



## 90W Single Port Multi-Gig Power over Ethernet Midspan IEEE802.3bt Compliant Power Injector



### Features

- IEEE802.3bt Compliant
- Diagnostic LEDs
- Compliant with Phihong Proprietary 12.5K Detection
- 1 Year Warranty
- Gigabit Compatible
- Shielded DC Jacks
- 4 Pair Powering +3,6,4,5 / - 1,2,7,8
- Full Protection OCP, OVP
- Single Source 4 Pair Power Current Sharing
- Broken Wire Detection
- Limited Power Source
- DoE Level VI Compliant<sup>1</sup>

### Applications

- Satellite Receiver
- Wireless Network Access Points
- LCD Displays
- Security Cameras
- Kiosks
- Computer Workstations

### Safety Approvals

- UL/cUL 60950-1
- UL/cUL 62368-1
- AS/NZ 62368<sup>2</sup>
- IEC60950-1
- IEC62368-1
- CE

### Mechanical Characteristics (Standard Model)

- Length: 166mm (6.53in)
- Width: 80mm (3.15in)
- Height: 43.6mm (1.72in)
- Weight: 500g(1.1lbs)

### Output Specifications

Model	Data Speed	DC Output Voltage	Load		Regulation <sup>3</sup>	
			Min.	Max. <sup>4</sup>	Line	Load
POE90U-1BT6-R	1G	56V	>10mA	1.6A	54-57V	
POE90U-1BT-N6-R <sup>5</sup>	1G	56V	>10mA	1.6A	54-57V	
POE90U-1BT-2-R <sup>6</sup>	2.5G	56V	>10mA	1.6A	54-57V	
POE90U-1BT-5-R	5G	56V	>10mA	1.6A	54-57V	
POE90U-1BT-X-R <sup>6</sup>	10G	56V	>10mA	1.6A	54-57V	

Notes:

1. Except POE90U-1BT-N6-R
2. POE90U-1BT-2-R model only
3. Voltage measured within 2" of the output RJ45 connector on data pairs 3,6(+) and 1,2(-)
4. Combined output on data pairs and spare pairs. Otherwise 800mA on data pairs 3,6(+) 1, 2(-) and spare pairs 4,5(+) 7,8(-)
5. SNMP option. Special order MOQ
6. Special order MOQ

**INPUT:****AC Input Voltage Range**

90 to 264VAC

**AC Input Voltage Rating**

100 to 240VAC, 47-63Hz

**AC Input Current**

2.5A (RMS) maximum for 90VAC

1.2A (RMS) maximum for 240VAC

**Leakage Current**

3.5mA maximum @ 264VAC 50Hz

**AC Inrush Current**

50A (RMS) maximum for 115VAC

75A (RMS) maximum for 230VAC

**OUTPUT:****Total Output Power**

90W

**Ripple and Regulation**

200mV max @25C, 100-240VAC

**Efficiency<sup>2</sup>**

DOE Level VI

**Hold-up Time**

10mS min. 120VAC 60Hz max load

**ENVIRONMENTAL:****Temperature**

Operation -20°C to +40°C

Non-operation -20°C to +65°C

Humidity 5 to 90%

**EMC**

Complies with FCC Class B

Complies with EN55032 Class B

**Isolation Test**

Primary to Secondary:

4242VDC for 1 minute 10mA

Primary to Field Ground:

2121VDC for 1 minute

**Immunity**

EN 55035

IEC61000-3-2 (Harmonic) Class A

IEC61000-3-3

IEC61000-4-2 (ESD) 6KV Contact/8KV Air

IEC61000-4-3 (RS) 3V/m

IEC61000-4-4(EFT) 1KV Input 0.5KV Output

IEC61000-4-5 (Surge) 1KV L-L, 2KV L-PE

IEC61000-4-6 (CS) 3V

IEC 61000-4-8 1A/m

IEC61000-4-11 (Dips) Class 3

**Insulation Resistance**

Primary to Secondary: &gt;10M OHM 500VDC

Primary to Field Ground: &gt;10M OHM

500VDC

**MTBF<sup>3</sup>**

&gt;150,000 Hours Min, Full Load, 115VAC

25°C

**FEATURES:****Over Current Protection**

Output #1(OUT) &lt;1000mA

Output #2(OUT) &lt;1000mA

Output #1 and #2 combined(OUT) &lt;2000mA

**Over Voltage Protection**

Voltage between 2 SELV conductors shall not

exceed 42.4Vpk or 60VDC for longer than

0.2seconds. Moreover a limit of 71Vpk or

120VDC shall not be exceeded. – Latching.

