



# TP-SW5G-MULTI

## 5 port PoE Switch



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**TYCON POWER SYSTEMS**

## 1. General Information

The PoE (Power Over Ethernet) Switch TP-SW5G-MULTI provide four 10M/100M/1000M TX ports with PoE PSE function plus one 10M/100M/1000M TX up-link port. It is a non-802.3af/at standard PoE device, deliver both Ethernet data and various PSE voltage (12~57VDC) through the traditional UTP or STP cable.

## 2. Hardware Description

### \*LED Indicator

There are 12 LEDs on the PoE switch to indicate the status of power and signal. The following section describes the functions of each LED indicator.

Front panel detail



## \*POWER LED

LED	STATUS	Description
PWR	Green	LED ON when power input (DC IN on rear panel) has valid power supplied.
	Red	LED ON when the following warning condition happens. *PoE under voltage (Vout<10V) *PoE over voltage (Vout>59V) *PoE over current (1A/per port)
	Off	No power supplied.

## \*SWITCH LED (the right indicator on RJ45)

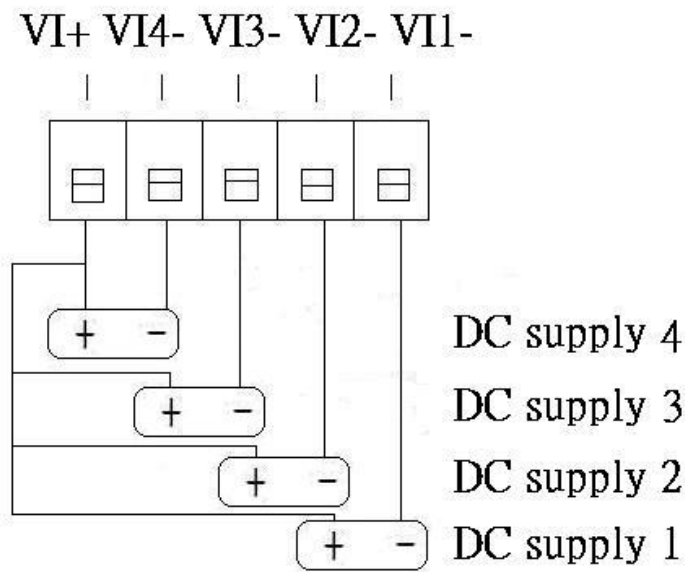
LED	STATUS	Description
P1~P5 Link/Act	Green	A network device is detected (1000Mbps), but no communication activity is detected.
	Green Blinking	This port is transmitting to, or receiving package from another device at 1000Mbps.
	Yellow	A network device is detected (10Mbps or 100Mbps), but no communication activity is detected.
	Yellow Blinking	This port is transmitting to, or receiving package from another device at 10Mbps or 100Mbps.
	Off	No device is detected.

\*PoE LED (the left indicator on RJ45)

P1~P4 PoE	Yellow	Delivering power on this port.
	Off	No power is delivering on this port.

### \*Power wiring

The TP-SW5G-MULTI allow the four various input voltage range from 12V to 57VDC, the terminal block on the rear panel used for input, it should be wired as detailed below, please make sure the input current is not over 10A.



Ports 1~4 will deliver various power over the Ethernet cable as detailed below:

Port 1:

- \* Data pair A on line 1 and 2
- \* Data pair B on line 3 and 6
- \* Data pair C plus VI+ on line 4 and 5
- \* Data pair D plus VI1- on line 7 and 8

Port 2:

- \* Data pair A on line 1 and 2
- \* Data pair B on line 3 and 6
- \* Data pair C plus VI+ on line 4 and 5
- \* Data pair D plus VI2- on line 7 and 8

Port 3:

- \* Data pair A on line 1 and 2
- \* Data pair B on line 3 and 6
- \* Data pair C plus VI+ on line 4 and 5
- \* Data pair D plus VI3- on line 7 and 8

Port 4:

- \* Data pair A on line 1 and 2
- \* Data pair B on line 3 and 6
- \* Data pair C plus VI+ on line 4 and 5
- \* Data pair D plus VI4- on line 7 and 8

### \*Ethernet Port Wiring

The PoE switch supports one RJ-45 uplink and four RJ-45 ports (port 1~4 with PoE PSE) with automatic MDI/MDI-X crossover, auto-sense for speed and duplex for 10Base-T, 100Base-TX or 1000Base-T connection. Automatic MDI/MDI-X crossover allows you to connect to other devices (switches, hubs, or workstations etc.), without regard to using straight-through or crossover cabling.

