



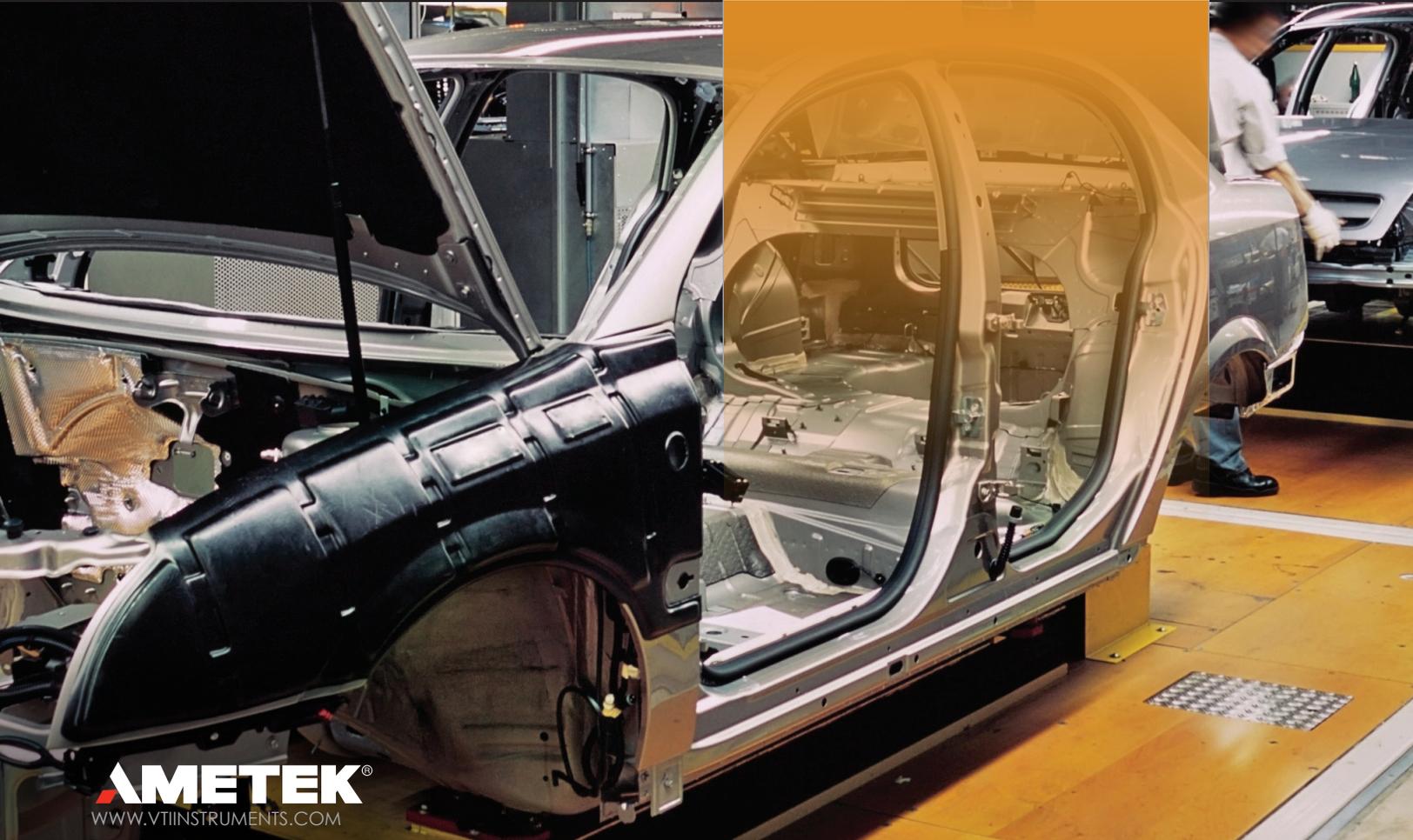
VTI

Instruments

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Unmatched configurability, scalability, and throughput

CoreATE™ PXIe and LXI
FUNCTIONAL TEST SOLUTIONS



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RELIABLE DATA FIRST TIME EVERY TIME

20170810

The CoreATE™ PXIe and LXI Functional Test Platform

Building Better ATE Solutions with PXI Express

For more than two decades, the engineers at AMETEK VTI Instruments have been designing robust building blocks for creating automated test equipment systems. Our innovative products are widely used in demanding applications in industries ranging from defense/aerospace and energy generation to automotive and electronics, and many others. Today, we continue to focus on innovations that help system integrators maximize the value of their test equipment investments by providing flexible, readily reconfigurable and scalable solutions that ensure high throughput, superior data integrity, and long-term reliability.

Our most recent innovations for PXI Express (or PXIe), the fastest data acquisition platform now on the market, combine the advantages of extremely high bandwidth with sub-microsecond latency. PXIe-based systems are ideal for data-intensive applications like high-speed digitization, signal generation, and communication interfaces that demand both high sample rates and high channel counts. However, for some applications, the Ethernet-based LXI (LAN eXtensions for Instrumentation) platform offers a better approach, so our PXIe systems are designed for interoperability with LXI and tight integration into a hybrid test system.