**Short Circuit Protection**

The output can be shorted permanently without damage

**LED Indicators**

**POE90U-1BT6-R, POE90U-1BT-N6-R :**

No LED - Power failure  
Blue LED On – Power ON  
Red LED short/slow Blinking - POE power ready but no connection  
Green LED solid - POE output power good  
Red/Green LED alternate short blinking – POE detection failure  
Red LED long/fast blinking – POE output over power or short  
Green LED Blink – Invalid load condition

**LED Indicators**

**POE90U-1BT-2-R, POE90U-1BT-5-R, POE90U-1BT-X-R:**

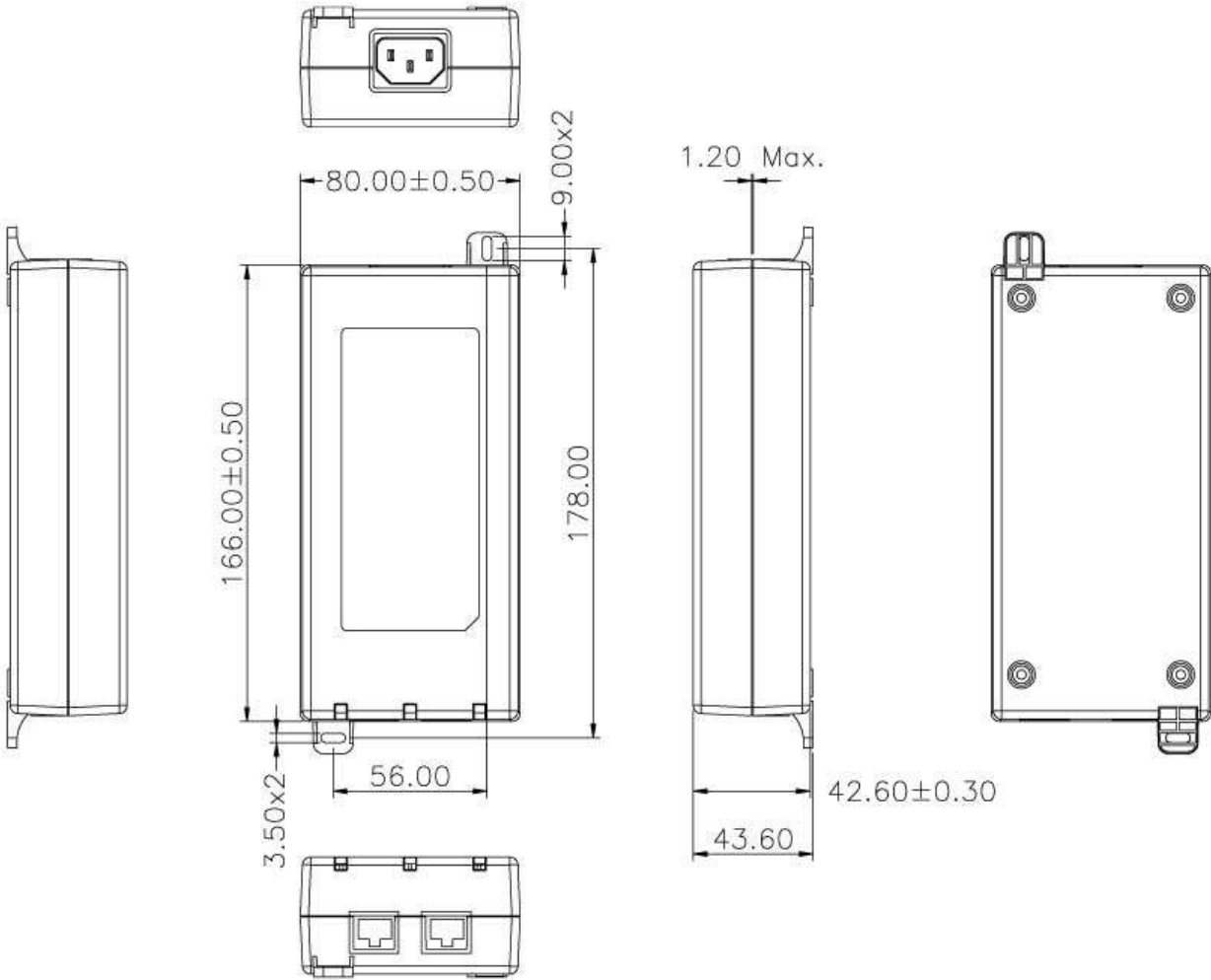
No LED - Power failure  
Blue LED On – Power ON  
Amber LED short/slow Blinking - POE power ready but no connection  
Green LED solid - POE output power good  
Amber/Green LED alternate short blinking – POE detection failure  
Amber LED long/fast blinking - POE output over power or short  
Green LED Blink – Invalid load condition

