



ETHERNET EXTENSION EXPERTS

Enable-IT 828 PoE and Gigabit Ethernet Extender Quickstart Guide



INSTALLING THE 828 GIGABIT ETHERNET EXTENDER

Installation

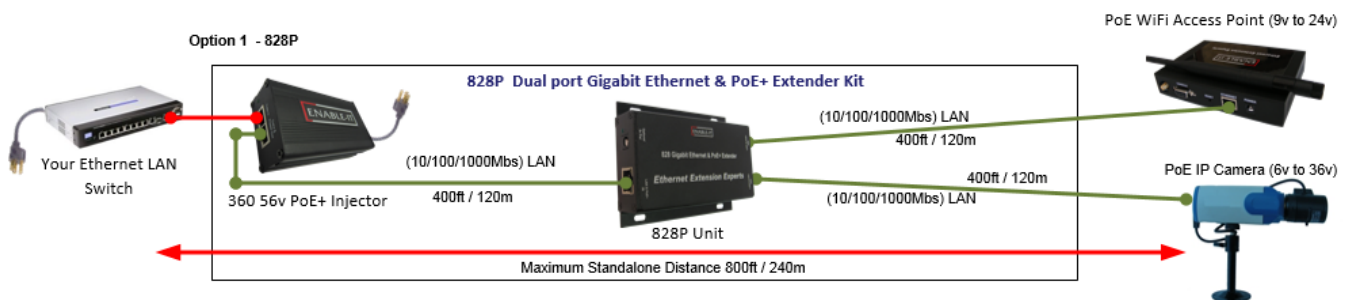
The Enable-IT 828 – A Dual Output PoE and Gigabit Extended Ethernet Unit has a distance restriction of 800ft or 240m over 4-pair Category 5e / CAT6 per unit. Multiple 828 units can be daisy chained to reach up to 2,000ft or 1,828m.

- Total distance limitation of 800ft or 240m from end to end per 828 unit.
- 4-pair Cat5e .30 Gage or better cabling is required.
- Wire pair used must be straight through, no taps/connection points.

Perform an out of the box Test

We highly recommend a quick test to ensure the working order of your 828 Gigabit unit. Depending on your kit, follow the appropriate directions below.

828P - The out of the Box test for the 828P kit is very straightforward.



Step 1 - Prove out the Ethernet patch cords by taking your Ethernet LAN switch and connecting it to the Data IN port on the 360 PoE Injector. From the Data / PoE OUT port on the injector run another Ethernet patch cable to your remote end PoE device. Test connectivity and PoE. This proves out your end PoE device, the patch cords and your 360 PoE Injector as working if they all pass.

Step 2 - Prove out the 828P unit by making sure the DIP switches are set to ON (down) for the Output ports. By default they are set to OFF (up) to protect your standard LAN equipment. Next using a good known patch cord, attach your end PoE device to one of the Output ports on the 828P Extender and then use another good known patch cord to attach the 828P LAN In port to your PoE LAN Switch.

The LED indicators on the 828P LAN ports will provide visual operational status of the 828P standalone unit.

Input RJ-45 Port:

Power LED - Solid Green LED (left side of DC input jack) indicates the 5v power input is on and good.

Input LEDs - Solid Yellow LED only (left side of RJ-45 port) indicates Gigabit Ethernet connectivity detected

- Solid Green & Yellow LED (both sides of RJ-45 port) indicates 100Mbps Ethernet connectivity detected. Yellow LED will be lit and blinking showing LAN Activity.

- No LED lit (right side of RJ-45 port) indicates 10Mbps Ethernet connectivity.



Output RJ-45 Ports:

Gigabit LED - Solid Yellow LED (both sides of RJ-45 port) indicates Gigabit Ethernet connectivity detected.

10/100 LED - Solid Green & Yellow LED (both sides of RJ-45 port) indicates 10Mbps or 100Mbps Ethernet connectivity and activity.

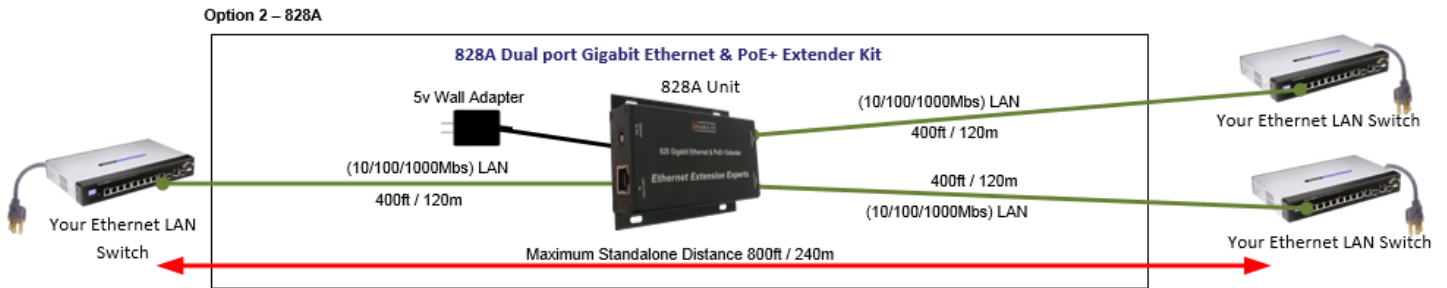
- No LED lit (right side of RJ-45 port) indicates 10Mbps Ethernet connectivity.



