KineticSystems

P580

34-Channel Relay Multiplexer

The P580 is a double-width 3U PXI module that functions as a multiplexer. The P580 incorporates two independent differential analog paths that can be connected to any of 34 differential signal paths through the 68-position front panel mounted SCSI connector. Also, each path can be routed to any of the four SMB front panel mounted connectors.

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TYPICAL APPLICATIONS

Monitoring shaft encoders and other devices to measure RPM from shafts on automotive and aircraft engines

Monitoring flow meters

General-purpose frequency counting

FEATURES

- 34 differential input channels that can be multiplexed onto 2 independent analog paths
- 4 front-panel LEMO connectors which can be configured as inputs or outputs
- Allows up to 4 external instruments to be switched into a path via LEMO connectors
- Controls switching sequence via plug-and-play drivers or scanner memory
- Reduces overall system cost by connecting up to 34 sensors to one analog input

GENERAL DESCRIPTION

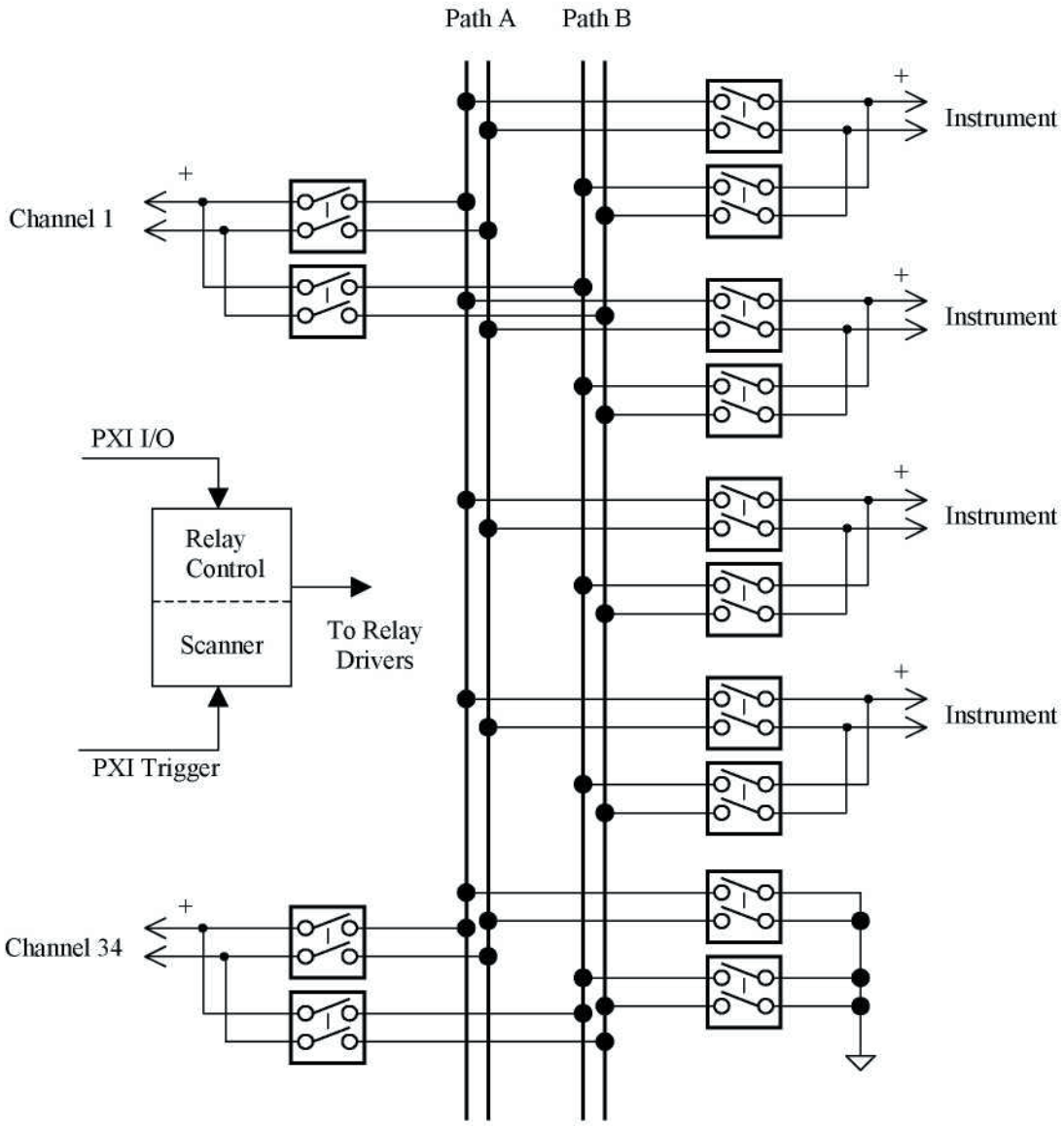
The P580 is a double-width 3U PXI module that functions as a multiplexer. The P580 incorporates two independent differential analog paths that can be connected to any of 34 differential signal paths through the 68-position front panel mounted SCSI connector. Also, each path can be routed to any of the four SMB front panel mounted connectors.

