



## 80W Power over Ethernet Adapter High Power Single Port Injector



**iol** InterOperability Laboratory  
Part of the University of New Hampshire Research Computing Center



### Features

- Fully Compliant Detection, Disconnect and Voltage Control IEEE802.3af
- Diagnostic LEDs
- Gigabit Compatible
- Single Source 4 Pair Power Current Sharing
- Wide Temperature range -40 to +55°C
- Full Protection OCP, OVP
- Broken Wire Detection

### Applications

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

### Safety Approvals

- cUL/UL
- CE
- C-Tick
- IRAM
- CCC
- SAA
- Korea (PHC)

### Mechanical Characteristics

- Length: 203mm (8in)
- Width: 108mm (4.25in)
- Height: 63mm (2.5in)
- Weight: 1.93Kg

### Output Specifications

Model	DC Output Voltage	Load		Regulation	
		Min.	Max.	Line	Load
POE80U-560G	+56V +56V	0A	0.72A	54-57V DC under all conditions	

Phihong is not responsible for any error, and reserves the right to make changes without notice. Please visit our website at [www.phihong.com](http://www.phihong.com) for the most up-to-date specifications and contact information.

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

85 to 264VAC

**AC Input Voltage Rating**

100 to 240VAC, 47-63Hz

**AC Input Current**

2.0A (RMS) maximum for 90VAC  
 1.2A (RMS) maximum for 240VAC

**Leakage Current**

3.5mA maximum @ 254VAC 60Hz

**AC Inrush Current**

50A (RMS) maximum for 115VAC  
 50A (RMS) maximum for 230VAC

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

80W

**DC Offset**

No data degradation with DC imbalance 18mA per min.

**Ripple and Regulation**

100mV maximum

**Efficiency**

75% (typical) at maximum load, and 120VAC 60Hz

**Hold-up Time**

10mS min. 120VAC and maximum load

**Transient O/P Voltage Protection**

60V maximum at switch on and off at any point on AC line phase

**ENVIRONMENTAL:****Temperature**

Operation -40 to +55°C  
 Non-operation -50 to +85°C

**Humidity**

Operation 5 to 90%

**EMC**

FCC Part 15 Class B  
 EN55022 Class B

**Isolation Test**

Primary to Secondary: 4242VDC for 1 minute 10mA  
 Primary to Field Ground: 2121VDC for 1 minute  
 Output to Field Ground: 2121VDC

**Immunity**

ESD: EN61000-4-2. Level 3  
 RS: EN61000-4-3. Level 2  
 EFT: EN61000-4-4. Level 2  
 Surge: EN61000-4-5. Level 3  
 CS: EN61000-4-6. Level 2  
 Voltage Dips EN61000-4-11  
 Harmonic: EN61000-3-2

**Insulation Resistance**

Primary to Secondary: >10M OHM 500VDC  
 Primary to Field Ground: >10M OHM 500VDC

**IEEE 802.3af/at Interoperability**

If 25kohm is detected the unit operates in "IEEE802.3at mode" 30W 2 pair powering. 12.5k detection resistance required for full power UNH Interoperability report available upon request

**FEATURE:****Detection**

Same as IEEE802.3af and IEEE802.3at, it will power 2 pairs at 30 Watts  
 12.5kohm detection resistor value required to turn on full power 4 pair power.

**Over Voltage/Current, Short Circuit Protection**

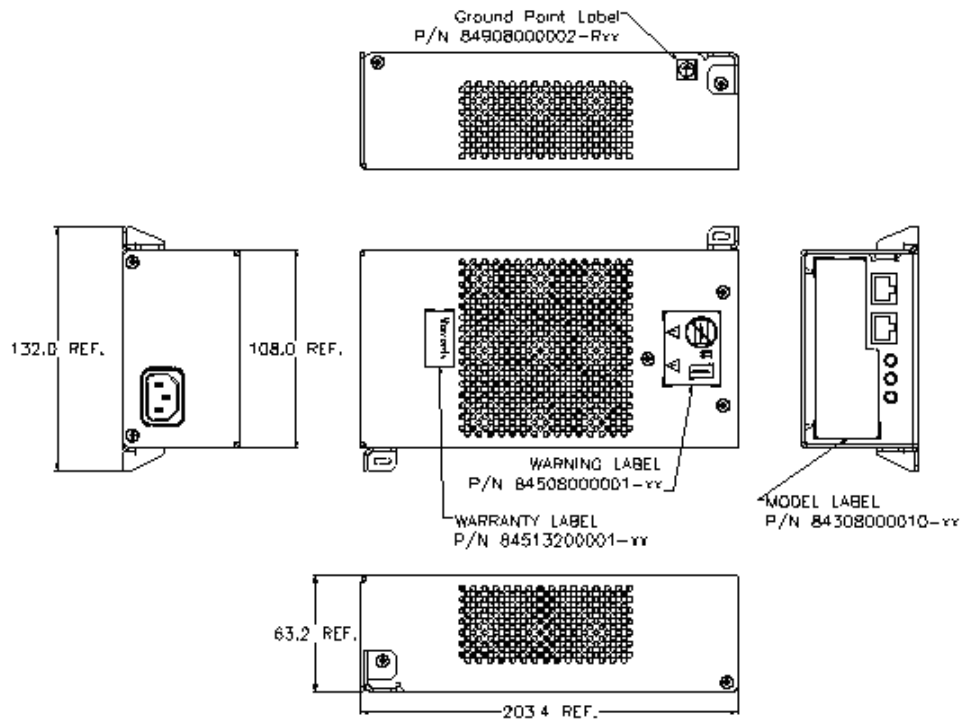
Outputs equipped with short circuit protection and overload protection as per 802.3af specifications except max average pair current is 0.72A, Peak 1.4A per pair  
 The output can be shorted permanently without damage

**Indicators**

Green LED 1: DC Power "OK"  
 Red LED: Fault detected  
 Solid Green LED 2: Power detected "CONNECT" at 75W  
 Flashing Green LED 2: IEEE802.3at detected "CONNECT" at 30W

**Input Connector**

IEC320 inlet 3 pin



### Description of LED Functions for Gigabit Power Injector

#### Power-up Sequence:

Upon power-up, all 3 LEDs will light for 2 seconds, as part of the self-test for the internal microprocessor software. After the 2 second period, the "ON" LED will illuminate green. The DC output voltage is now available for powering a compliant load (Phihong Proprietary detection).

#### Detection Sequence:

Once a compliant load is attached to the output RJ45 connector, the green "CONNECT" LED will illuminate.

Should the load be non-compliant then the LEDs will blink a code specific to the cause for non-detection.

#### Detection Failure Codes:

1. Incorrect resistive signature – The green "CONNECT" and red "FAULT" LEDs will blink 3 times.
2. Incorrect capacitive signature – The green "ON" LED will blink 3 times.
3. Incorrect Voffset – The green "CONNECT" and green "ON" LEDs will blink 3 times.
4. Unstable current measurement – The green "ON" LED will blink 3 times
5. Low voltage sensed during detection (overload) – The red "FAULT" LED will blink 3 times

After the LEDs blink 3 times the Power Injector will continue to try to detect a valid load. Until the correct load is applied, the LEDs will continue to blink. If there is an open circuit connected to the output RJ45 then the LEDs will not blink but the Power Injector will continue to try to detect a valid load.

#### Fault Sequence:

Should there be a fault such as an overload or short circuit then the red "FAULT" LED will illuminate. The red "FAULT" LED will illuminate for 2 seconds and then go off as the power supply tries to re-detect a valid load. If there is a problem detecting the load, the LED will indicate the possible fault as per the codes in the section above.