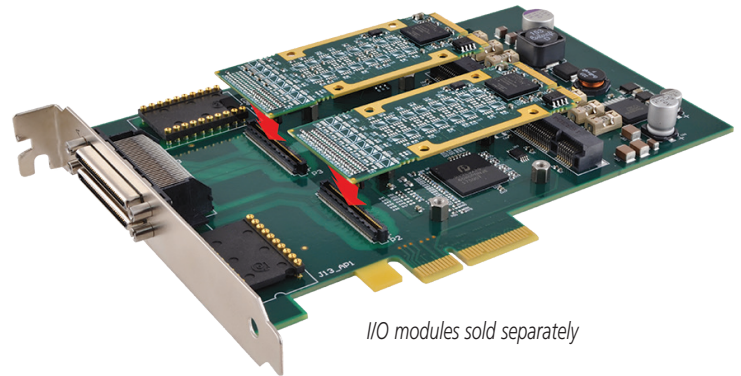
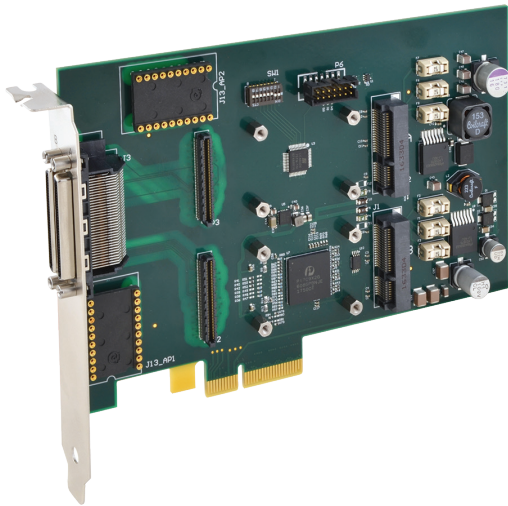


AcroPack® Carriers

APCe7000 Series PCI Express Carrier Cards for AcroPack® Modules



I/O modules sold separately

Two AcroPack or mini-PCIe mezzanine module slots ♦ Non-Intelligent carrier card ♦ PCIe x4 interface

Description

Model: APCe7022E-LF

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 two AcroPack mezzanine modules to a PCI Express bus on a PC-based computer system.

Two AcroPack module slots give you the freedom to mix a variety of I/O functions (A/D, D/A, digital in, digital out, serial I/O, etc.) on a single board. Or, combine modules of the same type for almost one hundred channels on a single card. Either way, the APCe7022 saves your precious card slots and reduces your costs.

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

Key Features & Benefits

- Two AcroPack or mini-PCIe module slots support any combination of I/O functions
- 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
- Extended temperature range
- DIP switch card identification
- Standard 14-pin Xilinx JTAG programming header
- Software development tools for VxWorks®, Linux®, and Windows® environments.

Acromag 
THE LEADER IN INDUSTRIAL I/O

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Performance Specifications

■ PCI Express Bus Compliance

This device meets or exceeds all written PCI Express specifications per revision 2.1.

Includes a PCIe Gen 2 switch to expand the single host PCIe port to two ports, one to each device (AcroPack or mini-PCIe).

The host port consists of four PCIe lanes, each of the mini-PCIe sites have one lane each.

■ I/O Interface

Connectors

P1 (PCIe Bus): PCIe V2.1 x4 lane (PCIe Gen 2 Switch).

J3 (Carrier Field I/O): 68-pin, stacked, CHAMP (TE Connectivity 5787962).

P2, 3 (AcroPack Field I/O): 100-pin socket (Samtec S55-50-3.00-L-D-K-RT).

J1, 2 (Mini-PCIe): 52-pin socket (TE Connectivity 1759547-1).

P6 (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 unique carrier and site number can be set for each AcroPack site by a DIP switch. This provides the capability to distinguish a particular AcroPack module from others when multiple instances of the same module are used in a system.

A standard 14-pin Xilinx JTAG programming header is provided for programming and debugging the FPGA on some AcroPack modules. The JTAG ports of the two AcroPack modules are daisy-chained.

■ Physical

Physical Configuration

PCIe x4 lane.

Length: 6.3 inches (160.02 mm).

Height: 4.375 inches (111.12 mm).

■ Environmental

Operating temperature

-40 to +85°C with 200 LFM airflow.

Storage temperature

-55 to +125°C.

Relative humidity

5 to 95% non-condensing.

Power

+3.3 Volts (±5%): 0.5 A typical.

+12 Volts (±8%): 27mA Typical.

The APCe7022E-LF has three 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

[APCe7022E-LF](#): AcroPack carrier card for AcroPack or mPCIe modules, plus extended temperature range.

See [Acromag.com/AcroPacks](#) for a full list of I/O modules.

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).

