
TP-MS4x4

4 Port Gigabit PoE Injector

USER'S MANUAL



TYCON POWER SYSTEMS

1. General Information

The TP-MS4x4 is a DC/DC PoE (Power over Ethernet) Injector, provide up to 4 different voltage DC input and four different voltage PoE output, output power maximum 1A/port, data rate can be 10M/100M/1000M. The polarity of each PoE output can be reversed if you need to reverse the output polarity. This manual will help you to install and setting the PoE injector.

2. Hardware Description



4	3	2	1	Data in
4	3	2	1	Data + Power out

Front panel detail
the port number is as the diagram shows.



Rear panel detail

*LED Indicator

There are 4 LEDs on the front panel to indicate the input and output power status of each port.

LED	STATUS	Description
1~4	Green	A valid power device is detected on this port. Active current is 80mA.
	Red	No power device is detected on this port.
	Off	No input power apply, or input source alarm. Alarm voltage is less than 58VDC, or larger than 10.5VDC. Alarm current is 2A.

*Data Input

The upper ports 1-4 on the front panel are used for Gigabit Ethernet data input.

All four ports with surge protection.

*Power Input

The input voltage of TP-MS4x4 is 12VDC to 57VDC, it is common negative design, the green terminal (CON1) on rear panel is used for power input wiring, it can be connected to maximum 4 different sources with 4 different voltages, the jumper A, B, C, of JP1 on rear panel controls the input/output connection, its setting as below. (1=jumper on, 0=off)

Jumper Input	A (1-2)	B (1-3)	C (1-4)	PoE Output
VIN1+	1	1	1	PoE 1/2/3/4=VIN1 (Factory setting)
VIN1+ VIN4+	1	1	0	PoE 1/2/3=VIN1 PoE 4=VIN4
VIN1+ VIN3+	1	0	1	PoE 1/2/4=VIN1 PoE 3=VIN3
VIN1+ VIN3+ VIN4+	1	0	0	PoE1/2=VIN1 PoE3=VIN3 PoE4=VIN4
VIN1+ VIN2+	0	1	1	PoE1/3/4=VIN1 PoE2=VIN2
VIN1+ VIN2+ VIN4+	0	1	0	PoE1/3=VIN1 PoE2=VIN2 PoE4=VIN4
VIN1+ VIN2+ VIN3+	0	0	1	PoE1/4=VIN1 PoE2=VIN2 PoE3=VIN3
VIN1+ VIN2+ VIN3+ VIN4+	0	0	0	PoE 1=VIN1 PoE 2=VIN2 PoE 3=VIN3 PoE 4=VIN4

*PoE Output

The bottom ports 1-4 on the front panel are used for carry PoE output, the output voltage is the same as input, no regulated. Normally as detailed below:

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

*Output Polarity Reverse (for technician operation only)

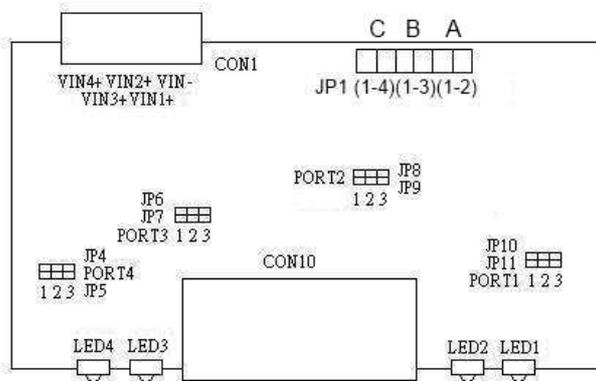
The TP-MS4x4 may deliver PoE output with reverse polarity. Just move related jumpers from pin 1-2 to pin 2-3, and then

- * Data pair C carry V- on line 4 and 5
- * Data pair D carry V+ on line 7 and 8

Open the cover, the JP4~JP11 on the PCB responds for the output polarity of port 1~4, each two jumpers should be paired moved to ensure the path enough for the through current.

	JP10 & JP11	JP8 & JP9	JP6 & JP7	JP4 & JP5
Control port	Port 1	Port 2	Port 3	Port 4

- * Pin1-2(short pin1 & pin2): RJ45 pair C (pin4 & 5) carry PoE positive voltage.
- * Pin2-3(short pin2 & pin3): RJ45 pair C (pin4 & 5) carry PoE negative voltage.



4. Technical Information

Data Rate	10M/100M/1000M
Input voltage:	12VDC to 57VDC
Maximum PoE power	Current limited – 1A/port
PoE protection	over-current, over/under voltage
LEDs:	Green-PD detect, Red-Power ready, Off-No power apply
Operating temperature	-40°C ~ +75°C
Operation humidity	90% relative humidity, non-condensing
Storage temperature	-40°C ~+85°C
Dimension	40mm(H) x118mm(W) x90mm(D) DIN RAIL Mountable

Surge protection on data input ports:

	Signal
Operating Voltage	Data 5V
Clamping Voltage	Data 16.5V (@I PP =5A, t p =8/20μs, I/O pin to GND)
Peak Pulse Current	20A (tp=8/20μs)
Pin Protected	All 8 pin protected
Max. Shut Capacitance	<3pF (VR = 0V, f = 1MHz, I/O pin to GND) < 1.5 pF (VR = 0V, f = 1MHz, Between I/O pins)
IEC COMPATIBILITY (EN61000-4)	IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact) IEC61000-4-4 (EFT) 40A (5/50ns) IEC61000-4-5 (Lightning) 20A (8/20μs)