

ProDAQ VXI Data Acquisition Systems

ProDAQ 3030 PCI Express VXIbus Slot-0 Interface

OVERVIEW

The ProDAQ 3030 PCI Express VXIbus slot-0 interface is a C-size, register-based VXIbus module providing a direct connection from a PC to a VXIbus mainframe using the high-speed PCI Express serial bus. Together with any of the available host cards, the ProDAQ 3030 enables users to use a laptop, desktop, or server computer as an embedded controller. Optimized for low latency and high throughput, it provides a high-performance but cost-effective solution for a data acquisition system.

Hotplug Support

Because the ProDAQ 3030 supports PCI Express hotplug functionality, users can power-up a host PC independently from a VXI chassis. Users also can power-off any VXI chassis without having to shut down the host PC.

Cabling and Multi-Chassis Configuration

The ProDAQ 3030 offers two PCI Express ports with four lanes according to the PCI Express External Cabling specification. One of the ports connects to the host computer, while the second port connects to another VXIbus mainframe in a daisy-chain configuration. Up to 16 mainframes can be daisy chained. An optical cable option offers connectivity beyond the maximum cable length of seven meters for copper cables by extending the maximum distance between the host computer and the VXIbus system to 300 meters.

LXI-Compatible Trigger Bus (Optional)

The ProDAQ 3030-AB includes an optional trigger interface that is compatible to the LXI revision 1.3 standard. This trigger interface is an eight-channel multipoint LVDS (M-LVDS) signaling system for sourcing or receiving VXIbus TTL trigger lines and CLK10 signals from other VXI devices and LXI devices in hybrid test systems. Devices can be connected in a daisy-chain configuration through separate input and output connectors or in a star configuration through hubs.

ACCESSORIES

Host Interface Cards

The ProDAQ 3261 PCI Express host interface card fits into a standard PCI Express x4 slot in a desktop or server computer and can connect to up to two ProDAQ 3030 VXIbus interfaces. If an application requires more VXIbus mainframes to be connected to the host, the daisy-chain capability of the ProDAQ 3030 can be used.

Cable Options

PCI Express x4 cable assemblies are also available in varying lengths, with the 8034-XX copper cable used to connect the ProDAQ 3030 to one of the host interface cards installed in the computer or with the 8035-XX active optical cable which can be used when longer cabling distances are required. The fibre optic cables can fit into the normal PCI Express x4 connectors.



Features & Benefits

- ▶ **Single slot** C-size VXIbus slot-0 interface to PCI Express x4
- ▶ **Support** for PCI- and PCI Express-based computers
- ▶ **Hotplug support** with independent power on/off between PC and chassis
- ▶ **First Slot-0 controller** with VXI-1 revision 4.0 support
- ▶ **2eSST protocol support** with up to 320 MB/s throughput
- ▶ Optimization for **low first-word latency**
- ▶ **Multi-chassis**, daisy-chained operation and triggering

For more information, visit www.bustec.com.

Learn more about the **ProDAQ 3030** on our website by scanning the code below.





SPECIFICATIONS

INTERFACE

PCI Express Gen 2 over external cabling, 4 lanes

THROUGHPUT

To/From Host Up to 2 GB/s (PCI Express GEN2, 4 lanes)

VXIbus
Up to 320 MB/s (2eSST Protocol)
Up to 120 MB/s (2eVME Protocol)
Up to 60 MB/s (D64MBLT Protocol)

DEVICE TYPE

Register-based VXIbus module

SLOT-0 CAPABILITIES

Trigger routing

Full MODID/CLK 10 support if slot-0

VXIBUS INTERFACE

Address Ranges A16, A24, and A32

Data Transfer D08, D16, D16BLT, D32, D32BLT, D64MBLT, 2eVME, 2eSST

Interrupt Cap. Interrupter/Handler, IRQ 1-7

Trigger Lines VXIbus TTL Trigger 0-7, VXIbus ECL Trigger 0-1

FRONT PANEL I/O

Trigger Input TTL level, active edge software selectable
(Can be routed to VXIbus TTL and ECL trigger lines)

Trigger Output TTL level, active level software selectable
(Can be driven by VXIbus TTL and ECL trigger lines)

CLK10 I/O TTL level

TRIGGER CHAINING (-AB ONLY)

LXI Rev. 1.3 Class A compatible

Level M-LVDS

Lines 8

Connector Dual 25-pin Molex 83619-9011

POWER REQUIREMENTS

Current Consumption	Voltage (V)	Current (mA)
	+5	2500
	-5.2	150

Other voltages not utilized. Fibre optic cable configurations may require up to 1200 mA additionally on +5V.

Power Consumption < 13.3 W

PHYSICAL CHARACTERISTICS

Dimensions VXIbus single slot C-size module

Weight 920 g

ENVIRONMENTAL

Temperature 0°C to +50°C (operational)
-40°C to +70°C (storage only)

Humidity 10% - 90% (non-condensing)

SOFTWARE SUPPORT

VXIplug&play compatible VISA library for Microsoft Windows
(Contact Bustec Ltd. for more information or other operating systems)

WARRANTY PERIOD

12 months (extended periods available at additional cost)

Ordering Information

- ▶ **3030-AA** PCI Express VXIbus slot-0 interface
- ▶ **3030-AB** PCI Express VXIbus slot-0 interface with LXI-compatible LVDS trigger bus
- ▶ **3030-BA** PCI Express VXIbus slot-0 interface for VXI-1 Rev. 3 systems, no daisy-chaining

Related Products

- ▶ **3261-AA** PCI Express host interface
- ▶ **8034-XX** PCI Express x4 copper cable
- ▶ **8035-XX** PCI Express x4 active optical cable
- ▶ **8036-XX** LXI trigger bus cable
- ▶ **8037-AA** LXI trigger bus terminator

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