

March 2014

Do More with Smart PoE

A graphic titled "How to do more with SmartPoE" featuring a glowing blue power button icon, a hand cursor, and several network switches with glowing ports, all set against a dark blue background with light effects.

How to do more with SmartPoE

- **High Power:** 36 watt output is enough for any device (exceeds the PoE+ standard)
- **High Reliability:** 3 kV PoE surge protection for industrial environments
- **Full Spectrum:** Complete PoE solution, with up to 24 ports per PoE+ switch

■ What is Power over Ethernet (PoE)?

- Power over Ethernet (PoE) is the technology used to include power transmission alongside a physical data connection. PoE gives life to a device that is connected by any category 5 or higher cable while using a special PoE enabled switch. This technology provides convenience to the users as well as installers and reduces the hassle of having multiple connections to a single device. Power over Ethernet is quickly becoming the standard to most network applications today.

■ Why is PoE important to applications?

- It is undeniable that most devices now require a network connection. Power over Ethernet single-handedly boasts top of the line network speeds along with the convenience of minimalizing space requirements and an effective way to tackle unappealing wiring clutter for remote devices. Despite being limited to a physical connection, PoE still offers a clean, organized, and easy connection for many end-devices.

What are the Benefits of PoE?

- **Simplicity:** There is only one Ethernet cable to the end device which provides more room for creativity and less room for cable clutter.
- **Portability:** Install end-devices in places that lack power. For example, surveillance cameras are not always located in practical places where power is abundant. A Wireless Access Point is another example of a device that could be powered either on the side of a building, or in the middle of the ceiling where there are no outlets.
- **Cost Effective:** The cost of installing and wiring multiple AC power outlets can add up. PoE greatly reduces the cost of using many end-devices.
- **Safe:** PoE does not require AC power. Installation of AC power outlets could be dangerous in tall places.
- **Easy Maintenance:** Placing an end-device is easy because wherever an Ethernet cable is accessible, is a candidate spot for a PoE device.

Now that we have taken care of what PoE is, let's take a look at what SmartPoE offers.

SmartPoE is the next step forward in PoE standards. Moxa's unique SmartPoE provides devices with more power, higher reliability and a complete solution to all applications. A higher power gain, up to 36W output, can provide the necessary power to the larger, more power hungry end-devices (Almost a 50% gain on the latest IEEE 802.3at-2009 PoE+ standard). SmartPoE also offers phenomenal reliability by offering a 3kV PoE surge protection for harsh industrial environments. This unrivaled protection minimizes risk of damage to both the switch and the powered device (PD) in fast working environments.

Failure of a PoE device may cause irreversible damage in both connecting ends, but with SmartPoE enabled devices the fear is eliminated. With high reliability surge protection as well as fan-less operating temperatures of -40 to 75 °C, industrial-grade SmartPoE devices could maximize productivity in even the most hostile environments.

So far, PoE devices sound great but what are the reasons to choose a SmartPoE over regular a PoE+ solution?

- **Smart Diagnostics** for power device status, failure detection, and suggesting the best PoE port configuration.
- **Smart Powering** to ensure that devices power-up properly (even non-standard power devices)
- **Smart Power Management** for auto power output cutoff, power scheduling and PoE Warning Event to ensure safety and efficiency.
- **Fast Recovery Time**, in less than 20ms a device could be fully operational after a connection failure.



■ **What are some examples of PoE devices or PDs?**

- VoIP Phones
- IP Cameras
- Wireless Access Points
- IPTV decoders
- Network Routers
- Outdoor mounted radios with integrated antennas.
- Industrial Devices such as sensors, controllers, meters, etc
- Lighting controllers
- Physical Security devices

■ **Finally, where can I find devices that support SmartPoE?**

- The answer is right here. Although Moxa is the manufacturer of these SmartPoE devices, Quantum Automation is an authorized Moxa partner and distributor. Our team of helpful and friendly sales managers is here to help you find the right product and the right solution for all of your Industrial Networking and Automation needs.

Questions:

1. What is the difference in power outputs between IEEE802.3at-2009 PoE+ and Moxa's SmartPoE solution?
2. What is one application that you are you using or are thinking about implementing which involves PoE end-devices?

ANSWER THE QUESTIONS FOR A CHANCE TO WIN A \$100 AMAZON GIFT CARD!

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<http://www.quantumautomation.com/techcorner-questionnaire.html>

References:

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