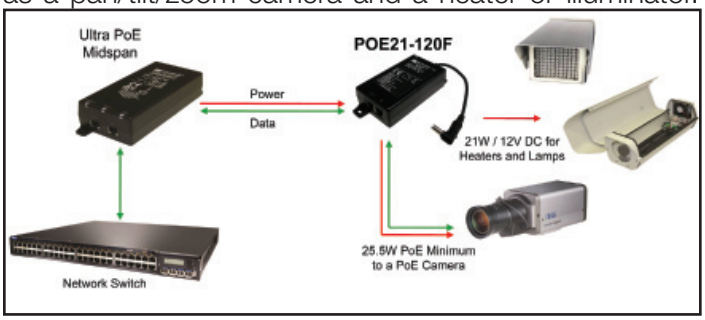
POE21-120F User Manual
PoE Splitter for Heaters, Illuminators, and Cameras

Power over Ethernet became the new IEEE standard in 2003 allowing users to send both power and data to network devices without modifying their existing Ethernet based network. By sending power with data over a Local Area Network, users can now minimize their need for extensive wiring and electrical power outlets which has both practical and aesthetic realizations.

Most new devices on the market now designed to operate on a network will be compliant with the IEEE802.3af standard; however users who are upgrading their network do not necessarily need to upgrade their accessory devices. The dilemma comes as what to do with all of this non-PoE equipment after installing a PoE network. Phihong has a solution with the POE21-120F. The POE21-120F is a small device that will connect to the network and split the power into 21W over a DC cable and 30W of continued PoE to the device. This unique device takes Ultra or Mega PoE (60W or greater) and splits the power to end devices that might required an accessory device for example as a pan/tilt/zoom camera and a heater or illuminator.



Using standard Category 5 or above Ethernet cables, the POE21 will take its power from the Ultra or Mega PoE midspan/power injector or its equivalent. The device will then split the PoE into a 21W, 12V DC cable to the accessory device and the remaining 30W of power and data will run separately on the output Ethernet cable. The POE21-120F comes in a standard output voltage of 12VDC so users need to be aware that it cannot be higher or lower than their device's power requirements. The diagram above shows the basic set up of a POE21-120F Splitter connected to a PoE camera and a choice of non-PoE ready devices. The POE21-120F is connected to the Network Switch through an Ultra PoE Power Injector (60W), then splitting the power into the two outputs allowing for both devices to be powered from a single Ethernet cable. The end device may be placed up to 100 meters from the network switch using this set-up.

Installation Sequence:

1. Using the appropriate Category 5 or 6 Ethernet cable, connect the PoE In to the network switch or Ultra/Mega PoE midspan.
2. Using the same category Ethernet cable, connect the PoE Out to the input RJ45 jack located on the device.
3. Insert the DC Power cable from the splitter to input power adapter on the device.
4. Allow a few moments for the Green LED to light up assuring that everything is connected.

Input Power	Ultra or Mega PoE (60W or greater) or equivalent
Output Power	21W/ 12V DC 30W PoE
Ethernet	Categories 5, 5e or 6
Input/Output Connectors	PoE and Data - RJ45 DC Cable - Center Positive Barrel 12mm x 2.1mm x 5.5mm (tips may be changed)
Safety	CE Certified
Dimensions	100 x 56 x 28mm (3.9 x 2.2 x 1.01in)
Weight	0.142kg (0.313lb)
Operating Temperature	0 to +40°C 32 to +104°F

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FAQ

What are the benefits to using PoE?

Power over Ethernet is best suited to users who want to expand and extend the capabilities of their existing network switches. PoE uses standard Category 3, 5 or 6 cables and uses them to transfer both data and power to remote locations. Since extensive wiring is not needed, these remote locations are able to be easily changed. PoE power standards are also universal. Unlike traditional power supplies which are only compatible with specific standards to their region, PoE is able to self regulate to work with a variety of international power standards. PoE also offers more flexibility in power events, such as a surge or brownout.

Why am I limited to 100 meters?

Power can be transmitted over an Ethernet cable to distances that exceed 100 meters depending on the amount of power being put out by the midspan and loss on the cable across the distance. If the port powering the Ethernet puts out 15.4W (IEEE802.3af standard) of power and the distance is 100 meters then the power could dissipate to 12.95W in the worst case scenario by the time it reaches the end device. PoE is possible over distances greater than 100 meters but is not IEEE802.3 standard and is not guaranteed or recommended. Should a distance exceed 100 meters or more then Phihong offers a selection of PoE extenders. Although power is possible at greater distances, users may experience severe data loss after traveling 100 meters or more.

What is the difference between IEEE802.3af and IEEE802.3at?

In 2003 IEEE created a standard for Power over Ethernet called IEEE802.3af which uses a voltage range of 44-57VDC and a maximum output of 15.4W. Then in 2009 IEEE ratified the IEEE802.3at standard which expanded power to include applications needing up to 25.95W on a Category 5 or 6 cable for use on higher power PoE devices such as WiMAX or Pan/Tilt/Zoom Security Cameras, and would be compatible on networks with Gigabit compatibility. To meet the new standard, the PoE output is increased at the output port to 33.6W per port on a midspan. The POE21-120F is compliant with all parts of the IEEE802.3at standard.

I've plugged in the POE21-120F but it isn't powering my device?

For the POE21-120F to be fully functional your midspan or power injector must be compatible with Phihong's Ultra or Mega PoE with an output of 60W or greater. If the input power is IEEE802.3af or IEEE802.3at then the device will not work.

Do I need a special configuration for my network?

No, all Phihong PoE splitter technology is considered "plug and play" which means that there is no software or firmware installations required for the device to operate on the network. All that is needed is the correct output by the midspan and Ethernet cables (category 5 or above). Phihong recommends professional installation should any issues arise.

Where should I install my PoE Splitter?

Your new PoE Splitter may be installed to be wall mounted or table mounted. The unit should be installed immediately adjacent to the device to allow for proper connection via the DC cable as this may not be extended to accomodate space requirements.

Can I use this device with equipment that is not PoE ready?

Yes, this splitter is compatible with non-PoE ready equipment. Ensure that you check the voltage requirements for your device to ensure that the splitter will not provide an output voltage higher or lower than your device requirements. There is a listing above of the available models with their output voltages. Check to see if your device can be covered by one of the available standard devices.

If your question is not listed here and need further information please contact Phihong Sales. For a full listing of available contact information please visit the Contact Us section of the Phihong website www.phihong.com.

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