

**PEX-P64/PEX-P64-24V
PEX-C64**

NEW

PCI Express, 64-ch Optical-Isolated DI Board
PCI Express, 64-ch Open Collector DO (Sink, NPN) Board



Features

- PCI Express x1, Plug & Play
- Supports Card ID (SMD Switch)
- 3750 V_{rms} photo-isolation protection
- Four isolated banks when using four isolated external power supplies
- 64-ch optically isolated DO (Sink, NPN) for PEX-C64
 - Supports output status Readback
- 64-ch optically isolated DI for PEX-P64/P64-24V
 - Internal power (3000 V_{DC} Isolation) for dry-contact input

Introduction

The PEX-P64 card provides 64 optically isolated digital input channels that use either an internal or external power supply selected via a jumper. The internal power is provided by an onboard DC/DC converter with 3000 V_{DC} isolation and is used for connecting dry-contact input devices. The PEX-C64 card provides 64 optically isolated digital output channels, each of which offers a Darlington transistor and an integrated suppression diode for the inductive load. The open collector outputs (DO channels) are typically used for alarm and warning notification, signal output control, control for external circuits that require a higher voltage level, and signal transmission applications, etc.

The PEX-P64/C64 supports PCI Express bus. These DI and DO channels are arranged into four isolated banks when using four isolated external power supplies. The onboard provide 3750 V_{rms} isolation, and act as an interface to field logic signals, eliminate ground-loop problems, and isolate the host computer from damaging voltages.

These cards also add a Card ID switch on-board. Users can set Card ID and then recognize the board by the ID via software when using two or more PEX-P64/C64 cards in one computer. The PEX-P64/C64 is designed as easy replacement for the PISO-P64U/C64U without any software/driver modification.

Hardware Specifications

Models	PEX-P64	PEX-P64-24V	PEX-C64
Digital Input			
Isolation Voltage	3750 V _{rms}		-
Channels	64		-
Compatibility	Photo coupler isolated		-
Input Logic Low	0 ~ 1 V	0 ~ 1 V	-
Input Logic High	5 ~ 15 V	20 ~ 28 V	-
Impedance	1.2 KΩ, 1 W	3 KΩ, 1 W	-
Digital Output			
Isolation Voltage	-		3750 V _{rms}
Channels	-		64
Compatibility	-		Sink, Open Collector
Output Capability	-		100 mA/+30 V for one channel @ 100% duty
General			
Bus Type	PCI Express x1		
Card ID	Yes (4-bit)		
Connectors	Female DB-37 x 1, 40-pin box header x 1		
Power Consumption	400 mA @ +5 V		800 mA @ +5 V
Operating Temperature	0 °C ~ +60 °C		
Humidity	5 ~ 85% RH, non-condensing		

Ordering Information

PEX-P64 CR	PCI Express, 64-ch Optically Isolated DI (high: 5~15 V) Board (RoHs) Includes one CA-4037B cable and two CA-4002 D-Sub connectors.
PEX-P64-24V CR	PCI Express, 64-ch Optically Isolated DI (high: 20~28 V) Board (RoHs) Includes one CA-4037B cable and two CA-4002 D-Sub connectors.
PEX-C64 CR	PCI Express, 64-ch Optically Isolated DO Board (Sink, NPN, RoHs) Includes one CA-4037B cable and two CA-4002 D-Sub connectors.

Software

Driver

- 32/64-bit Windows XP/2003/2008/Vista/7/8
- Linux

Sample Programs

- DOS Lib and TC/BC/MSC demo
- LabVIEW toolkit
- VB/VC/Delphi/BCB/VB.NET/C#.NET/VC.NET and MATLAB demo

Pin Assignments

Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment
PEX-C64	PEX-P64		PEX-P64	PEX-C64
Ext. GND0	IGND0	01		Ext. GND1
DO_0	DI_0	02	20	DI_16
DO_1	DI_1	03	21	DI_17
DO_2	DI_2	04	22	DI_18
DO_3	DI_3	05	23	DI_19
DO_4	DI_4	06	24	DI_20
DO_5	DI_5	07	25	DI_21
DO_6	DI_6	08	26	DI_22
DO_7	DI_7	09	27	DI_23
DO_8	DI_8	10	28	DI_24
DO_9	DI_9	11	29	DI_25
DO_10	DI_10	12	30	DI_26
DO_11	DI_11	13	31	DI_27
DO_12	DI_12	14	32	DI_28
DO_13	DI_13	15	33	DI_29
DO_14	DI_14	16	34	DI_30
DO_15	DI_15	17	35	DI_31
Ext. PWR0	ECOM0	18	36	DI_30
N.C.	N.C.	19	37	ECOM1

Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment
PEX-C64	PEX-P64		PEX-P64	PEX-C64
Ext. GND2	IGND2	01	02	IGND3
DO_32	DI_32	03	04	DI_48
DO_33	DI_33	05	06	DI_49
DO_34	DI_34	07	08	DI_50
DO_35	DI_35	09	10	DI_51
DO_36	DI_36	11	12	DI_52
DO_37	DI_37	13	14	DI_53
DO_38	DI_38	15	16	DI_54
DO_39	DI_39	17	18	DI_55
DO_40	DI_40	19	20	DI_56
DO_41	DI_41	21	22	DI_57
DO_42	DI_42	23	24	DI_58
DO_43	DI_43	25	26	DI_59
DO_44	DI_44	27	28	DI_60
DO_45	DI_45	29	30	DI_61
DO_46	DI_46	31	32	DI_62
DO_47	DI_47	33	34	DI_63
Ext. PWR2	ECOM2(+)	35	36	ECOM3
N.C.	ECOM2(-)	37	38	N.C.
N.C.	N.C.	39	40	N.C.

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PCI Express Data Acquisition Boards