Port 1 to 4 provides Power over Ethernet function that delivers DC power through the data pairs C & D (pair 4,5 and pair7,8) to the PD. Port 5 only work as a Ethernet signal port.

The following tables describe the wiring diagram of straight-through and crossover cabling. The crossover cables simply cross-connect the transmit lines at each end to the receive lines at the opposite end.

Straight-through Cabling	
Pin 1	Pin 1
Pin 2	Pin 2
Pin 3	Pin 3
Pin 6	Pin 6

Pin 4	Pin 4
Pin 5	Pin 5
Pin 7	Pin 7
Pin 8	Pin 8

Cross-over Cabling	
Pin 1	Pin 3
Pin 2	Pin 6
Pin 3	Pin 1
Pin 6	Pin 2
Pin 4	Pin 7
Pin 5	Pin 8
Pin 7	Pin 4
Pin 8	Pin 8

Connect an Ethernet cable into any switch port and connect the other side to your attached device. The Link/Act LED (green or yellow) will light up when the cable is correctly connected. Refer to the **LED Indicator** section for descriptions of each LED indicator.

If a port LED is off, go back and check for connectivity problems between that port and the network device connected.

The maximum cable length for 10/100/1000BaseT with Cat 5 twisted pair cables is typically 100m (328 ft.).

### \*PD Port Wiring

Port 1 to 4 provides PoE injection function with maximum 1A ability to power up the powered device using the straight-through or cross-over Ethernet cable.

The PoE switch follows the IEEE802.3af Alternative B mode connector assignment. The following table shows pin assignment of alternative A and B for the Power Source Equipment.

Conductor	Alternative A (MDI-X)	Alternative A (MDI)	Alternative B (All)
1	Negative Vport	Positive Vport	
2	Negative Vport	Positive Vport	
3	Positive Vport	Negative port	
4			Positive Vport
5			Positive Vport
6	Positive Vport	NegativeVport	
7			Negative Vport
8			Negative Vport

Be sure the twisted pair cable is bound with the standard RJ-45 pin, especially the pins 4, 5, 7 and 8. If the RJ-45 is bound with the wrong pin number, the PoE switch will force power the PD and damage the PD. The yellow PoE LED will light up when the cable is correctly connected. Refer to the **LED Indicator** section for descriptions of each LED indicator. If a port LED is off, go back and check for connectivity problems between that port and the network device connected.

### 3. Technical Specifications

Standards	IEEE802.3/IEEE802.3u standards/IEEE802.3ab (10 base-T/100base-TX/1000base-T)
Ports	5 ports Ethernet switch support auto-crossover & auto-polarity P1~P4 with 12~57V PoE output
Transmission speed	1000Mbps (1000base-T).100 Mbps (100base-TX), 10 Mbps(10base-T) Auto-negotiation
Switch technology	store-and-forward
Protocols	CSMA/CD
Flow control	IEEE802.3x (full-duplex), back pressure (half-duplex)
Data transmission rate	1488000pps for1000base-T, 148800pps for 100base-T, 14880pps for 10base-T
Address table	1K MAC address table, self-learning
Connect	RJ-45
PoE port	Port 1-4, PSE auto power management Pin assignment: data pair A(1,2), data pair B(3,6), data pair C plus V+(4,5), data pair D plus V-(7,8)
Maximum PoE power	Port 1-4: current limited -1A @12~57V
PSE disconnect mode	DC disconnect
PoE protection	Over-current, over/under voltage
LEDs	*Link/Activity (Green ON/ Green Blinking @1000Mbps,



Yellow/Yellow Blinking @10M/100Mbps)

\*PoE (Yellow) port 1-4 ON - powering

\*POWER Green-normal, Red-alarm

Power input 4 various 12V~57VDC input on rear terminal block

Power consumption less than 5W when without PD loading

Operating temperature -20°C ~ +75°C

Operation humidity 90% relative humidity, non-condensing

Storage temperature -40°C ~+85°C

Dimension 40mm(H)x118mm(W)x150mm(D) DIN RAIL Mountable

