PoE-Texas

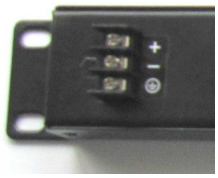
Multi Port Passive POE injector

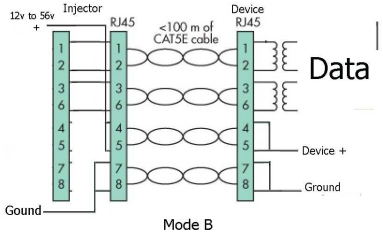
Using your WS-POE-24-1U
power injector for 24 devices – 12 to 48 volts

Power 24 devices from one or two Power supplies

Each pair of ports is used to power one device – the data side goes to any non-PoE switch, and the Power + Data side goes to the device to be powered. Pins 4 and 5 are positive power, 7 and 8 are ground. Each port has a 650 ma current limiter – a self resetting PTC fuse.

The injector block has two inputs – one screw type and one 2.1mm x 5.5mm DC jack. The same voltage must be used if both are used. You are able to connect one or two power supplies to the injector. The 2nd power supply will operate as either a load balancer or as a failover. See note below. You can purchase a 2nd power supply from our web page at http://poe-texas.com





We also offer 24, 18, 15 and 12 volt power supplies – so if you need something else, please call.
VOIP phones, cameras and WiFi AP's need from 3 to 15 watts each, with this injector, you can provide remote power up to 328 ft from the power source. If your device data sheet shows "48v 350ma" please understand that this is not the power your device needs, but the max power that is available according to the 802.3af spec. For example, a Polycom VOIP phone is 802.3af compatible, but needs about 4.5 watts to operate. Therefore, one 12 port injector and a 60watt power supply can power 12 phones at low cost.

If the device shows "12v, PoE" on the data sheet – this usually means that the device uses 12v when powered from a transformer – and 48v when powered via CAT-5.

Connect the LAN port to your Ethernet switch. This device does 100mb max – so if there is no data sync on a gigabit Ethernet switch – try a 100mb switch or set the port to 100mb max. Do not use a PoE switch – or disable PoE on the ports connected to the injector.

Device Spec	Voltage	Application
802.3af or "12v, PoE"	48 volts or 56 volts	IPCameras, IP Phones, WiFi-Access Points, with 10/100 data rates. iPads and Android tablets Ubiquiti,OpenMesh 48 volt products
Passive 24v	24 volts	Mikrotik, Ubiquiti, OpenMesh 24v 10/100 products

URL: http://poe-texas.com/

How PoE works

A device needs power to operate. Not volts or amps – power expressed as watts. That power can be supplied at different voltages. The electronics inside the device needs usually about 3.3 or 5 volts. But at low voltages, the wires from power supply have a lot of loss beyond about 5 feet. So for short distance power, most IP phones and Cameras are shipped with a 12v or 24v power supply because 12v supplies are cheap. But these same devices, when powered via the Ethernet cable, use 48 volts. This is the 802.3af standard voltage. So a 12v 1 amp power supply for local power – when using PoE at 48v – translates to 48v .25 amps for the same power

Here is why 24v or 48v is used on Ethernet cables

The device needs power – a phone needs about 4 watts. Power loss is the current squared times the distance. With 48 volts instead of 12 volts – the loss is reduced by a factor of 4.

Is 120 watts going to damage my device?

No. High **Voltage** can damage a device, because if the **voltage** is higher than allowed, the circuitry in the device "breaks down" **drawing** a lot of **power**, and that power will melt things. But at any allowed voltage – the device takes only the power it needs to operate - you cannot "push" power.

Two power supply operation – more power?

The device has 2 power inputs. If you need more than 120 watts for all 24 devices, then connect 2 power supplies of 120 watts each – a diode bridge isolates the two sources. Note that the load balance is imperfect, if 2 power supplies of 120 watts are connected, there is no circuitry to assure that the power will be evenly balanced between the two supplies. Small differences in power supply voltages and forward voltage drop in the diode bridge will cause an imbalance in the current drawn from each supply.

Redundant power supply operation?

If you have two power supplies of the same voltage, and one fails, the entire rack will be powered by the operating power supply. Therefore in this usage – each power supply must be large enough to power all devices. During normal operation – the load will be shared as noted above.

Do you need gigabit operation?

We have 4, 6 8, 12 and 16 port gigabit injectors.

Do you need USB, 5 volts or 12 volts at up to 328 feet?

We also have active splitters, you can charge a remote USB device or power a Foscam camera

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