

PENB1020B

Universal 15.4W

Gigabit PoE Adapter



3 Year Warranty

- 10/100/1000 (MbPS) Data Rates
- Self-contained Injector
- 100-240Vac Universal Input
- IEEE802.3af Compliant Detection, Disconnect, Overload Control Function
- Load Diagnostic LED
- Overload Shutdown and Short Circuit Protection
- Regulated Output with Low Ripple
- Compliant to UL/IEC/EN60950-1
- LPS (Limited Power Source) Compliant



Description

The PENB1020B Series of Power-over-Ethernet (PoE) adapters operate from a 90 to 264Vac input range, and provide up to 15.4W of output power at an output voltage of 48Vdc. These models are capable of operating with Gigabit Data rates, and are IEEE802.3af compliant. Features include diagnostic LED, and overvoltage, overload, and short circuit protection.

Specifications

| All specifications are typical at nominal input, full load at 25°C unless otherwise stated | | | |
|--|---|---|---|
| AC Input | 100-240Vac +/- 10%, 47-63 Hz single phase | MTBF | >60,000 hours, calculated (7 years) |
| Input Current | 0.5A @ 90Vac 0.25A @ 180Vac | Hold-Up Time | 16mS min. @ 110Vac, 60Hz |
| Input Inrush Current | 60A peak, cold start | Efficiency | 65% minimum |
| Input Protection | Internal Primary Current Fuse provided, 250Vac/3.15A | Output Inrush Current (I _{inrush}) | 450mA max. Output current in startup mode. (IEEE 802.3af 33.3.8.5) |
| Dielectric Withstand | 4242Vdc Primary – Secondary, 2,150Vdc Primary–GND, 500Vdc Secondary - GND | Overload Current Detection (I _{CLUT}) | 400mA max. (IEEE 802.3af 33.3.8.6) |
| Earth Leakage Current | <250µA @ 264Vac, 60Hz | Short Circuit Protection (I _{LIM}) | 400 to 450mA max. Output current - at short circuit limit. (IEEE 802.3af 33.3.8.8) |
| Output Power | 15.4W continuous, convection cooled | Overload time limit (T _{ovld}) | 50 to 75ms (IEEE 802.3af 33.3.8.7) |
| Ripple and Noise | Per (IEEE 802.3af 33.2.8.3) f < 500Hz: 500mVp-p; 500Hz to 150kHz: 200mVp-p 150kHz to 500kHz: 150mVp-p; 500kHz to 1MHz: 100mVp-p | Short circuit time limit (T _{LIM}) | 50 to 75ms (IEEE 802.3af 33.3.8.9) |
| Output Voltage (V _{port}) ¹ | +48Vdc Typical, 44V to 57V (IEEE 802.3af 33.2.8.1) | Operating Temperature | 0° to +40°C |
| Transient Response | 0.5msec for 50% load change typical | Storage Temperature | -30° to +85°C |
| Regulation | See chart below | Relative Humidity | 5% to 95%, non-condensing |
| Case Material | 94V-0 Black Polycarbonate | Altitude | 0 to 10,000 ft |
| Dimensions | W: 1.9" x L: 4.44" x H: 1.3". Weight: 120g | Safety Standards | UL/IEC/EN60950-1, CE, CB |

Note: 1. The voltage potential shall be measured between any conductor of one power pair and any conductor of the other power pair

Models

| Model Number | Output Voltage | Output Current ¹ | Ripple & Noise ² | Max. Power | Regulation Line | Regulation Load ³ | IEEE802.3af Compliant? | AC Input Receptacle |
|------------------|----------------|-----------------------------|-----------------------------|------------|-----------------|------------------------------|------------------------|---------------------|
| PENB1020B4800F01 | 48Vdc | 0.35A | See table above | 15.4W | ±1% | ±4% | Yes | IEC60320, C14 |
| PENB1020B4800N01 | 48Vdc | 0.35A | | 15.4W | ±1% | ±4% | Yes | IEC60320, C8 |

- Note:
- (I_{port}): Maximum output current in normal powering mode at PSE min output voltage. (IEEE 802.3af 33.3.8.4)
 - Measured at 20MHz bandwidth, with noise probe as close to output RJ-45 connector as possible, and load terminated with 0.1µF ceramic and 10µF low ESR electrolytic capacitors.
 - per (IEEE 802.3af 33.2.8.2)

PENB1020B



Universal 15.4W (IEEE802.3af Compliant)

