HallMonitor PoE+ Switch Setup

Network: PoE+ Requirements

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HallMonitor takes power and data over a single PoE+ run to a splitter in the gang box. Every port must be configured to deliver 802.3at (PoE+) without relying on LLDP negotiation, and that configuration must survive a power cycle.

Why the port must be forced

The iPad draws up to 18W charging with a bright screen, right on the boundary between 802.3af (15.4W) and 802.3at (30W). A port negotiating only 15.4W appears to work while the iPad reports "charging" and loses charge anyway. The switch also cannot be told what the device needs: no PoE-to-USB-C converter presents LLDP, by design, because the USB-C device demands an 18-22W Power Delivery profile at connection and cannot run LLDP until it already has power.

Worked example: Cisco Catalyst 9300 / 9400

Rated for PoE+, but they default to negotiating only 15.4W with a PoE-to-USB-C converter. Enable two-event classification per port, or across a range with interface range (for example gigabitethernet2/0/1-24). Other vendors need the equivalent under their own syntax.

```
Switch>              enable
Switch#              configure terminal
Switch(config)#      interface gigabitethernet2/0/1
Switch(config-if)#   power inline port 2-event
Switch(config-if)#   copy running-config startup-config
Switch(config-if)#   end
```

Write the change to startup config

If the classification lives only in the running config, a power cycle wipes it and the displays drop offline. Save from the Switch(config-if)# prompt with copy running-config startup-config, then run end. A port's show output will not reveal a missing classification either, so it is worth saving and then confirming with a deliberate reload.

How to tell a port is right

What you see	What it means
Blue LED on back of splitter	iPad is running on 802.3at (PoE+). Correct.
Red LED on back of splitter	iPad is running on 802.3af. The port is underpowering it.
Port negotiates 15.4W, or the iPad loses charge while reporting "charging"	Two-event classification was never applied, or a reboot wiped configuration settings

If ports flap a PoE overload mimics spanning tree in the logs. The switch cuts power, the port drops, STP renegotiates on the way back up. Check the power budget before the topology.

Non-PoE installs run on AC with WiFi and use the 24V supply