Background

The PoE Extender can be used for installations that require distances of more then 100 meters (328 feet) between the data switch to the powered device.
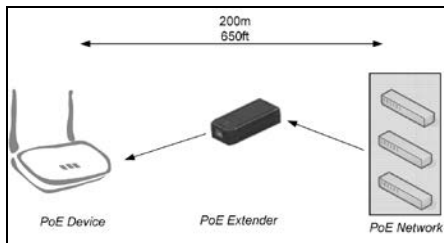

Figure 1: Switch + Midspan -> 100 m -> PoE extender -> 100m -> WLAN AP

Functions and Features

♦ Extends power and data range for up to 600 meters with no need for an additional power source.
♦ Compatible with all Microsemi Midspans and 802.3af/802.3at PSEs.
♦ Can extend IEEE 802.3at PD range to 200 meters when connected to Microsemi 95xx series (4-pair IEEE 802.3at)
♦ Supports 10/100/1000 mbps data rates
♦ Plug and Play; no configuration required during installation.

PD-PoE Extender EMC Compliance:

♦ FCC Part 15 and EN55022
♦ EN55024
♦ VCCI

Recycling and Disposal

Disposal instructions for old products: The WEEE (Waste Electrical and Electronic Equipment) national environmental initiatives has been put in place to ensure that products are recycled using best available treatment, recovery and recycling techniques to ensure human health and high environmental protection. Your 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 your general household waste bin. Inform yourself about the 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 designated WEEE collection facilities.
2. If you purchase a replacement product, hand your complete old product back to the retailer. He should accept it as required by national WEEE legislation.
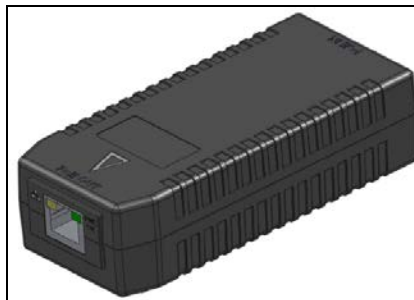

Figure 2: PoE Extender Unit

© Microsemi Corp.
Covered under one or more of US Patents: #7,006,815; and 7,437,217.

Ordering information:
• Product Name: **Microsemi PoE Extender**
• Part Number: **PD-PoE Extender**

Document P/N 06-0039-056 Rev. B00

Microsemi PoE-Extender User Guide

Microsemi PoE-Extender

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

WARNING

♦ Read the installation instructions before connecting the PoE Extender to the PSE.

♦ 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 Extender to the power outlet.

♦ The unit is indoor rated.

Preliminary Steps

♦ The PoE Extender can be placed on a rack, wall or desktop.

Before placing the PoE Extender:

♦ Do not cover the PoE Extender. Keep the PoE Extender away from excessive heat and humidity and free from vibration.

♦ Use a splitter if desired; ensure that the splitter is connected close to the PD terminal and not on the Extender.

♦ No "on-off" switch exists; simply plug the Cat5e Ethernet cable from the PSE device (PoE switch or Midspan) to the Extender PoE input (RJ45 connector).

♦ Extender PoE output (the RJ45 connector) should be connected to the PD terminal using a Cat5e Ethernet cable.

Installing the Unit

1. Connect the PoE input port to a PSE (Midspan or Switch).
2. Connect the PoE output port to a PD (IP Phone, WLAN AP, IP Camera, and so on).
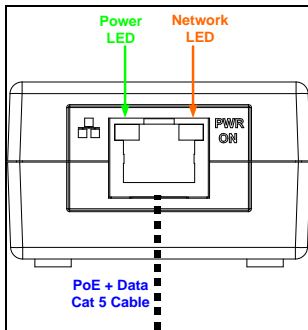3. Verify that the unit LEDs are on.

Figure 3: Connecting the PoE Extender

Indicators

Power LEDs

LED Color and Status	PoE Input Status	PoE Output Status
Green ON	PoE input power enabled	PoE output power enabled
Green OFF	PoE input power disabled	PoE output power disabled

Network LEDs

LED Color and Status	Network Input/Output Status
Orange ON	Network connection
Orange OFF	No network connection
Orange Blinks – 12 Hz rate	10/100/1000 Mbps communication data rate

Specifications

Environmental Specifications

Mode	Temperature	Humidity
Operating 1 G data rate	0 to 40°C 32 to 104°F	10 to 90% (no condensation allowed)
Operating 10/100 M data rate	0 to 50° C 32 to 122°F	10 to 90% (no condensation allowed)
Storage	-20 to 70°C -4 to 158°F	10 to 90% (no condensation allowed)

Electrical Specifications

Input Voltage	46 - 57 VDC
Maximal Input Current	0.7 Ampere
Output Voltage	44 - 55 VDC
Maximal Output Current	0.6 Ampere

Ethernet Interface

Input (Data & power In): Ethernet 10/100/1000Base-T	RJ45 female socket
Output (Data & power In): Ethernet 10/100/1000Base-T	RJ45 female socket

Troubleshooting

Symptom	Corrective Steps
Extender does not power up	1. Verify that the input port of the PoE extender is connected to an active IEEE 803.af/at PSE equipment.
The PD does not operate	1. Verify that the extender is powered up. 2. Verify that the Extender detects a PD. 3. Verify that the PD is designed for IEEE 802.3 af/at operation. 4. Verify that you are using a standard Category 5/5e/6, straight-wired cable, with four pairs. 5. If an external power splitter is in use, replace it with a known, good splitter. 6. Verify that the PD is connected to the Data & Power output port. 7. Try to reconnect the same PD into a different Extender. If it works, there is probably a faulty port or RJ45 connection. 8. Verify that 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	1. Verify that for this link, you are using standard UTP/FTP Category 5/5e/6 straight (non-crossover) cabling, with all four pairs. 2. Verify that the Ethernet cable length is less than 100 meters from the Ethernet source to the load/remote terminal. 3. Try to reconnect the same PD into a different Extender. If it works, there is probably a faulty port or RJ45 connection. 4. If an external power splitter is in use, replace it with a known-good splitter.