



ETHERNET EXTENSION EXPERTS

Enable-IT 865 PRO Rev E Gigabit PoE Extender Kit Quickstart Guide



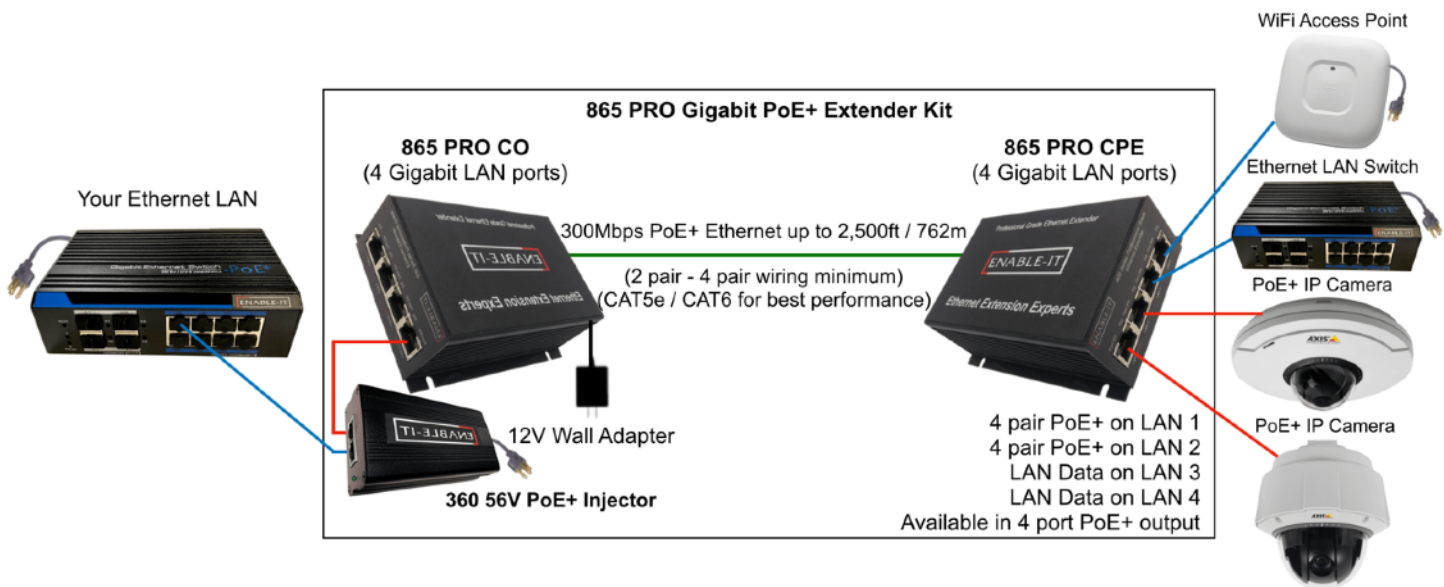
Professional Grade Networking



INSTALLING THE 865 PRO PoE EXTENDER KIT

The Enable-IT 865 PRO Gigabit PoE Extenders have a distance restriction of 3,500ft (1,066m) over 2, 3 or 4-pair of Category 5e or better wiring from device extension to device extension. Adding Power load decreases the distance for PoE Power so typically installs up to 2,500ft are most common.

A site survey of the wiring and installation planning are highly recommended. For highest performance use .23 Gauge CAT5e rated or higher spec for your interlink wiring.



The Overview Diagram: This diagram shows the contents of the product box inside the rectangle. Devices outside the rectangle above are your equipment that can be attached.

Perform an Out Of The Box Test (OOTBT)

We highly recommend that you perform a quick out of the box test to ensure the working order of your Enable-IT 865 PRO PoE Extender units prior to installing. This will also serve to familiarize you with how easy the process should be. Follow the steps below to perform the Out Of the Box Test.

