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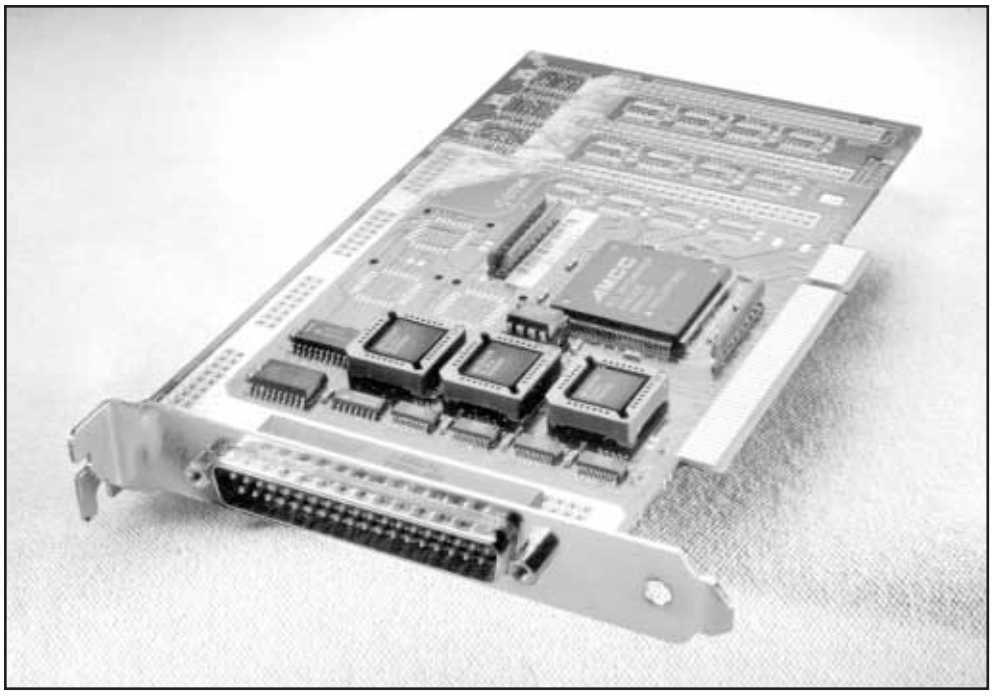
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Find the *Keithley KPCI-PIO24* at our website: ***Click HERE***

KPCI-PIO24

NEW PRODUCT

PCI-Bus 24-Channel Parallel Digital I/O Board



FEATURES

- 24 high-current digital I/O lines
- Configurable interrupt capability
- Incorporates AMCC S5933 PCI bus controller
- Bi-directional I/O
- High-current driver capability
- External connections to +5V, +12V, –12V, and –5V PC power
- Compatible with ERB-24, SSIO-24, SRA-01, and ERA-01 accessories
- 32-bit DriverLINX software drivers for Windows 95/98/NT/ 2000 — ActiveX and DLL based
- Excel Add-In
- TestPoint drivers and LabVIEW VIs
- New start-up software included

Functional Description

Keithley's PCI-based KPCI-PIO24 board provides 24 TTL-level digital I/O lines that can be used for a wide variety of digital I/O applications. This board takes advantage of the PCI bus's plug-and-play features and its 32-bit architecture. The KPCI-PIO24 also has an easily accessible interrupt configuration, which accommodates any number of customizable programmed I/O operations.

The KPCI-PIO24 uses the AMCC S5933 PCI bus controller. Recognized as an industry standard, this field-proven PCI-bus interface includes all the components necessary for optimal use of the PCI bus. The KPCI-PIO24 has a high-output current of 15mA (source) and 64mA (sink), enabling direct control of LEDs, solid state I/O modules, and relays. The board also features externally accessible connections to your PC's power supply (+5V, +12V, –12V, and –5V).

The KPCI-PIO24's 24 digital I/O lines are grouped into three separate 8-bit ports (PA, PB, and PC), which can be set independently under software control as inputs or outputs. In addition to operating as a standard 8-bit data port, the third port (PC) can be subdivided into two half ports of 4 bits apiece. The PA, PB, and PC ports can always be read/write accessed, regardless of their initial configuration, without affecting external signal levels. All ports default as inputs upon initial power-up or reset conditions.

Two separate externally accessible signals, INT_EN (interrupt enable–active low) and INT_REQ (interrupt request–edge), allow for a flexible interrupt configuration. The external interrupt request line can be set in software to trigger on either the positive edge (which is the default upon power-up or reset) or the negative edge. Moreover, when one or more ports are configured as inputs, the interrupt request line also can be simultaneously programmed to latch incoming data on the designated edge.

The PCI bus shares a single interrupt line among all cards, INTA, which interrupts the host every time a single transfer is taking place. This interrupt line is internal to the PCI bus and distinct from the external interrupt line (INT_REQ).

The KPCI-PIO24 maps all sixteen 32-bit AMCC S5933 operation registers (64 bytes), along with its eight 32-bit specific functional registers, as a memory-mapped peripheral. All are automatically assigned by the PCI BIOS's plug-and-play feature upon power-up. The KPCI-PIO24 implements the S5933 as a target. Target mode, also referred to as pass-through operation, provides a simple register access port to the PCI bus.

Get "Up & Running" Quickly with Keithley's FREE Bundled Start-Up Software

up & running software

QUESTIONS?

1-800-552-1115 (U.S. only)

Call toll free for technical assistance, product support or ordering information, or visit our website at **www.keithley.com**.

