

PRESS RELEASE

The Gemns G100 EHG Wireless Panel Switch by WePower Brings Energy Harvesting to IoT Product Design and Development

The G100 EHG replaces a traditional battery to harvest kinetic energy as the power source for wireless signal communications.

Sagaponack, NY – May 17, 2023 – [WePower Technologies](https://www.wepower.com), a provider of patented energy harvesting solutions for wireless data transmission in IoT and IIoT devices, has released the Gemns™ G100 EHG (G100) Wireless Panel Switch for OEMs and product developers. The G100 is part of the portfolio of WePower patented technologies that enable reliable and lifetime maintenance-free performance in large-scale deployment of IoT devices for industrial, automotive, smart home, smart city, and aerospace applications that are simply not achievable with device designs dependent on battery power.

What is the G100?

The G100 is an EHG in a Wireless Panel Switch form factor for industrial applications. The G100 uses both stationary and oscillating magnets to harvest kinetic energy through electromagnetic induction. In the reference design pictured below, the G100 is realized in a standard 22mm panel mount switch that contains both the EHC100 (Gemns energy harvester charger board) and the manufacturer's chosen MCU or RF transceiver board as the target application. With the simple activation of the G100's push button, over 3 millijoules of usable energy are available to power a target's MCU and perform such tasks as reading sensors, performing computations, and transmitting encrypted data over an RF link. The energy produced transports signals such as BLE, Zigbee Green Power Device, LoRa, Z-Wave, Thread, and other wireless communications easily, with up to 20-dBm of output power. The G100 is retrofittable into the common push button of today's industrial machinery controls with no new design engineering.

"The future of IoT is pervasive connectivity. It's where everything is connected and exchanging data wirelessly over trillions of sensors. But this connectivity comes at a price; more wireless sensors mean more batteries, and more batteries mean more waste and downtime," said Larry Richenstein, co-founder and CEO of WePower Technologies. "WePower has engineered a

technological solution that is now ready for integration in millions of IoT devices.”

Benefits to Manufacturing

The future requires autonomously powered, maintenance-free, and permanent wireless solutions. Harvesting energy from motion for on-demand power is a sustainable way to eliminate the need for battery power in many product designs, thereby reducing the costs associated with integration, recurring maintenance, wiring, and waste. On-demand energy also means less downtime and less manpower needed to manually replace batteries across complex infrastructures. WePower is helping manufacturers rethink how sensors both in the IoT and IIoT are designed for environmentally green, maintenance-free, ultra-reliable operation.

Anticipated applications include remote on/off control of devices and equipment, wireless door sensors, industrial on/off switches, and remote triggering controls. The core G100 energy harvester mechanism also lends to easy design and integration into custom solutions and applications.

Case Use Example

Wireless remote controls are used in industrial and automation applications to control such devices as pumps, valves, lighting, cranes, and motors. Consider an industrial application operated by a wireless remote control.



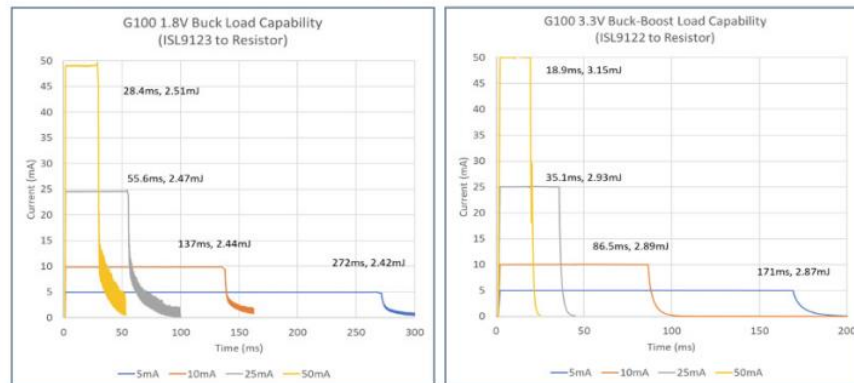
In this example, this remote switch houses a cell battery and transmitter to send the signal to remotely turn on an industrial water pump located approximately 1 km away. With daily use in an industrial setting, the life expectancy of this battery is under 3 years.



Using the G100 to replace the current design, the device will no longer need a battery, and instead, harvests kinetic energy from the push button motion to provide an ultra-reliable, maintenance-free solution.

In a replacement design, the G100 will harvest energy from the 70 ozf actuation force to produce upwards of 3 millijoules of energy depending on the application load profile. Load-dependent energy output curves are provided below for reference.

Energy Output Curves for Typical Load Regulator



Data provided is by actuation using mechanical cycle tester as reference. Higher current and shorter duration loads lose less energy to quiescent currents and idle loads and operate closer to peak efficiency.

For more detailed information on the G100 visit wepowertechnologies.com.

About WePower

WePower Technologies LLC. develops energy harvesting solutions for wireless data transmitter applications in industrial, automotive, smart home, smart office, smart city, and aerospace markets. WePower proprietary Gemns[™] Energy Harvesting Generators use electromagnetic induction to capture kinetic energy and convert it into electricity at a voltage level far greater than existing EHG's, eliminating the need for wasteful batteries and improving both the range and signal strength of RF transmissions. Learn more at wepowertechnologies.com.

Press Contact:

Caster Communications, Inc., 401-792-7080

wepower@castercomm.com