For example, our PXIe mainframes are uniquely designed with IEEE-1588 distribution on the backplane to enable synchronization with external LXI systems. Our LXI and PXIe products leverage common instrument drivers or common API structure to simplify application development in multi-platform systems.

PXIe vs. PXI and PCI Express

The original PXI (PCI eXtensions for Instrumentation) industry standard, first released in 1998, gained wide acceptance in ATE applications in part because of its use of PCI (Peripheral Component Interconnect) in the communication backplane. Today, PCI Express is central to virtually every electronic system architecture in use today. PXIe retains the timing and synchronization features of PXI and adds new synchronization features by taking advantage of the existing differential connectors required in PXI and technological advances that provide high-performance, low-cost differential signaling. By building on the advantages PXI offered, PXIe provides the added timing and synchronization features of a differential system clock, differential signaling, and differential star triggers. This provides increased noise immunity for instrumentation clocks and makes it possible to transmit at higher frequency clocks. In addition to improving system performance, high frequency clocks match well with modern processes. With excellent synchronization and latency, PXIe improves the measurement accuracy and test time of high-bandwidth applications.





PXIe maintains software backwards compatibility with PXI, CompactPCI, and other PCI-based devices, and hardware compatibility with PXI with hybrid slots and hybrid systems.

The CoreATE™ Approach to PXIe

Building automated test systems based on “common core” of switching allows individual modules to be readily repurposed, reduces spares inventories, and leverages development time and costs. Our PXIe-based CoreATE components are designed to maximize test throughput and performance, while preserving software development and capital equipment investment. These modular, scalable, reconfigurable solutions provide the basis for a flexible core that can be easily and inexpensively modified to meet changing test requirements, while our commitment to open platform development ensures solution longevity.

By taking advantage of advances in integrated chip technology and model-based programming, VTI Instruments incorporates all PXI infrastructure into an embedded System-on-a Chip (SoC). That means our products aren’t dependent on the continuing availability of controller chips from a specific chip maker and it guarantees that we can continue to offer long-term product support. The high-speed serial bus architecture also supports unmatched data transfer rates for our high-performance data acquisition instruments.

VTI Instruments’ PXIe chassis are compatible with all PXIe and PXI hybrid cards. As applications expand and evolve, these PXIe systems scale easily from benchtop sized to multiple rack sized, and their backplanes can handle data rates up to 8 GB/s. ATE systems must often leverage the strengths of multiple instrumentation platforms in order to achieve the best performing or most cost-effective solution. There’s no need to scrap legacy test equipment to incorporate new capabilities; our PXIe products are designed to simplify integration with equipment based on other platforms. Simply integrate our CoreATE PXIe modules into your existing setup as needed without worrying about incompatibility or proprietary manufacturer lock-outs.

To ensure maximum test signal integrity, our PXIe switching modules incorporate advanced circuit board layout techniques that minimize the effects of unwanted transmission stubs, shield against radiated signals in adjacent card slots, and extend the usable bandwidth of the test system as a whole. An innovative software driver approach, based on IVI industry standards, enables a single driver session to control multiple modules as a subsystem, providing an application development environment that minimizes development time. Advanced triggering and module-to-module synchronization reduce test execution time, while the chassis’ smart health-monitoring and relay odometers provide the data necessary to perform predictive maintenance.

Our PXIe products are designed to simplify integration with equipment based on other platforms.

PXIe CoreATE Products

The selector guides in this brochure make it easy to identify the CoreATE PXIe products you need to develop or expand your test application. For constantly updated information on these product categories, simply visit the web address provided for each section.

Switching

System designers use our PXIe switching modules in applications ranging from aerospace to oil and gas. A full line of PXIe enabled cards (covering the SMX-xxxx series) are available to suit any test and measurement setup and are further broken up into categories. All of these cards employ advanced shielding and circuit board layouts to ensure quality signals, the same design philosophy that keeps VTI Instruments an industry leader in signal integrity. They have embedded virtual schematics for easy and quick setup.

Power switching

VTI's PXIe power switching line comes with 10 channels with 16 amps per channel. Ideal for use in AC line power supplies, relays, solenoids, and automotive applications, they deliver dependable, high-voltage and current performance.

Multiplexer switching

This line of cards includes multiplexers that work well with medium- to high-density automated test systems. With a max switching voltage of 300 VDC or 300 VAC at 2 A, and a flexible software control panel, the SMX-3xxx series can work in the most demanding setups. Available in 1, 2, or 4 wire configurations, in 1x128, 1x64, or 1x32 options, respectively, for maximum flexibility.

Matrix switching

This line includes matrix cards designed for medium- to high-density ATE systems. They are available with software configurable options to allow one card to serve more than one role in different testing environments. Built-in health monitoring assures reliability. Options include (4) 4x10 2-wire fully configurable cards, or (4) 4x10 2-wire, (2) 4x20 2-wire, (1) 4x40 2-wire, (2) 8x10 2-wire options.

