



## PISO-P32S32WU

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

### Introduction

PISO-P32S32WU card supports both 3.3 V and 5 V PCI slots and provides 32 optically-isolated Digital Input channels and 32 optically-isolated open-collector Digital Output channels (8 channels for 500 mA and 24 channels for 100 mA current sinking output, NPN), arranged into four isolated banks. Each Digital Input channel uses a photocoupler to isolate the card and the computer from external signals, while each Digital Output channel includes an NPN transistor and an integral suppression diode for the inductive load. The PISO-P32S32WU requires an external power supply to drive the DI and DO ports, and supports Card ID (jumper) features for multi-board identification if two or more boards are installed in the same computer.

The board interfaces to field logic signals, eliminating ground-loop problems and isolating the host computer from potentially damaging voltage spikes.

PISO-P32S32WU contains a single 37-pin D-sub connector and a single 40-pin male header. A 40-pin to DB-37 flat cable is used to fix with the case. The digital signal can be connected through the second D-sub connector, and each D-sub connector supports 16 input and 16 output channels.

### Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
Ext. GND0	01	Ext. GND0	Ext. GND1	01	Ext. GND1
DI_0	02	DI_0	DI_16	03	DI_16 for high drive
DI_1	03	DI_1	DI_17	05	DI_17 for high drive
DI_2	04	DI_2	DI_18	07	DI_18 for high drive
DI_3	05	DI_3	DI_19	09	DI_19 for high drive
DI_4	06	DI_4	DI_20	11	DI_20 for high drive
DI_5	07	DI_5	DI_21	13	DI_21 for high drive
DI_6	08	DI_6	DI_22	15	DI_22 for high drive
DI_7	09	DI_7	DI_23	17	DI_23 for high drive
DI_8	10	DI_8	DI_24	19	DI_24 for high drive
DI_9	11	DI_9	DI_25	21	DI_25 for high drive
DI_10	12	DI_10	DI_26	23	DI_26 for high drive
DI_11	13	DI_11	DI_27	25	DI_27 for high drive
DI_12	14	DI_12	DI_28	27	DI_28 for high drive
DI_13	15	DI_13	DI_29	29	DI_29 for high drive
DI_14	16	DI_14	DI_30	31	DI_30 for high drive
DI_15	17	DI_15	DI_31	33	DI_31 for high drive
GND for High drive	18	DI_16	GND for High drive	35	GND for High drive
GND for High drive	19	DI_17	GND for High drive	37	GND for High drive
		DI_18	N/A	39	N/A
		DI_19			
		DI_20			
		DI_21			
		DI_22			
		DI_23			
		DI_24			
		DI_25			
		DI_26			
		DI_27			
		DI_28			
		DI_29			
		DI_30			
		DI_31			
		DO_4			
		DO_5			
		DO_6			
		DO_7			
		DO_8			
		DO_9			
		DO_10			
		DO_11			
		DO_12			
		DO_13			
		DO_14			
		DO_15			
		Ext. PWRO			

### Features

- Universal PCI (3.3 V/5 V) Interface
- Supports Card ID (SMD Switch)
- 3750 Vrms Photo-isolation Protection
- Input Range up to 30 VDC
- 32 Optically-isolated Digital Input Channels
- 32 Optically-isolated Digital Output Channels (Sink, NPN)
  - 100 mA (24 Channels) Low Driving
  - 500 mA (8 Channels) High Driving



### Software

#### Drivers

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

#### Sample Programs

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


### Hardware Specifications

Hardware	
Card ID	Yes (4-bit) for version 1.5 or above
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
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	500 mA for one high driving channel @ 100% duty 500 mA for all high driving channels @ 100% duty (The GND pins all must be connected with GND of External Power) 100 mA for one low driving channel @ 100% duty 100 mA for all low driving channels @ 100% duty (The GND pins all must be connected with GND of External Power)
Response Speed	4 kHz (Typical)
Isolation	3750 Vrms (Using external power)
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

<b>PISO-P32S32WU CR</b>	Universal PCI, 32-ch Optical 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 (RoHS) Include : CA-3710D Male- Male D-sub Cable 1.0 M
	DB-37 CR	Directly connect signal to D-sub 37-pin connector (RoHS)
	DN-37 CR	DIN Rail Mounting 37-pin Connector (RoHS)

