


Installing the ExtremeWireless™ AP-PSBIAS-7161 Outdoor IP66 802.3at Ethernet Power Injector (100-240VAC)

Overview

The AP-PSBIAS-7161, 1-Port 802.3at Gigabit PoE Outdoor Injector injects power over data-carrying Ethernet cabling. It maintains the IEEE802.3at and IEEE802.3af standard. These power levels allow usage by a new range of Ethernet-based applications such as video phones, 802.11n Access Points, WiMAX Transmitters, PTZ cameras and more. The AP-PSBIAS-7161 DATA PWR OUT port is designed to carry Gigabit Ethernet data & power over a standard CAT5e cable, delivered through 2-pairs (Alt B: pins 4,5 (+) and 7,8 (-)).

 **Warning:** Only qualified personnel should perform installation procedures.

Technical Specifications

Table 1 Environmental Specifications

Operating Temperature	-40°C to 55°C for 30 Watt (-40°F to 131°F)
	-40°C to 65°C for 15.4 Watt (-40°F to 149°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Operating Humidity	10% to 95% Non-condensing
Storage Humidity	10% to 95% Non-condensing

Table 2 Electrical Specifications

Input Voltage	100VAC - 240 VAC (50Hz-60Hz)
Input Current (100-240 VAC)	1 Ampere (max)
Maximum Output Power	30 W
Nominal Output Voltage	54 to 57VDC

Table 3 Ethernet Interface

Input (Data In)	Ethernet 10/100/1000 Base-T (RJ-45 female socket)
Output (Data & Power Out)	Ethernet 10/100/1000 Base-T, plus 55VDC RJ-45 female socket with DC voltage on wire pairs 1-2, 3-6, 4-5, and 7-8
Power Cable	Pre-installed 5m power cable without main plug

Verifying the AP-PSBIAS-7161 Box Contents

Inspect the package contents and report any missing or damaged items to your sales representative. The packages should contain the following:

Quantity	Item
1	AP-PSBIAS-7161 Quick Reference Guide
1	Power Injector (Part Number # AP-PSBIAS-7161)

Ordering information

US Power Cord:

- Product Name: POE: OUTDOOR IP66 802.3AT 100-240VAC US
- Part Number: AP-PSBIAS-7161-US
- Description: OUTDOOR IP66 802.3AT GIGABIT ETHERNET POWER INJECTOR 100-240 VAC US

International Power Cord:

- Product Name: POE: OUTDOOR IP66 802.3AT 100-240VAC INTL
- Part Number: AP-PSBIAS-7161-WW
- Description: OUTDOOR IP66 802.3AT GIGABIT ETHERNET
- POWER INJECTOR 100-240 VAC INTL

Installing the AP-PSBIAS-7161 Power Injector

Preparing for Site Installation

- The PoE Injector "DATA IN" and "DATA PWR OUT" ports are shielded RJ45 data sockets. They cannot be used as Plain Old Telephone Service (POTS) telephone sockets. Only RJ45 data connectors can be connected to these sockets.
- The PoE Injector DATA IN and DATA PWR OUT interfaces are qualified as SELV (Safety Extra-Low Voltage) circuits according to IEC 60950-1. These interfaces can only be connected to SELV interfaces on other equipment.

Safety Information

Before operating any equipment, review this document for any hazards associated with installation and use of the device. Also, review standard practices for preventing accidents.

- Only trained and qualified personnel should install and remove the Power Injector.

Warnings

- Read the installation instructions before connecting the Power Injector to a power source.
- Follow basic electricity safety measures whenever connecting the Power Injector to its power source.
- A voltage mismatch can cause equipment damage and could pose a fire hazard. If the voltage indicated on the label is different from the power outlet voltage, do not connect the Power Injector to that particular outlet.
- The equipment is intended only for installation in a Restricted Access Location.
- Do not use cross over cable between the PoE Injector output port and the load device.

