



PISO-730AU/PISO-730AU-5V

Universal PCI, 32-ch Isolated Digital I/O and 32-ch TTL Digital I/O Board (Source, PNP)

Introduction

The PISO-730AU/730AU-5V cards provide 32 isolated Digital I/O channels (16 x DI and 16 x DO) and 32 TTL-level Digital I/O channels (16 x DI and 16 x DO). Both the isolated Digital Input and the Digital Output channels use a short optical transmission path to transfer an electronic signal between the elements of a circuit and keep them electrically isolated. With 3750 V_{rms} isolation protection, the DI/O channels allow the input signals to be completely floated so as to prevent ground loops and isolate the host computer from potentially damaging voltage spikes.

Each Digital Output includes a PNP transistor and an integral suppression diode for the inductive load. The open-collector Digital Output channels are typically used for alarm and warning notifications, signal output control, control for external circuits that require a higher voltage level, or signal transmission applications, etc.

Pin Assignments

| Pin Assignment | Terminal No. | Pin Assignment | Pin Assignment | Terminal No. | Pin Assignment |
|----------------|--------------|----------------|----------------|--------------|----------------|
| IDI_0 | 01 | 20 IDI_1 | DI 0 | 01 | 02 DI 1 |
| IDI_2 | 02 | 21 IDI_3 | DI 2 | 03 | 04 DI 3 |
| IDI_4 | 03 | 22 IDI_5 | DI 4 | 05 | 06 DI 5 |
| IDI_6 | 04 | 23 IDI_7 | DI 6 | 07 | 08 DI 7 |
| IDI_8 | 05 | 24 IDI_9 | DI 8 | 09 | 10 DI 9 |
| IDI_10 | 06 | 25 IDI_11 | DI 10 | 11 | 12 DI 11 |
| IDI_12 | 07 | 26 IDI_13 | DI 12 | 13 | 14 DI 13 |
| IDI_14 | 08 | 27 IDI_15 | DI 14 | 15 | 16 DI 15 |
| EI.COM1 | 09 | | GND | 17 | 18 GND |
| EPWR1 | 10 | 28 EI.COM2 | +5 V | 19 | 20 +12 V |
| IDO_0 | 11 | 29 IGND | | | CON2 |
| IDO_2 | 12 | 30 IDO1 | Pin Assignment | Terminal No. | Pin Assignment |
| IDO_4 | 13 | 31 IDO3 | DO 0 | 01 | 02 DO 1 |
| IDO_6 | 14 | 32 IDO5 | DO 2 | 03 | 04 DO 3 |
| IDO_8 | 15 | 33 IDO7 | DO 4 | 05 | 06 DO 5 |
| IDO_10 | 16 | 34 IDO9 | DO 6 | 07 | 08 DO 7 |
| IDO_12 | 17 | 35 IDO11 | DO 8 | 09 | 10 DO 9 |
| IDO_14 | 18 | 36 IDO13 | DO 10 | 10 | 12 DO 11 |
| EPWR2 | 19 | 37 IDO15 | DO 12 | 12 | 14 DO 13 |
| | | | DO 14 | 14 | 16 DO 15 |
| | | | GND | 16 | 18 GND |
| | | | +5 V | 18 | 20 +12 V |
| | | | | | CON3 |

Features

- Support the +3.3/+5 V PCI bus
- 16-channel Optically-isolated Digital Input
- 16-channel Optically-isolated Digital Output (Source, PNP)
- 16-channel 5 V/TTL Digital Output
- 16-channel 5 V/TTL Digital Input
- 3750 V_{rms} Photo-isolation Protection
- 2 Interrupt Sources
- Supports Card ID (SMD Switch)
- Output status readback function



