VTI Instruments

DATA SHEET

PMX09

PORTABLE 9-SLOT 3U PXI EXPRESS CHASSIS WITH INTEGRATED DISPLAY AND KEYBOARD

FEATURES

9-slot PXI Express chassis with 1 system controller slot, 6 peripheral slots, 1 hybrid slot and 1 timing slot

High bandwidth PCIe Gen 2 backplane with 2 GB/s slot bandwidth and 8 GB/s system bandwidth

Portable System – integrated Intel PXI Express Processor

Intel Dual Core i5 2.4 Ghz Processor module, up to 8 GB of DDR3 DRAM, 160 GB SATA Hard Drive

Integrated 15" 1024 x 768 LCD Display

Integrated drop down Keyboard with Touchpad mouse

Durable construction with corner shock isolators

300 W Power Supply and integrated system cooling

Plenty of USB and Ethernet Ports

AMETEK®
ADVANCED MEASUREMENT TECHNOLOGY

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Specifications contained within this document are subject to change without notice

RELIABLE DATA FIRST TIME EVERY TIME

OVERVIEW

The PMX04 smart PXIe tablet 4-slot PXIe chassis integrates an embedded controller, LCD display, keyboard and touchpad mouse, and various communication interfaces to create a truly portable modular instrumentation solution.

SLOT CONFIGURATION

The PMX09 consists of 1 PXIe controller slot (pre-populated), 6 PXIe Peripheral slots, 1 PXIe hybrid slot and 1 PXIe timing slot.

The PXI Express hybrid slot delivers connectivity to either a x4 PCI Express link or to the 32-bit, 33 MHz PCI bus on the backplane. This allows PXI Express, hybrid-compatible, or 32-bit cPCI/PXI-1 modules (without J2 connector) to be used in this slot.

The PXIe timing slot accepts either a PXI Express module or a PXI Express system timing controller for advanced timing and synchronization.

BEST IN CLASS BANDWIDTH

The PMX09 uses a 4-lane Gen 2 PCIe backplane to achieve unmatched data rates of up to 2 GB/s per slot and 8 GB/s system. This is especially useful when using high-speed instruments like digitizers, oscilloscopes, and signal generators.

ADVANCED PCIE SWITCH FABRIC

The CMX09's advanced switch fabric uses innovative methods including non-transparent bridging (NTB) and partitionable switch architecture to allow slot-to-slot direct communication and true multi-root support.

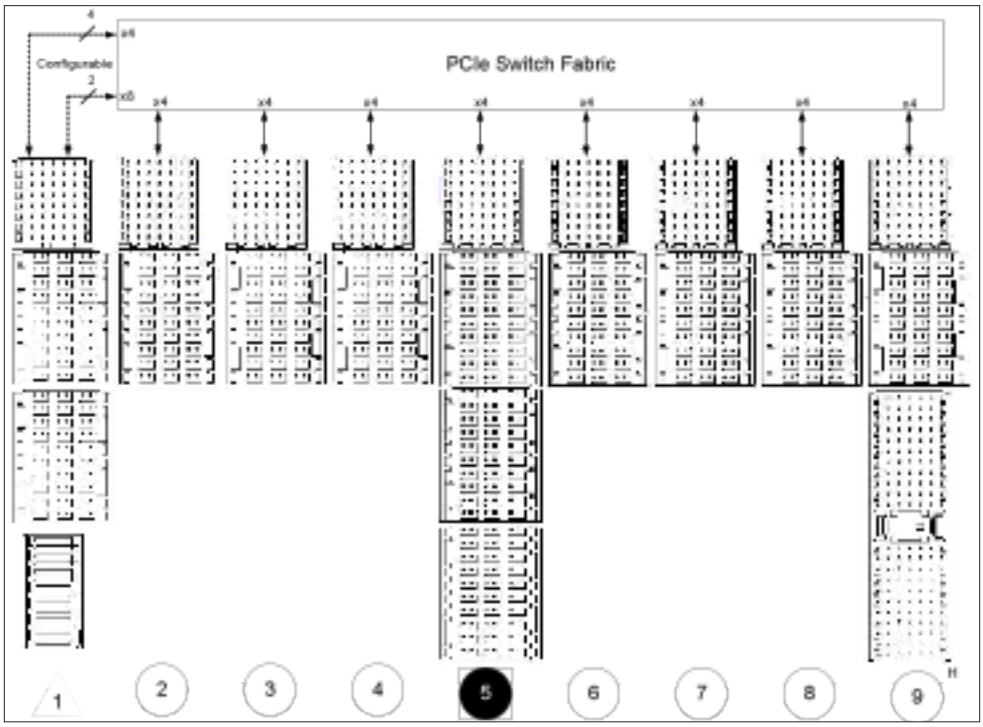
Slot-to-slot direct communication allows data from any slot to be read directly by another slot, without having to go through the controller and host. This allows extremely high-speed, deterministic data transfers between slots, which is very useful for example in applications that require closed loop control.

