

TECHNICAL FAQs

How does eCoupled™ technology work?

eCoupled technology supplies power and communication through an inductively coupled power circuit that dynamically seeks resonance, allowing the primary supply circuit to adapt its operation to match the needs of the eCoupled-enabled devices it recognizes.

The technology overcomes the limitations of spatial rigidity, static loads and unacceptable power losses. It intelligently adapts to multiple loads—from milliwatts to kilowatts—and spatial configurations while maximizing energy transfer efficiencies by as much as 98% at 120 volts/1.4 Kilowatts.

What makes eCoupled technology unique?

Dynamic Control and Interoperability eCoupled technology's sensitive system monitoring is the heart of intelligent wireless power. It allows any eCoupled power source to communicate directly with any other power source that comes within range and determines if the object is eCoupled-enabled—if it's not, the system will not provide power to it. When an eCoupled-enabled device is recognized, the system instantaneously evaluates its needs and delivers the optimum amount of power to the device. By not broadcasting power and actively maintaining a high level of control, eCoupled technology is able to realize high efficiencies, reduce energy losses and insure the highest safety levels.

Identification & Authentication Using a Communications Protocol eCoupled technology uses a proprietary protocol to communicate with the devices it powers. It authorizes instantaneous identification of eCoupled-enabled devices and utilizes two-way feedback on the operation and status of the powered devices to monitor performance. eCoupled technology maximizes power efficiencies and transfers data between the power source and the devices.

Parasitic Metal Detection eCoupled technology immediately recognizes when any inappropriate device or object (non-eCoupled-enabled device) comes within range of a power source and automatically shuts down, maintaining one of the safest operating environments in the industry. The technology also focuses power on the eCoupled-enabled devices within range. It maintains higher levels of efficiency and keeps surrounding materials, that could potentially pull power current away, safe.

Green eCoupled technology's intelligence makes it a green solution. Its intelligent communications protocols and design-friendly nature eliminates unnecessary cords and outdated power solutions, and reduces energy being wasted through inefficient chargers. It empowers product designers and manufacturers with the ability to reduce their carbon footprint and reduce landfill waste, too.

- **Safe and quiet**
- **Accepts low, medium and high-power applications**
- **Freedom of positioning**
- **Supports charging and direct power supply solutions**
- **Supports integrated and adaptive solutions**
- **Powers multiple devices of different brands with a single source**
- **Supports global interoperability**
- **Supports wireless data transfer**
- **Simplifies design and extends product life**
- **Supports AC/DC input power worldwide**
- **Over 300 patents granted, published or pending worldwide**

Is eCoupled technology just a concept?

No. The engineers behind eCoupled technology have been developing and perfecting the technology for over eleven years. eCoupled technology has been in the marketplace for over seven years in Amway's eSpring™ water treatment system with over 1.5 million devices sold to date worldwide.

How much power can eCoupled technology provide?

eCoupled technology can provide power to a wide range of devices—from milliwatts to kilowatts.

Once a device is fully charged, will the primary coil stop charging the device?

Yes, the primary power supply responds to the needs of the device, and if a given device doesn't require power, eCoupled technology won't supply it.

What does eCoupled™ technology mean for consumers?

Consumers who have been irritated by wires, cords and chargers can now look forward to total freedom by charging their devices wirelessly.

In what ways can manufacturers benefit from implementing eCoupled technology?

Manufacturers can benefit from increased product safety and performance, product differentiation, lower production costs and lower warranty costs. Consumer demand for the elimination of power cords and charging problems is immense.

What level of “future proofing” does the design of the primary coil offer? For example, will an existing primary coil be able to wirelessly charge handheld devices that become available two years from now provided they have a secondary coil?

Designs have been developed to incorporate standards and design flexibility that would allow the design to be very versatile over an extended period of time.

Does the primary coil offer a sleep mode where the unit draws minimal current until it senses a device that can be charged?

Yes. It draws a minimal current while searching for an eCoupled-enabled device. When a device is recognized, it will analyze and power as needed.

What input voltage range (DC) will the primary coil accept?

DC rail voltages have been scaled from 3VDC to 340VDC.

Does Fulton Innovation plan to manufacture eCoupled-enabled devices or the supporting componentry?

Currently, Fulton Innovation is working with a number of manufacturing sources and will provide recommendations to our strategic partners.

How does the adaptive inductive power circuit handle simultaneous charging of multiple handheld devices with different charging requirements?

Fulton Innovation engineers have developed several proprietary solutions from simple to very complex charging challenges.

What is the maximum power that the primary coil can provide?

Presently, the technology is transferring over 1,400 watts at better than 98% efficiency. Further scaling is possible as applications evolve.

How will eCoupled technology affect the pricing of products?

eCoupled technology provides a low cost method to implement wireless power. Ultimate pricing will depend on specific features and benefits and will be determined by the manufacturers who license eCoupled technology.

Who is Fulton Innovation affiliated with?

Fulton Innovation is bringing eCoupled technology to market through partnerships with leading organizations in a wide range of industries. Fulton Innovation and a growing list of industry leaders, including Leggett & Platt, Energizer, Bosch and Herman Miller are working together to commercialize solutions in the portable consumer electronics arena.

What devices and industries can benefit from the technology?

Any product that requires power can utilize eCoupled technology, from common consumer electronics devices such as cellular phones, digital music players and PDAs, to medical devices, power tools, office electronics and kitchen appliances.

Can eCoupled technology transfer data?

Fulton Innovation has integrated low-cost modulation into the circuit enabling the primary and eCoupled-enabled device to wirelessly transfer data at rates of up to 1.1 Mbps.

For a complete up-to-date list of frequently asked questions, please visit ecoupled.com.