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

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

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

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
IDI_0	01	20	IDI_1
IDI_2	02	21	IDI_3
IDI_4	03	22	IDI_5
IDI_6	04	23	IDI_7
IDI_8	05	24	IDI_9
IDI_10	06	25	IDI_11
IDI_12	07	26	IDI_13
IDI_14	08	27	IDI_15
EI.COM1	09	28	EI.COM2
EPWR1	10	29	IGND
IDO_0	11	30	IDO1
IDO_2	12	31	IDO3
IDO_4	13	32	IDO5
IDO_6	14	33	IDO7
IDO_8	15	34	IDO9
IDO_10	16	35	IDO11
IDO_12	17	36	IDO13
IDO_14	18	37	IDO15
EPWR2	19		

CON1

Pin Assignment	Terminal No.		Pin Assignment
DI 0	01	02	DI 1
DI 2	03	04	DI 3
DI 4	05	06	DI 5
DI 6	07	08	DI 7
DI 8	09	10	DI 9
DI 10	11	12	DI 11
DI 12	13	14	DI 13
DI 14	15	16	DI 15
GND	17	18	GND
+5 V	19	20	+12 V

CON2

Pin Assignment	Terminal No.		Pin Assignment
DO 0	01	02	DO 1
DO 2	03	04	DO 3
DO 4	05	06	DO 5
DO 6	07	08	DO 7
DO 8	09	10	DO 9
DO 10	10	12	DO 11
DO 12	12	14	DO 13
DO 14	14	16	DO 15
GND	16	18	GND
+5 V	18	20	+12 V

CON3

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

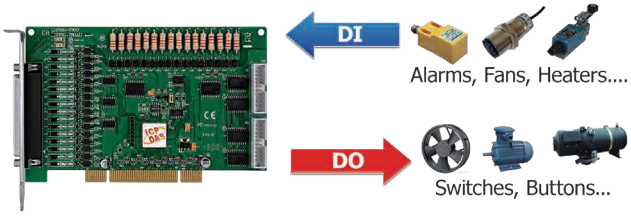
- [x] 32/64-bit Windows 10/11
- [x] Linux
- [x] DASYLab

Smple Programs

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

Applications

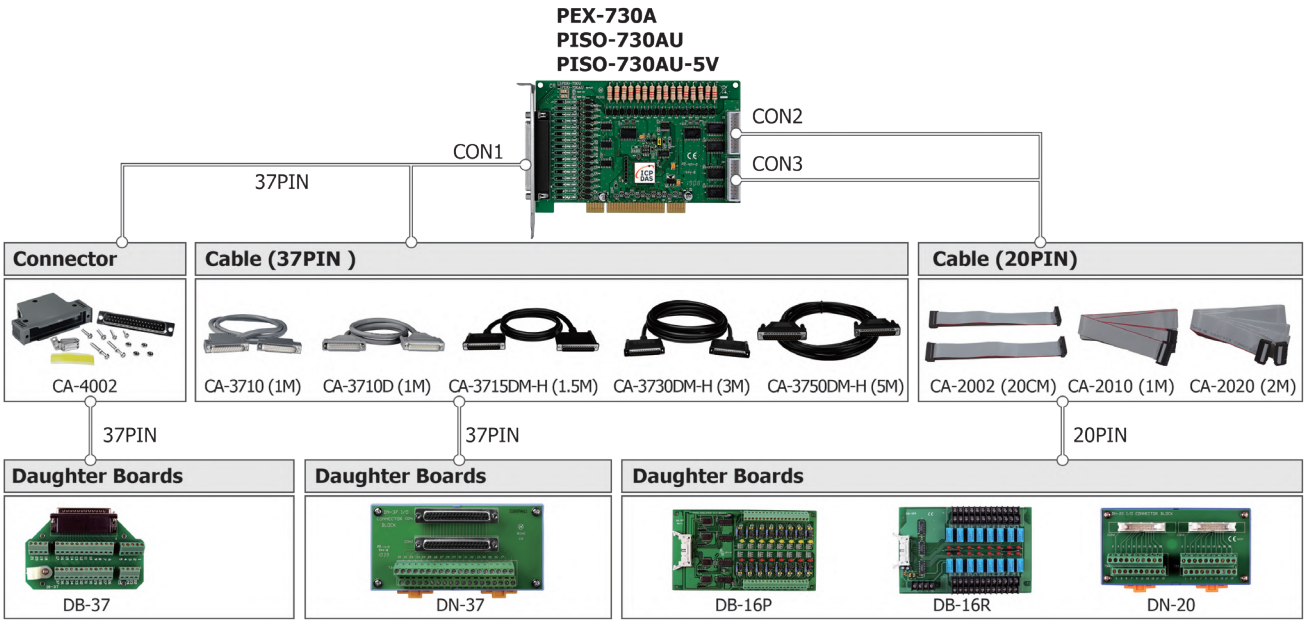
• Product Test • Factory Automation • Laboratory Automation



Ordering Information

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-2010 CR	20-pin flat cable, 1M (RoHS) (RoHS)
CA-2020 CR	20-pin flat cable, 2M (RoHS) (RoHS)
CA-3710 CR	DB-37 Male-Male D-sub cable 1M (Cable for Daughter Board (45°)) (RoHS)
CA-3710D CR	DB-37 Male-Male D-sub cable 1M (Cable for Daughter Board (180°)) (RoHS)
CA-3715DM-H CR	DB-37 Male-Male Cable, 1.5M, 180° (RoHS)
CA-3730DM-H CR	DB-37 Male-Male Cable, 3M, 180° (RoHS)
CA-3750DM-H CR	DB-37 Male-Male Cable, 5 M, 180° (RoHS)

DB-16P CR	16-channel Isolated Digital Input Daughter Board (RoHS)
DB-16R CR	16-channel Relay Output Daughter Board (RoHS)
DN-37 CR	37-pin Din-Rail Mounting I/O Connector Board (RoHS)
DB-37 CR	Directly connect signal to D-sub 37-pin connector (RoHS)
DN-20 CR	20-pin Din-Rail Mounting I/O Connector Board (RoHS)
DN-20/N CR	DN-20 without DIN-Rail Mount (RoHS)
ADP-20/PCI CR	20-pin extender (RoHS)