

# MXI-4 SERIES

## PXI BUS EXPANDER

- Supports remote control of PXI and CompactPCI chassis
- Transparent PCI bridge operation
- 132 Mbytes/s peak data rate
- 78 Mbytes/s sustained data rate
- Fiber-optic or copper cabling
- PCI and PCI Express interface configurations
- Electrical isolation and long-range with fiber-optic
- Rugged connectivity



## DESCRIPTION

The MXI-4 PXI Bus Expanders allow for direct control of PXI systems from any PCI or PCI Express slot in a desktop computer or server. MXI-4 interface cards can also be used for linking multiple PXI chassis. MXI-4 technology utilizes a high-bandwidth link that is transparent to software applications and drivers, therefore providing the ability to use high performance desktop computers or servers to control PXI systems.

## FEATURES

Since PXI is based on the industry-standard PCI bus, MXI-4 Bus Expanders provide a transparent link where all PXI modules appear to the user as if they were PCI boards within the computer itself. With PXI technology, however, users benefit from an increased number of slots, power and cooling per slot, module selection, and synchronization features. Additionally, with the MXI-4 fiber optic cable option, you can electrically isolate your PXI measurement hardware from the PC with an extended-length cable of up to 200m.

The MXI-4 Series builds on the standard PCI-to-PCI bridge architecture by splitting the bridge into two halves which are connected by a 1.5 Gb/s serial link. The PCI specification allows up to 255 buses to be connected in a system via PCI-PCI bridges such as the MXI-4 Series. MXI-4 supports both 3.3 V and 5 V PCI signaling environments, error checking, re-transmission on the serial link for greater reliability in electrically noisy or harsh environments, and offers rugged industrial grade connectors.

The MXI-4 link is available in several configurations. A PCI to PXI copper or fiber optic kit is available which consists of a PCI card, copper or fiber optic cable, and a PXI interface card. Also available is a MXI-Express interface kit that consists of a PCI Express card, interface cable, and PXI interface card. MXI-Express kits are available for supporting one or two PXI interface cards via one or two x1 PXI Express lanes respectively. The PCI-Express interface cards are compatible with x1, x4, x8, and x16 PCI-Express slot configurations. Individual kit components may be purchased separately for spares or to meet your specific requirements.

## Multi-Chassis Systems

The MXI-4 Bus Expanders can be used to connect multiple PXI chassis in a star or daisy-chain configuration within a single system. To connect two PXI chassis together, install a MXI-4-PXI card into any peripheral slot of the master chassis, and then connect the appropriate cable to a second MXI-4-PXI in slot 1 of the slave chassis.



MXI-4-Kit, PXI to PXI shown here

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## SPECIFICATIONS

POWER REQUIREMENTS	
+5 V	MXI-4-C: 1.5 A (Typ.); 1.7 A (Max.) , (ea. I/F card) MXI-4-F: 1.5 A (Typ.); 1.7 A (Max.) , (ea. I/F card) PXI I/F: 5 mA (Typ.); 20 mA (Max.)
+3.3 V	MXI-4-C: 0.25 A (Typ.); 0.3 A (Max.) , (ea. I/F card) MXI-4-F: 0.35 A (Typ.); 0.4 A (Max.) , (ea. I/F card) PCIe: 1.8 A (Typ.); 2.0 A (Max.) , (x1 or x2 config.) PXI I/F: 1.5 A (Typ.); 1.75 A (Max.)
+12 V	PXI I/F: 5 mA (Typ.); 20 mA (Max)
GENERAL	
MAX. CABLE LENGTH	10 m (copper), (MXI-4) 200 m (fiber), (MXI-4) 7 m, (MXI-Express)
TEMPERATURE OPERATING STORAGE	0° to 55° C -20° to 70° C
RELATIVE HUMIDITY OPERATING STORAGE	10 to 90%, noncondensing 5 to 95%, noncondensing
SHOCK & VIBRATION	Operational shock 30 g peak, half-sine, 11 ms pulse (Tested in accordance with IEC-60068-2-27. Test profile developed in accordance with MIL-PRF-28800F.)
RANDOM VIBRATION OPERATING NON-OPERATING	5 to 500 Hz, 0.3 grms 5 to 500 Hz, 2.4 grms (Tested in accordance with IEC-60068-2-64. Non-operating profile exceeds the requirements of MIL-PRF-28800F, Class 3.)
DIMENSIONS MXI-4-PCI-C/F MXI-4-PXI-C/F & PXI I/F PCI-EXPRESS	4.2" x 6.9" (10.7 cm x 17.5 cm) 3U PXI slot 4.4"x 6.9"
COMPATIBILITY	Fully compatible with PXI Hardware Specification 2.1, PCI Specification 2.2, and PCI Express Specification 1.0a.

Note(s): Specifications are subject to change without notice. For full EMC compliance, this device must be operated with shielded cabling. In addition, all covers and filler panels must be installed.

## ORDERING INFORMATION

MXI-4 KITS	
MXI-4-C	MXI-4 Kit, Copper, PCI to PXI with 3 m cable
MXI-4-F	MXI-4 Kit, Fiber Optic, PCI to PXI with 10 m cable
MXI-EXPRESS	MXI-Express Kit, PCIe interface card, PXI interface card, and 3-meter cable
MXI-EXPRESS-2	Dual MXI-Express Kit, Dual lane PCIe interface card, two PXI interface cards, and two 3-meter cables
MXI-4 BOARDS (REQUIRES MINIMUM OF 2 BOARDS AND CABLE)	
MXI-4-PCI-C	MXI-4 Interface Card, PCI, Copper
MXI-4-PXI-C	MXI-4 Interface Card, PXI, Copper
MXI-4-PCI-F	MXI-4 Interface Card, PCI, Fiber Optic
MXI-4-PXI-F	MXI-4 Interface Card, PXI, Fiber Optic
MXI4-CBL-C-3M	MXI-4 Copper Cable, 3 m
MXI4-CBL-C-5M	MXI-4 Copper Cable, 5 m
MXI4-CBL-C-10M	MXI-4 Copper Cable, 10 m
MXI4-CBL-F-10M	MXI-4 Fiber Optic Cable, 10 m
MXI4-CBL-F-30M	MXI-4 Fiber Optic Cable, 30 m
MXI4-CBL-F-200M	MXI-4 Fiber Optic Cable, 200 m