Switching sequences can be executed via individual calls to the Plug and Play Driver, or via the use of the Scanner Memory.

The Scanner Memory is used to define the switching of the P580. Once the scanner is enabled, the first Scanner Memory location is read by the P580 and the appropriate switch configuration is set. Once set, a trigger acknowledgement is sent through the Scanner Trigger Output configured in the Scanner Configuration Register. The switch selection remains until the scanner is signaled to increment to the next selection. The P580 can receive the increment signal from a PXI trigger line or an external trigger. Once the increment is received, the next switch selection is made and an acknowledgement sent. This continues until the End Of List bit is encountered in the Scanner Memory.

The Scanner Memory holds the various switch configuration steps in RAM. The contents of the memory inform the P580 as to which switch closures to make for the given step. The memory contains information regarding which front panel channel to connect to (Path A or Path B), and which front panel instrument to connect to (Path A or Path B). An End Of List (EOL) bit is used to indicate when the last element of the scanner memory has been accessed. Once the last memory element has been accessed with the EOL bit set, the next increment causes the cycle to repeat from the beginning. The P580 scanner memory can hold 1024 steps.

The following diagram shows the internal architecture of the P580.



SOFTWARE

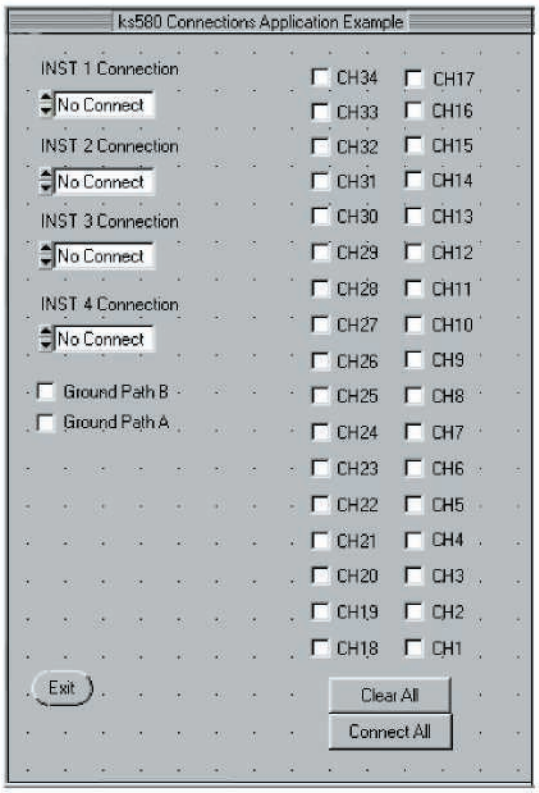
The P580 comes with a Plug and Play driver for configuring and using the device and application examples to illustrate its basic functionality.

APPLICATION EXAMPLE

This example tool demonstrates the basic capabilities of the P580 and provides a convenient utility for module verification. The tool supports the following functionality:

- Connect a channel, or set of channels, to a path
- Connect a path to ground
- Connect a path to one of four instruments

This and other tools, including their source code, are provided.



Item	Specifications
Inputs Number of input channels Type	 34 Differential
Input Connector Types	68 Position High Density SCSI Socket Connector
Power Requirements +5V +3.3V +12V -12V	 225 mA 755 mA 175 mA 175 mA
Environmental and Mechanical Temperature range Operational Storage Relative humidity Cooling requirements Dimensions Front-panel potential	 0°C to +50°C -25° C to +75° C 0 to 85%, non-condensing to 40°C 10CFM 100 mm x 160 mm (3U PXIbus module) Chassis ground

RELATED PRODUCTS

5857-Cxyz	Cable - 2 Contact LEMO to Unterminated
5857-Dxyz	Cable - 2 Contact LEMO to 2 Contact LEMO
5857-Gxyz	Cable - 2 Contact LEMO to BNC Shielded

ORDERING INFORMATION

MODEL	DESCRIPTION
P580-AAA1	34 Channel Relay Multiplexer

Specifications contained within this data sheet are subject to change without notice

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