



## Multi Port Passive POE injector

Using your WS-GPOE-6 power injector for 802.3af, 802.3at, 48v or 56v devices



WS-GPOE-6 with Mode A or B power inputs

Please follow this sequence:

- Is the device you will power compatible with 802.3af or 802.3at ?
- Connect the DC cord from the power brick supplied to the Injector (see table below)
- 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
- We can power 802.3at and 802.3af – without negotiation – power is on all the time
- 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

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,

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but needs about 4.5 watts to operate. Therefore, one 6 port injector and a 30 watt power supply can power 6 phones at low cost.

Power ON Port current 0-400ma Port current >400ma	1-6 RJ45 socket LED ● GREEN ● GREEN ● YELLOW
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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 is needed.



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

AC power cord is included in the USA and Canada

## Here is why 48v is used on Ethernet cables

The device needs power – a phone needs about 4 watts. So at 12 volts – that is .35 amps. The power cord in the 12v supply is very short – say 6 feet. The loss in 6 ft of power cord is about 20 milliwatts – not a problem. Power loss is the current squared times the distance.

If we use 48 volts – the power is the same, but the current is lower – about 80 milliamps. But an ethernet wire can be up to 328 ft – so the loss is 50 times greater than at 6 ft, but since the current is 4 times lower – the power loss ( a square of the current) is 16 times lower – the loss in the cable is about 70 milliwatts. A 15 watt device will lose 16x more power in the wire – about 1 watt at 48 volts. At 12 volts – the cable loss for a 15 watt device would be 16 watts!

## Is 60 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.

## Other Products from WiFi-Texas



12 and 16 port rack mount  
10/100mb or gigabit



PoE Tester



5v, USB and 12 volt active  
splitters

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