True multi-root support allows any slot to be used as a root-complex which means a data processing or memory unit can be plugged into any slot on the chassis. This combined with slot-to-slot communication capability allows data to be streamed directly from a plugin module to a root complex for storage or processing, without burdening the host processor.

PXImc READY

The slot-to-slot direct communication capability combined with true multi-root support allows the PMX09 to be the first and only PXImc (PXI MultiComputing) ready mainframe in the industry. This provides the ability to use multiple processor modules to in any slots on the mainframe, to share the processing requirements for the application.

This allows PMX09 to be used in high-speed, high-channel count applications where multi-gigabytes/sec of data require in-line processing and analysis.



CMX09 BACKPLANE ARCHITECTURE

View of the Corner Shock Isolation Bumpers

View of the PMX09 closed

Side view of the PMX09

Front view of the PMX09

RUGGED DESIGN

The PMX09s rugged, compact and light-weight design makes it ideal for portable applications. The PMX09 has a carrying handle and pop out feet for bench top use. The corners of the unit have shock isolation bumpers to protect the unit.

The PMX09 is designed to portable and transport from location to location. The unit folds up quickly and is completely self-contained. Quickly plug the unit in 110V wall power and the PMX09 is ready for use.

The PMX09 has an internal isolated card cage for the PXI Express cards. PXI Express cards are installed from the side of the unit. The figure below shows the open module of the PMX09. Slot covers are used to maintain good air flow. There is also good access to the I/O front panels of the installed modules. The Power Connector and Slim-Line DVD is located on the opposite side of the unit.

INTEL PROCESSOR MODULE

The PMX09 uses the Off the Shelf EMX-2401 PXI Express Embedded Controller card as the host. This Embedded Controller will run the Windows or Linux operation systems. Providing control and interface of the PXI Express cards installed and the DVI interface to the LCD display. The EMX-2401 has the powerful Intel Core i5-520E 2.4 Ghz processor, with a 4GB DDR3 DRAM and 160 GB HDD built-in. Various integrated I/O interfaces are provided, enabling hybrid test-systems: Dual Gigabit Ethernet ports, four USB 2.0 ports, micro-D GPIB connector, ExpressCard expansion slot.

INTEGRATED 15" LCD DISPLAY

The PMX09 has a 15.1" high brightness TFT display up to 1024 x 768 resolution. This LCD display has tempered glass for protection from cracks or webbing. Touch Screen option is also available.

SERVICEABILITY

The PMX09 is designed with serviceability in mind. The assembly is very modular with removable power supply, fan assembly and filter tray, which simplifies on-site diagnostics and replacement of any failed components.

General Specifications

TOTAL SLOTS	9 slots
PXI EXPRESS SYSTEM CONTROLLER	1 slot (slot 1)
PXI EXPRESS PERIPHERAL	6 slots (slots 2, 3, 4, 6, 7, 8)
PXI EXPRESS TIMING	1 slot (slot 5)
PXI EXPRESS HYBRID	1 slot (slot 9)
MODULE SIZE	3 U
BANDWIDTH	
SLOT	2 GB/s
MAINFRAME	8 GB/s
STANDARDS COMPLIANCE	PXI-5 PXI Express Hardware Specifications PXI-1 hardware specifications Rev 2.2 PICMG EXP.0 R1.0 specification

SYSTEM SYNCHRONIZATION CLOCKS

10 MHZ SYSTEM REFERENCE CLOCK: PXI_CLK10	
MAX SLOT-TO-SLOT SKEW	1 ns
ACCURACY	±100 ppm Max
MAX JITTER	5 ps RMS Phase Jitter
DUTY FACTOR	45 to 55%
100MHZ SYSTEM REFERENCE CLOCK: PXI_CLK100	
MAX SLOT-TO-SLOT SKEW	200 ps
ACCURACY	±100 ppm Max
MAX JITTER	< 1 ps RMS Phase Jitter (10 Hz to 12 kHz)
DUTY FACTOR	< 1 ps RMS Phase Jitter (12 kHz to 20 MHz)

