

Disassembly of Non-Standard PoE Switches



Overview

Confused about non-PoE, standard PoE, and non-standard PoE switches? Learn how standard and non-standard PoE differ in safety, cost, and power delivery, plus tips to choose right.

Key Takeaways

Non-standard PoE switches, also known as passive PoE switches, can be disassembled with care, but require attention to always-on voltage and internal components.

Understanding Non-Standard Po

E Switches Non-standard PoE switches deliver constant voltage over Ethernet cables without performing negotiation with connected devices, unlike standard PoE switches that follow IEEE 802.3af/at/bt standards and include a PoE control chip for safe power delivery.

Passive Po

E switches typically provide 48V or other fixed voltages directly to the powered device (PD), which means the internal circuitry is simpler but carries a risk of damaging non-PoE devices if mishandled.

Safety Considerations

Before disassembly, ensure the switch is unplugged from both power and network connections.

Non-standard Po

E switches can still carry residual voltage, so using a multimeter to verify zero voltage on the Ethernet ports is recommended. Wear insulating gloves and avoid touching exposed traces or capacitors that may retain charge.

Tools Required

Common tools for disassembly include: Precision screwdrivers (Phillips and flathead) for opening the casing Pliers and tweezers for handling small components Pry tools or spudgers to separate plastic clips without damaging the enclosure Multimeter for voltage testing and continuity checks

Disassembly Steps

Remove the outer casing: Unscrew all visible screws and gently pry open the metal or plastic housing. Many switches have metal shields around the PCB that may require careful bending or unscrewing.

Identify the PC

B and components: Inside, you will typically find a main PCB with Ethernet transformers, PoE power circuitry, and port connectors.

Non-standard Po

E switches often lack the PoE control chip found in standard switches. Inspect power circuitry: Passive PoE switches usually have voltage regulators, fuses, and MOSFETs that directly feed power to the Ethernet pins. Avoid shorting these components.

Remove individual components if needed: Use pliers or a soldering iron to desolder components for repair or analysis. Take note of pinouts and traces, especially for PoE Mode B, which is commonly used in passive switches. Document the layout: Photograph or sketch the PCB layout to ensure correct reassembly.

Key Differences from Standard PoE Switches

- No handshake protocol: Power is always-on, unlike standard PoE which negotiates voltage.
- Simpler internal design: Fewer ICs and no PoE control chip.
- Higher risk of device damage: Connecting a non-PoE device to a passive switch can burn the device.

Limited Po

E modes: Passive switches often support only PoE Mode B, while standard switches support Mode A, Mode B, and 4-pair PoE.

Conclusion

Disassembling a non-standard PoE switch is feasible with proper tools and safety precautions. Understanding the always-on voltage, internal PCB layout, and lack of PoE negotiation circuitry is crucial to avoid damage or injury. For hands-on guidance, teardown videos of similar PoE switches, such as the TP-Link TL-SG1016PE, provide visual reference for internal components and disassembly techniques.

Article Content

Exploring Non-PoE, Non-standard, and Standard PoE Switches

Confused about non-PoE, standard PoE, and non-standard PoE switches? Learn how standard and non-standard PoE differ in safety, cost, and power delivery, plus tips to choose right.

How to Choose a PoE Switch, Standard or Non-Standard?

Non-standard PoE, also known as the passive Power over Ethernet. It also delivers power over the Ethernet lines, but does not perform the negotiation or communication process. Passive PoE switch

Case Study: A Switch Cannot Power a Non-Standard PD

Perform the following operations to rectify this fault: Check whether the PoE function is available on the switch, including whether the switch supports the PoE function, whether the PoE power supply status

Procedure for replacing PoE switch with non-PoE switch?

I've had a TL-SG3428MP PoE switch as my main switch for about a year. It handled everything and connected 4 EAPs. For a variety of reasons I've decided to move to two switches - one smaller PoE

Industrial PoE++ Switch Audit: Validating True 802.3bt Hardware vs ...

Industrial PoE++ Switch Audit: Validating True 802.3bt Hardware vs. Commercial Clones July 09, 2026 Procurement & Engineering Audit by: Benchu Group Infrastructure Labs Standard

JL660A Aruba 6300M 24SR5 CL6 PoE 4SFP56 Swch Disassembly

List the type and size of the tools that would typically be used to disassemble the product to a point where components and materials requiring selective treatment can be removed.

Are there Cookies inside a Gigabit PoE Switch?? Teardown

Teardown disassembly and working explanation of a TP-Link TL-SG1016PE | 16 Port Gigabit PoE Switch | Easy Smart Managed | 8 PoE+ Ports @150W | Plug & Play | ...

Case Study: An S5700 PoE Switch Refuses to Provide Power to Non ...

To protect PDs, switches detect and classify PDs and power these PDs only after confirming that they are standard PDs. If PDs support 48 V power supply but are non-standard PDs, run the poe force

Standard PoE Switches and Non-standard PoE Switches

In summary, the differences between standard PoE switches and non-standard PoE switches are mainly reflected in the following aspects.

Teardown: Cisco 7945 IP Phone, USB 5V Power

The teardown reveals a lot of similarities with a teardown done of a later model by iSuppli. It also provided the opportunity to modify the phone for

UniFi Switch Comparison and Buyers Guide

UniFi Switch Comparison and Buyers Guide This guide compares all 30+ models of UniFi switches. It starts off with the smallest 5-port models and goes up based on port count. It includes all

Troubleshooting Common PoE Errors and Solutions

It's important to note that non-standard PoE switches, also known as passive PoE switches, deliver power over Ethernet lines at a fixed voltage, regardless of whether the terminal

Key Differences of PoE vs PoE+ vs PoE++ Switches a STH Guide

We discuss the key differences of PoE vs PoE+ vs PoE++ switches and what that means for devices along with a handy chart you can use to keep track

PoE vs Non-Standard PoE: Compatibility & Risks

It is undeniable that PoE technology brings convenience to network deployment. We should also pay attention to the compatibility and safety risks caused by the proliferation of non

Exploring Non-PoE, Non-standard, and Standard PoE Switches

This article gives a detailed introduction of Standard, Non-standard, and Non-PoE Switches. Browse our FAQs to find the difference between them.

How to distinguish PoE and ordinary non-PoE switches

In summary, by in-depth understanding of the functional differences, application scenarios, technical characteristics, and differentiation methods of PoE switches and ordinary non

Active vs. Passive PoE Switch: Which Should We Choose?

The passive PoE switch does not adhere to any IEEE standard. The power is "always-on" when using a passive PoE switch in networks, which means it always sends electric current out over

PoE and Non-PoE Device Compatibility Detailed

Non-PoE devices lack this resistor. The switch identifies them as "non-PD," providing only data connectivity and not power. This is the most common compatibility scenario and is

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

Contact Us

Continue your research online:

Website: <https://artduferoger.fr>

Technical inquiry: <https://artduferoger.fr/contact.html>

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

