



# Multi Port Passive POE injector



Using your WS-GPOE-6 power injector for 24v products at gigabit speeds

Please follow this sequence:

- Is the device you will power compatible 24 volt passive PoE?
- 802.3at and 802.3af require 48 or 56 volts – please see our other products
- Connect the DC cord from the power brick supplied to the Injector mode B input
- Apply AC power (100 to 240v AC) to the power brick
- The ground lead is only needed for outdoor installations with shielded Cat-5e
- 10/100 and gigabit rates are supported.
- For each powered device, connect PoE to the device, and LAN to your switch
- If the device shows "12v, PoE" on the data sheet – this means that the device use 12v when powered from a transformer – and 48v when powered via CAT-5.
- If you need pins 12+ and 36- then you can use a standard Ethernet crossover cable.

## Mode A and B power inputs

Device Spec	Mode A - DC Input RJ45 pins 12- 36+	Mode B - DC Input RJ45 pins 45+ 78-	Note
802.3at	56 volts	56 Volts	for up to 240 watts total or 60 watts per port
802.3af or "12v, PoE"	48 volts	48 volts or none	Use B input for load balancing or redundancy
Passive 24v	None	24 volts	Mikrotik, UBNT, OpenMesh, Tranzeo

Connect the LAN port to your Ethernet switch. Connect the PoE side to your device. Each socket has a 650 ma current limiter. This device will shut down the socket if power exceeds 1.3 amps for more than a few seconds. It will restore power if the load is less than 650 ma.

URL: <http://wifi-texas.com/> Skype:wifiqos

Power ON  
 Port current 0-400ma  
 Port current >400ma

1-6 RJ45 socket LED

- GREEN
- GREEN
- YELLOW



The power supply included is UL, CE and FCC approved and has an input voltage of 100 to 240 volts, 50/60 hertz

It meets the DoE requirements for energy efficiency

AC power cord is included in the USA and Canada

### Here is why 24v is used by UBNT and Mikrotik

The device needs power – a Unifi AC lite needs about 10 watts. So at 12 volts – that is .8 amps. The power cord in the 12v supply is very short – say 6 feet. The loss in 6 ft of power cord is about 50 milliwatts – not a problem. Power loss is the current squared times the distance. At .8 amps, in 100 ft of cat-5e the loss is 3 watts, so 13 watts in delivers 10 watts out at only 9 volts. This is a problem.

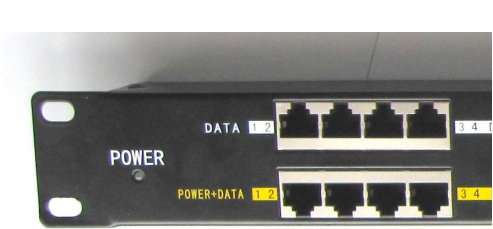
If we use 24 volts – the power is the same, but the current is lower – about 450 milliamps. But an ethernet wire can be up to 328 ft – so the loss is 4 times greater than at 100 ft, but since the current is 2 times lower – the power loss ( a square of the current) is 4 times lower – the loss in the cable is about 2 watts. Even at 328 feet, the 10 watt device will receive about 20 volts, enough for reliable operation.

48 volts would have much lower loss ( just 500 mw at 328 ft ) but the circuitry is more expensive and would add about \$5 to each UBNT or Mikrotik device.

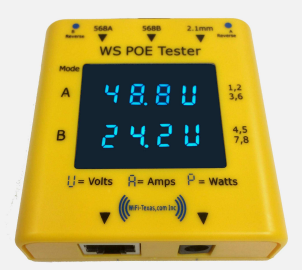
### Is 60 watts going to damage my device?

No. At any allowed voltage – say 24v for the UBNT – the device takes only the power it needs to operate - you cannot “push” power. Too high a 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 if you only use the proscribed 24 volts – there is no problem.

### Other Products from WiFi-Texas



Rack Mount



PoE Tester



Step up to 48 volts

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