General purpose switching

VTI's general purpose switching cards are used in discrete switching applications. With built-in health monitoring and the ability to engage relays independent of any application software, these switches cover many kinds of applications.

Radio Frequency (RF) switching

Our RF switches allow engineers to switch in radio frequency applications requiring 50 Ω . Both SMB and PKZ front panel formats are available to allow easy integration into any test setup with its non-blocking configuration.

Microwave switching

Our microwave switching modules allow engineers to use standard PXIe software and hardware rather than stand-alone microwave hardware. Single- and dual-slot configurations using SPDT, SP4T, SP6T, and Transfer switch configurations are all available. The pass-through adapters available allow extended functionality with programmable line drives for attenuators and other devices.

Digitizers

Our EMX-42xx and EMX-43xx Series digitizers are widely used in noise, vibration, and harshness (NVH) tests, machine condition monitoring, rotational analysis, acoustic test, modal test, as well as general purpose high-speed digitization and signal analysis. These digitizers are scalable and offer best-in-class analog design.

Controllers

VTI introduced the industry's first Gigabit Ethernet LXI-based PXIe interface, the EMX-2500. This innovation allows Ethernet's widespread use and robust architecture to mesh with the instrument-tailored, rugged functionality that PXIe provides. The range includes wired trigger buses, IEEE-1588-2008 standards, and enables connections to laptops, tablets, and more. From the test chamber to the office, VTI's PXIe controllers make it easy to interoperate any configuration of equipment.

Programmable Resistors

EMX-700x Series Programmable Resistors can be used to simulate sensors, potentiometers, thermocouples, pressure sensors, strain gauges, and more. They easily integrate into functional test applications in automotive, aerospace, and medical settings. It can even be used for fault insertion or as a low-power load simulator. Connect channels in series or parallel to increase range or to simulate potentiometers as needed.

Static Digital Input/Output Cards

Our static digital I/O EMX-75xx cards can send and receiving up to 300 mA on up to 64 channels. With a 2 V to 60 V range, these cards are capable of working in any test setup and can drive relays when needed as well.

Chassis

Extendable, rugged, and high bandwidth chassis (the CMXxx series) from VTI are designed to hold all the cards a CoreATE system requires. Totally manufacturer independent, they can also hold cards from other suppliers using standardized communication protocols. Compatible across the entire line of VTI's PXIe cards, chassis offer a convenient place to organize, power, and connect a full test and measurement setup.



PXIe Product Selection

Switching: Built on 20 years of experience ensuring signal quality and integrity, VTI Instruments' switching cards find applications in everything from aerospace to oil and gas. A full line of PXIe-enabled cards are available to suit any test and measurement setup. All of these cards employ advanced shielding and circuit board layouts to ensure quality signals, the same design philosophy that keeps VTI Instruments an industry leader in signal integrity.

PXIe POWER SWITCHING

Overview

10 channels with 16 amps per channel. Ideal for use in AC line power supplies, relays, solenoids, and automotive applications.

SMX-2002

Specifications	
Maximum Switching Voltage	250 VAC / 120 VDC
Maximum Switching Current	16 A
Maximum Switching Power	480 W DC, 4000 VA Breaking Capacity
Switching Time	< 7 ms
Path Resistance	< 100 mΩ
Insulation Resistance	> 1 X 10 ⁹ Ω
Rated Switch Operations	
Mechanical	1 X 10 ⁷
Electrical	1 X 10 ⁵ (full load)



PXIe MULTIPLEXERS

Overview

The SMX-3XXX line of multiplexers function well with medium- to high-density automated test systems (ATE). With a max switching voltage of 300 VDC or 300 VAC at 2 A, and flexible software control, the SMX-3XXX series can work in the most demanding setups. Available in 1, 2, or 4 wire configurations, in 1x128, 1x64, or 1x32 options, respectively, for maximum flexibility.

