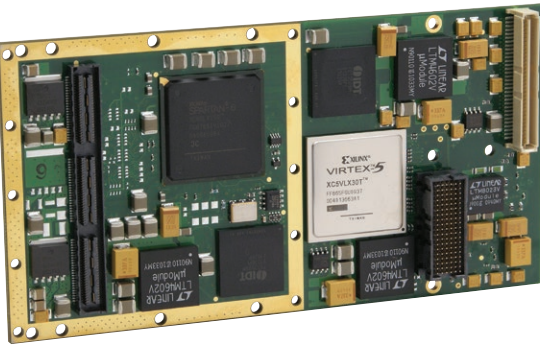


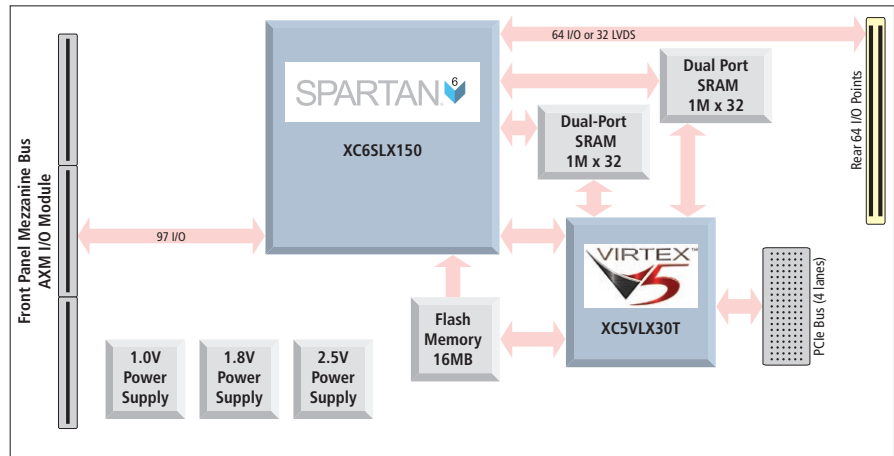
XMC Modules

XMC-SLX User-Configurable Spartan-6 FPGA Modules with Plug-In I/O

2 YEAR WARRANTY



SPARTAN-6



XMC module with PCIe interface ♦ Logic-optimized Spartan-6 FPGA ♦ I/O extension mezzanine modules

Description

Acromag's cost-effective [XMC-SLX](#) modules feature a user-configurable Xilinx® Spartan®-6 FPGA enhanced with high-speed memory and a high-throughput PCIe interface. Field I/O interfaces to the FPGA via the rear J4/P4 connector and/or with optional front mezzanine plug-in I/O modules. The result is a powerful and flexible I/O processor module that is capable of executing custom instruction sets and algorithms.

The logic-optimized FPGA is well-suited for a broad range of applications. Typical uses include hardware simulation, communications, in-circuit diagnostics, military servers, signal intelligence, and image processing.

Large, high-speed memory banks enable efficient data handling. The dual-port SRAM facilitates high-speed DMA transfers to the bus or CPU. A high-bandwidth PCIe interface ensures fast data throughput.

64 I/O lines are accessible through the rear (J4) connector. Additional I/O processing is supported on a separate mezzanine card that plugs into the FPGA base board. A variety of these external AXM I/O cards are available to interface your analog and digital I/O signals.

Take advantage of the conduction-cooled design for use in hostile environments. Conduction efficiently dissipates heat if there is inadequate cooling air flow. Optional extended temperature models operate reliably from -40 to 85°C.

Acromag's Engineering Design Kit provides software utilities and example VHDL code to simplify your program development and get you running quickly. A JTAG interface enables on-board VHDL debugging.



Plug in an AXM analog or digital I/O module for additional I/O signal processing capabilities.



VPX air-cooled and REDI versions are available

Key Features & Benefits

- Reconfigurable Xilinx Spartan-6 FPGA with 147,433 logic cells
- PCIe bus 4-lane Gen 1 interface
- 256k x 64-bit dual-ported SRAM provides direct links from the PCIe bus and to the FPGA (optional 1M x 64-bit)
- Supports both front and rear I/O connections
- 64 I/O or 32 LVDS lines direct to FPGA via rear (J4) connector
- Plug-in I/O extension modules are available for the front mezzanine
- FPGA code loads from the PCIe bus or from flash memory
- Other memory options available (call factory)
- Supports dual DMA channel data transfer to the CPU/bus
- Support for Xilinx ChipScope™ Pro interface
- Designed for conduction-cooled host card or -40 to 85°C operation in air-cooled systems

Acromag  THE LEADER IN INDUSTRIAL I/O

Tel 248-295-0310 ■ solutions@acromag.com ■ www.acromag.com ■ 30765 Wixom Rd, Wixom, MI 48393 USA

XMC Modules

XMC-SLX User-Configurable Spartan-6 FPGA Modules with Plug-In I/O

Performance Specifications

FPGA

FPGA Device

Xilinx Spartan-6 FPGA.

