

## Safety Information

### Important Safety Information



- ♦ Installation and removal of the EEPoE Midspan must be carried out by qualified personnel only.
  - ♦ If an AC/DC power source will be used to power up the EEPoE 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 EEPoE 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 EEPoE 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 EEPoE Midspan and easily accessible. To cut power from the EEPoE Midspan, disconnect the DC power inlet from either the DC power source or the EEPoE Midspan power connector.

The EEPoE 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 EEPoE Midspan to its power source, read the installation instructions.
- Whenever connecting the EEPoE 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 EEPoE 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.

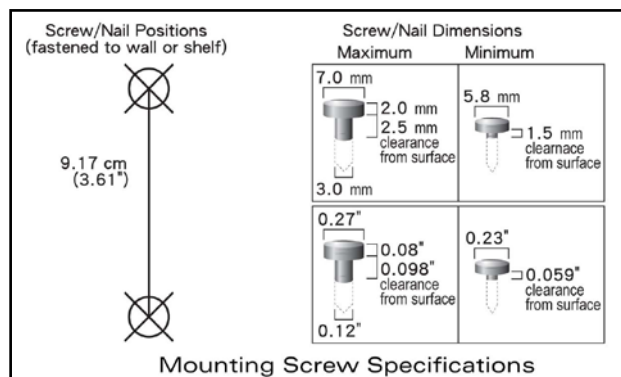


Figure 1: EEPoE Midspan mounting instructions

2. Align the PD-5501G/12-24VDC 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 to ensure that products are recycled using the best available treatment recovery and recycling techniques so that human health and environment protection considerations receive maximum attention. This product is (and manufactured with high quality materials and components, which recycled and reused. Do not dispose of your old product in a general household waste bin. Inform yourself about your local separate collect 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.

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### Ordering information:

Product Name: Microsemi 5501G/12-24VDC

Part Number: PD-5501G/12-24VDC

Description: 1-Port 802.3at 4-Pairs Gigabit EEPoE Midspan, 12-24VDC input

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Microsemi

Microsemi 5501G/12-24VDC

## User Guide

### 1- Port 802.3at 4-Pairs Gigabit Energy Efficient PoE Midspan, 12-24VDC 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](mailto:sales.support@microsemi.com)

## Functions and Features

The single port Microsemi PD-5501G/12-24VDC Energy Efficient PoE (EEPoE) Midspan delivers up to 30 watts (W) of Power over Ethernet (PoE) to network devices including IP cameras, access control systems, thin clients and other Ethernet end terminals.

PD-5501G/12-24VDC EEPoE Midspans are unique in their ability to deliver power over all 4 pairs of the Cat 5 or better cable

(Alt A: pins 1,2 (-) & 3,6 (+), Alt B: 4,5 (+) and 7,8 (-)), dissipating 50% less power than PoE Switches and 2-pair Midspans, while complying with the IEEE802.3at-2009 standard.

EEPoE allows reduced power dissipation to new powered devices and also to the huge installed base of over 100 million existing IEEE standard-complaint PDs worldwide.

With the midspan's plug-and-play installation, they are easily and cost effectively implemented leveraging an existing Ethernet infrastructure while at the same time providing the assurance of a future proof network.

### 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 EEPoE 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 EEPoE Midspan output port and load device.

### Installation

The EEPoE 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 EEPoE Midspan to a fixed location:

- Do not cover the EEPoE Midspan or block the airflow to the EEPoE with any foreign objects. Keep the EEPoE 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 EEPoE 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 EEPoE 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 EEPoE 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

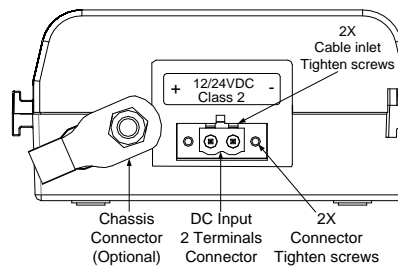


Figure 2: EEPoE Midspan Power Connector

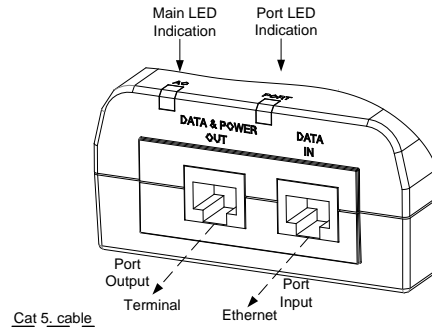


Figure 3: EEPoE Midspan Ports

## 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

Turn ON Input Voltage(min.)	10.8VDC
Operation Voltage	10-36VDC
Input Current (max.)	3.5 Amperes
Available Output Power (max.)	30 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
<b>PoE Midspan does not power up</b>	<ol style="list-style-type: none"><li>1. Ensure that the installation was according to "Installing the Unit" section in this user guide.</li><li>2. Ensure that the power source voltage is between 10.8-36VDC and can carry out 40W.</li><li>3. Remove and re-apply power to the PoE Midspan, and Verify that the main led indicator on the front panel is continuously lit.</li></ol>
<b>The Powered Device (PD) does not operate</b>	<ol style="list-style-type: none"><li>1. Verify that the PD is designed for PoE operation according to IEEE802.3af/at standard.</li><li>2. Verify that you are using a standard straight-wired four Pairs cable (UTP/FTP Category 5/5e/6).</li><li>3. Verify that the PD is connected to the PoE Midspan "DATA &amp; POWER OUT" port.</li><li>4. If an external power splitter is in use, replace it with a known-good splitter.</li></ol> <p>Remove and re-apply power to the PoE Midspan, and check the led indicators during power up sequence.</p>
<b>The end device operates, but there is no data link</b>	<ol style="list-style-type: none"><li>1. Verify that the port led indicator on the front panel is continuously lit.</li><li>2. Verify that you are using a standard straight-wired four Pairs cable (UTP/FTP Category 5/5e/6).</li><li>3. Verify that the Ethernet cable length is less than 100 meters from Ethernet source to load/remote terminal.</li><li>4. Ensure that the input Ethernet cable is connected to the PoE Midspan "DATA IN" port.</li></ol> <p>If an external power splitter is in use, replace it with a known-good splitter.</p>