- Step 1** - Attach the 12V DC power adapter to the 865 PRO CO unit so it powers on. The Power LED will indicate the unit is receiving power. The LAN ports will display a quick diagnostic by lighting up the LAN activity LED for 1 second starting from Port 4 to Port 1 in a sequence.
- Step 2** - Next attach a patch cord from the Data & PoE Out port on the 360 PoE Injector to the 865 PRO CO LAN port 1. Then connect your Ethernet LAN source to the Data In port on the Injector. **(Do NOT plug a PoE switch or injector into the Data In on the injector unless PoE output is disabled.)**
- Step 3** - Connect the 865 PRO CO to the CPE together via the RJ-45 Interlink ports using one of the Ethernet LAN Patch cords provided – as shown by the green line connecting the ports in the diagram above.
- Step 4** - Finally, connect the power cord to the 360 PoE Injector and power on the device. The Green Power LED will indicate the unit is receiving power. The 865 PRO CPE will also have power which is indicated by the Green Power LED on the device. The CO and CPE will have a solid Green Sync light when the devices are connected and synchronized.

The LED indicators on the devices will provide visual operational status.

Left side Interlink / Power LEDs

- Mode** – Yellow Solid LED (LED Off = CO unit, LED On = CPE unit)
- Sync** – Green slow to fast flicker LED on power up – indicates negotiation of a link
– Green solid LED indicates link established and rapid pulse is traffic.
- Power** – Green Solid LED indicates the unit is receiving 12V power.

Right side LAN LEDs

- Act** – Yellow LED
 - Off = No device attached or detected.
 - On = Solid, indicates the presence of local LAN.
 - Blinking = Indicates the presence of local LAN traffic.

Step 5 - Next for a more detailed test and to confirm your LAN and PoE Equipment works with the 865 PRO, connect your Ethernet LAN to the 360 PoE Injector Data In port and the remote PoE device/s to the 865 PRO CPE LAN 1 & LAN 2 PoE ports and test connectivity. The Green Interlink Sync LED & LAN ports will pulse rapidly as it detects traffic.

Active PoE is output on both LAN 1 and LAN 2 on the 865 PRO CPE so do not connect a non-PoE device to these ports. LAN 3 and LAN 4 are dedicated Ethernet LAN data only ports. Enable-IT can modify all 4 LAN ports to do PoE output, however you must gauge your power budget and devices connected to make sure you have enough to operate everything. Voltage is lost over the long distance cabling and each device puts more load on your Power Sourcing Equipment (360 PoE Injector).

Performing the On-Site Installation

After removing the Enable-IT 865 PRO PoE Extender Kit from the box, and performing the Out Of The Box Testing (OOTBT), all that remains is to install the kit on-site, mount the unit, build the interconnect wiring, add voice lines if needed, and attach the LAN device cabling with the provided Ethernet Patch cords.

Mounting the Enable-IT 865 PRO PoE Extender Units

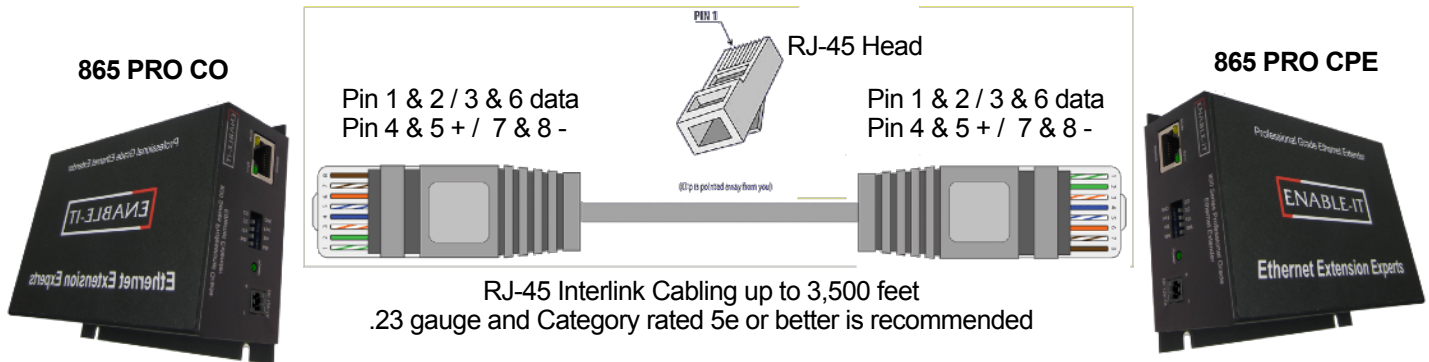
The Enable-IT 865 PRO extended Ethernet solution is designed for quick wall mounting. Choose a location to mount each of the Enable-IT 865 PRO's where the maximum distance does not exceed 3,500ft (1,066m) total between devices to be connected. When wall-mounting the Enable-IT 865 PRO unit it is recommended that you use the appropriate screw anchors for your mounting surface. If mounting on existing plywood use wood screws; if mounting onto drywall or sheetrock, use plastic drywall anchors to secure your installation.

