



PISO-P32A32U/PISO-P32A32U-5V

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

Introduction

The PISO-P32A32U/P32A32-5V card features 32 optically-isolated Digital Input channels and 32 optically-isolated Digital Output channels, arranged into four isolated banks.

Each Digital Output channel includes a PNP transistor and an integral suppression diode for the inductive load. Isolated input channels 0 - 15 are allocated to Group A, while channels 16 - 31 are allocated to Group B. Isolated output channels are allocated to Groups C and D. The photocoupler input for the PISO-P32A32-5V can be powered by using either an internal current source or an external power supply, while the input for the PISO-P32A32U operates using an external power supply only.

The PISO-P32A32U/P32A32-5V cards also include 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.

The PISO-P32A32-5V uses lower input impedance that is suitable for 5 V signal applications, while the PISO-P32A32U uses higher input impedance that is suitable for 12 or 24 V signal applications and produces less heat.

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Terminal No.	Pin Assignment	Terminal No.
Ext. GND0	01	Ext. GND0	20	DI_16	03
DI_0	02	DO_0	21	DI_17	05
DI_1	03	DO_1	22	DI_18	07
DI_2	04	DO_2	23	DI_19	09
DI_3	05	DO_3	24	DI_20	11
DI_4	06	DO_4	25	DI_21	13
DI_5	07	DO_5	26	DI_22	15
DI_6	08	DO_6	27	DI_23	17
DI_7	09	DO_7	28	DI_24	19
DI_8	10	DO_8	29	DI_25	21
DI_9	11	DO_9	30	DI_26	23
DI_10	12	DO_10	31	DI_27	25
DI_11	13	DO_11	32	DI_28	27
DI_12	14	DO_12	33	DI_29	29
DI_13	15	DO_13	34	DI_30	31
DI_14	16	DO_14	35	DI_31	33
DI_15	17	DO_15	36	ECOM1	35
ECOM0	18	DO_16	37	IGND1	37
IGND0	19	DO_17	38	N/A	39
		DO_18	39		
		DO_19	40		
		DO_20			
		DO_21			
		DO_22			
		DO_23			
		DO_24			
		DO_25			
		DO_26			
		DO_27			
		DO_28			
		DO_29			
		DO_30			
		DO_31			
		Ext. PWR1			
		N/A			
		N/A			

Features

- Universal PCI (3.3 V/5 V) Interface
- 32 Optically-isolated Digital Input Channels
- 32 Optically-isolated Digital Output Channels (Source, PNP)
 - Supports DO Status Readback (Register Level)
- 3750 Vrms Photo-isolation Protection
- Built-in DC/DC Converter with 3000 VDC Isolation
- Supports Card ID (SMD Switch)



Software

Drivers

- ☒ 32/64-bit Windows XP/2003/2008/7/8/10
- ☒ Linux
- ☒ DASYLab

Sample Programs

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

Hardware Specifications

Model	PISO-P32A32U		PISO-P32A32U-5V
Hardware			
Card ID	Yes (4-bit) for Version 4.0 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 (Min. 7 V; Max. 30 V)	5 ~ 12 V (Min. 3.5 V; Max. 16 V)	
Wet Contact, OFF Voltage Level	0 ~ 1 V		
Dry Contact, ON Voltage Level	Close to GND		
Dry Contact, OFF Voltage Level	Open		
Isolation	3750 Vrms (Using external power)		
Digital Output			
Channels	32		
Type	Source (PNP), Open Emitter		
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-P32A32U CR	Universal PCI, 32-ch Optical Isolated Digital Input and 32-ch Open Collector Isolated Digital Output Board (Current Source, PNP) (RoHS) Includes one CA-4037B cable and two CA-4002 D-Sub connectors
PISO-P32A32U-5V CR	Universal PCI, 32-ch Optical Isolated Digital Input and 32-ch Open Collector Isolated Digital Output Board (Current Source, PNP) (RoHS) Includes one CA-4037B cable and two CA-4002 D-Sub connectors

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-37 CR	Directly connect signal to D-sub 37-pin connector (RoHS)
	DN-37 CR	DIN Rail Mounting 37-pin Connector (RoHS)

