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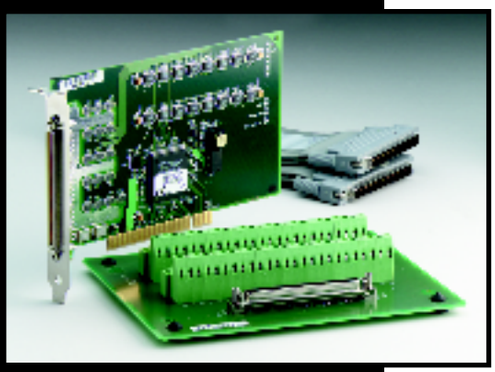
Find the *Keithley KPCI-3160* at our website: ***Click HERE***

Wide range of functionality

PCI/ISA/PCMCIA

KPCI-3160
KPCI-PIO96
KPCI-PIO24

96/24-Line Parallel Digital I/O Boards







- 96 or 24 TTL-level compatible digital I/O lines
- Bi-directional I/O
- High-current driver capability, 15mA (source) and 64mA (sink)
- Compatible with ERB-24, SSIO-24, PB-24, SRA-01, and ERA-01 accessories
- Compatible with industry standard solid-state relays
- 32-bit DriverLINX drivers plus a suite of bundled software including ExceLINX, VisualSCOPE, TestPoint, and LabVIEW drivers

Functional Description

These parallel digital I/O boards offer a wide range of functionality for applications as diverse as digital I/O and process control to prototyping and parallel communications. They provide 96 or 24 TTL-level digital I/O lines that can be used for digital control of processes and monitoring of the status of switches, contacts, or other control points. All digital I/O lines can be accessed simultaneously by the hardware and software. These lines also provide high-current driver outputs for sinking (64mA) and sourcing (15mA). This allows them to drive relays directly without any interface circuitry.

The digital I/O lines of the KPCI-3160 and KPCI-PIO96 are divided into four 24-bit groups, each of which is further divided into 3 separate 8-bit ports (PA, PB, and PC). These ports 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 2 half ports of 4 bits each. 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. The KPCI-3160 has a high-output current of 15mA (source) and 64mA (sink), enabling direct control of LEDs, solid-state I/O modules, and relays. The KPCI-3160 also supports external interrupts on pins 24 and 25. This interrupt capability allows external clocking and latching of digital I/O data.

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.

	KPCI-3160	KPCI-PIO96	KPCI-PIO24
Number of Channels	96	96	24
Sink	64 mA	64 mA	64 mA
Source	–15 mA	–15 mA	–15 mA
Interrupt Capability	Yes, configurable	No	Yes, configurable
Connector Type	100 pin	4 × 50 pin	37 pin D type
CE Compliant	Yes	No	Yes

Ordering Information

KPCI-3160
96-Channel, PCI-Bus, Parallel Digital I/O Board, CE Compliant

KPCI-PIO96
PCI bus 96-bit Parallel Digital I/O Board

KPCI-PIO24
PCI bus 24-bit Parallel Digital I/O Board

up & running software

APPLICATIONS

- Factory Automation
- Monitoring the status of switches, push buttons, limit switches, etc.
- Laboratory automation
- Production test
- Energy management
- Security systems

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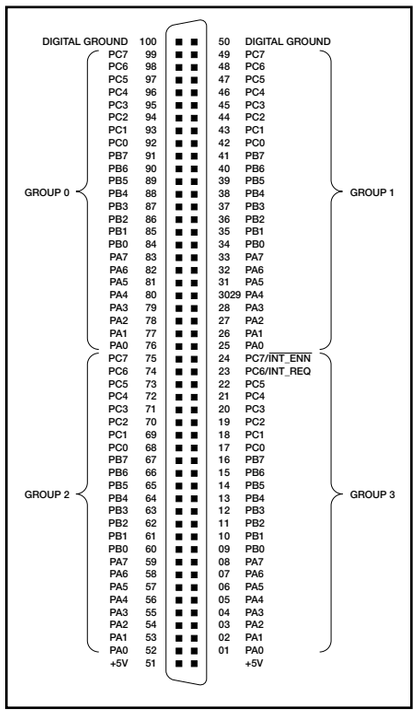
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KPCI-3160
KPCI-PIO96
KPCI-PIO24

96/24-Line Parallel Digital I/O Boards

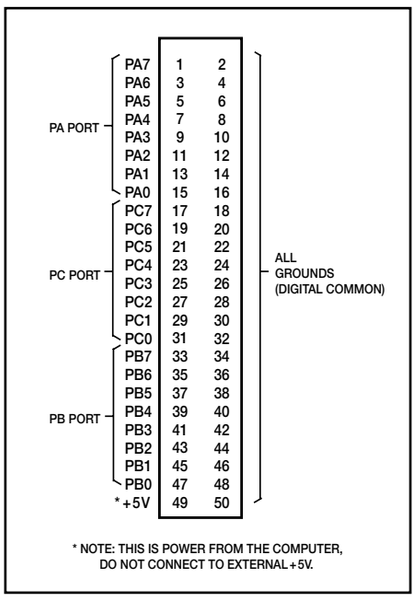
Connector Pin Assignments for KPCI-3160

The digital input and output connections are made with a 100-pin connector.



Connector Pin Assignments for KPCI-PIO96

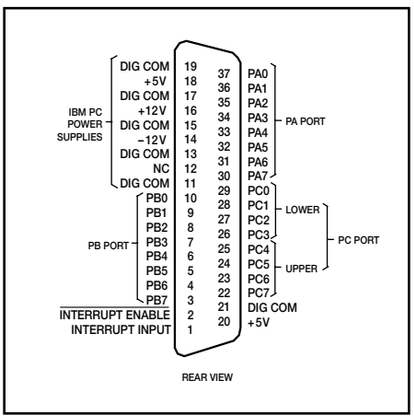
All connections are made through four 50-pin board-mounted header connectors. These typically connect to the CACC-2000 cable when interfacing to STP-50, STA-50, ERB-24, or SSIO-24 assemblies. When connecting to SRA-01 or ERA-01 modules, the ADP-5037 cable should be used.



