



PISO-1730U

Universal PCI, 32-ch Optically Isolated Digital Input and 32-ch Open Collector Isolated Digital Output Board (Current Sinking, NPN)

Introduction

The PISO-1730U card offers 32 optically-isolated Digital Input channels and 32 optically-isolated Digital Output channels, arranged into four isolated banks. Each input channel uses a photocoupler, while each output channel contains a Darlington transistor. Both the output port and the input port should use an external power supply. The board eliminates ground-loop problems and isolates the host computer from potentially damaging voltage spikes.

The PISO-1730U 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.

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
IDO_0	01	IDO_1	IDI_0	01	IDI_1
IDO_2	02	IDO_3	IDI_2	03	IDI_3
IDO_4	03	IDO_5	IDI_4	05	IDI_5
IDO_6	04	IDO_7	IDI_6	07	IDI_7
PCOM	05	IDO_8	PCOM	09	IDI_8
IDO_9	06	IDO_9	IDI_9	11	IDI_10
IDO_11	07	IDO_10	IDI_11	13	IDI_12
IDO_13	08	IDO_12	IDI_13	15	IDI_14
IDO_15	09	IDO_14	IDI_15	17	PCOM
IDO_16	10	IDO_15	IDI_16	19	IDI_17
IDO_18	11	IDO_16	IDI_18	21	IDI_19
IDO_20	12	IDO_17	IDI_20	23	IDI_21
IDO_22	13	IDO_18	IDI_22	25	IDI_23
PCOM	14	IDO_19	IDI_24	27	IDI_24
IDO_25	15	IDO_20	IDI_25	29	IDI_26
IDO_27	16	IDO_21	IDI_27	31	IDI_28
IDO_29	17	IDO_22	IDI_29	33	IDI_30
IDO_31	18	IDO_23	IDI_31	35	PCOM
EGND	19	IDO_24	EGND	37	N/A
		IDO_26	N/A	39	N/A
		IDO_28			
		IDO_30			
		PCOM			

CON1 (Female DB-37)

CON2 (40-pin Box Header)

Features

- Universal PCI (3.3 V/5 V) Interface
- 32 Optically-isolated Digital Input Channels
- 32 Optically-isolated Digital Output Channels (Sink, NPN)
- Built-in DC/DC Converter with 3000 Vdc Isolation
- 3750 Vrms Photo-isolation Protection
- Four Isolated Banks
- Supports Card ID (SMD Switch)



Software

Drivers

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

Sample Programs

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

Hardware Specifications

Hardware	
Card ID	Yes (4-bit)
Connector	Female DB37 x 1 40-pin box header x 1
Digital Input	
Channels	32
Type	Photocoupler (Sink and Source)
Response Speed	4 kHz (Typical)
Trigger Mode	Static Update
Wet Contact, ON Voltage Level	9 ~ 24 V (Min. 7 V ; Max. 30 V)
Wet Contact, OFF Voltage Level	0 ~ 1 V
Isolation	3750 Vrms (Using external power)
Digital Output	
Channels	32
Type	Sink (NPN), Open Collector
Operation Mode	Static Update
Max. Load Current	100 mA/+30 V for each channel @ 100% duty
Response Speed	4 kHz (Typical)
Isolation	3750 Vrms
PC Bus	
Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz
Data Bus	8-bit
Power	
Consumption	600 mA @ +5 V
Mechanical	
Dimensions (mm)	105 x 180 x 22 (W x L x D)
Environmental	
Operating Temperature	0 ~ +60°C
Storage Temperature	-20 ~ +70°C
Humidity	5 ~ 85% RH, Non-condensing

Ordering Information

PISO-1730U CR	Universal PCI, 32-ch Optically Isolated Digital Input and 32-ch Open Collector Isolated Digital Output Board (Current Sinking, NPN) (RoHS) Includes one CA-4037B cable and two CA-4002 D-Sub connectors.
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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-3750DM-H 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-4037B CR	40-pin flat & D-sub 37-pin Female cable 24 cm (RoHS)
	DB-16P16R CR	16-channel input terminal and 16-channel relay output board Include : CA-3710D Male- Male D-sub Cable 1.0 M (RoHS)
	DB-37 CR	Directly connect signal to D-sub 37-pin connector (RoHS)
	DN-37 CR	DIN Rail Mounting 37-pin Connector (RoHS)

