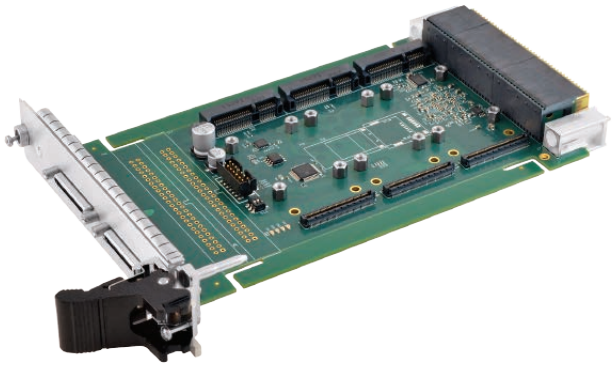
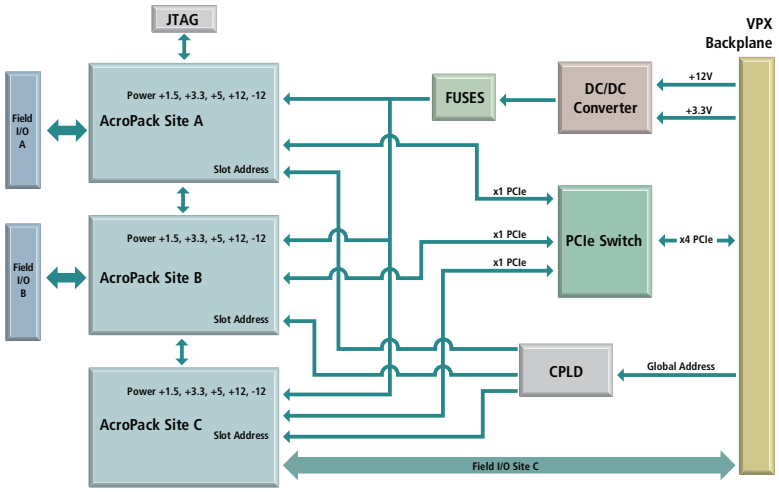
VPX AcroPack® Carrier Cards

VPX4500 Series VPX Carrier Cards for AcroPack® Modules

CE 2 YEAR WARRANTY RoHS Compliant





Air-cooled and conduction-cooled versions ◆ 3U Format ◆ Three AcroPack slots ◆ PCIe Gen 1 interface

Description

Models
VPX4500E-LF: Air-cooled
VPX4500-CC-LF: Conduction-cooled

The VPX4500 is a 3U VPX carrier for Acromag AcroPack (AP) mezzanine board modules. The carrier board provides a modular approach to system assembly since each carrier can be populated with any combination of analog input/output, digital input/output, communication, AP modules. The modularity allows the user to create a board which is customized to the application. This saves money and space; a single carrier board populated with AP modules may replace several dedicated function VPX boards. The VPX4500 carrier board provides impressive functionality at low cost.

Model VPX4500E-LF is an air-cooled product that supports three AcroPack sites. Two of the sites provide field I/O connections through front panel mounted 50 pin shielded connectors. The third site provides field I/O connections through the VPX backplane.

Model VPX4500-CC-LF is a conduction-cooled product that supports three AcroPack sites. Two of the sites provide field I/O connections through 50 pin ribbon cable connectors. The third site provides field I/O connections to the VPX backplane.

Model VPX4500 RTM LF is a rear transition module used with both the VPX4500 E LF and the VPX4500 CC LF carriers to provide access to the slot C AcroPack field I/O signals.

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.

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

VPX4500-CC-LF

Key Features & Benefits

- Three AcroPack or mini-PCIe module slots support any combination of I/O functions.
- PCI Express version 2.1 compliant.
- 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 SCSI-2 connectors for the field I/O signals using VPX4500E-LF.
- Extended temperature range.
- 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 three 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.

Ease of Use

A unique carrier and site number is set via slot address. 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.

General

Form Factor
3U VPX bus 6.299" (160mm) x 3.937" (100.0mm).

Pitch
VPX4500-LF (air-cooled): 1" pitch.
VPX4500-CC-LF (conduction-cooled): 1" pitch.

VPX Carrier Interface
Compatible VITA 65 module / slot profiles:
FRU EEPROM with temperature monitor.

AcroPack Interface
One AcroPack module in single VPX slot.

3.3V, 5V and ±12V provided for AcroPack modules via the VPX backplane.

Power Requirements

Power
+3.3 Volts (±10%): 0.55mA typical

+12 Volts (±5%): 25mA Typical

The VPX4500 has two 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 5 Volt host power. The -12 Volt supply is sourced from +12 Volt host power.

Physical

Physical Configuration
PCIe x4 lane.

Field I/O Connector
VPX4500-CC-LF: Two 50-pin male headers.

VPX4500-LF: Two 50-pin Champ 0.8mm connectors.

Environmental

Operating temperature
VPX4500-LF: -40 to +85°C.

VPX4500-CC-LF: -40 to +85°C.

VPX4500-RTM-LF: -40 to +85°C.

Storage Temperature Range
-55 to 125°C.

Relative Humidity
5 to 95% non-condensing.

Vibration
0.05g RMS (20 - 2000Hz) random, operating 6g RMS per Hz spectrum.

Shock
30g each axis, 11ms.

Ordering Information

Carrier Cards

VPX4500-LF
VPX carrier card, 3U, three AcroPack slots.

VPX4500-CC-LF
Conduction-cooled version of VPX-4500.

See www.Acromag.com/AcroPacks for a full list of AcroPack I/O modules.

Accessories

VPX4500-RTM-LF
Rear transition module

5028-372
Round cable, shielded, SCSI-2 to CHAMP. 0.8mm, 2 meters long.

5028-378
Termination panel, SCSI-2 connector, 50 screw terminals

5025-552
Termination panel, DIN-rail mountable panel

5025-550-3
Non-shielded cable, 3 feet long

5025-550-7
Non-shielded cable, 7 feet long

5025-550-10
Non-shielded cable, 10 feet long

5025-551-3
Shielded cable, 3 feet long

5025-551-4
Shielded cable, 4 feet long

5025-551-7
Shielded cable, 7 feet long

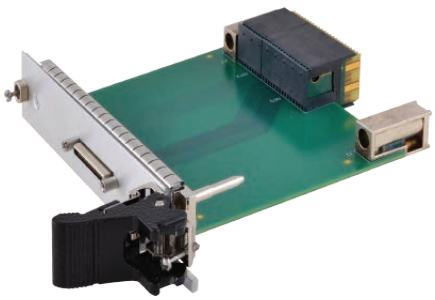
5025-551-10
Shielded cable, 10 feet long

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)



VPX4500-RTM-LF

ISO9001
AS9100
MADE IN USA

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