



# AEI-e810C Product Brief



## Fault Tolerance / Bypass

The AEI-e810C can be deployed in a standard network configuration. The card incorporates an onboard switch chip that operates independent of the host system, thus providing an extra layer of fault tolerance. In the event the host system locks, the Gigabit uplink port to the host will no longer function. HOWEVER, the eight Fast Ethernet ports will continue to pass network traffic amongst themselves so long as power and ground reside on the bus.

## PD Detection

Each port independently monitors the connection to determine if a Power Device is connected. Only when detection is made, will power be applied to the cable attaching the PD. Thus, allowing PoE and non-PoE devices to be connected to the same NIC.

## PCI Express (x1) Embedded POE/POE+ 8+1 Physical Layer Switch

Ideal solution for Telco, NVS, and NVR OEMs. The **AEI-e810C** allows you to incorporate an 8+1 PSE switch that supports BOTH IEEE 802.3(af) and (at) Power over Ethernet standards into your appliance.

The **AEI-e810C** has an onboard switch that provides eight external Fast Ethernet connections, and one Gigabit Ethernet uplink to the host system. With 5.6 Gbps of aggregate switching bandwidth, the **AEI-e810C** easily achieves wire speeds on all 8 Fast Ethernet ports simultaneously!

Installation is a snap, as the device driver is Plug & Play in most popular operating systems including Windows, Linux, etc.

Quite simply, the **AEI-e810C** incorporates the latest technology, and is the world's first of it's kind.

Moreover, multiple cards can be installed in a single system, thereby providing a unique embedded 8, 16, 24 or more port solution.

## SOFTWARE FEATURES

### NETWORK MONITORING

Monitors network connectivity on user-selected network clients or PDs.

### FAULT NOTIFICATION

Via email and SMS text messages. Initial notification upon fault recognition, and optional second notification after PoE reset.

### PoE RESET ON FAULT

Configurable AUTOMATIC PoE power reset when a network fault occurs. Thus, re-booting all attached PoE devices.

### PoE RESET SWITCH HEADER

Onboard header can be attached to a SPST Momentary switch on an OEM enclosure to allow manual resetting of PoE power without re-booting the host system.

### PoE 24 HOUR RESET JUMPER

By installing a jumper on the card, the AEI hardware will automatically reset PoE power and reboot PoE devices every 24 hours of continuous operation.

### PoE RESET ON MOUSE CLICK

PoE power reset without having to re-boot the host system by simply clicking the mouse.

### REMOTE ACCESS SUPPORT

GUI allows PoE Power Management support for both local users and remote access users.

### INTUITIVE GUI

Intuitive Graphical User Interface (GUI) allows for easy setup and use.

### CALL FOR FEATURE AVAILABILITY

# Simplifying IT

## It's Not Just A Switch FAULT TOLERANT UTILITY

Video Surveillance Systems, for example, are considered by many to be mission critical. Unfortunately, most systems are unmonitored and unattended. In fact, they usually sit in a closet or on a dusty shelf somewhere in the backroom, and are only used when criminal activity occurs.

Unfortunately, the main drawback with any mission critical system is network connectivity faults. Network connectivity faults result from any number of things. Such as plant growth or spider webs that blocks wireless links, premature network hardware, IC component failure, or device lockup. In fact, we've even seen mice chew through CAT-5 cable to use as nesting material. In short, faults are a natural occurrence, and can happen at anytime and for virtually any cause.

It is for this reason AEI developed our **FAULT TOLERANT UTILITY** software.

This software **MONITORS NETWORK CONNECTIVITY** of user-selected network clients or PD devices, including (but not limited to) PoE cameras, wireless cameras, POS terminals, and other PoE and non-PoE network equipment.

When a network connectivity **FAULT** is detected, the software will provide **FAULT NOTIFICATION** by sending an email or SMS text message to one or more users or service providers. The email notification will send a text attachment indicating the MAC and IP addresses, client nickname (such as *Front Door Camera*), and other information of the faulty

unit(s) in order to easily troubleshoot the problem.

### POE POWER MANAGEMENT:

Most network connectivity faults can be cured simply by resetting power, thereby re-booting devices or systems attached to the network.

The AEI software utility offers several Advanced Power Management Features that take preventative measures in resolving network connectivity problems.

This includes the ability to reset PoE power without rebooting the host system with the simple click of the mouse. This feature allows both **local users**, as well as authorized **remote access users** the ability to re-boot PoE devices attached to the AEI PoE controller.