SMX-3001 (8) 1x8, 2-wire Multiplexer, Fully Configurable

SMX-3002 (8) 1x8, 2-wire Multiplexer, Fixed

SMX-3003 (4) 1x16, 2-wire Multiplexer, Fixed

SMX-3004 (2) 1x32, 2-wire Multiplexer, Fixed

SMX-3005 (1) 1x64, 2-wire Multiplexer, Fixed

SMX-3006 (1) 1x128, 1-wire Multiplexer, Fixed

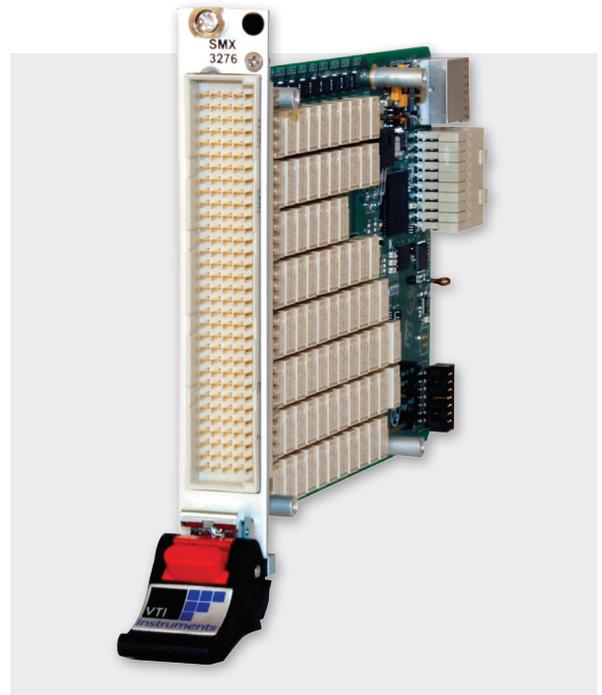
SMX-3007 (2) 1x64, 1-wire Multiplexer, Fixed

SMX-3276 (2) 1x38, 2-wire Multiplexer, Fully Configurable

SMX-3277 (2) 1x76, 1-wire Multiplexer, Fixed

SMX-3278 (2) 1x38, 2-wire Multiplexer, Fixed

SMX-3279 (1) 1x76, 2-wire Multiplexer, Fixed



Specifications

Maximum Switching Voltage	300 VDC / 300 VAC
Maximum Switching Current	2 A
Maximum Switching Power	60 W DC, 62.5 VA
Bandwidth	> 30 MHz (typical)
Switching Time	< 3 ms
Path Resistance	< 500 mΩ
Insulation Resistance	> 1 X 10 ⁹ Ω
Rated Switch Operations	
Mechanical	1 X 10 ⁷
Electrical	1 X 10 ⁵
Capacitive Discharge Relays	Internal
Configurable Bussing Relays	Internal
End-to-End Signal Path Shielding	Yes

PXIe MATRIX

Overview

SMX-4XXX matrix cards are designed for medium- to high-density ATE systems. They are available with software-configurable options to allow one card to serve more than one role in different testing environments. Built-in health monitoring assures reliability. Options include (4) 4x10 2-wire fully configurable cards, or (4) 4x10 2-wire, (2) 4x20 2-wire, (1) 4x40 2-wire, (2) 8x10 2-wire options.

SMX-4410 (4) 4x10, 2-wire, Fully Configurable

SMX-4411 (4) 4x10 2-wire Matrix

SMX-4412 (2) 4x20 2-wire Matrix

SMX-4413 (1) 4x40 2-wire Matrix

SMX-4414 (2) 8x10 2-wire Matrix

Specifications	
Maximum Switching Voltage	300 VDC / 300 VAC
Maximum Switching Current	2 A
Maximum Switching Power	60 W DC, 62.5 VA
Bandwidth	> 30 MHz (typical)
Switching Time	< 3 ms
Path Resistance	< 500 mΩ
Insulation Resistance	> 1 X 10 ⁹ Ω
Rated Switch Operations	
Mechanical	1 X 10 ⁷
Electrical	1 X 10 ⁵
Capacitive Discharge Relays	Internal
Configurable Bussing Relays	Internal
End-to-End Signal Path Shielding	Yes



PXIe GENERAL PURPOSE

Overview

General purpose PXIe switching cards are ideal for discrete switching applications. With built-in health monitoring and the ability to engage relays independent of any application software, these switches come in two variations and cover applications in aerospace, defense, and automotive.

SMX-5001 (80) SPST/Form A

SMX-5002 (50) SPDT/Form C

Specifications	
Maximum Switching Voltage	300 VDC / 300 VAC
Maximum Switching Current	2 A
Maximum Switching Power	60 W DC, 62.5 VA Breaking Capacity
Bandwidth	> 50 MHz (typical)
Switching Time	< 3 ms
Path Resistance	< 300 mΩ
Insulation Resistance	> 1 X 10 ⁹ Ω
Rated Switch Operations	
Mechanical	1 X 10 ⁷
Electrical	1 X 10 ⁵
End-to-End Signal Path Shielding	Yes
Relay cycle count odometer	Yes



RADIO FREQUENCY (RF)

Overview

VTI Instruments' radio frequency (RF) switching line allows engineers to switch RF at 50 Ω. Both SMB and PKZ front panel formats are available to allow easy integration into any test setup with its non-blocking configuration.

- SMX-6101 (10)** 1X4 Coax Muxes
- SMX-6101-SMB (10)** 1X4 Coax Muxes
- SMX-6111 (5)** 1X4 Coax Muxes
- SMX-6111-SMB (5)** 1X4 Coax Muxes
- SMX-6106 (2)** 1X16 Coax Muxes
- SMX-6106-SMB (2)** 1X16 Coax Muxes
- SMX-6116 (1)** 1X16 Coax Muxes
- SMX-6116-SMB (1)** 1X16 Coax Muxes
- SMX-6105 (4)** 1X8 Coax Muxes
- SMX-6105-SMB (4)** 1X8 Coax Muxes
- SMX-6115 (2)** 1X8 Coax Muxes
- SMX-6115-SMB (2)** 1X8 Coax Muxes
- SMX-6103 (1)** 1X32 Coax Muxes
- SMX-6103-SMB (1)** 1X32 COAX MUX
- SMX-6144 (1)** 4X4 Coax Matrix
- SMX-6144-SMB (1)** 4X4 Coax Matrix



