

# High-Density Electromechanical Relay Multiplexer

## NI PXI-2575

- 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

### Other Compatible Software

- Visual Basic
- C/C++

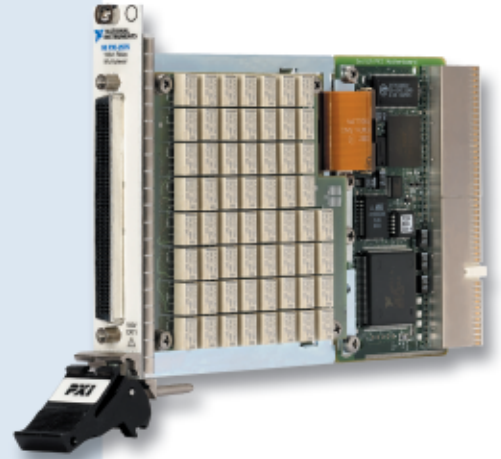
### Driver Software (included)

- NI-SWITCH

### Compliance

- UL
- CE

NEW



## Overview and Applications

The National Instruments PXI-2575 is a high-density multiplexer switch module. With 196 1-wire channels or 98 2-wire channels, the NI PXI-2575 is 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, the PXI-2575 acts as an excellent front-end for high-channel-count automated test applications.

## Automatic Scanning

The PXI-2575 is able to maximize throughput in automated test applications using 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 with an instrument, such as the NI PXI-4070 6<sup>1</sup>/<sub>2</sub>-digit FlexDMM, which issues a trigger after each measurement.

## Relay Count Tracking

The PXI-2575 counts relay closures on each of its 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.

## 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.

## Ordering Information

NI PXI-2575 .....778572-75  
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 ONLINE!

Visit [ni.com/info](http://ni.com/info) and enter `pxi2575`.

# High-Density Electromechanical Relay Multiplexer

## 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 .....        | 60 W, 62.5 VA   |
| (per channel, resistive)             |                 |
| Typical DC path resistance           |                 |
| Initial .....                        | <0.5 $\Omega$   |
| End of life .....                    | $\geq 1 \Omega$ |
| Thermal emf .....                    | <12 $\mu$ V     |
| Bandwidth (-3 dB)                    |                 |
| 1-wire.....                          | >9 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 .....                  | 1x10 <sup>8</sup> cycles   |
| Electrical                        |                            |
| 10 VDC, 100 mADC, resistive ..... | 2.5x10 <sup>6</sup> cycles |
| 10 VDC, 1 ADC, resistive .....    | 1x10 <sup>6</sup> cycles   |
| 30 VDC, 1 ADC resistive .....     | 5x10 <sup>5</sup> cycles   |
| 60 VDC, 1 ADC resistive .....     | 1x10 <sup>5</sup> cycles   |

### Physical

|                        |  |
|------------------------|--|
| Relay types .....      | electromechanical, latching                    |
| Contact material ..... | palladium-ruthenium, gold covered              |
| I/O connectors .....   | 200 POS LFH Matrix 50, receptacle              |
| Dimensions.....        | 10 by 17.4 cm (3.9 by 6.9 in.) single-slot, 3U |

### Environment

|                            |                        |
|----------------------------|------------------------|
| Operating temperature..... | 0 to 55 °C             |
| Storage temperature.....   | -20 to 70 °C           |
| Relative humidity .....    | 5 to 85% noncondensing |
| Pollution Degree.....      | 2                      |
| Indoor use only            |                        |

### 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 3111-1, UL 61010B-1
- CAN/CSA C22.2 No. 1010.1

### CE Compliance

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

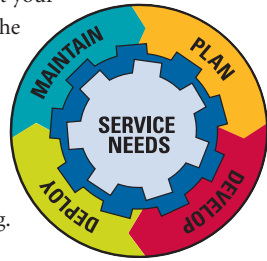
|                                     |           |
|-------------------------------------|-----------|
| Low-Voltage Directive (safety)..... | 73/23/EEC |
|-------------------------------------|-----------|

### Electromagnetic Compatibility

|                       |            |
|-----------------------|------------|
| Directive (EMC) ..... | 89/336/EEC |
|-----------------------|------------|

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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](http://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](http://ni.com/calibration).

## Repair and Extended Warranty

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National Instruments • Tel: (512) 683-0100 • Fax: (512) 683-9300 • [info@ni.com](mailto:info@ni.com)