

Safety Information

Important Safety Information



- ♦ Installation and removal of the PoE Midspan must be carried out by qualified personnel only.
- ♦ If an AC/DC power source will be used to power up the PoE Midspan, it should be an isolated AC/DC source.
- ♦ The external power supply for the equipment shall be a Listed, Direct Plug In power unit, marked Class 2, or Listed ITE Power Supply, marked LPS, which has suitably rated output voltage, and current.
- ♦ **DC Power Inlet Set:**

- The power connector supplied with the PoE Midspan (included in the package) has 2 terminals; '+' (POS) and '-' (NEG) (See Figure 2).
- The power inlet cables (not included in the package) must be rated for current capacity of 3.5 Amperes (Stranded Tinned Copper 16 AWG for each terminal).
- Before connecting power inlet cables to the connector terminals verify that the power source is turned off.
- After inserting a cable inlet to the connector terminals, tightly fasten all 4 connector screws (See Figure 2).
- This clause is optional:
Only for improved EMI performance, connect chassis ground connection to "Earth/Ground" connection at the working area.



: There is no safety hazard when the chassis ground connection is not connected to the "Earth/Ground".



: The PoE injector "**DATA IN**" and "**DATA & POWER OUT**" ports are shielded RJ45 data sockets. They cannot be used as Plain Old Telephone Service (POTS) sockets. Only RJ45 data connectors may be connected to these sockets.

The **DC** power source must be situated near the PoE Midspan and easily accessible. To cut power from the PoE Midspan, disconnect the **DC** power inlet from either the **DC** power source or the PoE Midspan power connector.

The PoE Midspan "**DATA IN**" and "**DATA & POWER OUT**" interfaces are qualified as SELV (Safety Extra-Low Voltage) circuits according to IEC 60950-1. These interfaces can be connected only to SELV interfaces of other equipment parts.

WARNINGS:

- Before connecting the PoE Midspan to its power source, read the installation instructions.
- Whenever connecting the PoE Midspan to its power source, follow basic electricity safety measures.
- A voltage mismatch can cause equipment damage and may pose a fire hazard. If the voltage indicated on the label is different from the power outlet voltage, do not connect the PoE Midspan to this power outlet.
- **Take extra care when connecting the power inlet terminals, so that '+' (POS) and '-' (NEG) will not be connected to an opposite polarity.**

Mounting Instructions

Perform the following instructions:

1. Install two screws in the wall or shelf as shown in Figure 1.

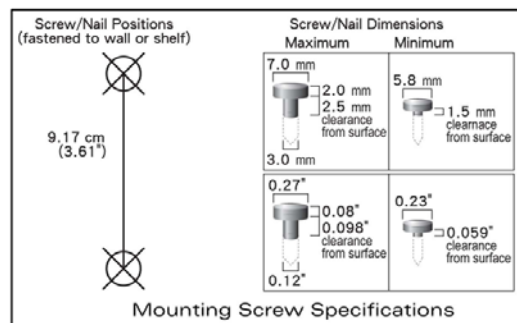


Figure 1: PoE Midspan mounting instructions

2. Align the PD-9501G/24VDC mounting slots to capture the surface screws.



Recycling and Disposal

Disposal instructions for old product: The WEEE (Waste Electrical and Electronic Equipment) national environmental initiatives has been put in place to ensure that products are recycled using the best available treatment, recovery and recycling techniques so that human health and environmental protection considerations receive maximum attention. This product is designed and manufactured with high quality materials and components, which can be recycled and reused. Do not dispose of your old product in a general household waste bin. Inform yourself about your local separate collection system for electrical and electronic products, marked by this symbol:



Use one of the following disposal options :

1. Dispose of the complete product (including its cables, plugs and accessories) in a WEEE designated collection facility.
2. If you purchase a replacement product, hand your complete old product over to the retailer. He should accept it as required by the national WEEE legislation.

© Microsemi Corp.

Ordering information:

- Product Name: **Microsemi 9501G/24VDC**
- Part Number: **PD-9501G/24VDC**
- Description: **1-Port 802.3at 4-Pairs Gigabit PoE Midspan, 24VDC input**

Document P/N 06-0042-056 Rev. B00



Microsemi

Microsemi 9501G/24VDC

User Guide

1-Port 802.3at 4-Pairs Gigabit PoE Midspan, 24VDC input.

Notice

It is Microsemi's policy to improve its products as new technology, components, software, and firmware become available. Microsemi, therefore, reserves the right to change specifications without prior notice.

Technical Support

If you encounter problems when installing or using this product, please consult the Microsemi website at: <http://www.microsemi.com>

For technical support, call: +972-9-775-5123

In the USA: 1-877-480-2323

Email: sales.support@microsemi.com

Functions and Features

The High-Power Gigabit single port PoE (Power over Ethernet) PD-9501G/24VDC Midspan injects power over data-carrying Ethernet cabling. It maintains the IEEE802.3at draft 3.2 and IEEE802.3af standard, while doubling the output power (60W). 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 & more. The PD-9501G/24VDC "DATA & POWER OUT" port is designed to carry Gigabit Ethernet data & power over a standard CAT5e cable, delivered through all 4-pairs (Alt A: pins 1,2 (-) & 3,6 (+), Alt B: 4,5 (+) and 7,8 (-)).