Step 3 - If all equipment passes testing, the last step is the long distance wiring for in between the standalone 828P unit. The standalone 828P is an inline solution that cannot be more than 400ft / 120m from the source PoE Switch or the end PoE device. The 828P requires 4-pair wiring on all RJ-45 pins straight through and it is recommended to use category rated twisted pair such as CAT5e minimum for Gigabit throughput.

Expected Throughput speeds 328ft to 2,000ft – 1,000Mbps Full Duplex

828A - The out of the Box test for the 828A kit is very straightforward.



- Step 1** - Prove out the Ethernet patch cords by taking your Ethernet LAN switch and connecting it to your remote end LAN device. Test connectivity. This proves out your end LAN device, the patch cords, and your Ethernet switch.
- Step 2** - Prove out the 828A unit by powering on the device with the supplied 5V power adapter. The 828A should now be powered on. Next, place it in between the Ethernet LAN switch and your remote end LAN device. Make sure the DIP switches are set to the OFF (up) position disabling PoE output. By default they are set to protect your standard LAN equipment.
- Step 3** - Next using a good known patch cord, attach your end LAN device to one of the Output ports on the 828A Extender and then use another good known patch cord to attach the 828A LAN IN port to your Ethernet switch. Test connectivity and Gigabit LAN traffic.

Expected Throughput speeds 328ft to 2,000ft – 1,000Mbps Full Duplex

Input RJ-45 Port:

Power LED - Solid Green LED (left side of DC input jack) indicates the 5v power input is on and good.

Input LEDs - Solid Yellow LED only (left side of RJ-45 port) indicates Gigabit Ethernet connectivity detected

- Solid Green & Yellow LED (both sides of RJ-45 port) indicates 100Mbps Ethernet connectivity detected. Yellow LED will be lit and blinking showing LAN Activity.
- No LED lit (right side of RJ-45 port) indicates 10Mbps Ethernet connectivity.

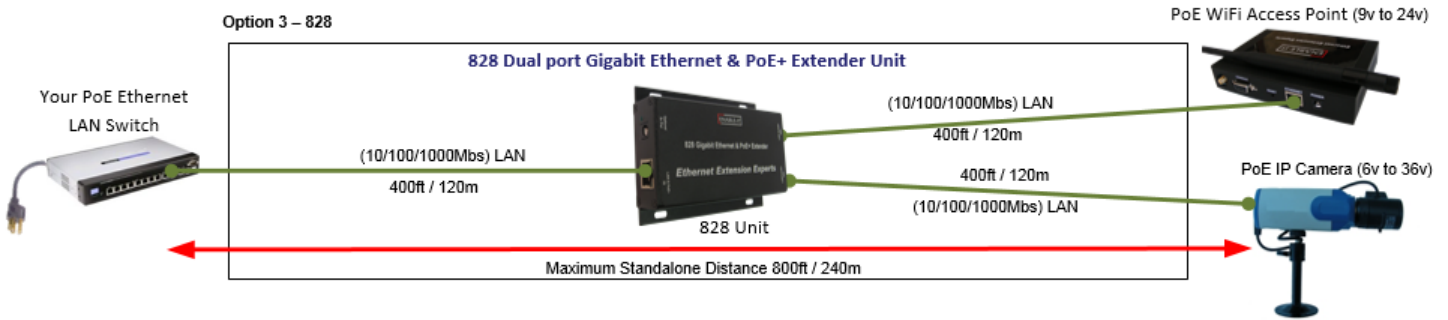
Output RJ-45 Ports:

Gigabit LED - Solid Yellow LED (both sides of RJ-45 port) indicates Gigabit Ethernet connectivity detected.

10/100 LED - Solid Green & Yellow LED (both sides of RJ-45 port) indicates 10Mbps or 100Mbps Ethernet connectivity and activity.

- No LED lit (right side of RJ-45 port) indicates 10Mbps Ethernet connectivity.

828 - The out of the Box test for the 828 kit is very straightforward.



