AcroPack® Modules

AP500 Series Communication

Block diagram labels: P2 Field Interface · OUTPUTS · LAN [PoE] · LAN Magnetics · LAN · Intel i210 Ethernet Controller · AcroPack Logic Interface · P1 · x1 PCIe · ISO 52VDC [PoE] · 12-48V DC Boost Regulator · 48-52V DC Isolated Boost Regulator · LTC4274 PoE PSE Controller · +12V · GND · ISO_VEE · AP580-POE · Flash Memory · +3.3V · GND
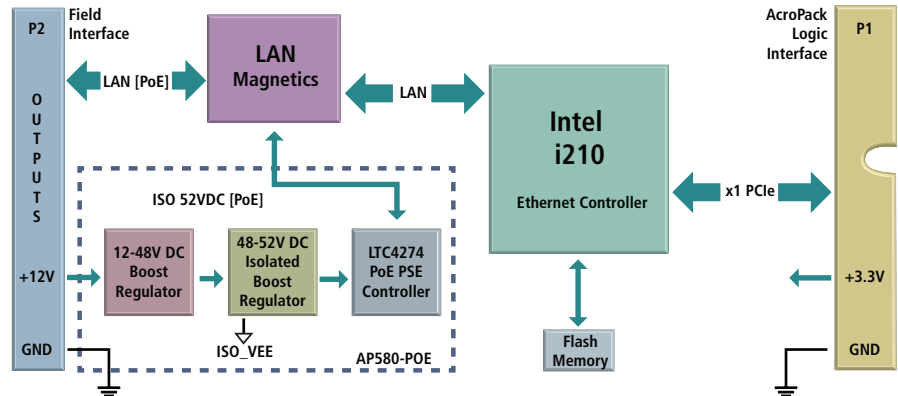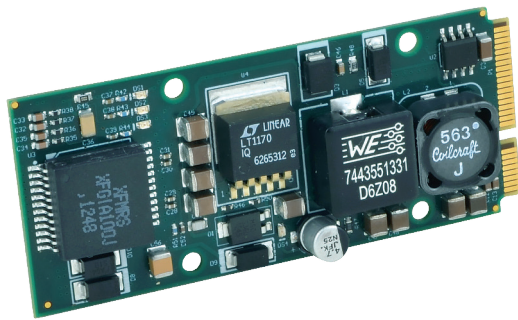
1Gb Ethernet ◆ **Optional Power Over Ethernet** ◆ **PCIe Bus Interface**

Description

Models
AP580E-LF: S1Gb Ethernet board.
AP580E-POE-LF: 1Gb Ethernet with Power Over Ethernet.

The AcroPack® product line updates our popular Industry Pack I/O modules with a PCIe interface format. This tech-refresh design offers a compact size, low-cost I/O, and a rugged form factor. Combining different AcroPack module types on one XMC, VPX, or PCIe carrier allows for a simplified modular approach to system assembly.

These modules provide a single port Ethernet which is capable of speeds of 10, 100 or 1000 Mbps data rates.

The AP580E-POE-LF offers an option which makes the AP580E a power sourcing equipment device (PSE) that provides 52V DC up to 10 watts of power to powered devices (PD) such as a video camera and VOIP phones or any other PD device. This allows a user to connect point to point without contending with any other traffic on a network.

Designed for COTS applications these Ethernet communication mezzanine modules deliver high-density, high-reliability, and high-performance at a low cost.

The AP580 series modules are 70mm long, this is 19.05mm longer than the full-length mini PCIe card at 50.95mm. The board's width is the same as mPCIe board of 30mm and they use the same mPCIe standard board hold down standoff and screw keep out areas.

A down facing 100 pin Samtec connector will mate with the carrier card. This ensures a secure connection for your I/O.

Fifty of these signals are available as field I/O signals.
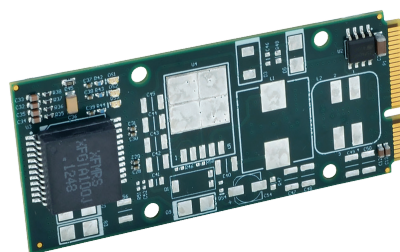
Key Features & Benefits

- Power over Ethernet as a power sourcing device
- Supports Intel i210 Ethernet controller PROset drivers
- Small form factor
- Intel 1Gb i210 Ethernet Controller
- Single port
- Failsafe receivers
- Audio Video bridging
- Jumbo frames
- Interrupt moderation, VLAN support and IP checksum offload
- PCIe optimized system power management
- Four transmit and four receive queues
- RSS and MSI-X to lower CPU utilization in multi-core systems
- Advanced cable diagnostics, auto MDI-X
- Error correcting memory in packet buffers
- CE compliant

Model AP580E-LF

Acromag — THE LEADER IN INDUSTRIAL I/O

Performance Specifications

■ General

Power

Power Supply Voltage	Current Draw
+3.3V DC ±5%	115 mA (max.)
1.5V DC	Not used
5.0V DC	Not used
+12V DC	1.5A (min.)*
-12V DC	Not used

*AP580E-POE-LF only

AP580E-POE-FL Output Power
52V DC at 0.193A (max.) 10 watts.

Isolation
POE output voltage, 100V DC.

■ PCI Express Base Specification

Conforms to revision 2.1

Lanes
1 lane.

Bus Speed
2.5 Gbps (Generation 1).

Memory
4K required.

■ Environmental

Operating temperature
-40 to 70°C.

Storage temperature
-55 to 125°C

Relative humidity
5 to 95% non-condensing.

Operating Vibration
Designed to comply to MIL-STD-810G, method 514.6.

Operating Shock
Designed to comply to MIL-STD-810G, method 516.6.

EMC Directive
Conforms to EMC Directive 2004/108/EC.

■ Physical

Length
70mm.

Width
30mm.

Ordering Information

AcroPack® Modules

AP580E-LF
1Gb Ethernet board.

AP580E-POE-LF
1Gb Ethernet with Power Over Ethernet.

(Note: AcroPack modules are compatible only with the carriers listed below)

Carrier Cards

See Acromag.com/AcroPack-Carriers for a full list of AcroPack carrier cards.

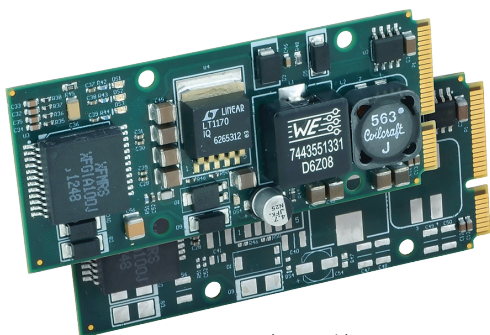### Software *(see software documentation for details)*

APSW-API-VXW
VxWorks® software support package.

APSW-API-WIN
Windows® DLL driver software support package.

APSW-API-LNX
Linux® support (website download only).

AP580POE shown with AP580

Acromag ▶
THE LEADER IN INDUSTRIAL I/O