

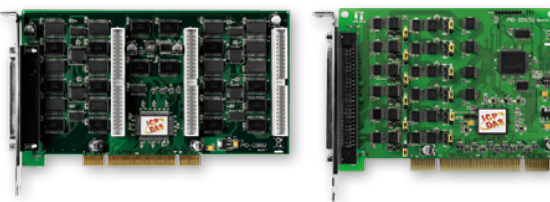
## PIO-D96U/PIO-D96SU

Universal PCI, 96-channel Digital I/O Board



PIO-D96U

PIO-D96SU



### Features ▶▶▶

- Universal PCI (3.3 V/5 V) Interface, Plug & Play
- 96-channel Digital I/O
- Twelve 8-bit Bi-directional Programmable I/O Ports
- 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  $\mu$ s (1 MHz)

### Introduction

The PIO-D96U/D96SU card is designed as a direct replacement for the PIO-D96, without requiring any modification to the software or the driver.

The PIO-D96U provides four connectors for I/O wiring, while the PIO-D96SU provides a single high-density connector that reduces the amount of installation space required for the card in the computer.

The PIO-D96U/D96SU Universal PCI card supports the 3.3 V/5 V PCI bus, and provides 96 TTL Digital I/O lines that consist of twelve 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), respectively, and all ports are configured as inputs on power-up or after a reset.

The PIO-D96U/D96SU card also includes an onboard Card ID switch that enables the board to be recognized via software if two or more boards are installed in the same computer.

### Hardware Specifications

| Models                | PIO-D96U                                     | PIO-D96SU                                    |
|-----------------------|----------------------------------------------|----------------------------------------------|
| Programmable DIO      |                                              |                                              |
| Channels              | 96                                           |                                              |
| Digital Input         |                                              |                                              |
| Compatibility         | 5 V/TTL                                      | 5 V/CMOS                                     |
| Input Voltage         | Logic 0: 0.8 V Max. ; Logic 1: 2.0 V Min.    |                                              |
| Response Speed        | 1 MHz                                        |                                              |
| Digital Output        |                                              |                                              |
| Compatibility         | 5 V/TTL                                      | 5 V/CMOS                                     |
| Output Voltage        | Logic 0: 0.4 V Max.;<br>Logic 1: 2.4 V Min.  | Logic 0: 0.1 V Max.<br>Logic 1: 4.4 V Min.   |
| Output Capability     | Sink: 6 mA @ 0.33 V<br>Source: 6 mA @ 4.77 V | Sink: 64 mA @ 0.8 V<br>Source: 32 mA @ 2.0 V |
| Response Speed        | 1 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<br>50-pin Box Header x 3     | Female SCSI II 100-pin x 1                   |
| Power Consumption     | 600 mA @ +5 V                                |                                              |
| Operating Temperature | 0°C to +60°C                                 |                                              |
| Humidity              | 5 to 85% RH, Non-condensing                  |                                              |

### Ordering Information

|              |                                                                       |
|--------------|-----------------------------------------------------------------------|
| PIO-D96U CR  | Universal PCI, 96-channel Digital I/O Board (RoHS).                   |
| PIO-D96SU CR | Universal PCI, 96-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-D96U     |              |                | ● PIO-D96SU    |              |                |
|----------------|--------------|----------------|----------------|--------------|----------------|
| Pin Assignment | Terminal No. | Pin Assignment | Pin Assignment | Terminal No. | Pin Assignment |
| N.C            | 01           | 20             | +5V            | PA_00        | 01             |
| N.C.           | 02           | 21             | GND            | PA_01        | 02             |
| PB_7           | 03           | 22             | PC_7           | PA_02        | 03             |
| PB_6           | 04           | 23             | PC_6           | PA_03        | 04             |
| PB_5           | 05           | 24             | PC_5           | PA_04        | 05             |
| PB_4           | 06           | 25             | PC_4           | PA_05        | 06             |
| PB_3           | 07           | 26             | PC_3           | PA_06        | 07             |
| PB_2           | 08           | 27             | PC_2           | PA_07        | 08             |
| PB_1           | 09           | 28             | PC_1           | PB_00        | 09             |
| PB_0           | 10           | 29             | PC_0           | PB_01        | 10             |
| GND            | 11           | 30             | PA_7           | PB_02        | 11             |
| N.C.           | 12           | 31             | PA_6           | PB_03        | 12             |
| GND            | 13           | 32             | PA_5           | PB_04        | 13             |
| N.C.           | 14           | 33             | PA_4           | PB_05        | 14             |
| GND            | 15           | 34             | PA_3           | PB_06        | 15             |
| N.C.           | 16           | 35             | PA_2           | PB_07        | 16             |
| GND            | 17           | 36             | PA_1           | PC_00        | 17             |
| +5 V           | 18           | 37             | PA_0           | PC_01        | 18             |
| GND            | 19           |                |                | PC_02        | 19             |
|                |              |                |                | PC_03        | 20             |
|                |              |                |                | PC_04        | 21             |
|                |              |                |                | PC_05        | 22             |
|                |              |                |                | PC_06        | 23             |
|                |              |                |                | PC_07        | 24             |
|                |              |                |                | GND          | 25             |
|                |              |                |                | PA_20        | 26             |
|                |              |                |                | PA_21        | 27             |
|                |              |                |                | PA_22        | 28             |
|                |              |                |                | PA_23        | 29             |
|                |              |                |                | PA_24        | 30             |
|                |              |                |                | PA_25        | 31             |
|                |              |                |                | PA_26        | 32             |
|                |              |                |                | PA_27        | 33             |
|                |              |                |                | PA_28        | 34             |
|                |              |                |                | PB_21        | 35             |
|                |              |                |                | PB_22        | 36             |
|                |              |                |                | PB_23        | 37             |
|                |              |                |                | PB_24        | 38             |
|                |              |                |                | PB_25        | 39             |
|                |              |                |                | PB_26        | 40             |
|                |              |                |                | PB_27        | 41             |
|                |              |                |                | PC_20        | 42             |
|                |              |                |                | PC_21        | 43             |
|                |              |                |                | PC_22        | 44             |
|                |              |                |                | PC_23        | 45             |
|                |              |                |                | PC_24        | 46             |
|                |              |                |                | PC_25        | 47             |
|                |              |                |                | PC_26        | 48             |
|                |              |                |                | PC_27        | 49             |
|                |              |                |                | + 5 V        | 50             |



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| 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         |
| PA_0           | 47           | 48 GND         |
| +5 V           | 49           | 50 GND         |



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