PSE-SW3B25D0H
PoE Switch

USER'S MANUAL

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1. General Information

The PoE (Power Over Ethernet) Switch provide two 10M/100M/1000M TX ports with PoE PSE function plus one 10M/100M/1000M TX up-link port with PoE PD function., which is compliant with IEEE802.3af ,IEEE802.3at and IEEE802.3bt standard to receiver and deliver both of Ethernet data and DC power through the traditional UTP or STP cable.

2. Hardware Description

*LED Indicator

There are 8 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
Power	Green	LED ON when power input has valid power supplied.
	Red	The indicator unused on this model.
	Off	No power supplied.

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*SWITCH LED (the right indicator on RJ45)

LED	STATUS	Description
P1,P2&UP LINK 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,P2 PoE	Yellow	A valid Powered Device (PD) is detected and delivering power via 4 data pairs on this port.
	Yellow Blanking	A valid Powered Device (PD) is detected and delivering power via 2 data pairs on this port.
	Off	No PD is detected on this port.
UP LINK PoE	Off	No power is detected on this port.

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*Power wiring

The PSE-SW3B25D0H is IEE802.3bt PoE switch, for PoE operation, make sure your power supply may offer at least 40W for 2X 802.3af PoE ports, or 75W for 2X802.3at PoE ports, or 185W for 4X 802.3bt PoE ports. The input voltage must in the range of 44V to 57VDC if using for 802.3af operation. The input voltage must in the range of 50V to 57VDC if using for 802.3at & 802.3bt type 3 operation. The input voltage must in the range of 53V to 57VDC if using for 802.3bt type 4 operation. Please make sure the input current is not over 10A.
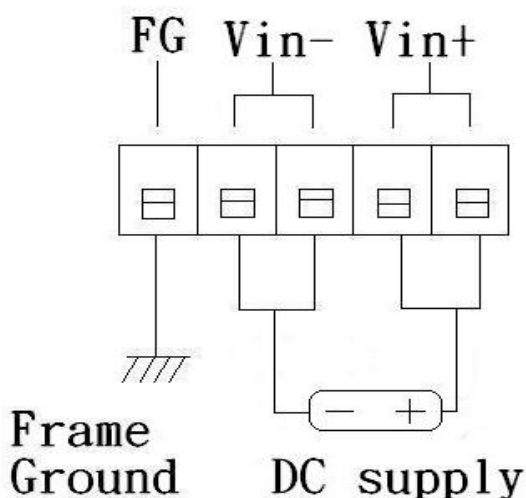
The port 1&2 will deliver DC power over the Ethernet cable, the connection as:
* Data pair A plus V- on line 1 and 2
* Data pair B plus V+ on line 3 and 6
* Data pair C plus V+ on line 4 and 5
* Data pair D plus V- on line 7 and 8

The port UP LINK may get DC power over the Ethernet cable, the connection as:
* Data pair A plus V+ /V- on line 1 and 2
* Data pair B plus V-/V+ on line 3 and 6
* Data pair C plus V+/V- on line 4 and 5
* Data pair D plus V-/V+ on line 7 and 8

The terminal block on rear panel should be wiring as:

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*Ethernet Port Wiring

The PoE switch supports one RJ-45 uplink (port UP LINK) and two RJ-45 ports (port 1&2 with PoE PSE) with automatic MDI/MDI-X crossover, auto-sense the 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 & Port 2 provides Power over Ethernet function that delivers DC power through the data pairs(4 pairs or 2 pairs) to the PD.

The following tables describe the wiring diagram of straight-through and crossover cabling. That 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

