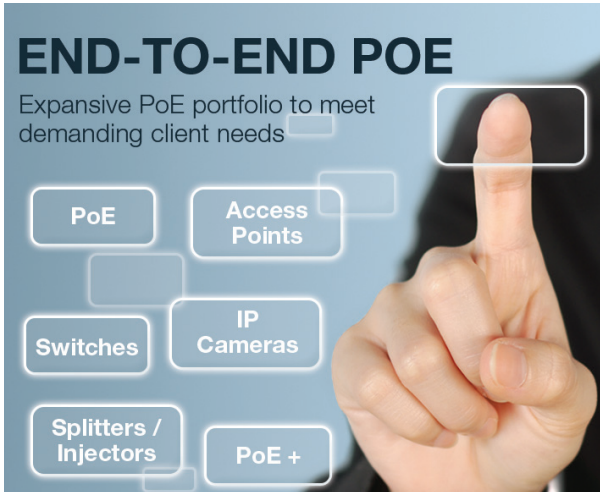
Make Your Point with PoE

As technology evolves, an ever increasing number of businesses and government departments are utilizing Power-over-Ethernet (PoE) solutions to extend their digital networks. PoE transmits both data and electrical power over a single network cable, thereby producing significant installation and network cost savings.

PoE at a Glance – Five Points

PoE offers stable network connectivity and significantly reduced installation costs by eliminating the need to extend electrical power to each respective installation point. Devices such as IP cameras, access points, and telephony solutions are more easily installed in remote locations using PoE. For your specific project needs, TRENDnet offers a wide selection of PoE and PoE+ switches, splitter, injectors, IP cameras, and access points.



1. PoE vs. PoE+

A PoE+ switch (IEEE 802.3at standard) provides up to 30 Watts of power per port and will automatically supply only 15 watts to more common PoE devices. Standard PoE switches (IEEE 802.3af standard) however can only provide up to 15 Watts of power to a connected device. TRENDnet recommends sourcing a PoE+ switch, to accommodate all PoE solutions, if there is the potential of installing PoE+ devices in the near future.

2. Unmanaged PoE / PoE+ Switches

Unmanaged PoE+ switches automatically supply the appropriate amount of power to connected PoE and non-PoE devices. These plug and go solutions offer performance and value with no management capabilities. TRENDnet's extensive line of PoE and PoE+ unmanaged switches has a reputation for proven reliability.

3. Web Smart PoE / PoE+ Switches

TRENDnet Web Smart PoE+ Switches offer advanced management capabilities at a reduced cost. Web Smart switches are accessible through a convenient web-based graphical user interface (GUI) and support advanced network segmentation, third party network monitoring (with SNMP and RMON), network troubleshooting tools, and access controls. TRENDnet Web Smart solutions are well suited as a backbone component of a small and medium size business (SMB) network.

4. PoE Access Points

Indoor and outdoor PoE Access Points are the most popular SMB solution to extend wireless networks and to bridge networks over a long distance. PoE solutions save installation man-hours and costs, by eliminating the need to extend an electrical connection to each installation point. Additionally, the stability offered by a PoE connection to the access point reduces long term network maintenance.

5. PoE IP Cameras

PoE IP cameras offer similar advantages as those of PoE Access Points. TRENDnet's product portfolio includes outdoor, indoor, PTZ, fixed, and dome PoE cameras. Administrators can also use PoE splitters with a PoE connection to install a non-PoE IP camera in a remote location.

Five PoE Web Smart Switch Points

1. Valuable VLAN

Virtual Local Area Networks or VLANs empower network administrators with the ability to create isolate networks without having to physically separate network architecture, thereby significantly increasing network management efficiency and security. Common VLANs include isolating the accounting department, warehousing functions, and surveillance systems.

Network isolation increases network security and reduces the ability to access sensitive data if a network is compromised.

2. Smart Management

Web Smart PoE Switches feature an intuitive graphical user interface (GUI), which allows administrators to manage a network more easily, by simply accessing the switch via a web browser. An intuitive management structure and easy to understand controls are well suited for novice network administrators.

3. Remote Access

Remote switch access improves management efficiency. Administrators can access the switch from the Internet to perform a hard reboot — thereby saving administrator and network downtime. As well, when installing a new device such as an IP camera, administrators can access the switch from the point of installation to turn ports PoE on and off, manage VLANs, and prioritize network traffic.

4. PoE Power Budget

A key component of PoE switch management is planning for power. A PoE+ rated device (rated at 30 Watts) often only draws between 16-20 watts for example. TRENDnet Web Smart PoE switches display the actual power consumption of all connected devices in real time, thereby providing administrators with a powerful tool to maximize the number of connected devices without exceeding the available PoE power allowance.

5. Traps and Alerts

Smart switches can alert the network administrator after a disruption to the network, a downed network link, or an unusual network activity has occurred, whereas unmanaged PoE switches do not have this aptitude. SNMP or RMON-based network monitoring solutions integrate with TRENDnet Smart Switches and define network traps, which help secure and maintain the network.

Five PoE Installation Points

1. Identify PoE Needs

When planning for PoE, The first steps include identifying the total number of PoE devices and the total power budget required by the PoE switch(es). The number of PoE devices for a given project, including plans for future expansion, advises the number of switching ports required for the project. The cumulative power consumption of all planned PoE devices determines the required PoE power budget of a sourced switch.

2. Know Your Distances

PoE devices can be installed up to 100 meters from a given PoE switch or injector. If the installation point is further away, a common solution is to run a standard Ethernet connection to a PoE injector which is located within 100 meters of the device. The injector bridges the excessive distance between the PoE device and the given switch. Note that the injector requires a power outlet.

3. Plan for PoE+

The beauty of PoE solutions is that they all work together seamlessly… well almost. PoE and non-PoE products can connect to a PoE switch and automatically receive the appropriate amount of power (or no power at all). The only exception to the rule is when a PoE+ device (a device which consumes between 15-30 Watts) is connected to a PoE switch which can only supply up to 15 Watts of power. If PoE+ devices are sourced for a project, they require PoE+ rated switches.

4. Outdoor Considerations

For outdoor installations, TRENDnet recommends properly grounding all network connected devices to protect the entire network from disastrous lighting strikes. Network administrators should also exercise care and maintain a water proof installation at the point of connection to a device.

5. Future Expansion

Planning for future growth improves network efficiency and informs management of future needs. How much growth is expected in the near term and can the planned PoE infrastructure accommodate it? How much growth is expected over the long term? What kind of network management access is desired — remote or local? These are all good questions to address in the near term in order to effectively guide future expansion.

The Sum of PoE

TRENDnet offers a broad range of reliable PoE and PoE+ solutions, including unmanaged switches, Web Smart switches, injectors, splitters, access points, and IP cameras. Network administrators are realizing the benefits of managing a swath of PoE solutions using cost effective TRENDnet Web Smart PoE switches. Source TRENDnet PoE solutions for your next project.