Specifications

Maximum Switching Voltage	250 VAC / 220 VDC
Maximum Switching Current	2 A
Maximum Switching Power	50 W DC, 62.5 VA
Rated Switch Operations	
Mechanical	1 X 10 ⁵
Electrical	1 X 10 ⁵
Switching Time	< 5 ms
RF Impedance	< 50 Ω
Connector	SMB or PKZ
Path Resistance	< 250 mΩ
Bandwidth	> 2 GHz
Crosstalk	< 50 dB @ 2 Ghz
Isolation	< 50 dB @ 2 Ghz
VSWR	< 2.2 @ 2 Ghz

MICROWAVE

Overview

Instead of using stand-alone microwave hardware, VTI Instruments microwave switching PXIe products allow engineers to use standard PXIe software and hardware. Single and dual slot configuration using SPDT, SP4T, SP6T, and Transfer switch configurations are all available. The pass-through adapters available allow engineers to extend functionality with programmable line drives for attenuators and other devices.

- SMX-7121** Single Slot Microwave Carrier with (1) SPDT 26.5 GHz switch
- SMX-7122** Single Slot Microwave Carrier with (2) SPDT 26.5 GHz switches
- SMX-7241** Dual Slot Microwave Carrier with (1) SP4T 26.5 GHz switch
- SMX-7242** Dual Slot Microwave Carrier with (2) SP4T 26.5 GHz switches
- SMX-7243** Dual Slot Microwave Carrier with (3) SP4T 26.5 GHz switches
- SMX-7261** Dual Slot Microwave Carrier with (1) SP6T 26.5 GHz switch
- SMX-7262** Dual Slot Microwave Carrier with (2) SP6T 26.5 GHz switches
- SMX-7263** Dual Slot Microwave Carrier with (3) SP6T 26.5 GHz switches
- SMX-7100** Single Slot Microwave Switch carrier w/relay driver
- SMX-7200** Dual Slot Microwave Switch carrier w/relay driver
- SMXR-7200** Pass Through Adapter, 6 drive lines
- SMXR-7202 (1)** 26.5 GHz SPDT Relay
- SMXR-7204 (1)** 26.5 GHz SP4T Relay
- SMXR-7206 (1)** 26.5 GHz SP6T Relay
- SMXR-7222 (1)** 26.5 GHz Transfer Switch



Specifications

Bandwidth	> 26.5 GHz
Average Power per Channel	< 40 W
RF Impedance	< 50 mΩ
Switching Time	< 15 ms
Connector Type	SMA

CONTROLLER

Overview

The EMX-2500 is the industry's first Gigabit Ethernet LXI-based PXIe interface. The EMX-2500 allows Ethernet's widespread use and robust architecture to meet instrument-tailored functionality that PXIe provides. These include wired trigger busses, IEEE-1588-2008 standards, and connections to laptops, tablets, and more.

EMX-2500

Specifications	
Slot Requirement	1-slot, 3U PXI Express System Controller Plugin Module
Interface/Ports	
Ethernet Two	10/100/1000BASET Gigabit Ethernet Ports, RJ-45 connector
One Port	(ETH-A) for instrument control and data transfer
SMB Connector	For high-precision triggering on PXI trigger lines
Maximum Data Throughput	100 MB/s sustained streaming
PCIE/PXIE Configuration	Four links (1 link x2 lanes, 3 links x1lane)
Clock Specifications	
Clock Oscillator Accuracy	+ 50 ppm
Timestamp Resolution	10 ns
Front Panel Connectors	Dual RJ45 Ethernet, USB MiniAB
Temperature	
Operating Temperature	0° C to 55°
Storage Temperature	-40° C to 70° C
Humidity	5% to 95% (non-condensing)
Altitude	Up to 3,000 m
Shock And Vibration	Conforms to MIL-PRF-28800F, Paragraphs 4.5.5.3.1 (random vibration test), 4.5.5.3.2 (sinusoidal vibration test), and 4.5.5.4.1 (functional shock test)



DIGITIZER

Overview

VTI Instruments' digitizers are used in noise, vibration, and harshness (NVH) tests, machine condition monitoring, rotational analysis, acoustic test, modal test, as well as general purpose high speed digitization and signal analysis. These digitizers are scalable and offer the best in class analog design methodology available.