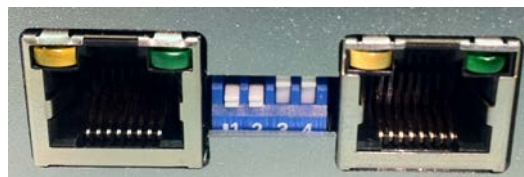
- Step 1** - Prove out the Ethernet patch cords by taking your Ethernet LAN switch and connecting it to your remote end LAN device. Test connectivity. This proves out your end LAN device, the patch cords, and your Ethernet switch.
- Step 2** - Prove out the 828 unit by powering on the device with your PoE Ethernet switch or PoE midspan / injector. The 828 should now be powered on. Next, place it in between the Ethernet LAN switch and your remote end LAN device. Make sure the DIP switches are set to the OFF (up) position disabling PoE output. Unless you want to power on a PoE device on the remote end from your PoE switches power then you must set the DIP switches to the ON (down) position. By default they are set to protect your standard LAN equipment.
- Step 3** - Next using a good known patch cord, attach your end LAN device to one of the Output ports on the 828 Extender and then use another good known patch cord to attach the 828 LAN IN port to your Ethernet switch. Test connectivity and Gigabit LAN traffic (and / or PoE if applicable).

Expected Throughput speeds 328ft to 2,000ft – 1,000Mbps Full Duplex

828 DIP Switch Settings

A 4 position DIP Switch is provided in between Extender Output ports for setting PoE output power on or off.

Default DIP settings – Disabled PoE output
 DIP position 1, 2, 3, & 4 Up
 (OFF – no PoE Output)



To Enable - PoE output -
 DIP position 1, 2, 3, & 4 Down
 (ON – PoE Output)

Image shown above has PoE enabled on the LAN port to the left and PoE disabled on the right. DIP Switches 1 & 2 toggle PoE (ON / OFF) for the LAN ports adjacent to them likewise with DIP Switches 3 & 4 which toggle PoE (ON / OFF) for the LAN port to the right.

Custom DIP Switch Settings

There are instances where you may have a PoE IP camera that supports PoE on data pairs (1,2,3 & 6) rather than the standard, spare PoE pairs (4,5+) & (7,8-). The following configurations demonstrate which DIP switches toggle which PoE output mode:

- **Mode A (2-pair PoE)** – PoE Output is sent using the RJ-45 data pairs (1,2,3 & 6): LAN 1 DIP Switch 3 (Down) DIP Switch 4 (Up) and LAN 2 DIP Switch 1 (Down) DIP Switch 2 (Up)
- **Mode B (2-pair PoE)** – PoE Output is sent using the spare RJ-45 PoE pairs (4,5+ & 7,8-): LAN 1 DIP Switch 3 (Up) DIP Switch 4 (Down) and LAN 2 DIP Switch 1 (Up) DIP Switch 2 (Down)
- **Mode C (4-pair PoE)** – PoE Output is sent using all 4 pairs of wire (1,2,3,4,5,6,7 & 8): All 4 DIP Switches set to the (Down) position

Troubleshooting Your 828 Device

Clicking Noise – The 828P has a built in relay that detects the PoE input of the end device on your run. If you hear a clicking noise, this indicates that the remote PoE end device is searching for PoE on a different pair configuration and this is causing a short circuit on the PoE pairs. The clicking is the sound of the internal relay chip attempting to switch back and forth in order to compensate for the short circuit.

Gigabit LAN Equipment Interface Issues – Some IP cameras do not accept gigabit transmissions and run only on 10/100Mbps Ethernet such as VideoIQ IP Cameras. To solve this issue you need to set the DIP switches to Mode A as described under the Custom DIP Switch Settings above:

Mode A (2-pair PoE) – PoE Output is sent using the RJ-45 data pairs (1,2,3 & 6): LAN 1 DIP Switch 3 (Down) DIP Switch 4 (Up) and LAN 2 DIP Switch 1 (Down) DIP Switch 2 (Up)

TECHNICAL SUPPORT

Enable-IT, Inc.'s Customer Care Team support is available directly to customers and distributors. All support requests are processed through the online support portal. This allows us to provide assigned support ticket numbers in order to bring closure to any technical issues.

Online Technical Services

The Enable-IT Support Portal is available 24/7 to open a ticket or check the status of one. Please use this support website as your first source for help as it contains an on-line knowledge base of articles, documentation, FAQ's and other problem-solving resources. This web-based support resource provides the quickest solution to the most common technical support issues.



Returning Products for Warranty Repair

Enable-IT, Inc. warrants to the original purchaser of the Product ("you" or the "End User") that, for the four (4) year period commencing on the date the Product was purchased (the "Warranty Period"), the Product will be substantially free from defects in materials and workmanship under normal use and conditions. **Electrical damage is not an item that is covered under this warranty, extended warranties or Advanced Replacement Program (AREP).**

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Please ship Authorized RMAs to:

Enable-IT Processing Facility
16600 Harbor Blvd, Suite I
Fountain Valley, CA 92708-1363

Returning Products for Refund

Enable-IT, Inc. offers a generous 45-Day refund on a single Ethernet Extender Kit only, and is subject to a 15% Restocking Fee. Shipments without a valid or authorized RMA number, or sent to our corporate Las Vegas address, can be refused and / or billed for additional shipping.

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