibration like walking motion. It does not implement any battery, so not need to change battery and can realize maintenance free.

| | |
|------------------------------------|----------------------------|
| Power generation method | Vibration energy harvester |
| Size | 48x28x15mm / Approx. 20g |
| Transmitting radio waves frequency | Depending on vibration |
| Wireless protocol | Bluetooth Low Energy (BLE) |



Solar harvester beacon PB10-B / PB11-B



PB10-B / PB11-B implement solar panel instead of battery. It can transmit BLE signal about once a second with indoor lighting. PB11-B can also support low illuminance environment.(Approx. 50lx)

| | |
|------------------------------------|--|
| Power generation method | Solar energy harvester (Indoor lighting supported) |
| Size | 71x36x7mm / Approx. 13g |
| Transmitting radio waves frequency | PB10-B: 1.5 sec. @500lx 0.8 sec @1,000lx PB11-B: 0.9 sec. @500lx 0.4 sec @1,000lx |
| Wireless protocol | Bluetooth Low Energy (BLE) |