EMC Compliance:

- FCC Part 15 class B
- EN55022 class B
- EN55024

Safety compliance:

- UL60950-1
- GS mark

Preliminary Steps

- Ensure **DC** power is applied to the PoE Midspan, using Stranded Tinned Copper 16 AWG cables for each terminal (rated for 3.5 Amperes), with an appropriate separate ground connection (when needed).
- Ensure that the output Ethernet cable is connected to the "DATA & POWER OUT" port.
- Verify that power ready Ethernet compatible device is connected.

WARNING

Do not use cross over cable between PoE Midspan output port and load device.

Installation

The PoE Midspan may be located on a desktop or mounted on a wall/bench using the rear side mounting holes.

- Associated Ethernet wiring shall be limited to inside of the building
- Power inlet cable and chassis connection cable are not supplied with product



: Before mounting the PoE Midspan to a fixed location:

- Do not cover the PoE Midspan or block the airflow to the PoE with any foreign objects. Keep the PoE Midspan away from excessive heat and humidity and ensure it is free from vibration and dust.
- Ensure that the cable length from the 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.
- A splitter may be used if desired; ensure that the splitter is connected close to the terminal and **not** on the Midspan!
- There is no "On-Off" switch; simply plug the PoE Midspan into a **DC** power source.

Installing the Unit

- Verify the **DC** power source is turned off.
- If supplemental earth ground is replaced, apply 5Lb/In torque (optional).
- Tighten the 2 connector screws (See Figure 2).
- Connect the PoE Midspan Input connector to Stranded Tinned Copper cables, 16 AWG for each terminal (rated for 3.5 Amperes), and tighten the 2 Cable inlet screws (See Figure 2).
- Connect the "DATA IN" jack (input) to the remote Ethernet network switch's Patch panel and the "DATA & POWER" jack (output) to the terminal (See Figure 3).
- Turn on the **DC** power source and check the appropriate LED indicators to verify that power is on

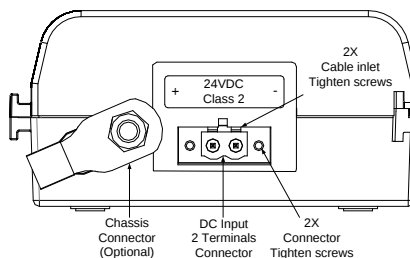


Figure 2: PoE Midspan Power Connector

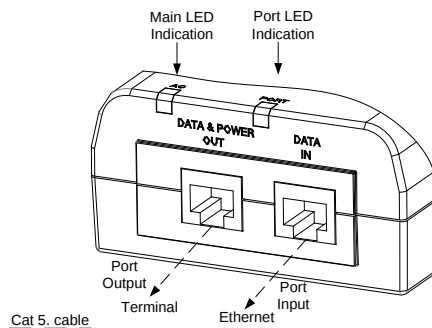


Figure 3: PoE Midspan Ports

Indicators

Main LED	Behavior
OFF	Power OFF indication
Green on	Power ON indication (power is active)
Port LED	Behavior
OFF	No detection or disconnected, no load is connected.
Green on	Power supplied over data and spare pairs
Blinking green at 1Hz rate	Port was powered at four pairs, then port was overloaded / shorted

Specifications

Environmental Specifications

Mode	Temperature	Humidity
Operating	-20 to 40°C -4 to 104°F	10 to 90% (no condensation allowed)
Storage	-20 to 70°C -4 to 158°F	10 to 90% (no condensation allowed)

Electrical Specifications

Operation Voltage	22-36VDC
Input Current (max.)	3.5 Amperes
Available Output Power (max.)	60 Watts
Nominal Output Voltage	53.5 to 55.5VDC

Ethernet Interface

Input (DATA IN): Ethernet 10/100/1000Base-T	RJ45 female socket
Output (DATA & POWER OUT): Ethernet 10/100/1000Base-T, plus 55VDC	RJ45 female socket, with DC voltage on wire pairs 1-2, 3-6, 4-5 & 7-8.

Troubleshooting

Symptom	Corrective Steps
PoE Midspan does not power up	- Ensure that the installation was according to "Installing the Unit" section in this user guide. - Ensure that the power source voltage is between 22-36VDC and can carry out 80W. - Remove and re-apply power to the PoE Midspan, and Verify that the main led indicator on the front panel is continuously lit.
The Powered Device (PD) does not operate	- Verify that the PD is designed for PoE operation according to IEEE802.3af/at standard. - Verify that you are using a standard straight-wired four Pairs cable (UTP/FTP Category 5/5e/6). - Verify that the PD is connected to the PoE Midspan "DATA & POWER OUT" port. - If an external power splitter is in use, replace it with a known-good splitter. - Remove and re-apply power to the PoE Midspan, and check the led indicators during power up sequence.
The end device operates, but there is no data link	- Verify that the port led indicator on the front panel is continuously lit. - Verify that you are using a standard straight-wired four Pairs cable (UTP/FTP Category 5/5e/6). - Verify that the Ethernet cable length is less than 100 meters from Ethernet source to load/remote terminal. - Ensure that the input Ethernet cable is connected to the PoE Midspan "DATA IN" port. - If an external power splitter is in use, replace it with a known-good splitter.