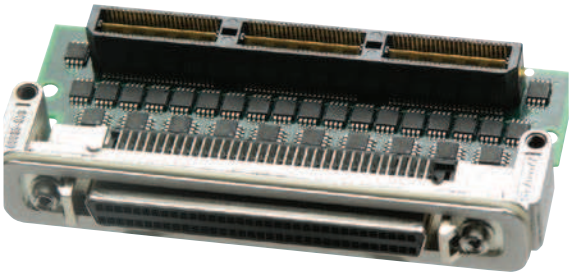
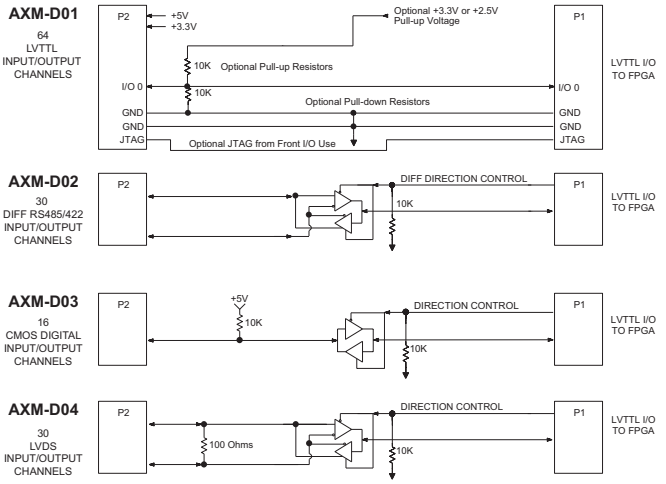
PMC Modules

AXM Series Digital I/O Extension Modules for PMC FPGA Boards

2 YEAR WARRANTY | 24 HOUR STOCK ITEM





Plug-In I/O Modules ◆ Choose from four I/O Options ◆ JTAG Support Option

Description

AXM Series extension modules offer numerous I/O options for Acromag's PMC modules with configurable FPGAs. These extension modules plug into the front mezzanine on Acromag's PMC-LX/SX (Virtex®-4 FPGA), PMC-VLX/VSX/VFX (Virtex-5 FPGA) modules, and PMC-SLX (Spartan-6 FPGA) modules.

AXM-D01 LVTTL I/O

This module provides 64 LVTTL I/O channels for straight though I/O. custom modules are available for optional pull-ups, pull-downs, JTAG, and fusted power for front I/O use.

AXM-D02 RS-485 Differential I/O

This module provides 30 differential I/O channels. Data direction, either input or output, on each channel is independently controlled. Eight of the channels support programmable change-of-state interrupts. JTAG option.

AXM modules attach to PMC Modules with user-configurable FPGAs.

AXM-D03 CMOS and RS-485 Differential I/O

This module provides 16 CMOS and 22 RS-485 differential I/O channels. Data direction, either input or output, on each channel is independently controlled. Eight of the channels support programmable change-of-state interrupts.

AXM-DX03 CMOS and RS-485 Differential I/O

Same as AXM-D03 above except 16 CMOS and 24 RS-485 differential I/O channels. Provides a replacement for legacy PMC-DX503/2003 FPGA modules when used with PMC/XMC-SLX.

AXM-D04 LVDS

This module provides 30 channels of low voltage differential signaling with independently configured direction. Interrupts are programmable on eight of the channels for any bit change of state or level. JTAG option

Key Features & Benefits

- Various modules allows users to select the Front I/O required for their application.
- Differential RS485/RS422 can be configured for input or output with independent direction control.
- Interface with 5V compliant input/output CMOS channels which can be configured as input or output with independent direction control.
- Low voltage differential signaling can be configured for input or output with independent direction control.
- The EDK board provides the standard Xilinx JTAG interface to allow direct programming of the FPGA and an interface with ChipScope®.
- Example code provides interrupts that are software programmable for any bit Change-Of-State or level on 8 channels.
- Example Design – The example VHDL design, provided in the base board EDK, includes control of all I/O, and eight Change-Of-State interrupts.

Acromag® THE LEADER IN INDUSTRIAL I/O

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PMC Modules

AXM Series Digital I/O Extension Modules for PMC FPGA Boards

Performance Specifications

AXM-D01
Channel configuration: 64 channel bi-directional LVTTL signals are independently direction controlled. LVTTL I/O characteristics: all I/O characteractics are determined by the FPGA.

AXM-D02
Channel configuration: 30 bi-directional differential signals with independently configured direction. Channels to the FPGA are buffered using EIA RS485/ RS422 line transceivers. Optional JTAG access via front connector.

Differential driver output voltage:
1.5V minimum., 3.3V maximum with 54 ohm load.

AXM-D03
Channel configuration: 16 bi-directional CMOS transceivers (input/output direction controlled as pairs of channels) and 22 bi-directional differential signals with independently configured direction.

Differential channels: Same as AXM-D02.

CMOS I/O electrical characteristics:

V_{OH}:	3.8V minimum	V_{OL}:	0.55V maximum
I_{OH}:	-32.0mA	I_{OH}:	32.0mA
V_{IH}:	3.5V minimum	V_{IL}:	1.5V maximum

AXM-DX03
Same as AXM-D03 above except 16 CMOS and 24 RS-485 differential I/O channels. Provides a replacement for legacy PMC-DX503/2003 FPGA modules when used with PMC/XMC-SLX.

AXM-D04
Channel configuration: 30 channels of low voltage differential signaling with independently configured I/O direction. Optional JTAG access via front connector.

LVDS I/O electrical characteristics:
LVDS driver output voltage: 247m V min., 454mV max.
Common mode output voltage: 1.37 V max.
LVDS Input Threshold Voltage: -50mV min.,50mV max.

Physical Dimensions

Size
11.5 mm high x 31.0 mm deep x 74.0 mm wide
(0.453 inches x 1.220 inches x 2.913 inches)

Stacking height
8.0 mm (0.315 inches).

PMC Compliance
Complies with PMC Specification P1386.1 for a single-width PMC module when attached to the PMC front mezzanine.

Connectors
Front field I/O: 68-pin, SCSI-3, female receptacle header (AMP 5787394-7 or equivalent).

Environmental

Operating temperature
-40 to 85°C

Storage temperature
-55 to 150°C

Relative humidity
5 to 95% non-condensing

Power:
1.5W typical (AXM-D02, AXM-D03)
0.6W typical (AXM-D04)

MTBF
Hours are at 25°C, MIL-HDBK-217F, Notice 2

AXM-D01: TBD
AXM-D02: 3,559,276 hours
AXM-D03: 3,921,522 hours
AXM-DX03: TBD
AXM-D04: 6,534,197 hours

Ordering Information

AXM Plug-In I/O Modules

AXM-D01
64 bi-directional LVTTL I/O channels

AXM-D02
30 RS-485 Differential I/O channels

AXM-D02-JTAG
Same as AXM-D02 plus JTAG support.

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

AXM-DX03
16 CMOS and 24 RS485 differential I/O channels

AXM-D04
30 LVDS I/O channels

AXM-D04-JTAG
Same as AXM-D04 plus JTAG support.

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

PMC Modules

For more information, see individual data sheets
PMC-LX, PMC-SX, PMC-VLX, PMC-VSX, PMC-VFX

Software

(see software documentation for details)

Accessories

(see accessories documentation for details)

ISO9001
AS9100
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