Specifications

EMX-4250	204.8 kSa/s/channel, 24-Bit ADC's, 16-Channel (4250) or 8-Channel (4251)
EMX-4251	<p>Differential inputs deliver superior common mode performance</p> <p>Flexible analog and user defined digital filter combinations</p> <p>-105 dB SFDR</p> <p>Seven auto-ranging input ranges from 100 mV to 10 V</p> <p>Deterministic channel-to-channel, card-to-card, and chassis-to-chassis phase response</p>
EMX-4350	<p>625 kSa/s/channel, 24-Bit ADC, 4-Channel</p> <p>True Differential, IEPE or Voltage, AD/DC Inputs</p> <p>Flexible analog and user defined digital filter combinations</p> <p>Best-in-class noise immunity</p> <p>Highest quality instrumentation grade ADC's outperform commonly used audio grade ADC's</p> <p>Best-in-class -125 dB SFDR</p> <p>Unparalleled fully programmable excitation (2 mA to 20 mA)</p> <p>Deterministic channel-to-channel, card-to-card, and chassis-to-chassis phase response</p>
EMX-4380	<p>First integrated data acquisition instrument to support IEPE, charge, and voltage inputs</p> <p>625 kSa/s/channel, 24-Bit ADC, 4-Channel</p> <p>Flexible analog and user defined digital filter combinations</p> <p>True differential inputs with 25 V Isolation</p> <p>Exceptional noise immunity</p> <p>Highest quality instrumentation grade ADC's outperform commonly used audio grade ADC's</p> <p>Fully programmable excitation (2 mA to 20 mA)</p> <p>Deterministic channel-to-channel, card-to-card, and chassis-to-chassis phase response</p>



PROGRAMMABLE RESISTOR

Overview

The EMX-700X Series can be used to simulate sensors, potentiometers, thermocouples, pressure sensors, strain gauges, and more. It easily integrates into functional test applications in automotive, aerospace, and medical settings. It can even be used for fault insertion or as a low-power load simulator. Connect channels in series or parallel to increase range or to simulate potentiometers as needed.

EMX-7004	EMX-7007	EMX-7016
EMX-7005	EMX-7014	
EMX-7006	EMX-7015	



Specifications

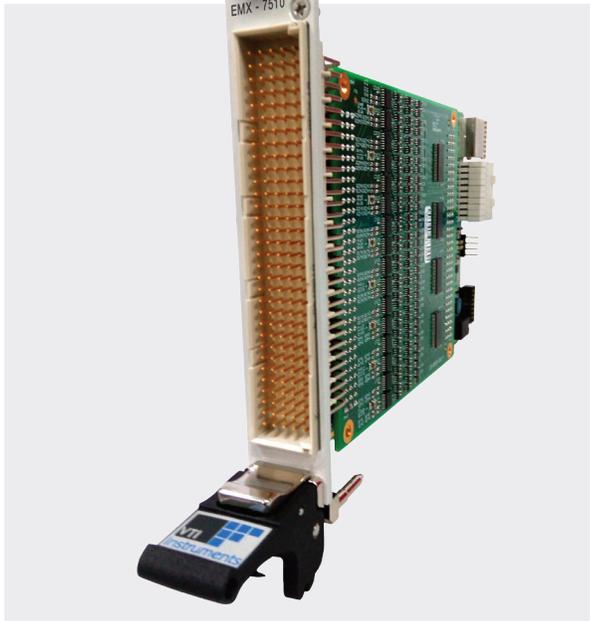
- 4 independent channels, 4 decades per channel
- Accurate steps from 1 Ω to 16,383 Ω in 1 Ω increments ($\pm 0.02\%$ of the programmed value $\pm 0.5 \Omega$)
- Precision sensor simulation
- Low thermal offset ($\leq \pm 25 \mu\text{V}$)
- Independent sense feedback
- Operates in parallel or series
- Dynamic soft front panel interface or API
- IVI-COM, IVI-C, and LabVIEW™ drivers available

STATIC DIGITAL INPUT/OUTPUT CARD

Overview

Static digital input output cards are capable of sending and receiving up to 300 mA on up to 64 channels. With a 2 V to 60 V range, these cards work in any test setup and can drive relays when needed.

EMX-7510	EMX-7512	EMX-7514
EMX-7511	EMX-7513	EMX-7515



Specifications

- Static digital input/output
- 64 channels total (8 ports of 8 bits each), bi-directional
- High current (300 mA), on each channel
- Voltage inputs and outputs from 2 V to 60 V on each channel
- Embedded soft front panel interface
- Common IVI software drivers available
- Multiple digital logic levels: LV TTL, TTL
- Optical isolation at 1500 Vrms

CHASSIS

Overview

Extendable, rugged, and high bandwidth chassis designed to hold all the cards a core ATE system requires. Compatible across the entire line of PXIe cards..

Specifications

<p>CMX 09</p>	<p>9-slot PXI Express chassis with 1 system controller slot, 6 peripheral slots, 1 hybrid slot and 1 timing slot</p> <p>High bandwidth PCIe Gen 2 backplane with 2 GB/s slot bandwidth and 8 GB/s system bandwidth</p> <p>Combine with EMX-2500 LXI controller for Ethernet connectivity and distributability in the EMX09</p> <p>True 4U chassis</p> <p>Rugged construction with extended temperature range</p> <p>Smart switch display for health monitoring and control</p> <p>First PXI Multicomputing (PXImc) ready chassis</p> <p>Rack mount, custom front panels, and bolt-down option available</p>
<p>CMX 18</p>	<p>18-slot PXI Express chassis with 1 system controller slot, 6 peripheral slots, 10 hybrid slots, and 1 timing slot</p> <p>High bandwidth PCIe Gen 2 backplane with 2 GB/s bandwidth per slot (4 GB/s on high-bandwidth slots) and 8 GB/s system bandwidth</p> <p>Rugged construction with extended temperature range</p> <p>True 4U chassis</p> <p>IEEE-1588 distributed instrument synchronization</p> <p>Built-in system-monitoring provides confidence in system operation and simplifies debugging</p>



LXI EX1200 Series Quick Reference

Overview

The EX1200 product family is a modular and scalable series of multifunction switch/measure units that can be configured to address a variety of applications in the mechanical data acquisition and electronic test environments.

