



## Multi Port Passive POE injector

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### Using your WS-GPOE-AT-12-56v Gigabit power injector for 802.3at or 56 volt devices 1U high standard rack mount ( 1.75 x 19 x 2 inches)



This device injects power passively. 56 Volts is available all the time, there is no autonegotiation with the attached client device. This device has no switching function – there is no configuration needed, and VLANs and other management features of any switch will be handled transparently thru the injector.

This is for 802.3at devices. We can answer your questions at Skype: wifiqos or Phone 512-479-0317. We also offer 48, 24, 18, 15 and 12 volt power supplies – so if you need something else, please call.

Connect the LAN port to your Ethernet switch. This device handles all 10/100/1000 mb modes – so all gigabit and fast Ethernet switches are compatible. Power is provided on the POE ports on pins 1 and 2 (minus) and 3 and 6 (plus) and also on pins 4 and 5 (plus) and 7 and 8 (minus).

### Versions

- **WS-GPOE-AT-12-56v120w** with 2x 60 watt supplies and total 120 watts
- **WS-GPOE-AT-12-56v240w** with 2x 120 watt supplies and total 240 watts (not recommended)
- **WS-GPOE-16A-56v240w** with 2x 120 watt supplies and total 240 watts – replacement

Connect both power supplies provided Both supplies must have the same power rating in 802.3at mode. Connect the POE side to your device – it should power up and connect – and you are all set.

The WS-GPOE-12 has 2 power supply connectors – each is 2.1mm x 5.5mm. Each powers ½ of the pairs in the Ethernet cable. All 802.3at client devices have diodes to extract the power from both sets of pairs. Practically, this means that under normal operation – the load will be distributed between the two power supplies – the distribution will not be exactly equal, but with typical wiring distances the load will be uniformly balanced between the two supplies.

The Master LED shown if there is power – more than 12 volts. Each socket has two 650 ma current limiters – one for pins 36 and one for pins 45. This device will shut down the power if the current exceeds .65 amps per side. It will restore power if the load is less than 650 ma. Groups of 4 sockets share one “current sensor” LED.

There are three LED’s – one for each group of 4 sockets.

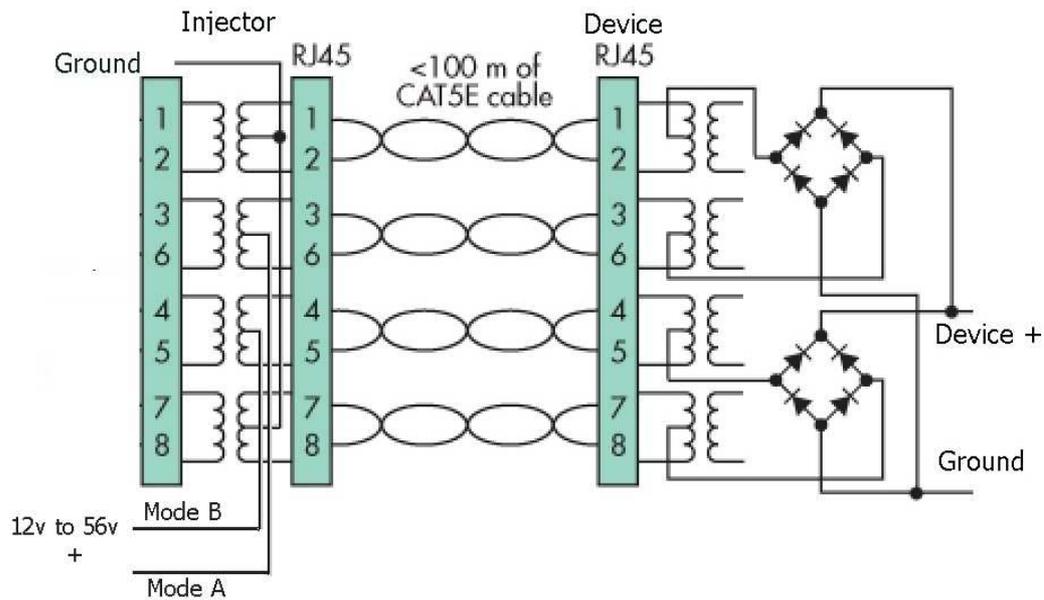
1-4 Rj45 socket	LED1	5-8 Rj45 socket	LED2	9-12 Rj45 socket	LED3
Port current 0-20ma	off		off		off
Port current 0-400ma	green		green		green
Port current >400ma	yellow		yellow		yellow

( note – first production showed Red at 400 ma – this is not a fault condition)

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

## Mode A and B power inputs

Usage	Mode A - DC Input RJ45 pins 12- 36+	Mode B - DC Input RJ45 pins 45+ 78-	Note
802.3at (active)			Please see our WT-AT series for true 802.3at
802.3at (passive)	56 volts	56 Volts	See GPOE-16A for 240 watt installations
802.3af (passive)	48 volts	48 volts or none	Redundancy 2x 120w
802.3af (passive) + 24v	48 or 56 volts	24 volts	Not recommended
Passive 24v	None	24 volts	Mikrotik, UBNT, OpenMesh, Tranzeo



As you can see – the Client devices have diode bridges – this allows for cross over cables to be used in the wiring infrastructure. Also notice – that because of 568A and 568B pinouts – it makes no difference if pins 12 and 36 polarity is exchanged.

## 10/100 and gigabit compatibility

	10/100 Switch	Gigabit switch	
10/100 Device	Works	Works	
10/100/1000 or "gigabit" Device	Works	Works	

## 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. 802.3at using 56v – because the loss is even lower.

## 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.

## Other Products from WiFi-Texas



12 and 16 port rack mount



6 and 12 port gigabit



5v, USB and 12 volt active splitters

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