

PEX-D48

PCI Express, 48-ch Digital I/O Board

Features

- PCI Express x1 Interface
- Supports Card ID (SMD Switch)
- Emulates two Industrial-standard 8255 PPI Ports (Mode 0)
- DI/O Response Time approximately 2 µs (500 kHz Max.)
- DO Provides Higher Driving Capability
- One 16-bit Event Counter
- 48 Buffered TTL Digital Input/Output Lines
- Six 8-bit Bi-directional Input/Output Ports
- One 32-bit Programmable Internal Timer
- Pull-high/Pull-low Jumpers for DI Channels
- Four Interrupt Sources

Introduction

The PEX-D48 board utilizes the PCI Express bus and is designed as an easy replacement for the PIO-D48/PIO-D48U/PIO-D48SU series without requiring any modification to either the software or the driver.

The PEX-D48 provides 48 buffered TTL Digital Input/Output lines, which are grouped into six 8-bit bi-directional ports: Port A (PA), Port B (PB) and Port C (PC). Port C can also be split into two nibble-wide (4-bit) segments. All ports are configured as input mode during power-on or after a reset.

The PEX-D48 also includes an onboard Card ID that enables the board to be easily recognized via software if two or more cards are installed in the same computer. The pull-high/low jumpers allow the DI status to be predefined instead of remaining floating if the DI channels are disconnected or line broken.

Pin Assignments

Pin Assignment	Terminal No.		Pin Assignment
N.C	01	20	+5 V
N.C	02	21	GND
PB_7	03	22	PC_7
PB_6	04	23	PC_6
PB_5	05	24	PC_5
PB_4	06	25	PC_4
PB_3	07	26	PC_3
PB_2	08	27	PC_2
PB_1	09	28	PC_1
PB_0	10	29	PC_0
GND	11	30	PA_7
N.C.	12	31	PA_6
GND	13	32	PA_5
N.C.	14	33	PA_4
GND	15	34	PA_3
N.C.	16	35	PA_2
GND	17	36	PA_1
+5 V	18	37	PA_0
GND	19		

CON1

Pin Assignment	Terminal No.		Pin Assignment
PC_7	01	02	GND
PC_6	03	04	GND
PC_5	05	06	GND
PC_4	07	08	GND
PC_3	09	10	GND
PC_2	11	12	GND
PC_1	13	14	GND
PC_0	15	16	GND
PB_7	17	18	GND
PB_6	19	20	GND
PB_5	21	22	GND
PB_4	23	24	GND
PB_3	25	26	GND
PB_2	27	28	GND
PB_1	29	30	GND
PB_0	31	32	GND
PA_7	33	34	GND
PA_6	35	36	GND
PA_5	37	38	GND
PA_4	39	40	GND
PA_3	41	42	GND
PA_2	43	44	GND
PA_1	45	46	GND
PA0	47	48	GND
+5 V	49	50	GND

CON2

Ordering Information

PEX-D48 CR	PCI Express, 48-ch Digital I/O Board (RoHS)

Software

Drivers

- ☑ 32/64-bit Windows 10/11
- ☑ Linux

Sample Programs

- ☑ DOS Lib and TC/BC/MSC Demo
- ☑ VB/VC/Delphi/VB.NET/C#.NET/VC.NET/LabVIEW/Python/MATLAB