Moreover, the software utility can be configured to **AUTOMATICALLY reset PoE power when a network fault is detected**. Thus, resolving network connectivity issues automatically, without the need for user intervention!

As a result of this patent pending solution, AEI offers our customers the ability to monitor network connections, receive notifications and automatically resolve PoE network issues without human intervention.

This leap in technology allows service providers to be proactive, rather than responsive, to customer demands. In addition to improved service quality, OEMs can expect to see improved ROI from service activities.

## SPECIFICATIONS

- **PCI Express (x1) Slot**  
Compatible with x4, x8 and x16 slots
- **PLUG & PLAY**  
Device Driver is included in virtually all popular operating systems including Windows, Linux, MacOS, and many more
- **HIGH RELIABILITY**  
High quality and precision components deliver reliability that's second to none!
- **FAULT TOLERANCE / Bypass**  
Onboard Switching circuitry operates Independent of Host. (See Front Page)
- **BUS TYPE**  
PCI Express 1.1 Compliant
- **Host CPU TCP/IP Offload**  
Incorporates on onboard Switch Chip that automatically routes network traffic without encumbering the Host CPU.
- **POWER OVER ETHERNET Advanced Features**  
PD Detection & Classification  
Over / Under Voltage Protection  
AC Disconnection Monitoring  
Current Foldback
- **APPLICATIONS**  
Powers PoE devices such as VoIP Phones, IP Cameras, wireless access points, and much more!

# Simplifying IT

## PCI Express (x1) Embedded POE/POE+ 8+1 Physical Layer Switch

### PART NUMBERS:

**AEI-e810C.** For applications wishing to deploy a POE or POE+ solution, you will also need to order the AC/DC Power cable **AEI-CLB48VDPOE**

### CONNECTOR:

HD-68 with Octopus Cable provides eight RJ45(f) connectors.

### IEEE STANDARDS

#### (8 Fast Ethernet Ports):

IEEE 802.3 (10Base-T Ethernet)  
IEEE 802.3u (100Base-Tx Ethernet)  
IEEE 802.3af (PoE Mode B)  
IEEE 802.3at (PoE+ Mode B)  
IEEE 802.3u (Autonegotiation)  
IEEE 802.3x Duplex and Flow Control  
IEEE 802.3q (VLAN)  
IEEE 802.3x (Priority Tagging)

### IEEE STANDARDS

#### (Gigabit Uplink):

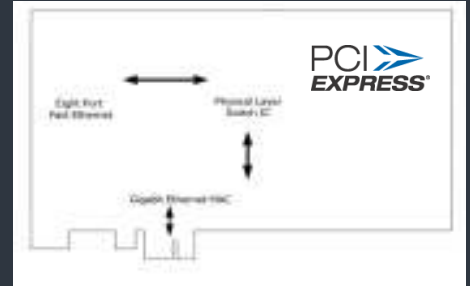
IEEE 802.3ab (1000Base-T)  
IEEE 802.3q (VLAN)  
IEEE 802.3p (Priority Tagging)  
IEEE 802.3x (Full Duplex Operation)

### PCI Express Slot

x1 card edge connector, compatible with x4, x8 and x16 PCIe slots.

### Auto-Negotiation / NWay

Yes, full duplex and simplex operations, as well as 10/100 Mbps. Gigabit uplink operates at Full Duplex.



PoE output (Data & Power)		
Pin	Symbol	Description
1	Rx+	Data received
2	Rx-	Data received
3	Tx+	Data transmit
4	Vdc+	Feeding power (+) 0V
5	Vdc+	Feeding power (+) 0V
6	Tx-	Data transmit
7	Vdc-	Feeding power (-) 48V
8	Vdc-	Feeding power (-) 48V

IEEE 802.3(af) & (at) | MODE B

### CERTIFICATIONS:

RoHS; FCC Part 15, Subpart B-Class A; CE; CISPR-22-A; CISPR-22-b; VCCI-A; CSA 22.2 No. 950-95; and CE compliant to EN55024, EN50082-1, EN60950

### POWER CONSUMPTION:

**Add-in Card:** Estimated *Maximum* Rating (1879mA / 3778.8mW) 3.3V @ 453mA, 1.8V @ 913mA, 1.5V @ 241mA, 1.05V @ 272mA.

### POWER OVER ETHERNET

	PoE	PoE+
Watts per port	15.4W	25.5W
Amps per port	350mA	600mA

### AC/DC ADAPTER CABLE

From 70W to 220W versions available.

### Dimensions:

7.2" (L) x 4.375" (H)