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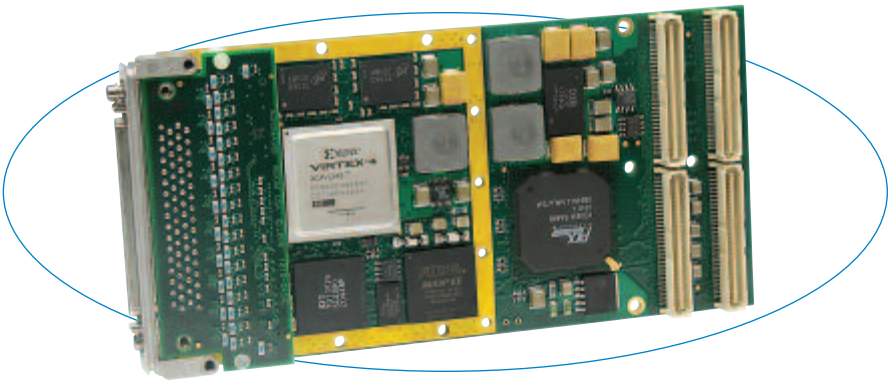
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Acromag
THE LEADER IN INDUSTRIAL I/O

PMC-LX40/LX60 User-configurable Virtex-4 FPGA Modules with plug-in I/O

- PMC-LX40: 41,472 logic cells (XC4VLX40)
- PMC-LX60: 59,904 logic cells (XC4VLX60)



Download your own logic programs into the user-configured FPGA to quickly create a custom I/O module. Shown with optional plug-in I/O module.

Description

Acromag's PMC-LX boards use a high-performance Xilinx® Virtex-4™ FPGA, but maintain a relatively low price point. They are optimized for high-performance logic, featuring a high logic-to-feature ratio and a high I/O-to-feature ratio Two modules let you select an FPGA to match your logic requirements.

Although there is no limit to the uses for Acromag's FPGA boards, several applications are ideal for this new technology. Typical uses include hardware simulation, communication processing, in-circuit diagnostics, military servers, and telecommunication.

I/O processing is handled on a separate mezzanine card that plugs into the FPGA base board. A variety of these external I/O cards offer an interface for your analog and digital I/O signals. See the AXM I/O Card data sheet (Bulletin 8400-458) for more details. Additionally, 64 I/O lines are supported via the rear (J4) connector.

Plenty of DRAM memory is available for receipt and transfer of high-speed data from the I/O data ports on the front and rear of the board. Dual Ported SRAM memory is supplied for storage of data to be passed, via DMA transfer, to the PCI bus. One of the dual ports is attached to the FPGA and the other to the local bus.

The PCI bus interface is handled by a PLX® PCI 9656 device which provides 64-bit 66MHz bus mastering with dual-channel DMA support.

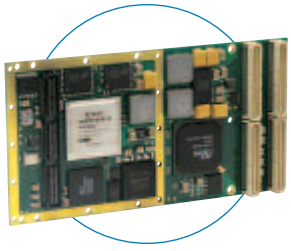
Take advantage of the optional conduction cooling for use in hostile environments. Conduction cooling provides efficient heat dissipation in environments where there is inadequate cooling air flow.

Acromag provides software utilities and examples to simplify your programming and get you started quickly. A JTAG interface enables on-board VHDL simulation.

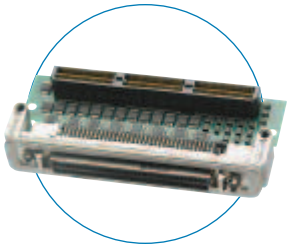
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Features

- Customizable FPGA (Xilinx Virtex-4 XC4VLX40/60) with up to 60K logic cells and 64 XtremeDSP™ slices
- Supports both front and rear I/O
- Plug-in I/O modules are available for front mezzanine
- 64 I/O lines supported with direct connection to FPGA via rear (J4) connector
- FPGA code loads from PCI bus or flash memory
- 256K x 36-bit dual-ported SRAM
- 32Mb x 32-bit DDR DRAM
- Supports dual DMA channel data transfer to CPU
- Supports both 5V and 3.3V signalling
- Conduction cooled or 0 to 70°C operating range



The base board is ready for conduction-cooled applications.



Plug-in AXM modules sold separately for analog and digital I/O.

Specifications

FPGA

FPGA: Xilinx Virtex-4 FPGA
PMC-LX40: XC4VLX40 FPGA with 41,472 logic cells and 64 DSP slices
PMC-LX60: XC4VLX60 FPGA with 59,904 logic cells and 64 DSP slices

FPGA configuration: Downloadable via PCI bus or from flash memory.

Example FPGA program: VHDL provided implements interface to PCI bus IC, interface to dual port SRAM, PLL control, ADC, and DAC control. Program requires user proficiency with Xilinx software tools. See Engineering Design Kit.

I/O Processing

AXM modules: for front mezzanine:
Acromag AXM modules attach to the board to provide I/O. A variety of modules are available and are sold separately.