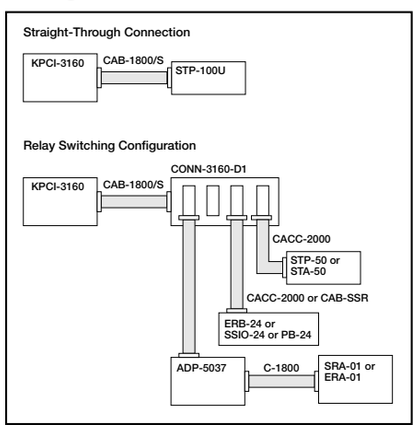
* NOTE: THIS IS POWER FROM THE COMPUTER, DO NOT CONNECT TO EXTERNAL +5V.

Connector Pin Assignments for KPCI-PIO24

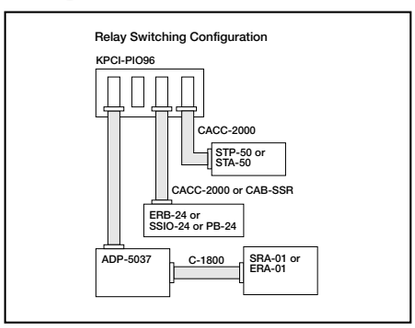
All connections are made through a standard 37-pin D-type male connector that projects through the rear panel of the computer. For soldered connections, a standard 37-pin D female connector is the correct mating part, and can be ordered from Keithley as part number SFC-37.



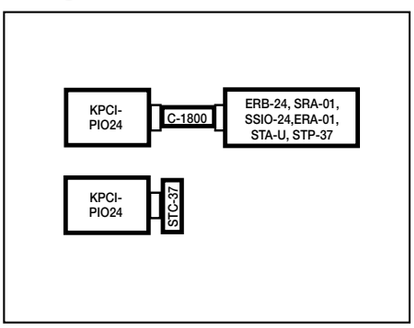
Configuration Guide for KPCI-3160



Configuration Guide for KPCI-PIO96



Configuration Guide for KPCI-PIO24



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Simultaneously access all digital I/O lines

PCI/ISA/PCMCIA

KPCI-3160
KPCI-PIO96
KPCI-PIO24

96/24-Line Parallel Digital I/O Boards

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
Environmental					
	Operating temperature range	0		+50	°C
	Storage temperature range	–40[1]		+100[2]	°C
	Humidity (non condensing)	0		90	%
Dimension					
	5 × 4.25 × 0.75 (half slot)				inches
	12.7 × 10.8 × 1.9				cm
Weight	4.4 (4 for KPCI-PIO24)				oz
	125 (116 for KPCI-PIO24)				grams

1 –20 for KPCI-PIO24.
2 +85 for KPCI-PIO96 and KPCI-PIO24.

ACCESSORIES AVAILABLE (KPCI-3160)

ADP-5037	50-pin to 37-pin conversion cable
CAB-1800/S	100-conductor shielded cable with a 100-pin D-type connector on each end. 18 in length. Longer and non-shielded cables are also available
CAB-SSR	3 ft ribbon cable with card-edge connector for PB-24 and PB-24SM
CACC-2000	Cable, 24 in, 50 conductor. Interfaces CONN-3160-D1 to STA-50, STP-50, ERB-24, or SSIO-24
CONN-3160-D1	Adapter accessory for the KPCI-3160
ERA-01	8-Channel SPDT relay output assembly. Requires C1800 and ADP-5037 cables
ERB-24	24-channel DPDT relay output board. Requires CACC-2000 cable
MS-KPCI-3160	Additional hardware and software manuals and standard software for the KPCI-3160
PB-24	24-channel baseboard for standard size SSR modules
PB-24SM	24-channel baseboard for SM Series SSR modules
SRA-01	8-channel solid-state I/O module accessory. Requires C1800 and ADP-5037 cables
SSIO-24	24-channel solid-state I/O module board. Requires CACC-2000 cable
STA-50	Universal 50-pin screw terminal board. Requires CACC-2000 cable
STP-50	Screw Terminal panel with 50-pin male header. Requires CACC-2000 cable
STP-100U	100-pin universal screw terminal panel
STP-ENCL	General purpose enclosure for STP-37, STP-37/F, and STP-50
TESTPOINT	TestPoint software package

ACCESSORIES AVAILABLE (KPCI-PIO96)

ADP-5037	KPCI-PIO96 to 37-pin interface
C1800	18-inch ribbon cable
CAB-SSR	3 ft ribbon cable with card-edge connector for PB-24 and PB-24SM
CACC-2000	KPCI-PIO96 to STA-50, STP-50, ERB-24, or SSIO-24 cable (24 in)
ERA-01	8-channel SPDT relay output assembly
ERB-24	8-channel SPDT relay output accessory
PB-24	24-channel baseboard for standard size SSR modules
PB-24SM	24-channel baseboard for SM Series SSR modules
SRA-01	24-channel DPDT relay output board
SSIO-24	24-channel solid-state I/O module board
STA-50	Universal 50-pin screw terminal board
STP-50	Screw terminal panel with 50-pin male header
TESTPOINT	TestPoint application software on CD-ROM

ACCESSORIES AVAILABLE (KPCI-PIO24)

C1800	18-inch ribbon cable
ERA-01	8-channel SPDT relay output assembly
ERB-24	24-channel DPDT relay output board
S1800	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

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