



# Bridging the Gap between Real World and Computer

## DIO3248A/B



## 64-Channel Digital I/O Card (48 DI and 16 DO Photo-Coupler Isolated)

### Features

- ▶ PCI plug and play function with card ID for 16 identical cards
- ▶ 48 inputs and 16 outputs are photo-coupler isolated
- ▶ 2 TTL input/output (DIO3248B)
- ▶ Build-in input de-bounce circuit / programmable digital de-bounce circuit (DIO3248B)
- ▶ Accept external interrupt at IN0, IN1 / IN15~ IN0 (DIO3248B)
- ▶ 8 input with counter function (DIO3248B)
- ▶ 32-bit timer on 1us time base (DIO3248B)
- ▶ watchdog timer with default output at OUT7~OUT0 (DIO3248B)

### Introduction

The DIO3248A/B is the new version of PCI 48 isolated digital input and 16 isolated output card. DIO3248A is the direct replacement of DIO3248, you can use the new hardware without update the software. DIO3248B must use new driver and it is the upgrade version of DIO3248A. If you have used the DIO3248A with new driver, you can upgrade to DIO3248B seamlessly. The function convention is the same but DIO3248B with more functions such as 2 TTL IO port and more useful IO functions.

DII is provided for WinXP, Win7 and later or LINUX platform and sample programs come with VB source code.

### Specifications (With Matched Wiring Board)

#### Input Section

- ▶ Input channel : 48 isolated digital input
- ▶ Rated input voltage : DC 24V
- ▶ ON state : 2.8Vdc(max), 4.5mA(min)
- ▶ OFF state : 8Vdc(min), 3mA(max)
- ▶ Switching speed : 10K (limit by photo-coupler speed or by debounce circuit)
- ▶ Debounce : 2KHz max. (with on board default debounce)(DIO3248A) software programmable @ 100,200,1K,2K Hz and no debounce (DIO3248B)
- ▶ Input counter : 16-bit (IN7 ~ IN0) (DIO3248B)

#### Output Section

- ▶ Output channel : 16 isolated digital output
- ▶ Output rating : POWER MOS output :  
1A continuous · @120Vdc (NMOS max) ·  
@24Vdc (PMOS max) ;  
Relay output : 3A continuous · @250Vac(max)

#### TTL IO (DIO3248B)

- ▶ Port : 2
- ▶ Direction : software programmable on port base

#### Timer (DIO3248B)

- ▶ Length : 32-bit @1us
- ▶ Interrupt : time up interrupt

#### Main Card General

- ▶ Card ID : 4-bit
- ▶ Insulation Resistance : 100M Ohm(min) at 1000Vdc
- ▶ Isolation Voltage : 2500Vac 1Min
- ▶ PCI bus data width : 32-bit
- ▶ I/O connector : 68 pin female SCSI II connector
- ▶ Wiring board : 1 with round cable hook to main card
- ▶ External supply : DC 24±4V
- ▶ Operation Temperature : 0 ~ +70° C
- ▶ Storage Temperature : -20 °C ~ +80 °C
- ▶ Operation Humidity : 5~95% RH, non-condensing
- ▶ Dimensions : 159(W)\*106(H)mm, 6.3(W)\*4.2(H)in

### Note



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## Applications

- ▶ Accept :
  - P.B./M.S./EMG./Contact - Start/Stop/Limit switch/sensor
  - Interlock/selective Sw.- Proximity switch
  - Aux. contact of transducer/detector
- ▶ As I/O of S/W PLC Controller
  - Power MOS type output : drive high speed DC load
- ▶ Counting Application

## Software Support

### ▶ PC OS Support

WinXP, Win7 and later or Linux O.S.  
Embedded XP, Win CE (at request)

### ▶ Library

DLLs, VI library

### ▶ Develop Software

Visual C++, Visual Basic,  
Borland C/C++ Builder, LabVIEW etc

### ▶ Example Source Code

Visual Basic

## Ordering Information

- ▶ **DIO3248A** : 64-channel Digital I/O Card for 48 DI and 16 DO Photo-coupler isolated
- ▶ **DIO3248B** : 64-channel Digital I/O + 16TTL I/O Card for 48 DI and 16 DO Photo-coupler isolated
- ▶ **DIO3248DIN(R)** : DIN rail mounted wiring board for 48 input and 16 Relay output P.83
- ▶ **ADP3248DIN(N)** : DIN rail mounted wiring board for 48 input and 16 NMOS output P.83
- ▶ **DIO3248DIN(P)** : DIN rail mounted wiring board for 48 input and 16 PMOS output P.83
- ▶ **M266868150** : 68-pin SCSI-II cable 1.5 M for JF1 I.18
- ▶ **M266868300** : 68-pin SCSI-II cable 3.0 M for JF1 I.18
- ▶ **JS51050** : DIN rail mounted dummy wiring board (D type 25P male to terminals ) for JM1 TTL I/O (DIO3248B only) I.12
- ▶ **M270325X4** : D type 25P male-female cable 1.5M for JM1 (DIO3248B only) I.17
- ▶ **M270325X4S** : D type 25P male-female cable 1.5M, shielding for JM1 (DIO3248B only) I.17
- ▶ **M270325X0** : D type 25P male-female cable 3.0M for JM1 (DIO3248B only) I.17
- ▶ **M270325X0S** : D type 25P male-female cable 3.0M, shielding for JM1 (DIO3248B only) I.17
- ▶ **SM23404** : Extension kit for JM1 (bracket and flat cable for 25p female D type connector) (DIO3248B only)

## Pin Assignments

JM1		JF1		
IO00	1 14	+24Vin	68 34	+24Vin
IO01	2 15	+24Vin	67 33	+24Vin
IO02	3 16	OUT15	66 32	OUT14
IO03	4 17	OUT13	65 31	OUT12
IO04	5 18	OUT11	64 30	OUT10
IO05	6 19	OUT9	63 29	OUT8
IO06	7 20	OUT7	62 28	OUT6
IO07	8 21	OUT5	61 27	OUT4
GND	9 22	OUT3	60 26	OUT2
GND	10 23	OUT1	59 25	OUT0
GND	11 24	IN47	58 24	IN46
+5Vout_PC	12 25	IN45	57 23	IN44
+5Vout_PC	13	IN43	56 22	IN42
		IN41	55 21	IN40
		IN39	54 20	IN38
		IN37	53 19	IN36
		IN35	52 18	IN34
		IN33	51 17	IN32
		IN31	50 16	IN30
		IN29	49 15	IN28
		IN27	48 14	IN26
		IN25	47 13	IN24
		IN23	46 12	IN22
		IN21	45 11	IN20
		IN19	44 10	IN18
		IN17	43 9	IN16
		IN15	42 8	IN14
		IN13	41 7	IN12
		IN11	40 6	IN10
		IN9	39 5	IN8
		IN7	38 4	IN6
		IN5	37 3	IN4
		IN3	36 2	IN2
		IN1	35 1	IN0

## Note