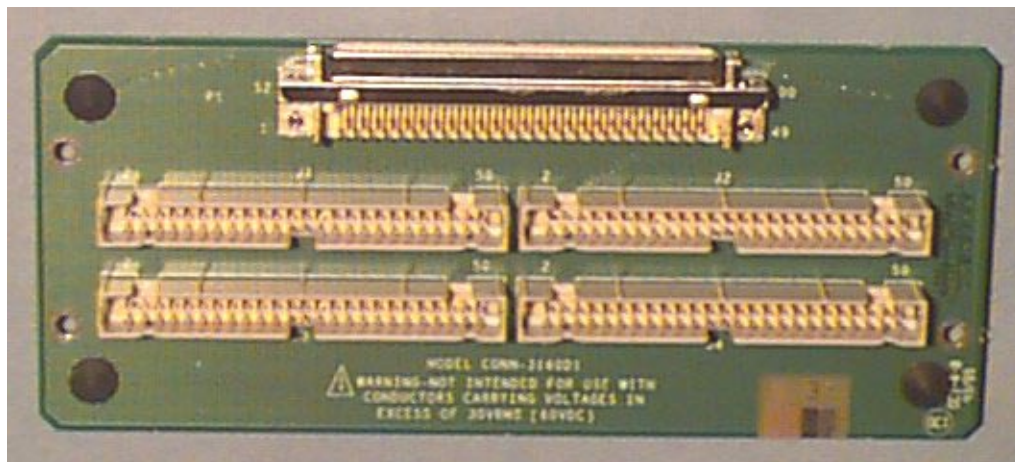


## Description

The CONN-3160-D1 provides the 100-pin KPCI-3160 digital I/O connector with a pin-to-pin mapping across four separate 50-pin connectors. This enables the KPCI-3160 to correctly interface with other applicable digital I/O accessories such as the ERB-24, SSIO-24, STP-50, STA-50, or the ADP-5037. The CONN-3160-D1 should be connected to the KPCI-3160 using the CAB-1800 or CAB-1800/S 100-pin cables. The 50-pin connectors can then be connected to the accessory using any standard 50-pin ribbon cable.



## CONN-3160-D1 100-pin connector(P1) to CONN-3160-D1(Jx) signal mapping

Signal Group 0	CONN-3160-D1 (J1)	CONN-3160-D1 (P1)
PA0	15	75
PA1	13	74
PA2	11	73
PA3	09	72
PA4	07	71
PA5	05	70
PA6	03	69
PA7	01	68
PB0	47	67
PB1	45	66
PB2	43	65
PB3	41	64
PB4	39	63
PB5	37	62
PB6	35	61
PB7	33	60

Signal Group 1	CONN-3160-D1 (J3)	CONN-3160-D1 (P1)
PA0	15	25
PA1	13	24
PA2	11	23
PA3	09	22
PA4	07	21
PA5	05	20
PA6	03	19
PA7	01	18
PB0	47	17
PB1	45	16
PB2	43	15
PB3	41	14
PB4	39	13
PB5	37	12
PB6	35	11
PB7	33	10

Signal Group 0	CONN-3160-D1 (J1)	CONN-3160-D1 (P1)
PC0	31	59
PC1	29	58
PC2	27	57
PC3	25	56
PC4	23	55
PC5	21	54
PC6	19	53
PC7	17	52
Ground	All Even Pins	01
+5 Volts	49	50
Signal Group 2	CONN-3160-D1 (J2)	CONN-3160-D1 (P1)
PA0	15	99
PA1	13	98
PA2	11	97
PA3	09	96
PA4	07	95
PA5	05	94
PA6	03	93
PA7	01	92
PB0	47	91
PB1	45	90
PB2	43	89
PB3	41	88
PB4	39	87
PB5	37	86
PB6	35	85
PB7	33	84
PC0	31	83
PC1	29	82
PC2	27	81
PC3	25	80
PC4	23	79
PC5	21	78
PC6	19	77
PC7	17	76
Ground	All Even Pins	01
+5 Volts	49	50

Signal Group 1	CONN-3160-D1 (J3)	CONN-3160-D1 (P1)
PC0	31	09
PC1	29	08
PC2	27	07
PC3	25	06
PC4	23	05
PC5	21	04
PC6	19	03
PC7	17	02
Ground	All Even Pins	51
+5 Volts	49	100
Signal Group 3	CONN-3160-D1 (J4)	CONN-3160-D1 (P1)
PA0	15	49
PA1	13	48
PA2	11	47
PA3	09	46
PA4	07	45
PA5	05	44
PA6	03	43
PA7	01	42
PB0	47	41
PB1	45	40
PB2	43	39
PB3	41	38
PB4	39	37
PB5	37	36
PB6	35	35
PB7	33	34
PC0	31	33
PC1	29	32
PC2	27	31
PC3	25	30
PC4	23	29
PC5	21	28
PC6	19	27
PC7	17	26
Ground	All Even Pins	51
+5 Volts	49	100

## NOTES

All electrical, mechanical, and environmental specifications of the KPCI-3160 digital I/O card also apply to the CONN-3160-D1 accessory board. Functional specifications for the ERB-24, SSIO-24, STP-50, STA-50, and the ADP-5037 are available in the appropriate user's manuals corresponding to these accessories.