Hardware Specifications

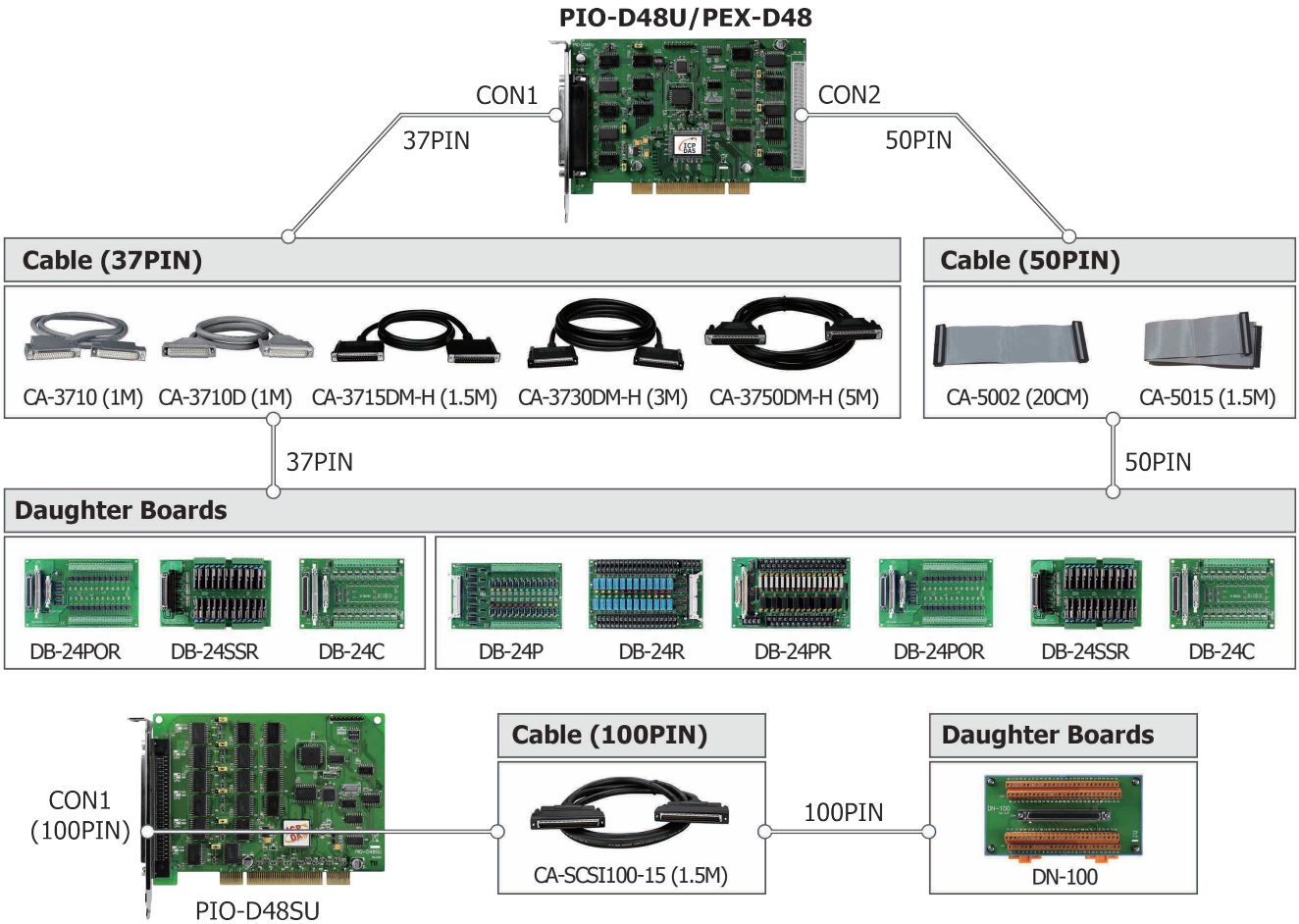
Hardware	
Card ID	Yes (4-bit)
Connector	Female DB37 x 1 , 50-pin box header x 1
Digital Input	
Channels	48 (Bi-Direction)
Type	5 V/TTL
ON Voltage Level	2.0 V Min.
OFF Voltage Level	0.8 V Max.
Response Speed	500 kHz (Typical)
Trigger Mode	Static Update
Digital Output	
Channels	48 (Bi-Direction)
Type	5 V/TTL
Operation Mode	Static Update
Load Voltage	Logic 0: 0.4 V Max. , Logic 1: 2.4 V Min.
Load Current	Sink: 64 mA @ 0.8 V , Source: 32 mA @ 2.0 V
Response Speed	500 kHz (Typical)
Timer/Counter/Frequency	
Channels	2 (Event Timer x 1/32-bit Timer x 1)
Type	5 V/TTL
Resolution	16-bit
Reference Clock	Internal: 4 MHz
PC Bus	
Type	PCI Express x 1
Data Bus	8-bit
Power	
Consumption	1500 mA @ +3.3 V , 0 mA @ +12 V
Mechanical	
Dimensions (mm)	112 x 172 x 22 (W x L x D)
Environment	
Operating Temperature	0 ~ +60°C
Storage Temperature	-20 ~ +70°C
Humidity	5 ~ 85% RH, Non-condensing

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Accessories

CA-3710 CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (45°)) (RoHS)
CA-3710D CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (180°)) (RoHS)
CA-3715DM-H CR	DB-37 Male-Male Cable, 1.5 M, 180°. (RoHS)
CA-3730DM-H CR	DB-37 Male-Male Cable, 3.0 M, 180°. (RoHS)
CA-3750DM CR	DB-37 Male-Male Cable, 5.0 M, 180°. (RoHS)
CA-4002 CR	37-pin Male D-sub connector with plastic cover (RoHS)
CA-5002 CR	50-pin flat cable 20 cm (RoHS)
CA-5015 CR	50-pin flat cable 1.5 M (RoHS)
CA-SCSI100-15 CR	SCSI II 100-pin & 100-pin Male connector cable 1.5 M (RoHS)
ADP-37/PCI CR	50-pin connector extender to 37-pin connector (RoHS)

DB-24P CR	24-channel isolated D/I board (RoHS)
DB-24R CR	24-channel relay board (RoHS)
DB-24PR CR	24-channel power relay board (RoHS)
DB-24POR CR	24-channel of PhotoMos Relay output board (RoHS)
DB-24SSR CR	24-channel Photo Mos relay output board (RoHS)
DB-24C CR	24-channel of open-collector output board (RoHS)
DN-100 CR	I/O Connector Block with DIN-Rail Mounting and 100-Pin SCSI II Connector (RoHS)
DN-100-CA CR	I/O Connector Block with DIN-Rail Mounting and 100-Pin SCSI II Connector Include one CA-SCSI100-15 cable (RoHS)
DN-37 CR DN-37-381 CR	I/O Connector Block with DIN-Rail Mounting and 37-Pin D-Sub Connector (RoHS)
DN-50 CR DN-50-381 CR	I/O Connector Block with DIN-Rail Mounting and 50-Pin Header (RoHS)



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000