Mainframes					
Model	Slots	Note	Size	LAN Specification	Backplane Extension Lines
EX1202	2		Half Rack, 1U	LXI 10/100T	5
EX1262	2	With 6.5 digit DMM	Half Rack, 1U	LXI 10/100T	5
EX1206A	6		Full Rack, 1U	LXI 10/100T	5
EX1208A	16		Full Rack, 3U	LXI 10/100T	5
EX1214-ICA	14	6U slots with integrated mass interconnect receiver	Full Rack, 8U	LXI 10/100T	6

Switches					
Model	Channels	Configuration	Switched V/A	Switched Power (max)	Bandwidth (-3 dB)
Discrete					
EX1200-2001	20	SPST	250 VAC/300 VDC, 16 A	480 W, 4000 VA	40 MHz
EX1200-2002	12	SPDT	250 VAC/300 VDC, 16 A	480 W, 4000 VA	40 MHz
EX1200-5001	80	SPST	300 V, 2 A	60 W, 125 VA	80 MHz
EX1200-5002	32	SPDT	300 V, 2 A	60 W, 125 VA	40 MHz
EX1200-5004	32	SPDT	250 VAC/110 VDC, 5 A	150 W, 1250 VA	40 MHz
EX1200-5006	40	SPST	300 V, 2 A	60 W, 125 VA	80 MHz
EX1200-5007	12	SPDT	300 V, 2 A	60 W, 125 VA	80 MHz
Multiplexer					
EX1200-2007A	48	2x (1x24) 1-wire, 2x (1x12) 2-wire	1000 VDC/700 VAC, 2 A	25 W, 25 VA	60 MHz
EX1200-2008H	30	3x (1x10) 1-wire	1000 VDC/700 VAC, 2 A	25 W, 25 VA	60 MHz
EX1200-2087	8	Mux; 2 x (1 x 2) 2-wire	1000 V/1 A	25 W/25 VA	400 kHz
EX1200-3001	128	8x (1x16) 1-wire, 8x (1x8) 2-wire, 4x (1x8) 4-wire	300 V, 2 A	60 W, 125 VA	50 MHz
EX1200-3048	48	2x (1x24) 2-wire, (1x24) 4-wire plus 2x 3A channels	300 V, 2 A	60 W, 125 VA	35 MHz
EX1200-3048S	48	2x (1x24) 2-wire, (1x24) 4-wire FET mux	250 V, 0.2 A	6 W, 4.2 VA	10 MHz
EX1200-3072	72	2x (1x36) 2-wire, (1x36) 4-wire	300 V, 2 A	60 W, 125 VA	40 MHz
EX1200-3096	96	2x (1x48) 2-wire, (1x48) 4-wire	240 VAC/120 VDC, 1 A	30 W, 37.5 VA	20 MHz
EX1200-3164	64	16x (1x4) 2-wire, 8x(1x4) 4-wire	300 V, 2 A	60 W, 125 VA	45 MHz
Matrix					
EX1200-4003	128	2x (4x16) 2-wire	300 VAC/300 VDC, 2 A	60 W, 62.5 VA	45 MHz
EX1200-4128	512	(4x128) 1-wire	250 VAC/220 VDC, 1 A	60 W	10 MHz
EX1200-4264	128	2x (2x32) 2-wire	300 VAC/300 VDC, 2 A	60 W, 62.5 VA	45 MHz

LXI EX1200 Series Quick Reference

Switches

Model	Channels	Configuration	Switched V/A	Switched Power (max)	Bandwidth (-3 dB)
RF					
EX1200-6101	40	10x SP4T	250 VAC/220 VDC, 2 A	50 W 62.5 VA	1.3 GHz
EX1200-6111	20	5x SP4T	250 VAC/220 VDC, 2 A	50 W 62.5 VA	1.3 GHz
EX1200-6102	17	SPDT	250 VAC/220 VDC, 2 A	50 W 62.5 VA	1.3 GHz
EX1200-6216	32	2x (1x16)	250 VAC/220 VDC, 2 A	50 W 62.5 VA	1 GHz
EX1200-6216HV	32	2x (1x16)	500 V, 2A	10 W	250 MHz
EX1200-6301	16	4x SP4T	250 VDC/220 VAC, 2 A	60 W, 62.5 VA	3 GHz
EX1200-6301T	16	4xSP4T terminated	250 VDC/220 VAC, 2 A	60 W 62.5 VA	3 GHz
EX1200-7100	3 banks	DC-26.5 GHz switch carrier	30V/0.5 A	40 W	26.5 GHz

