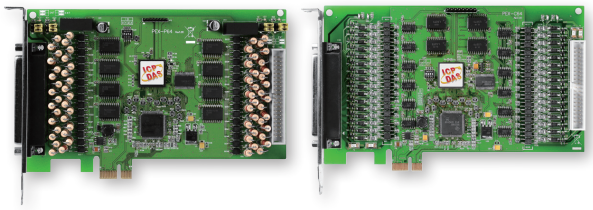
PEX-P64/PEX-P64-24V
PEX-C64

PCI Express, 64-ch Optical-Isolated DI Board

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



CE FC RoHS 32-bit 64-bit Linux DOS
VB VC BCB Delphi LabVIEW VB.NET C#.NET VC.NET MATLAB

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 MATLB demo

Pin Assignments

Pin Assignment PEX-C64	Pin Assignment PEX-P64	Terminal No.		Pin Assignment PEX-P64	Pin Assignment PEX-C64
Ext. GND0	IGND0	01			
DO_0	DI_0	02			
DO_1	DI_1	03			
DO_2	DI_2	04			
DO_3	DI_3	05			
DO_4	DI_4	06			
DO_5	DI_5	07			
DO_6	DI_6	08			
DO_7	DI_7	09			
DO_8	DI_8	10			
DO_9	DI_9	11			
DO_10	DI_10	12			
DO_11	DI_11	13			
DO_12	DI_12	14			
DO_13	DI_13	15			
DO_14	DI_14	16			
DO_15	DI_15	17			
Ext. PWR0	ECOM0	18			
N.C.	N.C.	19			
				20	IGND1
				21	DI_16
				22	DI_17
				23	DI_18
				24	DI_19
				25	DI_20
				26	DI_21
				27	DI_22
				28	DI_23
				29	DI_24
				30	DI_25
				31	DI_26
				32	DI_27
				33	DI_28
				34	DI_29
				35	DI_30
				36	DI_31
				37	ECOM1

CON1

Pin Assignment PEX-C64	Pin Assignment PEX-P64	Terminal No.		Pin Assignment PEX-P64	Pin Assignment PEX-C64
Ext. GND2	IGND2	01			
DO_32	DI_32	03			
DO_33	DI_33	05			
DO_34	DI_34	07			
DO_35	DI_35	09			
DO_36	DI_36	11			
DO_37	DI_37	13			
DO_38	DI_38	15			
DO_39	DI_39	17			
DO_40	DI_40	19			
DO_41	DI_41	21			
DO_42	DI_42	23			
DO_43	DI_43	25			
DO_44	DI_44	27			
DO_45	DI_45	29			
DO_46	DI_46	31			
DO_47	DI_47	33			
Ext. PWR2	$ECOM2_{(+)}$	35			
N.C.	$ECOM2_{(-)}$	37			
N.C.	N.C.	39			
				02	IGND3
				04	DI_48
				06	DI_49
				08	DI_50
				10	DI_51
				12	DI_52
				14	DI_53
				16	DI_54
				18	DI_55
				20	DI_56
				22	DI_57
				24	DI_58
				26	DI_59
				28	DI_60
				30	DI_61
				32	DI_62
				34	DI_63
				36	ECOM3
				38	N.C.
				40	N.C.

CON2