Building the 865 PRO Interlink Wiring

The most important aspect of the installation is the correct wiring of the Interlink cabling.

The 865 PRO Interlink port (RJ-45 Jack) carries this 2-pair signaling over the RJ-45 (pins 1 & 2) and / or (3 & 6) - and is used as the transport for 300Mbps VDSL2 or long distance ADSL2+ data and (pins 4+ & 7-) and / or (5+ & 8-) - used as transport for PoE Power. The 865 PRO CPE outputs IEEE 802.3af/at power specs to the end PoE devices. For 4 pair wiring crimp all 8 wires straight through. Pins 1,2,3,6 for data and pins 4,5,7,8 for positive and negative PoE power.

For all wiring you will need to crimp a (LAN Standard) RJ-45 Male head to each end of the contiguous wire run and using the following (pins 1 & 2) and (pins 4+ & 7-) straight through. We recommend using a category rated twisted pair cable as it is optimized for high throughput frequencies isolated from cross-talk noise. Insert the completed RJ-45 ends into the 865 PRO Interlink port on each 865 PRO unit (CO and CPE).



Cabling Devices to The Enable-IT 865 PRO Extended Ethernet Kit

Attach your remote PoE devices to the 865 PRO CPE unit PoE ports and attach your local LAN to the 360 PoE Injector that is connected to LAN Port 1 on the 865 PRO CO. Power up the 360 and 865 PRO CO unit. The 865 PRO CPE and PoE device should all receive power and be ready to go. Your equipment should now be powered up and functioning. LED indicators will provide visual operational status of the 865 PRO units.

Troubleshooting

At any time you should always 1st bring all the devices back to a test bench and perform the default out of the box test. This quickly confirms and or identifies the core issue.

The most common problem is the Interlink wiring connection. Examine the Interlink wiring to make sure you have solid connections. The Interlink Sync LED will be lit solid Green with rapid pulsing on each 865 PRO unit to show proper connection and pairing. If the Interlink Sync LED Link is flashing slow to fast and never goes solid.... Then follow the steps below:

- 1) Make sure your wiring is straight through and not connected to any Telco punch down blocks; If so remove from the block and use Telco butt clips to bridge wire.
- 2) Check for a firm connection of the RJ-45 connections in each 865 PRO unit, and power is applied to the 865 PRO CO & CPE units.
- 3) **You can easily isolate any issue by performing an Out Of The Box Test (OOTBT). This test will confirm the correct working order of your Enable-IT 865 PRO PoE Extender Kit. This will point to a possible issue with your long distance Interlink wiring being affected by possible outside interference.**

Performance Settings (DIP Switch)

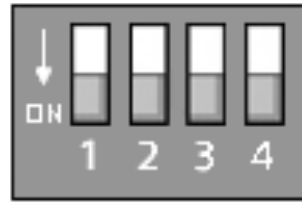
By default DIP settings are set for Max performance.

If you are experiencing performance issues with your Ethernet connection you may use the following DIP switch settings to adjust your application. For DIP switch 2-4 you must toggle both symmetrically, in other words the CO and CPE must match. If you turn DIP switch 3 Up (Off) on the CO, then you must do so for the CPE and vice-versa.

- Switch 1: CO / CPE Mode

CO Mode – Up / Off Position

CPE Mode – Down / On Position



Central Office Equipment (CO) is generally the equipment residing at the Carrier Telephone office or the head end of a circuit. Customer Premise Equipment (CPE) is generally the equipment residing on the customer side of a circuit. Typically you would place the CO at the local end and the CPE at the remote end for reference only. CO's only communicate with CPE's.

- Switch 2: ADSL2+ Mode for distance over 6,000 feet

ADSL2+ Mode – **Up / Off Position**

VDSL2+ Mode – Down / On Position (Default)

ADSL2+ mode works better for long distance wiring although throughput is significantly reduced.

- Switch 3: 17a (over 2,000ft) / 30a (under 2,000ft) Mode

17a Mode – **Up / Off Position**

17a mode is only used for Interlink runs over 2,000ft to 6,000ft.

30a Mode – Down / On Position (Default)

30a mode is only enabled for Interlink runs under 2,000ft.