EX1200-ICA Switches

Model	Channels	Configuration	Switched V/A	Switched Power (max)	Bandwidth (-3 dB)
EX1200-2011ICA	20	12 SPDT 5 SP4T, 2 Dual Ganged SPDT, 1 SPDT	115 VAC/28 VDC, 12 A 115 VAC/28 VDC, 25A	300 W 700 W	1 kHz
EX1200-6100ICA	14	11 SP4T, 3 SPDT	30 V, 0.5 A	10 W	1 GHz
EX1200-5111ICA	56	21 SP4T, 35 SPDT	220 VDC/250 VAC, 2 A	60 W, 125 VA	20 MHz
EX1200-4464ICA	64	64 channel 4-pole hybrid star matrix	30 V, 0.5 A	10 W	500 MHz

Digital I/O

Model	Channels	Sample Rate	Memory	Iout max (Sink)	Vout max
EX1200-7500	8x 8-bit ports	2 MHz	2 MB	< 300 mA	60 V

Counter/Multifunction

Model	Channels	Sample Rate	Memory	Output	Min Pulse Width
EX1200-1538	8 counter	1 MHz	256 k reading	NA	50 ns
	16 DIO	Static	NA	TTL	NA
	2 bipolar DAC	Static	NA	±10 V	NA

DMMs

Model	Mainframe	Digits (Min/Max)	Functions	Max V/I	Max Frequency (ACV)	Max Reading Rate
EX1200-2165	EX1206A	3.5/6.5 A	ACV, DCV, DCI, ACI, 2/4 wire RES, FREQ, TEMP	300 V/3 A	1.5 MHz	2,000/s
EX1200-2365	EX1208A	3.5/6.5 A	CV, DCV, DCI, ACI, 2/4 wire RES, FREQ, TEMP	300 V/3 A	1.5 MHz	2,000/s

LXI EX1200 Series Quick Reference

Analog Output/Control

Model	Channels	Voltage/Current Range	Sample Rate	Max Isolation	Memory
EX1200-3604	4 V/I, 16 bit	±1/2/5/10/20 V, ±20 mA	500 kSa/s 200 VDC/	200 VAC peak	1 Msample
EX1200-3608	8 V/I, 16 bit	±1/2/5/10/20 V, ±20 mA	500 kSa/s 200 VDC/	200 VAC peak	1 Msample

Comparator/Edge Detector

Model	Channels	Modes	Voltage Range	Min Pulse Width	Memory
EX1200-7416	16 DE/SE	Edge detect, Window, Pulse	±10 V/100 V	1 μs	28k events

Programmable Load

Model	Channels	Range	Switched V/A	Switched Power
EX1200-7600	1	0.5 - 1,499,999 Ω at 0.1 Ω increments	200 V/ 0.5 A	5 W

RTD Simulator

Model	Channels	Accuracy	Range	RTD Types
EX1200-7008	8	±0.1 °C	4 Ω - 6.5 kΩ Pt-100,	Pt-200, Pt-500, Pt-1000, Cu-100, Ni-100, Ni-120

Breadboard

Model	Type	Connectors
EX1200-7000	Prototyping	44p, 104p, 160p

Terminal Blocks*

Model	Connector compatibility
EX1200-TB44	44-pin HD D-sub
EX1200-TB104	104-pin HD D-sub
EX1200-TB160	160-pin DIN
EX1200-TB200	200-pin HD SCSI
EX1200-TBR	6-slot terminal block receiver

* EX1200 Data Sheet for more info

LXI EX1200 Mainframe Specifications

1U Mainframes

Model	Description	Dimensions	Weight
EX1202	Two standard plug-in module slots	Half rack 1U mainframe (20.25" D, 8.61" W, 1.75" H)	4.9 lbs (2.3 kg)
EX1262	Two standard plug-in module slots plus 6.5 digit DMM	Half rack 1U mainframe (20.25" D, 8.61" W 1.75" H)	5.3 lbs (2.4 kg)
EX1206A	Six standard plug-in module slots (optional 6.5 digit DMM)	Full rack 1U mainframe (17.17" D, 17.27" W, 1.75" H)	7.1 lbs (3.2 kg)

3U Mainframes

Model	Description	Dimensions	Weight
EX1208A	Sixteen standard plug-in module slots (optional 6.5 digit DMM)	Full rack 3U mainframe (17.65" D, 16.72" W, 1.75" H)	16.2 lbs (7.4 kg)

8U Mainframes

Model	Description	Dimensions	Weight
EX1214-ICA	Fourteen 6U high-density slots	Full rack 8u mainframe (23.5" D, 23.9" W, 14" H)	57.5 lbs (26.1 kg)



AMETEK VTI Instruments
2031 Main St.
Irvine, CA 92614
+1 949-955-1894
vti.sales@ametek.com
www.vtiinstruments.com



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