Description

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, the same functionality and memory map of the existing Industry Pack modules.

This board interfaces one AcroPack mezzanine module to a PCI Express bus on a PC-based computer system.

Select I/O modules from Acromag’s offering or use most third-party mPCIe compliant modules.

Key Features & Benefits

- One AcroPack or mini-PCIe module slot
- PCI Express compliant
- Plug-and-play carrier configuration and interrupt support
- Fused +1.5V, +3.3V, +5V, +12V, and -12V DC power is provided. A fuse is present on each supply line serving each AcroPack module.
- Front panel 68-pin CHAMP 0.8mm connectors for field I/O signals
- Optional isolated power supplies. Support for AcroPacks requiring ±12 Volt isolated power.
- Extended temperature range
- DIP switch card identification
- Standard 14-pin Xilinx JTAG programming header
- Software development tools for VxWorks®, Linux®, and Windows® environments.
Performance Specifications

- **PCI Express Bus Compliance**
  This device meets or exceeds all written PCI Express specifications per revision 2.1.
  The host port consists of one PCIe lane, each of the mini-PCIe sites have one lane each.

- **I/O Interface**
  Connectors
  - P1 (PCIe Bus): PCIe V2.1.
  - J3 (Carrier Field I/O): 68-pin, CHAMP (TE Connectivity 5796055-1).
  - P2 (AcroPack Field I/O): 100-pin socket (Samtec SS5-50-3.00-L-D-K-RT).
  - J1, (Mini-PCIe): 52-pin socket (TE Connectivity 1759547-1).
  - P3 (JTAG): 14-pin header (Molex 87832-1420).

  Gold plating in the connection area, M2.5 screws and spacers provide excellent connection integrity and stability for harsh environments.

- **Ease of Use**
  A standard 14-pin Xilinx JTAG programming header is provided for programming and debugging the FPGA on some AcroPack modules.

- **Physical**
  **Physical Configuration**
  - PCIe x1 low-profile
  - Length: 6.3 inches (160 mm).
  - Height: 2.711 inches (68.86 mm).
  - Includes standard and low-profile brackets.

- **Environmental**
  **Operating temperature**
  -40 to +85°C
  **Storage temperature**
  -55 to +125°C.
  **Relative humidity**
  5 to 95% non-condensing.
  **Power**
  +3.3 Volts (±10%): 0.95mA typical
  +12 Volts (±5%): 25mA Typical

  The APCe7012E-LF has DC/DC converters to provide the power supply voltages to the AcroPack modules that are not present at the host interface. The +1.5 Volt supply is sourced from the +3.3 Volt host power. The +5 Volt and -12 Volt supply is sourced from +12 Volt host power.

Ordering Information

- **Carrier Card**
  APCe7012E-LF: AcroPack carrier card for AcroPack or mPCIe modules, one module slot.

- **Accessories**
  5025-288: Termination panel, DIN-rail mountable, SCSI-3 connector, 68 screw terminals.
  5028-420: Round cable, shielded, male SCSI-3 connector to 68-pin CHAMP. 0.8mm, 2 meters long.
  5028-615: Cable, 68-pin CHAMP to pigtail, 36 inches long.
  5028-616: Cable, 68-pin CHAMP to pigtail, 70 inches long.

- **Software**
  (see software documentation for details)
  - APSW-API-VXW: VxWorks software support package
  - APSW-API-WIN: Windows DLL driver software support pkg
  - APSW-API-LNX: Linux® support (website download only)