Safety Information

Important Safety Information

⚠ ♦ Installation and removal of the PoE Midspan must be carried out only by qualified personnel.

♦ Only an isolated AC/DC power source should be used to power up the POE Midspan.

♦ The external power supply for the equipment will 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:

- 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 2 Amperes (Stranded tinned copper 16 AWG for each terminal).
- Before connecting power inlet cables to the connector terminals verify that the power source is off.
- After inserting a cable inlet to the connector terminals, tightly fasten all 4 connector screws (See Figure 2).
- This clause is optional:
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 Midspan "**DATA IN**" and "**DATA & POWER OUT**" ports are shielded RJ45 data sockets. They cannot be used to connect telephone wiring. Only RJ45 data connectors can be connected to these sockets.

The **DC** power source should be situated near the PoE Midspan and easily accessible. To disconnect the power from the PoE Midspan, disconnect the **DC** power cord from either the **DC** power source or from 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.

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) terminals are connected to the proper polarity.**

Mounting Instructions

Perform the following instructions:

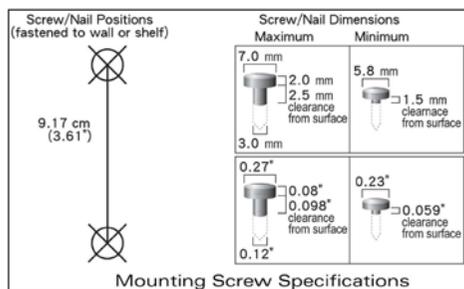1. Install two screws in the wall or shelf as shown in Figure 1.

Figure 1: PoE Midspan mounting instructions

2. Align the PD-9501G/48VDC mounting slots to capture the surface screws.

Recycling and Disposal

Disposal instructions for old product: The WEEE (Waste Electrical & Electronic Equipment) national environmental initiatives has been put 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 your old product in a general house hold 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.

- Microsemi name & logo are registered trademarks of Microsemi corp.

- 802.3at is a trademark of IEEE.

Ordering information:
- Product Name: **Microsemi 9501G/48VDC**
- Part Number: **PD-9501G/48VDC**
- Description: **1-Port 802.3at 4-Pairs Gigabit PoE Midspan, 48VDC input**

Document P/N PD-9501G-48VDC_UG Rev. C00

Microsemi 9501G/48VDC

User Guide

1-Port 802.3at™ 4-Pairs Gigabit PoE Midspan, 48VDC input.

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.

Functions and Features

The high-power gigabit single port PoE (Power over Ethernet) PD-9501G/48VDC Midspan injects power over data-carrying Ethernet cabling. It maintains the IEEE802.3at 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^{TM} Transmitters, PTZ Cameras & more. The PD-9501G/48VDC **"DATA & POWER OUT"** port is designed to carry Gigabit Ethernet data & power over a standard CAT5/5e/6 cable, delivered through all 4-pairs

EMC Compliance:
- FCC Part 15 class B
- EN55022 class B
- EN55024

Safety compliance:
- UL60950-1
- GS compliance

Preliminary Steps
- Ensure **DC** power is applied to the PoE Midspan, using stranded tinned copper 16 AWG cables for each terminal (rated for 2 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 an Ethernet compatible device is connected to the output Ethernet cable, and that it is arranged to receive power on its Ethernet port.

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

Installation
The PoE Midspan may be located on a desktop/ floor 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 the product

: Before mounting the PoE Midspan to a fixed location:

- Make sure the PoE Midspan and the airflow to it, are not covered or blocked by 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 total Ethernet cable length 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 PD but not to the Midspan.
- There is no "On-Off" switch; simply plug the PoE Midspan into a **DC** power source.

Installing the Unit
- Verify that **DC** power source is off.
- If supplemental earth ground is replaced, apply 5Lb/In torque (optional).
- Tighten the 2 connector screws (see Figure 2).
- Connect the PoE Midspan PWR connector to stranded tinned copper cables, 16 AWG for each terminal (rated for 2 Amperes), and tighten the 2 Cable inlet screws (See Figure 2).
- Connect the "DATA IN" jack (input) to the data source (switch) and the "DATA & POWER" jack (output) to the terminal (PD) (See Figure 3).
- Turn on the **DC** power source and check the appropriate LED indicators to verify that power is on
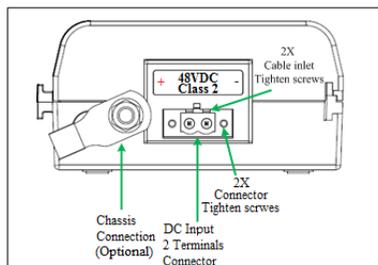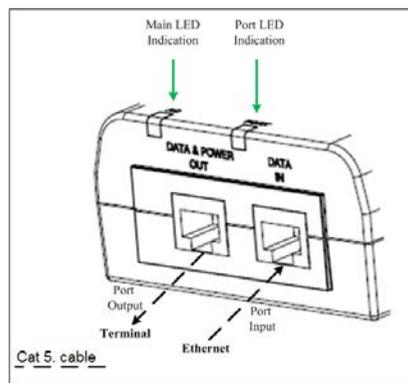

Figure 2: *PoE Midspan Power Connector*

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	Disconnection, or no detection, or no load is connected.
Green on	Power supplied over data and spare pairs
Blinking green at 1Hz rate	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	36-60VDC
Input Current (max.)	2 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	1. Ensure that the installation was in accordance with the "Installing the Unit" section in this user guide. 2. Ensure that the power source supplies between 36-60VDC and can carry out 80W. 3. Remove and re-apply power to the PoE Midspan, and verify that the main led indicator on the front panel is continuously lit.
The PD (Powered Device) does not operate	1. Check the Midspan's LED indicators. 2. Remove and re-apply power to the PoE Midspan, and check the led indicators during power up sequence. 3. Verify that the PD is designed for PoE operation. 4. Verify that you are using a standard UTP/FTP category 5/5e/6, straight-wired four pairs cable. 5. Verify that the PD is connected to the "DATA & POWER OUT" port. 6. If an external power splitter is in use, replace it with a splitter known as good.
The end device operates, but there is no data link	1. Verify that the port LED indicator on the front panel is continuously lit. 2. Verify that you are using a standard UTP/FTP Category 5/5e/6, straight-wired cable. 3. Verify that the Ethernet cable length is less than 100 meters from the POE source to PD. 4. Ensure that the input Ethernet cable is connected to the "DATA IN" port. 5. If a splitter is in use, replace it with a splitter known as good.