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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 & 2 provide PoE inject function with maximum 90W ability to power up the powered device use the straight-through or cross-over Ethernet cable.
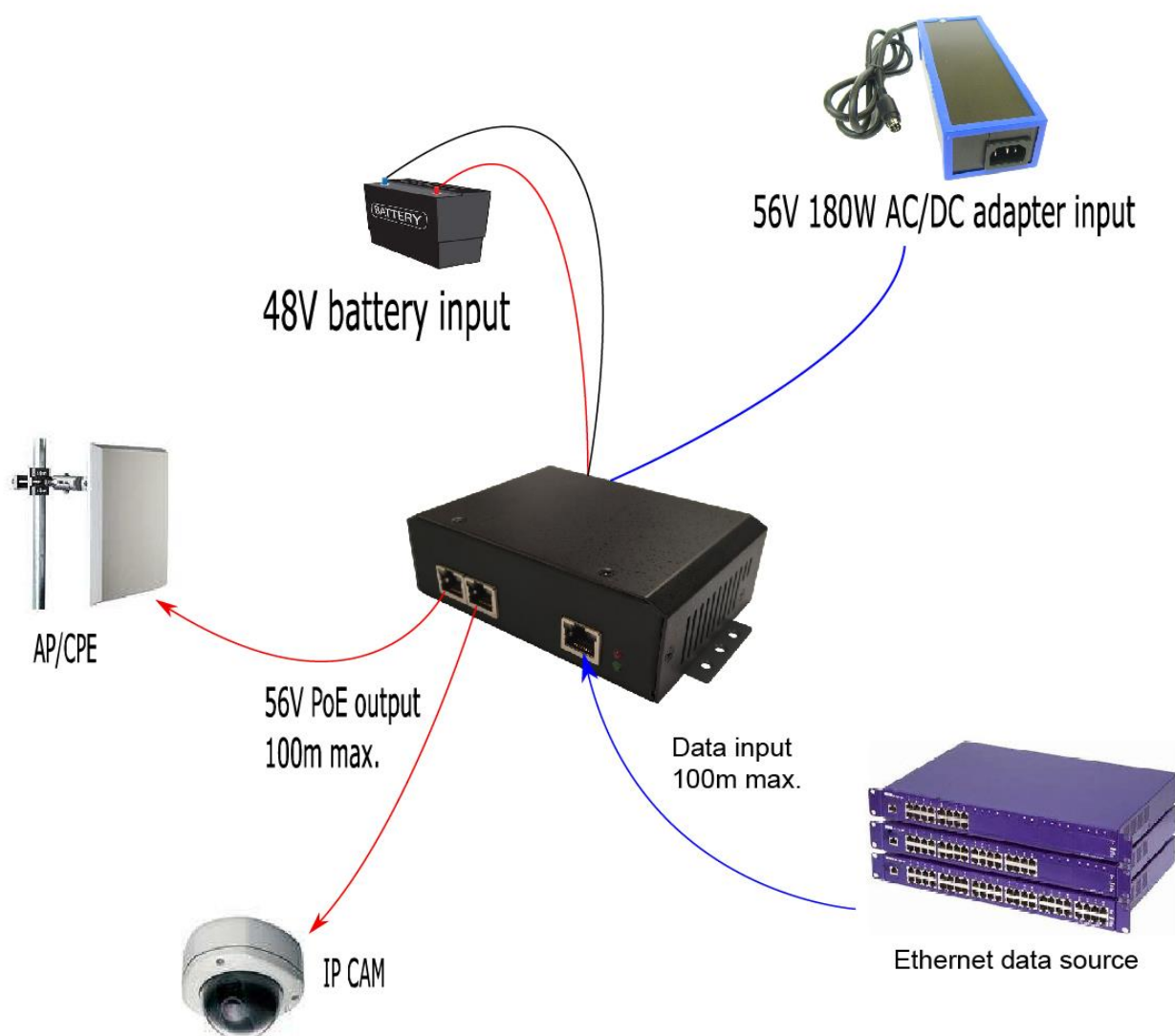The PoE switch follows the IEEE802.3af Alternative A(MDI-X) + B mode connector assignment.
The following table shows pin assignment of alternative A and B for the Power Source Equipment.

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	NegativenVport	
7			Negative Vport
8			Negative Vport

Be sure the twisted pair cable is bound with the standard RJ-45 pin. If the RJ-45 is bound with the wrong pin number, PoE switch will not recognize the PD and won't deliver DC power to 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.

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*Network Application

The PoE Switch can receive power from PoE midspan and provide power to the PD which follows the IEEE 802.3af/at/bt standard in the network. The following figure is an example of a network application for PoE Switch.

3. Technical Specifications

Standards   IEEE802.3/IEEE802.3u standards
                                    IEEE802.3ab (10 base-T/100base-TX/1000base-T)

Ports   3 ports with PoE (two ports PSE & one port uplink),
                                    support auto-crossover & auto-polarity

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   2K MAC address table, self-learning

Connect   RJ-45

PoE port   Port 1&2, PSE auto power management
                                      Pin assignment:
                                          *A+B mode: data pair A plusV-(1,2), data pair B plusV+(3,6), data
                                            pair C plusV+(4,5), & data pair D plus V-(7,8)

Maximum PoE power   Port 1&2: IEEE802.3af – 16.8W
                                              IEEE802.3at – 35W
                                              IEEE802.3bt class 8 – 90W
                                              (Total power is 90W)

PSE disconnect mode   DC disconnect

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PoE auto detection   IEEE802.3af , IEEE802.3at (2 event classification) &
                                IEEE802.3bt(multi-event classification)

PoE protection   Over-temperature, over-current, over/under voltage

LEDs   *Switch LED (port1,2&3,the right indicator on RJ45)
                          Link/Activity (Green ON/ Green Blinking 1000Mbps,
                          Yellow/Yellow Blinking @10M/100Mbps)
                        *PoE LED (port1&2,the left indicator on RJ45)
                          Yellow ON - PD detect, deliver power
                        *Power LED – normal(Green ON)

Power input   DC10V~DC36V power supply

Power efficiency   85% at full load(@ 24V typical,DC56V output, non-isolation power)

Power consumption   less than 5W when without PD loading

Operating temperature   -20℃~ +70℃

Operation humidity   90% relative humidity, non-condensing

Storage temperature   -40℃~+85℃

Dimension   40mm(H)x116mm(W)x90mm(D)

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