PoE Gigabit

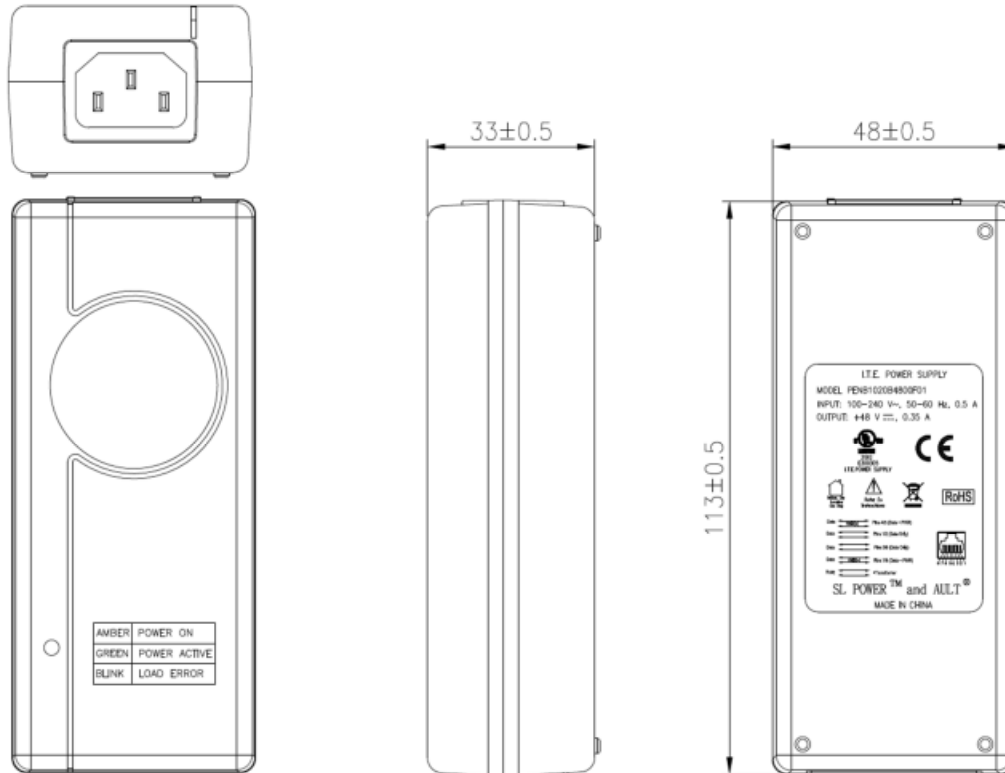
3 Year Warranty

EMI/EMC Compliance

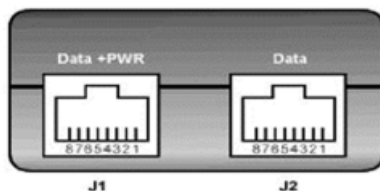
| | |
|---|---|
| Conducted Emissions | EN55022: 2006+ A1:2007 (Class B) |
| Radiated Emissions | EN55022: 2006+ A1:2007 (Class B) |
| Static Discharge Immunity | EN55024/IEC61000-4-2, 6kV/8kV, Criteria A |
| Radiated RF Immunity | EN55024/IEC 61000-4-3, 3V/m, Criteria A |
| EFT/Burst Immunity | EN55024/IEC 61000-4-4, 2kV, 5kHz, Criteria A |
| Line Surge Immunity | EN55024/IEC 61000-4-5, 1kV/2kV, Criteria A |
| Conducted RF Immunity | EN55024/IEC 61000-4-6, 3V (AM 80%, 1kHz), Criteria A |
| Power Frequency Magnetic Field Immunity | EN55024/IEC 61000-4-8, 3A/m, Criteria A |
| Voltage Dip Immunity | EN55024/IEC 61000-4-11, 100%, 10mS; 60%, 100mS; 30%, 500mS Criteria A. 100\$, 5000mS, Criteria B |
| Line Harmonic Emissions | EN61000-3-2: 2006 |
| Flicker Test | EN61000-3-3: 2008 |

Outline Drawing

- IEC320 C14 input receptacle shown. Other options available. Consult factory for details and availability.



PSA pinout Alternative B (IEEE 802.3af 33.2.2):



| J1 Pins | | J2 Pins |
|---------------|----|-----------------|
| 1 Data Pair 1 | ←→ | 1 Data Pair 1 |
| 2 Data Pair 1 | ←→ | 2 Data Pair 1 |
| 3 Data Pair 2 | ←→ | 3 Data Pair 2 |
| 4 +VDC | ←→ | 4 No Connection |
| 5 +VDC | ←→ | 5 No Connection |
| 6 Data Pair 2 | ←→ | 6 Data Pair 2 |
| 7 -VDC | ←→ | 7 No Connection |
| 8 -VDC | ←→ | 8 No Connection |