Model XC6SLX150-3FG676 FPGA with 147,433 logic cells and 180 DSP48A1 slices.

FPGA configuration

Download via PCIe bus or flash memory.

Example FPGA program

VHDL provided for bus interface, front & rear I/O control, SRAM read/write interface logic, and SDRAM memory interface controller. See EDK kit.

I/O Processing

Acromag AXM I/O modules:

AXM modules plug into the XMC module's front mezzanine for additional I/O lines. Analog and digital I/O AXM modules are sold separately.

Rear I/O

64 I/O (32 LVDS) 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 XMC-SLX module (see www.acromag.com for more information).

XMC Compliance

Conforms to PCI Express 1.1a electrical and protocol standards. 2.5Gbps data rate per lane per direction.

Complies with ANSIVITA 42.0 specification for XMC module mechanicals and connectors.

Complies with ANSIVITA 42.3 specification for XMC modules with PCI Express interface.

Electrical/Mechanical Interface: Single-Width Module.

Environmental

Operating temperature

-0 to 70°C or -40 to 85°C (E versions).

Storage temperature

-55 to 125°C.

Relative humidity

5 to 95% non-condensing.

Power

3.3V (±5%): 700mA typical, 840mA maximum.

12V (±5%): 640mA typical, 804mA maximum.

MTBF

Contact the factory.

Ordering Information

NOTE: XMC-SLX-EDK is required to configure FPGA.

XMC Modules

XMC-SLX150

User-configurable Spartan-6 FPGA, 150k logic cells, 256 x 64-bit dual-port SRAM

XMC-SLX150E

Same as XMC-SLX150 with extended temp. range

XMC-SLX150-1M

User-configurable Spartan-6 FPGA, 150k logic cells, 1M x 64-bit dual-port SRAM

XMC-SLX150E-1M

Same as XMC-SLX150-1M with extended temp. range

AXM Plug-In I/O Extension Modules

For more information, see www.acromag.com.

AXM-A30

2 analog input 100MHz 16-bit 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

For more information, see www.acromag.com.

XMC-SLX-EDK

Engineering Design Kit (one kit required)

PMCSW-API-VXW

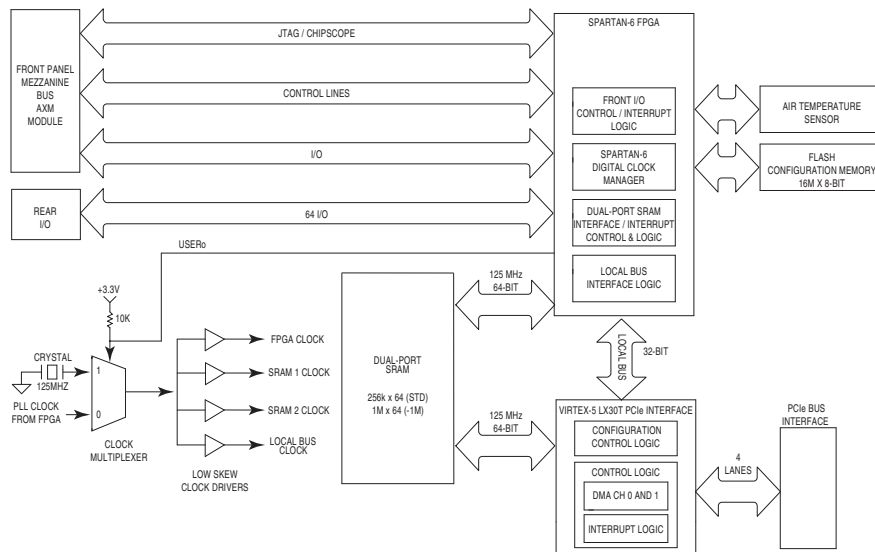
VxWorks® software support package

PCISW-API-WIN

Windows® DLL software support package

PCISW-API-LNX

Linux® support (website download only)



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