Hardware Specifications

| Model | PISO-730AU | PISO-730AU-5V |
|-----------------------|--|--|
| Hardware | | |
| Card ID | Yes (4-bit) | |
| Connector | Female DB37 x 1, 20-pin box header x 2 | |
| Digital Input | | |
| Channels | 16 (Isolated) + 16 (Non-isolated) | |
| Type | Wet Contact, Isolated: Photocoupler Non-isolated: 5V/TTL | |
| Sink/Source (NPN/PNP) | Sink/Source | |
| ON Voltage Level | Wet: 9 ~ 24 V (Min. 7 V; Max. 30 V) TTL: 2.0 V Min. | Wet: 5 ~ 12 V (Min. 3.5 V; Max. 16 V) TTL: Logic 1: 2.0 V Min. |
| OFF Voltage Level | Wet: 0 ~ 1 V, TTL: 0.8 V Max. | |
| Response Speed | 4 kHz (Typical) (Isolated) 1.0 MHz (Typical) (Non-isolate) | |
| Trigger Mode | Static Update | |
| Isolation | 3750 Vrms (Isolated) | |
| Digital Output | | |
| Channels | 16 (Isolated) + 16 (Non-isolated) | |
| Type | Isolated: Open Emitter, Non-isolated: 5V/TTL | |
| Sink/Source (NPN/PNP) | Source (PNP) | |
| Operation Mode | Static Update | |
| Load Voltage | Non-isolated: Logic 0: 0.4 V max., Logic 1: 2.4 V min. | |
| Load Current | 100 mA/+30 V for each channel @ 100% duty (Isolated) Sink: 2.4 mA @ 0.8 V (Non-isolated) Source: 0.8 mA @ 2.0 V (Non-isolated) | |
| Response Speed | 4 kHz (Typical) (Isolated) 1.0 MHz (Typical) (Non-isolate) | |
| Isolation | 3750 Vrms (Isolated) | |
| PC Bus | | |
| Type | 3.3 V/5 V Universal PCI, 32-bit, 33 MHz | |
| Data Bus | 8-bit | |
| Power | | |
| Consumption | 640 mA @ +5 V | |
| Mechanical | | |
| Dimensions (mm) | 105.06 x 163.68 x 22 (W x L x D) | |
| Environment | | |
| Operating Temperature | 0 ~ +60°C | |
| Storage Temperature | -20 ~ +70°C | |
| Humidity | 5 ~ 85% RH, Non-condensing | |

Software

Drivers

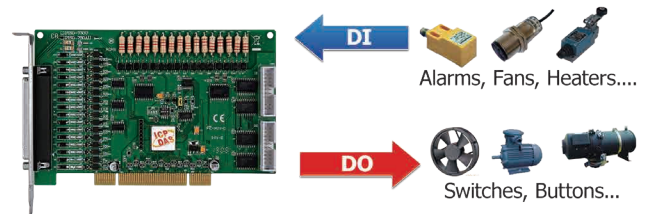
- 32/64-bit Windows 10/11
- Linux
- DASYLab

Simple Programs

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

Applications

- Product Test
- Factory Automation
- Laboratory Automation



Ordering Information

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|-------------------------|--|
| PISO-730AU CR | Universal PCI, 32-ch Isolated Digital I/O and 32-ch Digital I/O Board (Current Sourcing, PNP) (RoHS) Includes one CA-4002 D-Sub connector |
| PISO-730AU-5V CR | Universal PCI, 32-ch Isolated Digital I/O and 32-ch Digital I/O Board (Current Sourcing, PNP) (RoHS) Includes one CA-4002 D-Sub connector |

Accessories

| | | | | | |
|--|----------------|---|--|---------------|--|
| | CA-2002 CR | 20-pin flat cable, 20cm x 2 (RoHS) | | CA-4002 CR | 37-pin Male D-sub connector with plastic cover (RoHS) |
| | CA-2010 CR | 20-pin flat cable, 1M (RoHS) (RoHS) | | DB-16P CR | 16-channel Isolated Digital Input Daughter Board (RoHS) |
| | CA-2020 CR | 20-pin flat cable, 2M (RoHS) (RoHS) | | DB-16R CR | 16-channel Relay Output Daughter Board (RoHS) |
| | CA-3710 CR | DB-37 Male-Male D-sub cable 1M (Cable for Daughter Board (45°)) (RoHS) | | DN-37 CR | 37-pin Din-Rail Mounting I/O Connector Board (RoHS) |
| | CA-3710D CR | DB-37 Male-Male D-sub cable 1M (Cable for Daughter Board (180°)) (RoHS) | | DB-37 CR | Directly connect signal to D-sub 37-pin connector (RoHS) |
| | CA-3715DM-H CR | DB-37 Male-Male Cable, 1.5M, 180° (RoHS) | | DN-20 CR | 20-pin Din-Rail Mounting I/O Connector Board (RoHS) |
| | CA-3730DM-H CR | DB-37 Male-Male Cable, 3M, 180° (RoHS) | | DN-20/N CR | DN-20 without DIN-Rail Mount (RoHS) |
| | CA-3750DM-H CR | DB-37 Male-Male Cable, 5 M, 180° (RoHS) | | ADP-20/PCI CR | 20-pin extender (RoHS) |