- Switch 4: Signal-to-noise Noise Ratio (SNR)

9dB – **Up / Off Position**

6dB – **Down / On Position (Default)**

Signal-to-noise ratio is a measurement that refers to how much noise is in the output of a device, in relation to the signal level. If you experience issues of noise bleeding over the lines, or high interference in your environment, it is suggested that you switch to 6dB SNR. This may help clean up any noise bleeding over your cabling.

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.

World Wide Web Site

<https://support.enableit.com>

Returning Products for Warranty Repair

Enable-IT, Inc. warrants to the original purchaser of the Product ("you" or the "End User") that, for the Limited Lifetime 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 or water damage is not covered under this warranty, extended warranties or Advanced Replacement Program (AREP).**

In order to obtain an authorized RMA approval, the End User must complete the required information online located at <https://support.enableit.com>. If you have questions or difficulty completing this information you may contact the Customer Care Team at 888-309-0910 between the hours of 8:00 a.m. and 5:00 p.m. PT.

Please ship Authorized RMAs to:

RMA Warranty Repair Processing Facility
16027 Brookhurst Street, Ste i 272
Fountain Valley, CA 92708-1551

Returning Products for Refund

Enable-IT, Inc. offers a generous 45-Day refund on a single PoE 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.

ENABLE-IT, INC. LIMITED LIFETIME WARRANTY

Enable-IT, Inc. warrants the Enable-IT 865 PRO kit solely pursuant to the following terms and conditions.

1. ENABLE-IT PRODUCT WARRANTY.

a. Express Warranty.

Enable-IT warrants to the original purchaser of the Product ("you" or the "End User") that, for the Lifetime 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. This warranty does not apply to Products, which are resold as used, repaired or reconditioned, or consumables (such as batteries) supplied with the Product. **Electrical or water damage are not covered under this warranty, extended warranties or Advanced Replacement Program (AREP).**

Enable-IT does not make any warranty with respect to any third party product, software or accessory supplied with or used in connection with the Product and such third party products, software and accessories, if any, are provided "AS IS." Warranty claims related to such third party products, software and accessories must be made to the applicable third party manufacturer.

b. Remedies for Breach of Warranty.

In the event of a breach of the foregoing warranty, Enable-IT will, in its sole discretion and at its cost, and subject to the terms of the following paragraph, repair the non-conforming Product, replace the non-conforming Product with a new or reconditioned Product or refund the purchase price for the Product. Any new or reconditioned Product provided pursuant to this paragraph is warranted as provided herein for the remainder of the original Warranty Period.

THE REMEDY SET FORTH IN THIS PARAGRAPH SHALL BE THE END USER'S SOLE AND EXCLUSIVE REMEDY FOR BREACH OF THE FOREGOING WARRANTY.

c. Conditions for Warranty Qualification.

If authorized by Enable-IT to return a Product which does not conform to the warranty set forth above, the End User must: (1) obtain a return materials authorization (RMA) number from Enable-IT by contacting the Customer Service Dept. at 888-309-0910 between the hours of 8:00 a.m. and 5:00 p.m. PT and otherwise fully comply with Enable-IT's then-current RMA policy; (2) return the Product to Enable-IT in its original packaging freight pre-paid; and (3) provide to Enable-IT the original receipt or bill of sale establishing the date on which the Product was purchased. Products returned to Enable-IT without an RMA number will be returned to the End User. Enable-IT shall not be responsible for damage or loss during shipment of the returned Product to Enable-IT.

d. Voiding of Warranty.

The express warranty set forth above shall not apply to failure of the Product if the Product has been subjected to: (i) physical abuse, misuse, improper installation, abnormal use, power failure or surge, or use not consistent with the operating instructions provided by Enable-IT; (ii) modification (including but not limited to opening the Product housing) or repair by any party in any manner other than as approved by Enable-IT in writing; (iii) fraud, tampering, unusual physical or electrical stress, unsuitable operating or physical conditions, negligence or accidents; (iv) removal or alteration of the Product serial number tag; (v) improper packaging of Product returns; or (vi) damage during shipment (other than during the original shipment of the Product to the End User from Enable-IT, if applicable).

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CONTACT US

Sales and Customer Care:

Toll Free US and Canada

888 309-0910
866 389-8605 Fax

Other International

+1 702 924-0402
+1 702 800-2711 Fax

E Mail

sales@enableit.com
support@enableit.com

RMA Support:

<https://support.enableit.com>