MECHANICAL

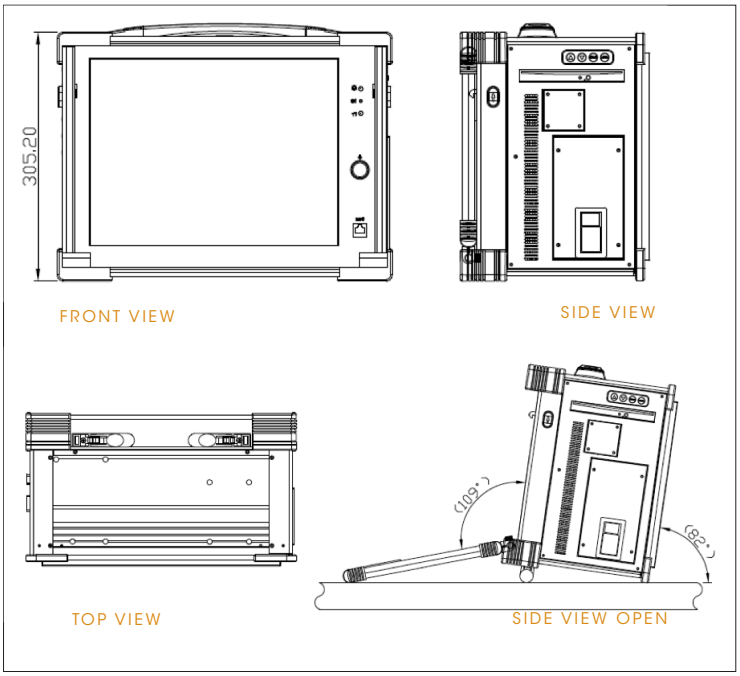
SIZE	10.8" L x 10.52" D x 7.43" H
WEIGHT	30 to 35 lbs

ELECTRICAL

AC INPUT	
INPUT VOLTAGE RANGE	90 to 264 VAC
INPUT FREQUENCY RANGE	47 to 63 Hz
INPUT CURRENT	Max 8 A @ 115 VAC, 4A @ 230 VAC

General Specifications

ELECTRICAL	
DC OUTPUT	
MAX DC POWER OUTPUT	460 W
EFFICIENCY	85% (typical)
+3.3V MAX LOAD	20A
+5V MAX LOAD	20A
+12V MAX LOAD	32A
-12V MAX LOAD	0.5A
+5V STANDBY MAX LOAD	2.5A
COOLING	
FANS	Two 130 CFM fans with High / Auto speed modes
CHASSIS COOLING	Pulling fans located next to the PXI Express card cage
CHASSIS COOLING EXHAUST	Back of the System
SLOT AIRFLOW DIRECTION	Side of the modules installed
ENVIRONMENTAL SPECIFICATIONS	
OPERATING TEMPERATURE	-0˚ C to 50˚ C Chassis can operate up to 70˚ C with 25W derating per ˚C beyond 60˚ C
STORAGE TEMPERATURE	-20˚ C to 65˚ C
HUMIDITY	20 to 90% non-condensing
ALTITUDE	10,000 ft.
SHOCK	10G
VIBRATION (5 – 500HZ)	1.0 Grms
SAFETY AND EMC	
SAFETY COMPLIANCE	EN 61010-1, IEC 61010-1 UL 61010-1, CSA 61010-1 2006/95/EC; Low-Voltage Directive (safety)
EMC COMPLIANCE	EN 61326 (IEC 61326): Class A emissions, basic immunity EN 55011 (CISPR 11): Group 1, Class A emissions AS/NZS CISPR 11: Group 1, Class A emissions FCC 47 CFR Part 15B: Class A emissions ICES-001: Class A emissions



Ordering Information

PMX09	Portable 9-Slot 3U PXI Express chassis With Integrated Display and Keyboard
PMX09-01	PMX09 with carrying case

RELATED PRODUCTS

PMX04	Portable 4 Slot PXI Express System
CMX09	9 Slot PXI Express Chassis
CMX18	18-Slot PXI Express Chassis