AP-PSBIAS-7161 EMC Compliance

- CE
 - EN55024, EN61000-4-5 Class 5 (6kV CM)
 - EN55022 class B
- FCC Part 15 class B
- ITU-T K.20,6kV on AC lines
- VCCI

AP-PSBIAS-7161 Safety Compliance

- UL60950-1
- EN60950-22
- GS mark
- UL 1449

AP-PSBIAS-7161 Lightning Protection

- Designed to meet GR-1089-CORE lightning protection demands

Other Standards and Approvals:

- IEEE 802.3at & IEEE 802.3af (PoE) standards
- RoHS Compliant
- Compliance WEEE
- Dust & Water Intrusion
 - EN60529, level IP66
 - NEMA 250, level 4x
- ASTM B-117 corrosion resistance

Preliminary Steps

- The earth terminal should be connected before the mains are connected
- Ensure that AC power is applied to the PoE Injector.
- Ensure that output Ethernet cable is connected to the DATA PWR OUT port.
- Verify that power ready Ethernet compatible device is connected.

Before you begin Installation:

The PoE Injector can be placed on a desktop or mounted on a wall/bench (all kind of flat surfaces: wood, brick, concrete etc) using the mounting holes.

Before mounting the PoE Injector to a fixed location:

- Ensure cable length from Ethernet network source to the terminal does not exceed 100 meters (333 feet). The PoE is not a repeater and does not amplify the Ethernet data signal.
- Use a splitter if desired; ensure splitter is connected close to the terminal and not on the Injector!
- The PoE Injector AC power lines shall be connected to a readily accessible disconnect device. Rating of the disconnect device: 100-240Vac / 1.6 A max (per unit)

Cables:

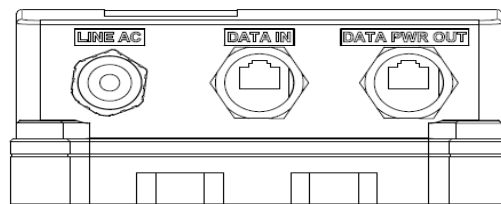
- AC cable - EU (internal cable color code – Blue, Brown, yellow-Green)
- AC cable- US (internal cable color code – Black, white, Green)
- Earth terminal wire gauge - 16 AWG

Installing the Unit

Connect the chassis bolt connection to the main chassis infrastructure.

- Connect the PoE Injector to an AC power line (100-240VAC) (via a readily accessible disconnect device).
- Connect the DATA IN jack (input) to the remote Ethernet network switch's Patch panel and the DATA PWR OUT jack (output) to the terminal.

Figure 1 Connecting the AP-PSBIAS-7161 PoE Injector

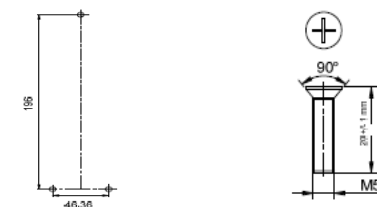


Mounting Instructions

Perform the following:

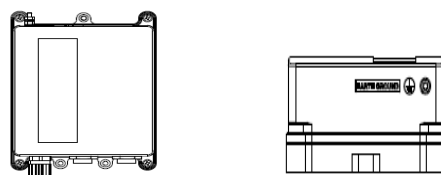
- Install the unit according to Figure 3.

Figure 2 Mounting Instructions



- Chassis bolt connector is indicated in Figure 3.

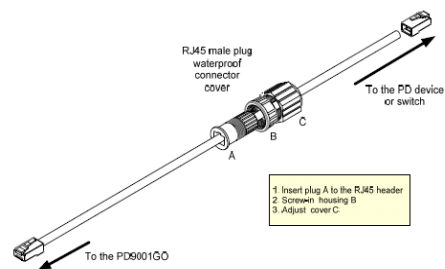
Figure 3 Chassis Bolt Connector



Cabling the Ethernet

The RJ45 male plug should be assembled to the Ethernet Cat5E cable according to Figure 4.

Figure 4 Ethernet Cable Assembly



 **Note:** Two RJ45 male plug waterproof connectors covers are supplied with the unit. The Ethernet cable and the RJ45 male connectors are not supplied with the unit.

Troubleshooting

The following potential power injector problem scenarios should be addressed as follows:

Power Injector does not power up properly

- Verify the power cord is operational and for the intended country of operation.
- Verify the voltage at the power inlet is between 100 and 240 VAC.
- Remove and reapply power to the Power Injector and verify the LED behavior during the powering sequence.

