

196-Channel Multiplexer Switches

NEW

NI PXI-2575, NI SCXI-1175

- 196x1 1-wire, 98x1 2-wire multiplexer
- Maximum switch capacity
 - Up to 100 VDC, 100 VAC
 - Up to 1 A switching/1 A carry
- Onboard relay counting
- 140 cycles/s
- Fully software programmable
- Deterministic operation with hardware triggers
- 32,000-step scan list

Operating Systems

- Windows 2000/NT/XP

Recommended Software

- NI Switch Executive
- LabVIEW
- LabWindows/CVI
- Measurement Studio for Visual C++

Other Compatible Software

- Visual Basic
- C/C++

Driver/Services Software (included)

- NI-SWITCH
- NI-DAQmx

Compliance

- UL
- CE



Overview

The National Instruments PXI-2575 and SCXI-1175 are high-density multiplexer switch modules. With 198 1-wire channels or 98 2-wire channels, the NI PXI-2575 and NI SCXI-1175 are capable of routing hundreds of signals to measurement devices or from source units. Each channel uses robust electromechanical relays and is capable of switching up to 100 VDC/100 VAC or 1 A. With a scanning speed of up to 140 cycles/s, these modules act as an excellent front-end for high-channel-count automated test applications.

Automatic Scanning

The PXI-2575 and SCXI-1175 are able to maximize 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-2575 or SCXI-1175 with an instrument, such as an NI 407x 6 1/2-digit FlexDMM, which issues a trigger after each measurement.

Relay Count Tracking

The PXI-2575 and SCXI-1175 count relay closures on each of their individual 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.

Multimodule Channel Expansion

Expanding the multiplexer channel count of an SCXI system is as easy as adding additional modules. Analog signals can be passed between two or more SCXI-1175 switch modules via the high-

voltage analog backplane (HVAB) in an SCXI chassis. Include the HVAB adapters for a 4-slot SCXI chassis (p/n 776575-57x) or a 12-slot chassis (776575-58x) to set up this capability. With these connections, you can instantly expand your channels without complicated wiring.

Software

All National Instruments PXI and SCXI 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.

Ordering Information

NI PXI-2575	778572-75
NI SCXI-1175	776572-75

Includes NI-SWITCH driver software

Accessories

LFH200 connector to bare wire switch cable	779038-01
LFH200 connector to 50-pin D-Sub switch cable	779038-03

NI Switch Executive

Development system	778546-01
Deployment engine	778548-00

BUY NOW!

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

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Specifications

Input Characteristics

Maximum switching voltage	
Channel-to-ground	100 V, CAT I
Channel-to-channel	100 V
Maximum switching/carry current	1 A
Maximum switching power (per channel, resistive)	60 W, 62.5 VA
Typical DC path resistance	
Initial	<0.5 Ω
End of life	$\geq 1 \Omega$
Thermal emf	$\leq 12 \mu\text{V}$
Bandwidth (-3 dB)	
1-wire	>20 MHz
2-wire	>8 MHz

Dynamic characteristics

Maximum speed	140 cycles/s
Relay operate time	
Typical	1 ms
Maximum	3.4 ms
Expected relay life	
Mechanical	1×10^8 cycles
Electrical	
10 VDC, 100 mADC resistive	2.5×10^6 cycles
10 VDC, 1 ADC resistive	1×10^6 cycles
30 VDC, 1 ADC resistive	5×10^5 cycles
60 VDC, 1 ADC resistive	1×10^5 cycles

Physical

Relay types	electromechanical, latching
Contact material	palladium-ruthenium, gold covered
I/O connectors	200 POS LFH Matrix 50, receptacle
Dimensions	
PXI-2569	10 by 17.4 cm (3.9 by 6.9 in.) single-slot, 3U
SCXI-1169	3 by 17.3 by 19.5 cm (1.2 by 6.8 by 7.5 in.)

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	2,000 m

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 61010B-1
- CAN/CSA C22.2 No. 61010-1

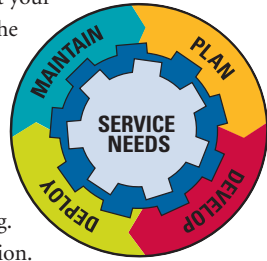
CE Compliance

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

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

NI Services and Support

NI has the services and support to meet your needs around the globe and through the application life cycle – from planning and development through deployment and ongoing maintenance. We offer services and service levels to meet customer requirements in research, design, validation, and manufacturing. Visit ni.com/services for more information.



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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.

Repair and Extended Warranty

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