



Bridging the Gap between Real World and Computer

DIO3232A/B

64-Channel Digital I/O Card (32 DI and 32 DO Photo-Coupler Isolated)



Features

- ▶ PCI plug and play function with card ID for 16 identical cards
- ▶ 32 inputs and 32 outputs are photo-coupler isolated
- ▶ TTL input / output (DIO3232B)
- ▶ Build-in input de-bounce circuit / programmable digital de-bounce circuit (DIO3232B)
- ▶ Accept external interrupt at IN00, IN01 / IN07~ IN00, IN17~ IN10 (DIO3232B)
- ▶ 8 input with counter / frequency counter function (DIO3232B)
- ▶ 32-bit timer on 1us time base (DIO3232B)
- ▶ watch dog timer with default output at OUT07~OUT00 (DIO3232B)

Introduction

The DIO3232A/B is the new version of PCI 32 isolated digital input and 32 isolated output card. DIO3232A is the direct replacement of DIO3232, you can use the new hardware without update the software. DIO3232B must use new driver and it is the upgrade version of DIO3232A. If you have used the DIO3232A with new driver, you can upgrade to DIO3232B seamlessly. The function convention is the same but DIO3232B with more functions such as 2 TTL IO port and more useful IO functions. the IN7~IN0 input or TTL IO07~00 input can be the input of counters/frequency counters for pulse counting or speed counting function.

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 : 32 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)(DIO3232A) software programmable @ 100,200,1K,2K Hz and no debounce (DIO3232B)
- ▶ Input counter : 16-bit (IN07 ~ IN00) (DIO3232B)
- ▶ Frequency counter : 16-bit (IN07 ~ IN00) (DIO3232B)

Output Section

- ▶ Output channel : 32 isolated digital output
- ▶ Output rating : POWER MOS output : 1A continuous@120Vdc(NMOS max) · @24Vdc (PMOS max) Relay output : 3A continuous@250Vac(max)
- ▶ Switching speed : 20KHz(max)(MOS out only)

TTL IO (DIO3232B)

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

Timer (DIO3232B)

- ▶ 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

- ▶ **DIO3232A** : 64-channel Digital I/O Card for 32 DI and 32 DO Photo-coupler isolated
- ▶ **DIO3232B** : 64-channel Digital I/O + 16TTL I/O Card for 32 DI and 32 DO Photo-coupler isolated
- ▶ **ADP3232ADIN(N)** : DIN rail mounted wiring board for 32 input and 32 NMOS output P.81
- ▶ **ADP3232ADIN(P)** : DIN rail mounted wiring board for 32 input and 32 PMOS output P.81
- ▶ **ADP3232ADIN(R)** : DIN rail mounted wiring board for 32 input and 32 Relay output P.81
- ▶ **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 (DIO3232B only) I.12
- ▶ **M270325X4** : D type 25P male-female cable 1.5M for JM1 (DIO3232B only) I.17
- ▶ **M270325X4S** : D type 25P male-female cable 1.5M, shielding for JM1 (DIO3232B only) I.17
- ▶ **M270325X0** : D type 25P male-female cable 3.0M for JM1 (DIO3232B only) I.17
- ▶ **M270325X0S** : D type 25P male-female cable 3.0M, shielding for JM1 (DIO3232B only) I.17
- ▶ **SM23404** : Extension kit for JM1 (bracket and flat cable for 25p female D type connector) (DIO3232B only)

Pin Assignments

JM1		JF1			
IO00	1	+24Vin	68	34	+24Vin
IO01	2	+24Vin	67	33	+24Vin
IO02	3	OUT37	66	32	OUT36
IO03	4	OUT35	65	31	OUT34
IO04	5	OUT33	64	30	OUT32
IO05	6	OUT31	63	29	OUT30
IO06	7	OUT27	62	28	OUT26
IO07	8	OUT25	61	27	OUT24
GND	9	OUT23	60	26	OUT22
GND	10	OUT21	59	25	OUT20
GND	11	OUT17	58	24	OUT16
+5Vout_PC	12	OUT15	57	23	OUT14
+5Vout_PC	13	OUT13	56	22	OUT12
		OUT11	55	21	OUT10
		OUT07	54	20	OUT06
		OUT05	53	19	OUT04
		OUT03	52	18	OUT02
		OUT01	51	17	OUT00
		IN37	50	16	IN36
		IN35	49	15	IN34
		IN33	48	14	IN32
		IN31	47	13	IN30
		IN27	46	12	IN26
		IN25	45	11	IN24
		IN23	44	10	IN22
		IN21	43	9	IN20
		IN17	42	8	IN16
		IN15	41	7	IN14
		IN13	40	6	IN12
		IN11	39	5	IN10
		IN07	38	4	IN06
		IN05	37	3	IN04
		IN03	36	2	IN02
		IN01	35	1	IN00

Note