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12-Channel, 300 V CAT II, 600 V CAT I Multiplexer

NI PXI-2584 **NEW!**

- Dual 6x1 1-wire, 12x1 1-wire, 6x1 2-wire, interleaved 11x1 2-wire multiplexer configuration
- Switching capacity
 - Up to 300 V CAT II, 600 V CAT I
 - Up to 0.5 A switching/0.5 A carry
 - Up to 10 W
- 600 channels/s
- Onboard relay counting
- Fully software programmable
- 32,000-step scanlist for deterministic scanning
- Tight synchronization with instruments through hardware triggers

Operating Systems

- Windows 2000/XP
- Linux®

Recommended Software

- NI Switch Executive
- LabVIEW
- LabWindows/CVI
- Measurement Studio

Other Compatible Software

- Visual Basic
- C/C++

Driver Software (included)

- NI-SWITCH
- NI-DAQmx

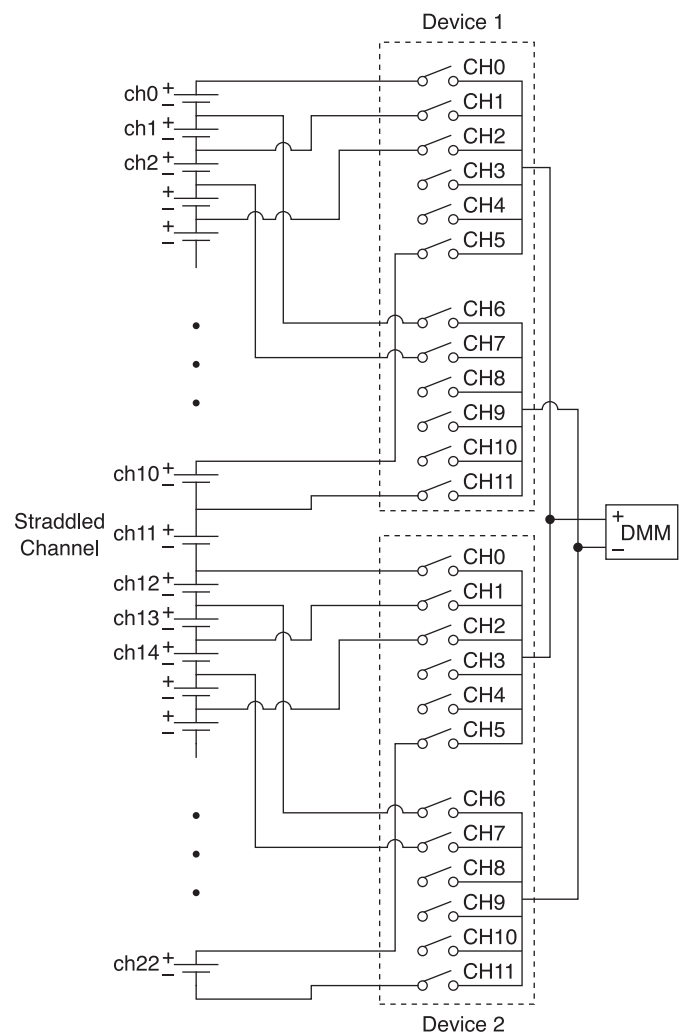


Overview

The National Instruments PXI-2584 is a high-voltage multiplexer switch in a single-slot, 3U PXI module. With a CAT II certification at 300 V, it is capable of routing general-purpose ATE loads or high-voltage, low-current signals. The 600 V CAT I channel-to-ground isolation on the NI PXI-2584 makes it ideal for fuel cell and battery stack applications. You also can use the module in multimodule configurations for taking measurements on hundreds of channels. The CAT I and CAT II safety ratings combined with UL safety certification make it ideally suited for high-voltage ATE systems that include the NI PXI-4071 1000 V digital multimeter. The reed relays in the PXI-2584 also ensure longer lifetimes and faster actuation times for test equipment.

Interleaved Topology for Maximum Channel Count

Interleaved topology is a method to increase channel count when measuring potentials that are on a stack such as battery stacks and fuel cell stacks. In traditional 2-wire topologies, each channel would put two wires across each component under test, which would limit the PXI-2584 to six differential channels. By putting each single input pin on the front connector at points in between potentials on a stack, the channel count is extended from six to 11 2-wire channels. In addition to maximizing channel count on a module, the topology offers a free “straddle” channel when testing battery stacks over multiple modules.



