



PISO-C64U

Universal PCI, 64-ch Open Collector Isolated (Sink, NPN) DO Board

PISO-A64U

Universal PCI, 64-ch Open Collector Isolated (Source, PNP) DO Board

Introduction

The PISO-C64U/PISO-A64U Universal PCI card supports the 3.3 V/5 V PCI bus. These cards provide 64 optically-isolated Digital Output channels, each of which includes a PNP transistor (PISO-A64U) or a Darlingtson transistor (PISO-C64U) and an integrated suppression diode for the inductive load.

The Digital Output channels are allocated to four isolated banks when using four isolated external power supplies, and act as an interface to field logic signals, eliminating ground-loop problems, and isolating the host computer from potentially damaging voltage spikes. 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.

The PISO-C64U/PISO-A64U 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. Both cards have a DB-37 connector and a 40-pin male header, each supporting 32 output channels.

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
Ext. GND0	01	20 Ext. GND1	Ext. GND2	01	02 Ext. GND3
DO_0	02	21 DO_16	DO_32	03	04 DO_48
DO_1	03	22 DO_17	DO_33	05	06 DO_49
DO_2	04	23 DO_18	DO_34	07	08 DO_50
DO_3	05	24 DO_19	DO_35	09	10 DO_51
DO_4	06	25 DO_20	DO_36	11	12 DO_52
DO_5	07	26 DO_21	DO_37	13	14 DO_53
DO_6	08	27 DO_22	DO_38	15	16 DO_54
DO_7	09	28 DO_23	DO_39	17	18 DO_55
DO_8	10	29 DO_24	DO_40	19	20 DO_56
DO_9	11	30 DO_25	DO_41	21	22 DO_57
DO_10	12	31 DO_26	DO_42	23	24 DO_58
DO_11	13	32 DO_27	DO_43	25	26 DO_59
DO_12	14	33 DO_28	DO_44	27	28 DO_60
DO_13	15	34 DO_29	DO_45	29	30 DO_61
DO_14	16	35 DO_30	DO_46	31	32 DO_62
DO_15	17	36 DO_31	DO_47	33	34 DO_63
Ext. PWR0	18	37 Ext. PWR1	Ext. PWR2	35	36 Ext. PWR3
N.C.	19	38	N/A	37	38 N/A
		39	N/A	39	40 N/A
					CON2
					CON1

Features

- Universal PCI (3.3 V/5 V) Interface
- 64-channel Optically-isolated Open-collector Digital Output
 - PISO-C64U: Current Sinking, NPN type
 - PISO-A64U: Current Sourcing, PNP type
- Supports Card ID (SMD Switch)
- Supports DO Status Readback (Register Level)
- 4 Isolated Banks when using 4 Isolated External Power Supplies
- 3750 Vrms Photo-isolation Protection



Software

Drivers

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

Sample Programs

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

Applications

- Factory automation
- Product test
- Laboratory automation

Hardware Specifications

Model	PISO-C64U	PISO-A64U
Hardware		
Card ID	Yes (4-bit)	
Connector	Female DB37 x 1 , 40-pin box header x 1	
Digital Output		
Channels	64	
Type	Sink(NPN), Open Collector	Source(PNP), Open Emitter
Operation Mode	Static Update	
Load Current	100 mA/+30 V for each channel @ 60% 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	400 mA @ +3.3 V 200 mA @ +12 V	800 mA @ +5 V
Mechanical		
Dimensions (mm)	105 x 180 x 22 (W x L x D)	
Environment		
Operating Temperature	0 ~ +60°C	
Storage Temperature	-20 ~ +70°C	
Humidity	5 ~ 85% RH, Non-condensing	

Ordering Information

PISO-C64U CR	Universal PCI, 64-ch Open Collector Isolated (Sink, NPN) DO Board (RoHS) Includes one CA-4037B cable and two CA-4002 D-Sub connectors
PISO-A64U CR	Universal PCI, 64-ch Open Collector Isolated (Source, PNP) DO Board (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-32R CR	32-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)

