

Article Overview

PoE switches are classified based on port count, transmission speed, management capabilities, and IEEE PoE standards.

Classification by Number of Ports

PoE switches can be categorized according to the number of PoE-enabled ports they provide:

- o 4-port PoE switches - suitable for small setups or home networks.
- o 8-port PoE switches - ideal for small offices or retail environments.
- o 16-port PoE switches - used in medium-sized networks.
- o 24-port PoE switches - designed for larger enterprise networks .

Classification by Transmission Speed

Switches are also classified by their data transmission rates:

- o 100M PoE switches - typically used in small network environments, such as shopping mall monitoring.
- o Gigabit PoE switches - common in small to medium-sized enterprise networks.
- o 10G PoE switches - high-speed switches, less common and used in specialized high-performance networks .

Classification by Management Capabilities

PoE switches can be managed or unmanaged:

- o Managed PoE switches - include a microprocessor for configuration, allowing features like port priority, total power settings, and intelligent power distribution.
- o Unmanaged PoE switches - provide only basic power supply and data forwarding without configuration options .

Classification by IEEE Standards (PoE Types)

PoE switches are also classified according to the IEEE standards they support:

- o IEEE 802.3af (PoE) - delivers up to 15.4W per port (actual power to device: 12.95W). Suitable for low-power devices like IP phones and small wireless access points.
- o IEEE 802.3at (PoE+) - delivers up to 30W per port. Supports higher-power devices such as PTZ cameras and larger access points.

Classification of PoE Switches

o IEEE 802.3bt (PoE++ / Type 3 and 4) - delivers up to 60W (Type 3) or 90-100W (Type 4) per port, enabling power-hungry devices like video conferencing systems and high-end network equipment .

Summary

In practice, when selecting a PoE switch, network designers consider:

- o Number of PoE ports - based on the number of devices to power.
- o Transmission speed - depending on network bandwidth requirements.
- o Management features - for monitoring, configuration, and intelligent power allocation.
- o PoE standard - to ensure compatibility with the power requirements of connected devices.

This classification helps ensure that the chosen PoE switch meets both the power and data needs of the network while providing flexibility for future expansion.

But then a question arises: How does the switch convert a current value into a power allocation? This is where PoE

A Power over Ethernet switch is a network switch that has PoE functionality integrated. Learn about different types,

What is a PoE Switch and what devices use a POE Switch? How to choose POE Switches?

What is PoE, how it works, standards, classes, and equipment. A practical guide with advantages, limitations, and

TP Link - PoE Switches 16-Port 10/100 Mbps + 2-Port Gigabit Rackmount Switch with 16-Port PoE+

PoE technology is classified according to the IEEE standards that have evolved over the years. Table shows the

Introduction With the introduction of the IEEE 802.3bt Power over Ethernet (PoE) standard, Ethernet cables can now carry up to 90

Industrial Ethernet switches - Industrial-strength Unmanaged and Managed Switches Our Industrial Ethernet Switch portfolio

This article is to introduce how to choose the right PoE, PoE+, and PoE++ switches step by step, along with some

Classification of PoE Switches

Power over Ethernet (PoE) Last updated Aug 5, 2020 Save as PDF Table of contents PD and PSE definitions PSE

Class 0 is the default that allocates the full 15.4 watts, classes 1 through 3 carve out lower power levels, class 4 is

A PoE switch will not deliver power to a device that is not enabled as it does not know how much power to deliver and, therefore,

In this lesson, we are going to learn what is Power over Ethernet. What is the difference between the

Device Roles, CPD-Based PoE Management, Inline Power IEEE Power Classification Override, LLDP Inline Power Negotiation for

Learn about different types of PoE switches, their advantages, selection tips, and application scenarios. Find the right

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