The PXI-2584 Interleaved Topology Maximizes Channel Count



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Relay Count Tracking

The PXI-2584 counts relay closures on each of its high-voltage relays. Relay counts are incremented each time a relay is actuated. The counts, stored onboard the module, are retrievable programmatically and can be used for predictive maintenance to reduce unexpected system downtime.

Automatic Scanning

The PXI-2584 maximizes throughput in automated test applications by the use of scanning. Scanning improves throughput by downloading a list of up to 32,000 connections to the switch and cycling through the list using an event (trigger) without any interruption from the host processor. Scanning is most efficiently accomplished by mating the PXI-2584 with other instruments such as the PXI-4071 1000 V FlexDMM, which issues a trigger after each measurement is complete.

Software

All National Instruments PXI switch modules are shipped with NI-SWITCH, an IVI-compliant driver offering complete functionality for all switch modules. For additional assistance in configuring, programming, and managing higher-channel-count switching systems, NI Switch Executive software offers an easy-to-use, intelligent switch management and visual routing environment. Use the NI-SWITCH Soft Front Panel for simple relay operations or debugging switch code/execution.

Ordering Information

NI PXI-2584.....778572-84

Accessories and Software

Connector/Backshell Kit.....779168-02

NI Switch Executive

Development System778546-01

Deployment Engine778548-00

BUY NOW!

For complete product specifications, pricing, and accessory information, call (800) 813 3693 (U.S.) or go to ni.com/switches.

Specifications

Relay Characteristics

Configurations.....	Dual 6x1 1-wire, 12x1 1-wire, 6x1 2-wire, interleaved 11x1 2-wire (battery test)
Contact materials.....	Rhodium
Maximum switching voltage	
AC	600 VAC _{pk}
DC	600 VDC
Maximum switching current.....	0.5 A
Maximum carry current.....	0.5 A
Maximum switching power	10 W
DC path resistance (1-wire path)	
Initial	<1.1 Ω
End of life	>2 Ω
Minimum switching capacity.....	0.5 V or 1 mA

Dynamic Characteristics

Maximum scan rate	600 channels/s
Relay operate time	
Typical	0.4 ms
Maximum.....	0.75 ms
Expected relay life	
Mechanical	
(1 V at 10 mA resistive).....	3x10 ⁸ cycles
600 V at 7 mA 90 pF	
capacitive	1.8x10 ⁷ cycles
600 V at 16.5 mA 90 pF	
capacitive	7x10 ⁶ cycle

Note: Certain applications may require additional time for proper settling. For information about including additional settling time, refer to the NI Switches Help.

Physical

Relay type	Reed
I/O connector	16 position, MINI-COMBICON plug
Dimensions.....	Single PXI slot, 3U

Environment

Operating temperature	0 to 55 °C
Storage temperature.....	-20 to 70 °C
Relative humidity	5 to 85% noncondensing
Pollution degree	2

Approved at altitudes up to 2000 m.
Indoor use only.

12-Channel, 300 V CAT II, 600 V CAT I Multiplexer

Safety and Compliance

Safety

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CAN/CSA-C22.2 No. 61010-1

Note: For UL and other safety certifications, refer to the product label or visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

This product is designed to meet the requirements of the following standards of EMC for electrical equipment for measurement, control, and laboratory use:

- EN 61326 EMC requirements; Minimum Immunity
- EMC unprotected

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

- 73/23/EEC; Low-Voltage Directive (safety)
- 89/336/EEC; Electromagnetic Compatibility Directive (EMC)

Note: Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Waste Electrical and Electronic Equipment (WEEE)

EU Customers: At the end of their life cycle, all products must be sent to a WEEE recycling center. For more information about WEEE recycling centers and National Instruments WEEE initiatives, visit ni.com/environment/weee.htm.

NI Services and Support



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Our Professional Services Team is comprised of NI applications engineers, NI Consulting Services, and a worldwide National Instruments Alliance Partner program of more than 600 independent consultants and

integrators. Services range from start-up assistance to turnkey system integration.

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Hardware Services

NI Factory Installation Services

NI Factory Installation Services (FIS) is the fastest and easiest way to use your PXI or PXI/SCXI combination systems right out of the box. Trained NI technicians install the software and hardware and configure the system to your specifications. NI extends the standard warranty by one year on hardware components (controllers, chassis, modules) purchased with FIS. To use FIS, simply configure your system online with ni.com/pxiadvisor.

Calibration Services

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated calibration software specifically designed for use by metrology laboratories. Visit ni.com/calibration.

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