KPCI-PIO24

PCI-Bus 24-Channel Parallel Digital I/O Board

Software

The array of free software included with Keithley's data acquisition products helps developers get applications "Up and Running" quickly. For example, a new start-up software utility makes it possible to interact with a new board in a matter of minutes. Software drivers are provided on a CD for fast, uncomplicated installation. These 32-bit DriverLINX device drivers for Visual Basic, C/C++, and Delphi also help speed defining new applications by offering both DLL and ActiveX interfaces. A variety of useful examples and on-line help are provided with Keithley's software. Of course, Keithley's easy-to-use application development package, TestPoint, takes advantage of the DriverLINX feature set.

Each board comes bundled with a free set of Keithley's new LabVIEW VIs. Designed with the same "form and feel" as National's VIs, there is no need to learn new commands or techniques to use Keithley's VIs successfully right out of the box.

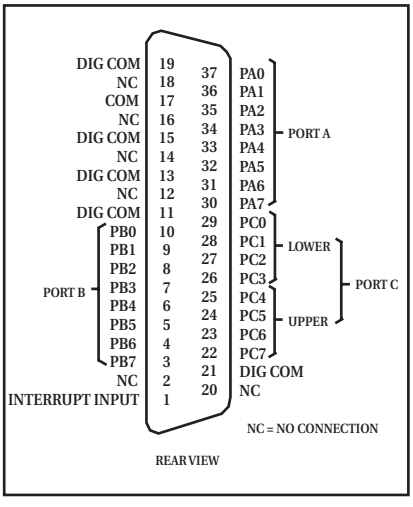
- FREE new bundled start-up software
- FREE ExceLINX—Excel Add-In (no programming required)
- FREE VisualSCOPE (no programming required)
- DriverLINX 32-bit Device Drivers—Visual Basic, C/C++, Delphi, TestPoint, LabVIEW, DLL, and ActiveX
- FREE new bundled LabVIEW VIs
- Runs under Windows 95/98/NT/2000

Warranty

Keithley Instruments, Inc. warrants the KPCI-PIO24 to be free from defects in materials and workmanship for a period of 3 years. During this warranty period, we will, at our option, either repair or replace any product that proves to be defective.

Connector Pin Assignments

All connections are made through a standard 37-pin D-type male connector that projects through the rear panel of the computer. For soldered connections, a standard 37-pin D female connector is the correct mating part, and can be ordered from Keithley as part number SFC-37.



Specifications

Symbol	Parameter	Min.	Typ.	Max.	Unit
Logic Inputs and Outputs					
V_{IH}	Voltage, input high	2.0	–	–	V
V_{IL}	Voltage, input low	–	–	0.8	V
I_{IH}	Current, input high, V_{IN} = 2.7V	–	–	±1	µA
I_{IL}	Current, input low, V_{IN} = 0.5V	–	–	±1	µA
I_{OZH}	High impedance output current, V_{OUT} high	–	–	±1	µA
I_{OZL}	High impedance output current, V_{OUT} low	–	–	±1	µA
V_{OH}	Voltage, output high, I_{OH} = –8mA	2.4	3.3	–	V
V_{OH}	Voltage, output high, I_{OH} = –15mA	2.0	3.0	–	V
V_{OL}	Voltage, output low, I_{OL} = 64mA	–	0.3	0.55	V
I_{OL}	Current, output low	–	–	64.0	mA
I_{OH}	Current, output high	–	–	–15	mA
I_{OS}	Short circuit current	–60.0	–120.0	–225.0	mA
I_{OFF}	Input/output power off leakage	–	–	±1	µA
Interrupt Inputs					
I_{IL}	Current, input low	–	–	–100	µA
I_{IH}	Current, input high	–	–	–10	µA
V_{OL}	Voltage, output low, I_{OL} = max	–	0.3	0.5	V
V_{OH}	Voltage, output high, I_{OH} = max	2.4	3.3	–	V
I_{OL}	Current, output low	–	–	16.0	mA
I_{OH}	Current, output high	–	–	–3.2	mA
Power Requirements					
	+5V		400		mA
Environmental					
	Operating temperature range	0		50	°C
	Storage temperature range	–20		+85	°C
	Humidity (non condensing)	0		90	%
Dimension					
	5 × 4.25 × 0.75 (half slot)				inches
	12.7 × 10.8 × 1.9				cm
Weight	4				oz
	116				grams

EMC: Conforms to European Union Directive 89/336/EEC.
SAFETY: Meets EN61010-1/IEC 1010.

Order	Description
KPCI-PIO24	PCI bus 24-bit parallel digital I/O board
INCLUDED SOFTWARE	
FREE bundled NEW Start-Up Software	
FREE ExceLINX—Excel Add-In	
FREE VisualSCOPE	
FREE bundled NEW LabVIEW VIs	
DriverLINX 32-bit Device Drivers—DLL and ActiveX	
Supports Visual Basic, C/C++, Delphi, TestPoint, and LabVIEW	
Runs under Windows 95/98/NT/2000	

Options

C1800	18-inch ribbon cable
ERA-01	8-channel SPDT relay output assembly
ERB-24	24-channel DPDT relay output board
S-1800	18-inch shielded ribbon cable
SRA-01	8-channel solid–state I/O module accessory
SSIO-24	24-channel solid-state I/O module board
STA-U	Universal screw terminal assembly
STC-37	Direct screw terminal connector
STP-37	Screw terminal panel
TESTPOINT	TestPoint application software on CD-ROM

See page 479 for descriptions of all accessories.

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