

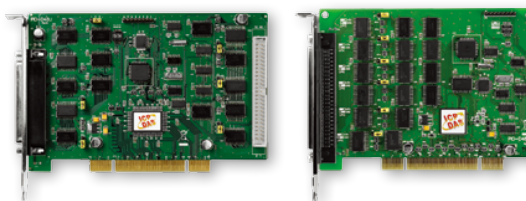
PIO-D48U/PIO-D48SU

Universal PCI, 48-channel Digital I/O Board



PIO-D48U

PIO-D48SU



Features ▶▶▶

- Universal PCI (3.3 V/5 V) Interface, Plug & Play
- 48 Buffered TTL Digital I/O Lines
- Six 8-bit Bi-directional Programmable I/O Ports
- Emulates two Industrial-standard 8255 PPI Ports (Mode 0)
- All I/O Lines Buffered on the Board
- 4-channel Interrupt Source
- Buffer Output for Higher Driving Capability
- Supports Card ID (SMD Switch)
- Supports DO Status Readback (Register Level)
- DI/O Response Time is about 1 μ s (1 MHz)

Introduction

The PIO-D48U/D48SU card is designed to be fully compatible with the PIO-D48, meaning that a PIO-D48 card can be directly replaced with a PIO-D48U/D48SU without requiring any modification to the software or the driver.

The PIO-D48U provides two connectors for I/O wiring, while the PIO-D48SU provides a single high-density connector that reduces the amount of installation space required for the card in the computer.

The PIO-D48U/D48SU supports the 3.3 V/5 V PCI bus, and provides 48 TTL Digital I/O lines that are grouped into six 8-bit bi-directional ports. Each group of three 8-bit ports is arranged on the connector as Port A (PA), Port B (PB) and Port C (PC), and Port C can be split into two nibble-wide (4-bit) parts. All ports are configured as inputs on power-up or after a reset.

The PIO-D48U/D48SU card also includes an onboard Card ID switch and pull-high/low resistors for the Digital Input. The Card ID switch can be set so that the board is able to be recognized via software if two or more boards are installed in the same computer. The pull-high/pull-low resistors allow the DI status to be predefined as either high or low instead of remaining floating if the DI channels are disconnected or interrupted.

Hardware Specifications

Model	PIO-D48U	PIO-D48SU
Programmable DIO		
Channels	48	
Digital Input		
Compatibility	5 V/TTL	
Input Voltage	Logic 0: 0.8 V Max.; Logic 1: 2.0 V Min.	
Response Speed	1 MHz	
Digital Output		
Compatibility	5 V/TTL	
Output Voltage	Logic 0: 0.4 V Max.; Logic 1: 2.4 V Min.	
Output Capability	Sink: 64 mA @ 0.8 V; Source: 32 mA @ 2.0 V	
Response Speed	1 MHz	
Timer/Counter		
Channels	2 (Event timer x1/ 32-bit Timer x1)	
Resolution	16-bit	
Reference Clock	Internal: 4 MHz	
General		
Bus Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz	
Card ID	Yes (4-bit)	
Connectors	Female DB37 x 1 50-pin Box Header x 1	Female SCSI II 100-pin x 1
Power Consumption	900 mA @ +5 V	
Operating Temperature	0°C to +60°C	
Humidity	5 to 85% RH. Non-condensing	

Ordering Information

PIO-D48U CR	Universal PCI, 48-channel Digital I/O Board (RoHS).
PIO-D48SU CR	Universal PCI, 48-channel Digital I/O Board (SCSI II Connector, RoHS).

Software

Drivers

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

Sample Programs

- ✓ DOS Lib and TC Demo
- ✓ LabVIEW Toolkit
- ✓ VB/VC/Delphi/BCB/MATLAB Demo
- ✓ VB.NET/C#.NET/VC.NET Demo

Pin Assignments

PIO-D48U			PIO-D48SU		
Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
N.C.	01	20 +5 V	PA_00	01	51 PA_10
N.C.	02	21 GND	PA_01	02	52 PA_11
PB_7	03	22 PC_7	PA_02	03	53 PA_12
PB_6	04	23 PC_6	PA_03	04	54 PA_13
PB_5	05	24 PC_5	PA_04	05	55 PA_14
PB_4	06	25 PC_4	PA_05	06	56 PA_15
PB_3	07	26 PC_3	PA_06	07	57 PA_16
PB_2	08	27 PC_2	PA_07	08	58 PA_17
PB_1	09	28 PC_1	PB_00	09	59 PB_10
PB_0	10	29 PC_0	PB_01	10	60 PB_11
GND	11	30 PA_7	PB_02	11	61 PB_12
N.C.	12	31 PA_6	PB_03	12	62 PB_13
GND	13	32 PA_5	PB_04	13	63 PB_14
N.C.	14	33 PA_4	PB_05	14	64 PB_15
GND	15	34 PA_3	PB_06	15	65 PB_16
N.C.	16	35 PA_2	PB_07	16	66 PB_17
GND	17	36 PA_1	PC_00	17	67 PC_10
+5 V	18	37 PA_0	PC_01	18	68 PC_11
GND	19		PC_02	19	69 PC_12
			PC_03	20	70 PC_13
			PC_04	21	71 PC_14
			PC_05	22	72 PC_15
			PC_06	23	73 PC_16
			PC_07	24	74 PC_17
			GND	25	75 GND
				26	76 -
				27	77 -
				28	78 -
				29	79 -
				30	80 -
				31	81 -
				32	82 -
				33	83 -
				34	84 -
				35	85 -
				36	86 -
				37	87 -
				38	88 -
				39	89 -
				40	90 -
				41	91 -
				42	92 -
				43	93 -
				44	94 -
				45	95 -
				46	96 -
				47	97 -
				48	98 -
				49	99 -
				+5 V	100 +5 V