

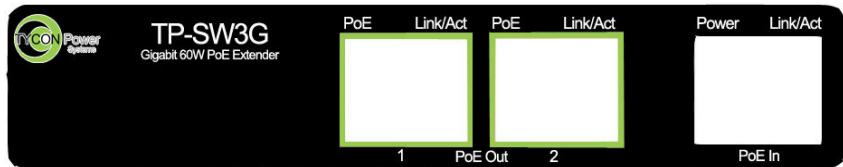
## PoE Extender Distances

Voltage drop across CAT5 cable is proportional to distance and load at the end of a cable. It's important to understand the losses involved. 802.3af devices will work down to 42VDC. Because of cable loss it is best to start with a higher voltage at the PoE source so that by the end of the cable there will be enough voltage to support your devices. A good high power PoE source will provide 56VDC to 57VDC PoE voltage. You should try to calculate so you have a minimum of 44VDC at the input to the TP-SW3G PoE Extender.

With 100m of 24AWG CAT5e cable you can expect the following voltage loss using 2 pair PoE power (Divide loss by 2 for 4 pair PoE):

Load	Voltage Loss	Load	Voltage Loss
12W	2.35V	48W	9.4V
16.8W	3.29V	60W	11.75V
24W	4.7V		

## TP-SW3G 60W Gigabit PoE / Ethernet Extender



### Features

- Compatible with IEEE802.3af and IEEE802.3at and IEEE802.3at 4Pair(60W)
- Extends the range of PoE and Ethernet an additional 100 meters or more
- No additional power supply is required
- Automatically detects and protects equipment from being damaged by incorrect installation
- Full-rate network speed over the entire extended distance
- Wall-Mount design and compatible with DIN rail adapters
- Easy plug-and-play installation
- EMI standards: complies with FCC, CE class B

### Description

Typical Gigabit Ethernet communications are restricted to 100 meters of cable. To overcome this limitation, network installers can simply connect a TP-SW3G Gigabit PoE Extender in-line with the PoE powered Cat-5e or Cat-6 cable to extend the distance another 100 meters. By using multiple TP-SW3G Gigabit PoE Extenders, Ethernet distances can be extended to 300 meters or more.

The TP-SW3G includes 2 output ports making it possible for two separate 802.3af/at devices to be powered over a single CAT5 cable from a PoE switch or midspan power injector. This greatly simplifies installation and allows for network expansion without the need to run additional cables.

The unit has three Gigabit Ethernet ports, which are configured automatically for link speed, duplex and crossover. The full-rate network throughput is maintained. The PoE IN supports 802.3af, 802.3at and 4 pair 60W PoE power. It also supports 48V passive PoE input. The PoE outputs support 802.3af or 802.3at PoE connections.

The unit self-consumption is 1.5W so PoE IN Watts must be greater than PoE OUT Watts + 1.5 Watt.

With a 60W 4 pair input, the unit can support two 802.3at devices connected to the PoE OUT ports. With a 30W 2 pair 802.3at input the unit can support two 802.3af PoE outputs.

## Specifications

Item	Description
Ports	1(PoE IN) into 2(PoE OUT)
Data Rates	10/100/1000 Mbps half/full duplex
PoE IN	Vin: 44VDC to 57VDC PoE Pinout: 1/2 (-), 3/6 (+) and/or 7/8 (-), 4/5 (+). Supports 2 pair and 4 pair power input
PoE OUT	Vout: 42VDC to 55VDC PoE Pinout: 1/2 (-), 3/6 (+) Output Power: up to 30W per port
Indicators	LED indicators are located on the RJ45 connectors Power indicator: PoE enabled (Orange) Network indicator: Link/Act (Green Flashing)
Connectors	Shielded RJ-45, EIA 568A and 568B
Network cables	Shielded category 5 (or higher)
Dimensions	119mm x 85mm x 28mm (4.69" x 3.3" x 1.1")
Mounting	Wall or DIN Rail (with optional DIN rail adapter)
Environment	Indoor or Outdoor (in weatherproof enclosure)

Environmental Conditions	Operating Ambient Temperature: -30 to 60°C Operating Humidity: Maximum 90%, Non-condensing Storage Temperature: -30 to 70°C Storage Humidity: Maximum 95%, Non-condensing
Standards	IEEE 802.3af (PoE), IEEE 802.3at (PoE+), IEEE802.3at 4Pairs(60W) High PoE
Self-Pwr	1.5W

## Typical Application