The 50-pin is a standard 3M type 3433 connector.

The KPCI-3160 provides +5 volts to power external circuits. The KPCI-3160 is current limited to approximately 2.0 amperes total. Signal groups 0 and 2 (J1 and J2) have electrically connected ground pins. Signal groups 1 and 3 (J3 and J4) have electrically connected ground pins. Signal groups 0 and 2 (J1 and J2) have electrically connected +5 volt pins. Signal groups 1 and 3 (J3 and J4) have electrically connected +5 volt pins. Therefore, J1 pin 49 and J2 pin 49 should not draw more than 1.0 ampere combined. Similarly, J3 pin 49 and J4 pin 49 should not draw more than 1.0 ampere combined. See the KPCI-3160 User's manual for more details.

## Specifications

**Voltage:** 30V RMS, 42.4V peak, or 60VDC

**Current:** 1 amp maximum

**Environment:** -30°C to +85°C

## Safety precautions

Observe the following safety precautions before using this product and any associated instrumentation. Although some instruments and accessories would normally be used with non-hazardous voltages, there are situations where hazardous conditions may be present.

This product is intended for use by qualified personnel who recognize shock hazards and are familiar with the safety precautions required to avoid possible injury. Read the operating information carefully before using the product.

## General definitions


The types of product users are:


**Responsible body** is the individual or group responsible for the use and maintenance of equipment, and for ensuring that operators are adequately trained.

**Operators** use the product for its intended function. They must be trained in electrical safety procedures and proper use of the instrument. They must be protected from electric shock and contact with hazardous live circuits.

**Maintenance personnel** perform routine procedures on the product to keep it operating, for example, setting the line voltage or replacing consumable materials. Maintenance procedures are described in the manual. The procedures explicitly state if the operator may perform them. Otherwise, they should be performed only by service personnel.

**Service personnel** are trained to work on live circuits, and perform safe installations and repairs of products. Only properly trained service personnel may perform installation and service procedures.

The  symbol on an instrument indicates that the user should refer to the operating instructions located in the manual.

The  symbol on an instrument shows that it can source or measure 1000 volts or more, including the combined effect of normal and common mode voltages. Use standard safety precautions to avoid personal contact with these voltages.

The **WARNING** heading in a manual explains dangers that might result in personal injury or death. Always read the associated information very carefully before performing the indicated procedure.

The **CAUTION** heading in a manual explains hazards that could damage the instrument. Such damage may invalidate the warranty.

## Installation

As described in the International Electrotechnical Commission (IEC) Standard IEC 664, the signal terminals are Installation Category I and must not be connected to mains.

Do not connect switching cards directly to unlimited power circuits. They are intended to be used with impedance limited sources. NEVER connect switching cards directly to AC mains. When connecting sources to switching cards, install protective devices to limit fault current and voltage to the card.

Operators and maintainers of this product must be protected from electric shock at all times. The responsible body must ensure that users are prevented access and/or insulated from every connection point. In some cases, connections must be exposed to potential human contact. Product users in these circumstances must be trained to protect themselves from the risk of electric shock. If the circuit is capable of operating at or above 1000 volts, **no conductive part of the circuit may be exposed.**

## Operation

Exercise extreme caution when a shock hazard is present. Lethal voltage may be present on cable connector jacks or test fixtures. The American National Standards Institute (ANSI) states that a shock hazard exists when voltage levels greater than 30V RMS, 42.4V peak, or 60VDC are present. **A good safety practice is to expect that hazardous voltage is present in any unknown circuit before measuring.**

For maximum safety, do not touch the product, test cables, or any other instruments while power is applied to the circuit under test. ALWAYS remove power from the entire test system and discharge any capacitors before: connecting or disconnecting cables or jumpers, installing or removing switching cards, or making internal changes, such as installing or removing jumpers.

Do not touch any object that could provide a current path to the common side of the circuit under test or power line (earth) ground. Always make measurements with dry hands while standing on a dry, insulated surface capable of withstanding the voltage being measured.

Do not exceed the maximum signal levels of the instruments and accessories, as defined in the specifications and operating information, and as shown on the instrument or test fixture panels, or switching card.

Chassis connections must only be used as shield connections for measuring circuits, NOT as safety earth ground connections.

If you are using a test fixture, keep the lid closed while power is applied to the device under test. Safe operation requires the use of a lid interlock.

Instrumentation and accessories shall not be connected to humans.

## Maintenance and service

Inspect the connecting cables, test leads, and jumpers for possible wear, cracks, or breaks before each use.

Before performing any maintenance, disconnect the line cord and all test cables.

## Cleaning

Keep the connections free of contaminants (such as dirt, oil, etc.) in order to maintain maximum insulation resistance. If the connections become contaminated, clean them thoroughly with methanol and allow them to dry completely before use.

# Board dimensions

CONN-3160-D1  
(Not To Scale)

