

# The Power of PoE

*Win your next bid with a cost saving Power over Ethernet (PoE) solution*

*By Sonny Su, Technology Director for TRENDnet*

Power over Ethernet or PoE technology was designed to provide both power and data to network devices in remote locations. PoE offers stable and secure network connectivity coupled with significantly reduced installation costs by eliminating the need to extend electrical power to remote installation points. The advantages of PoE have propelled rapid adoption of PoE based security solutions.

## The Basics

PoE products come in different flavors. The majority of the products are rate as mid-level 15 Watt IEEE 802.3af Class 3, or standard PoE. Newer high power cameras may be rated as high-power 30 Watt IEEE 802.3at Class 4, or PoE+. There are also low-power and very low-power PoE solutions on the market.

PoE switches are designed to auto detect the type of connected PoE device and supply the appropriate power to that device. If you plug a non-PoE device into a PoE switch, the switch will only send data. If a low-power PoE device is connected, the switch will provide data and low power. PoE switch power intelligence makes installation a snap.

## PoE Project Planning

Awareness of the following four points help ensure a successful project: (1) Max. Power: PoE switches come in two flavors PoE and PoE+. A PoE+ switch can provide up to 30 Watts per port. If you are installing a PoE+ device, you will need a PoE+ rated switch in order to supply adequate power; (2) Number of Devices: document the number of PoE devices required for this project and for future phases. This will inform the number of required switching ports; (3) Distance to Device: Keep in mind that PoE cables can run up to 100 meters (320 feet) from a given switch. For large warehouse or campus installations additional components may be required; (4) Total Power: add up average power consumption of all devices and cross reference that value to the PoE Power Budget for the desired switch.

## **Small Projects**

PoE splitters and injectors are well suited for small projects. Injectors convert a single Ethernet port to a PoE Ethernet port. Simply plug the splitter into a switching port and then run a PoE cable to the PoE device. When the project requires only one or two PoE devices, consider using PoE injectors instead of buying a PoE switch.

A PoE Splitter is designed to accommodate the installation of a non-PoE device in a remote location. If there is a non-PoE camera which possesses all the required features for a given project, simply run a PoE cable to the installation point. Then install a PoE splitter, which separates power and data at the point of installation. TRENDnet offers an end-to-end PoE portfolio, for the PoE switching core to the IP camera peripheral.