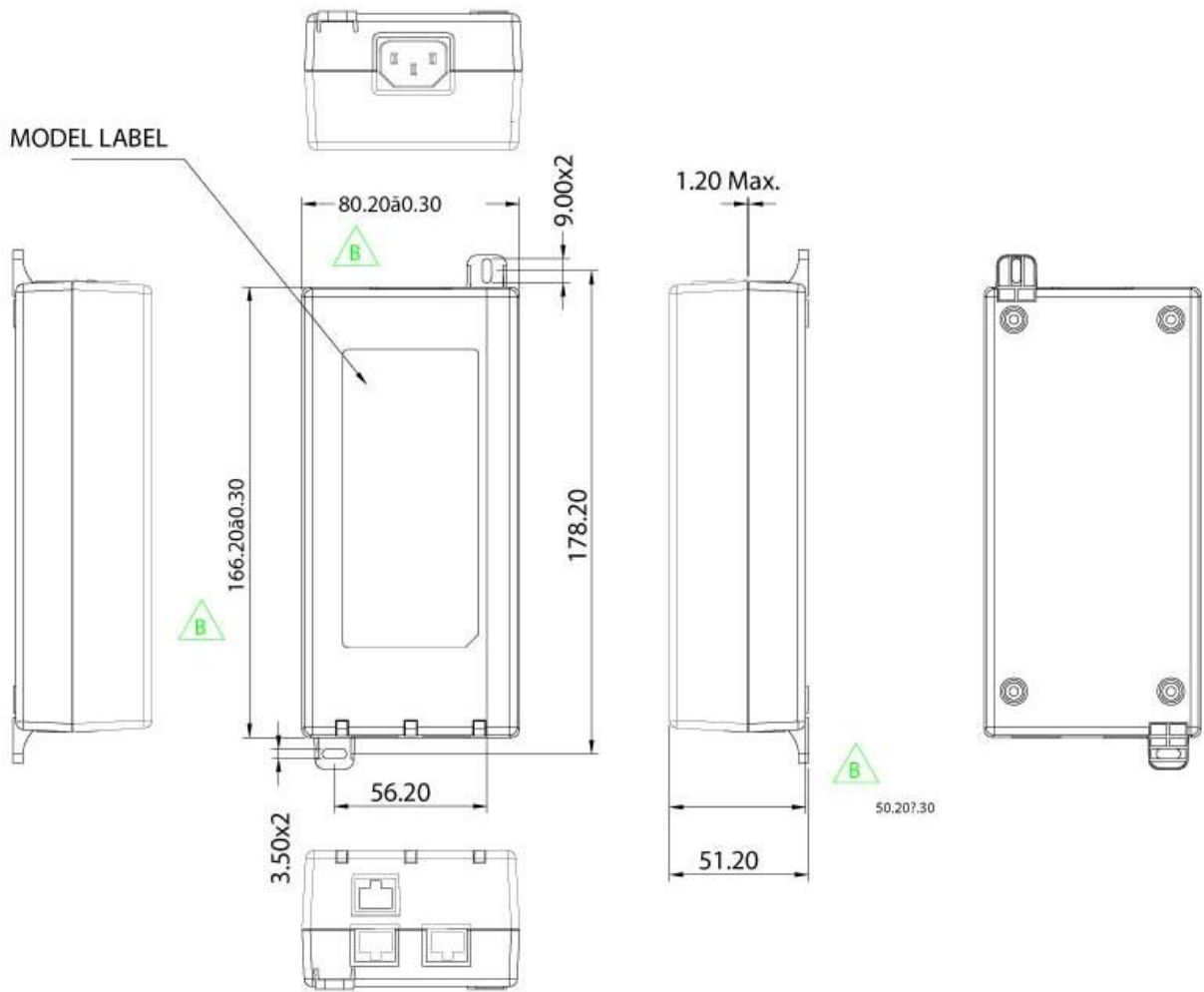
**Input Connector**

IEC320 inlet 3 pin

**Output Connection**

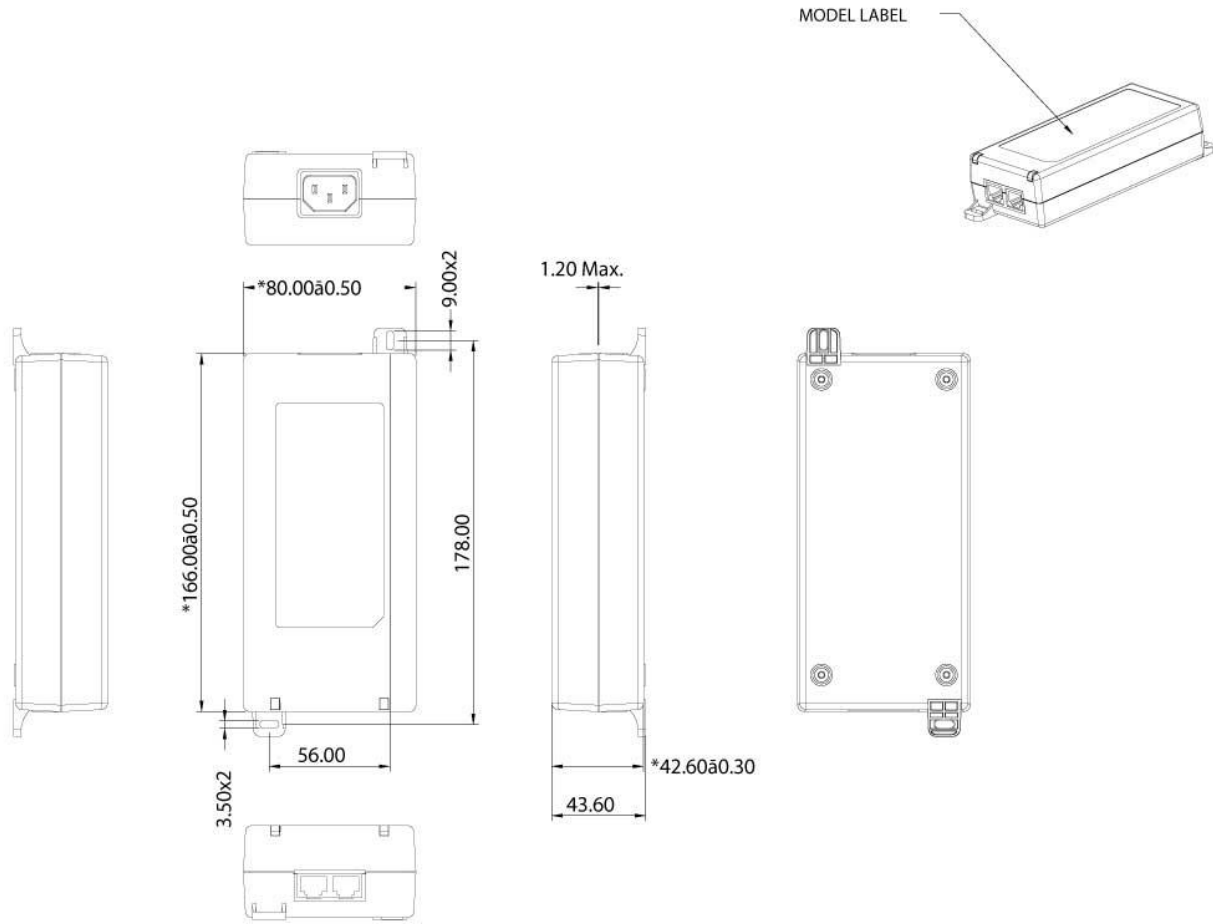
+pins 3,6,4,5 / -pins 1,2,7,8





Outline Diagram (mm)

POE90U-1BT-2-R, POE90U-1BT-5-R, POE90U-1BT-X-R





**Supplier's Declaration of Conformity**  
**47 CFR § 2.1077 Compliance Information**

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*This device complies with/The devices in this product series comply with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.*