Rear I/O:
32 LVDS I/O lines supported with a direct connection between the FPGA and the rear I/O connector (J4).

Engineering Design Kit

Provides user with basic information required to develop a custom FPGA program. Kit must be ordered with the first purchase of a PMC-LX module. *(see Design Kit for details)*

PMC Compliance

Conforms to PCI Local Bus Specification, Revision 2.2 and CMC/PMC Specification, P1386.1.

Electrical/Mechanical Interface: Single-Width Module.

PCI bus clock frequency: 66MHz.

64-bit PCI Master: Implemented by PLX PCI 9656 device.

Signaling: 5V and 3.3V compliant.

Interrupts (INTA#): Interrupt A is used to request an interrupt.

Environmental

Operating temperature: 0 to 70°C

Storage temperature: -55 to 105°C.

Relative humidity: 5 to 95% non-condensing.

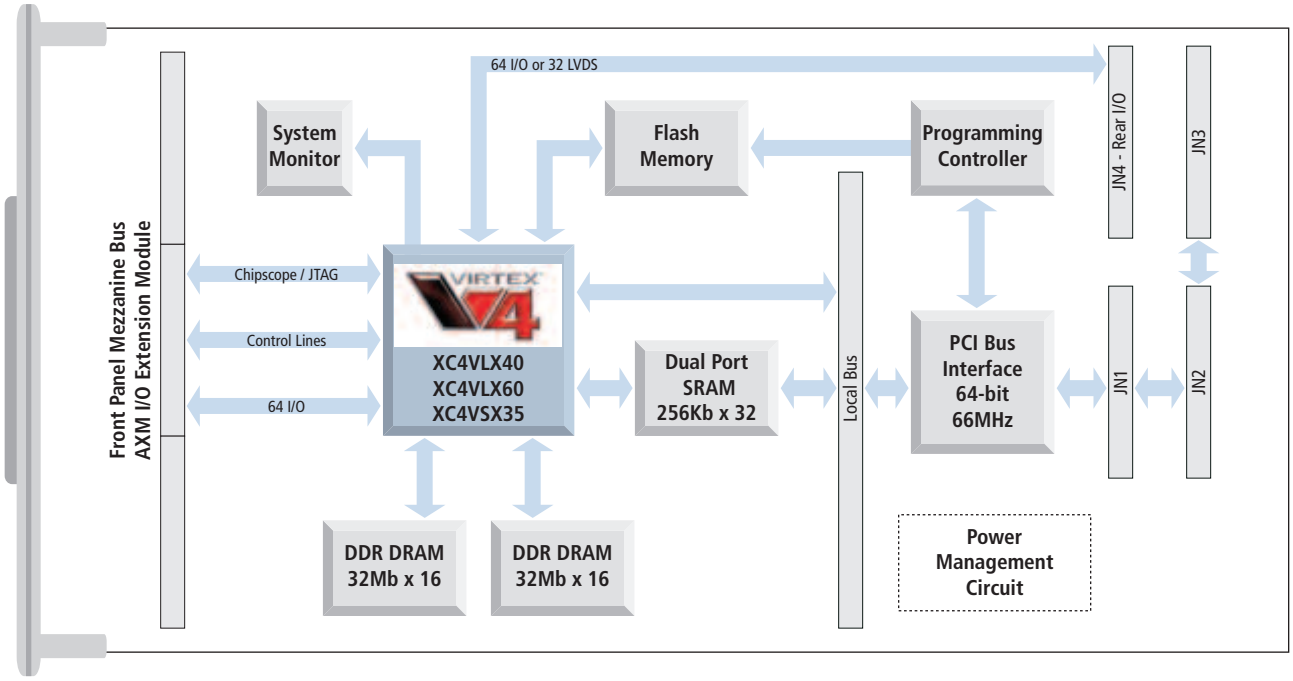
Power: Consult factory. Operates from 3.3V supply.

MTBF: Hours at 25°C MIL-HDBK-217F, Notice 2
PMC-LX40 773,246; PMC-LX60 870,489

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Ordering Information

PMC Modules

PMC-LX40
User-configurable Virtex-4 FPGA with 41,472 logic cells

PMC-LX60
User-configurable Virtex-4 FPGA with 59,904 logic cells

PMC-LX-EDK
Engineering Design Kit (one kit required)

AXM Plug-In I/O Modules

For more information, see AXM data sheet 8400-458.

AXM-A30
2 16-bit 100MHz A/D channels

AXM-D02
30 RS485 differential I/O channels

AXM-D03
16 CMOS and 22 RS485 differential I/O channels

AXM-D04
30 LVDS I/O channels

AXM-??
Custom I/O configurations available, call factory.

Software *(see software documentation for details)*

PMCSW-API-VXW
VxWorks® software support package

PCISW-API-QNX
QNX® software support package

PCISW-API-WIN
Windows® DLL software support

PCISW-LINUX
Linux™ support (website download only)

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