A Power Injector port indicator is not illuminated and the PD does not operate

- Verify the power injector detects detect a PD.
- Verify PD is designed for PoE operation.
- Verify you are using a standard Category 5/5e/6, straight-wired cable, with four pairs.
- If an external power splitter is in use, replace it with a known-good splitter.
- Ensure input Ethernet cable is connected to the Data In port.
- Verify that the PD is connected to the Data & Power port.
- Try to reconnect the same PD into a different Power injector. If it works, there is probably a faulty port or RJ45 connection.
- Verify there is no short over any of the twisted pair cables or over the RJ45 connectors.

The end device operates, but there is no data link

- Verify the port indicator on the front panel is continuously lit.
- If an external power splitter is in use, replace it with a known-good splitter.
- Verify that for this link, you are using standard UTP/FTP Category 5 straight (non-crossover) cabling, with all four pairs.
- Verify that the Ethernet cable length is less than 100 meters from the Ethernet source to the load/remote terminal.
- Try to reconnect the same PD into a different Power injector. If it works, there is probably a fault port or RJ45 connection.

Regulatory and Compliance Information

This guide applies to the AP-PSBIAS-7161 model Power Injector.

All Extreme devices are designed to be compliant with rules and regulations in locations where they are sold and will be labeled as required.

Local language translations are available at the following website:
www.extremenetworks.com/support/

Any changes or modifications to Extreme equipment, not expressly approved by Extreme, could void the user's authority to operate the equipment. When Extreme Networks devices are professionally installed, the Radio Frequency Output Power will not exceed the maximum allowable limit for the country of operation.

EMI Compliance:

Category 5 foiled twisted-pair cables must be used to ensure compliance with Class B emission limits.

Radio Frequency Interference Requirements

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna

Increase the separation between the equipment and receiver

Connect the equipment to an outlet on a circuit different from that to which the receiver is connected

Consult the dealer or an experienced radio/TV technician for assistance

Radio Frequency Interference Requirements - Canada

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

CE Marking and European Economic Area (EEA)

Statement of Compliance

Extreme hereby declares that this device is in compliance with all applicable directives, 89/336/EEC, 73/23/EEC. A Declaration of conformity may be obtained from <http://www.extremenetworks.com/>

European Waste Electrical and Electronic Equipment (WEEE) Notice



In accordance with Directive 2012/19/EU of the European Parliament on waste electrical and electronic equipment (WEEE):

- 1 The symbol above indicates that separate collection of electrical and electronic equipment is required.
- 2 When this product has reached the end of its serviceable life, it cannot be disposed of as unsorted municipal waste. It must be collected and treated separately.
- 3 It has been determined by the European Parliament that there are potential negative effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment.
- 4 It is the users' responsibility to utilize the available collection system to ensure WEEE is properly treated.

For information about the available collection system, please contact Extreme Environmental Compliance at Green@extremenetworks.com.

TURKISH WEEE Statement of Compliance

EEE Yönetmeliğine Uygundur

Japan (VCCI)- Voluntary Control Council for Interference Class B ITE

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをして下さい。

Korea Warning Statement for Class B ITE

기종별	사용자안내문
B급 기기 (가정용 방송통신기자재)	이 기기는 가정용(B급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

Extreme Wireless™ Power Injector

Quick Reference

AP-PSBIAS-7161-US

AP-PSBIAS-7161-WW

Notice

Copyright © 2017 Extreme Networks, Inc. All Rights Reserved.

Legal Notices

Extreme Networks, Inc., on behalf of or through its wholly-owned subsidiary, Enterasys Networks, Inc., reserves the right to make changes in specifications and other information contained in this document and its website without prior notice. The reader should in all cases consult representatives of Extreme Networks to determine whether any such changes have been made.

The hardware, firmware, software or any specifications described or referred to in this document are subject to change without notice.

Trademarks

Extreme Networks and the Extreme Networks logo are trademarks or registered trademarks of Extreme Networks, Inc. in the United States and/or other countries.

All other names (including any product names) mentioned in this document are the property of their respective owners and may be trademarks or registered trademarks of their respective companies/owners.

For additional information on Extreme Networks trademarks, please see: www.extremenetworks.com/company/legal/trademarks/

Documentation & Support

For product support, including documentation, visit:

www.extremenetworks.com/support/

P/N 9035372