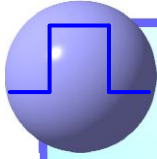




Bridging the Gap between Real World and Computer



DIO8217 PCIe-BUS

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



Features

- ▶ PCIe plug and play function with card ID for 16 identical cards
- ▶ 16 inputs and 16 outputs are photo-coupler isolated
- ▶ 0-48V universal wide range sink or source input
- ▶ Build-in input programmable digital de-bounce circuit
- ▶ Accept external interrupt at all inputs
- ▶ On board NMOS 5-48Vdc wide range output
- ▶ Watch dog timer with default output at OUT07~OUT00
- ▶ TTL port configurable IO
- ▶ 32-bit timer with time up interrupt
- ▶ Quadrature high speed counter with compare trigger out
- ▶ PWM output

Introduction

The DIO8217 card offers 16 isolated digital input channels and 16 isolated digital output channels for the PCIe bus. The card featured with wide range input up to 48Vdc and output with on board NMOS up to 48Vdc. Counter function on isolated input port0 and TTL input port0. Highlighted with built-in quadrature counter, TTL IO port and multifunction timer for PWM output.

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 : 16 isolated digital input
- ▶ Rated input voltage : 0-48Vdc
- ▶ Input Sink / Source : Hardware wired, 4 bit per group
- ▶ ON state : 8V(min)@4mA(min)
- ▶ OFF state : 12V(max)@3mA(max)
- ▶ Software debounce : No debounce, 50Hz, 100Hz, 200Hz, 1KHz
- ▶ Switching speed : 10K (limit by photo-coupler speed or by debounce circuit)

Output Section

- ▶ Output channel : 16 isolated digital output
- ▶ Output capacity : NMOS sink :
 - continuous : 0.125A @5-48Vdc (all output 'on' per port)
 - 50% duty : 0.5A @5-48Vdc (all output 'on' per port)
 - Instantaneous (10ms) : 2A@5-48Vdc (one output 'on' per port)

Timer/Counter/PWM Section

- ▶ Timer time base : 1us
- ▶ Timer/counter length : 32-bit
- ▶ Counter frequency (max) : 8MHz
- ▶ PWM time base : 33MHz
- ▶ PWM frequency : 16-bit
- ▶ PWM duty : 16-bit

Quadrature counter

- ▶ Input multiple rate : x1, x2, x4 programmable (quadrature signal only)
- ▶ Counter length : 32-bit

TTL IO

- ▶ Port : 2
- ▶ Direction : software programmable on port base
- ▶ Software debounce : No debounce, up to 8MHz

Main Card General

- ▶ Card ID : 4-bit (rotary switch)
- ▶ Insulation resistance : 100M Ohm (min) at 1000Vdc
- ▶ Isolation Voltage : 2500Vac 1Min
- ▶ I/O connector : 68 pin female Centronic type connector
- ▶ Operation Temperature : 0 °C ~ +70 °C
- ▶ Storage Temperature : -20 °C ~ +80 °C
- ▶ Operation Humidity : 5~95% RH, non-condensing
- ▶ Dimensions : 144(W)*96(H)mm, 5.7(W)*3.8(H)in

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
- ▶ Industrial ON/OFF control
- ▶ High speed counter
- ▶ Trigger event counter
- ▶ Quadrature encoder counter
- ▶ Up/down or pulse / direction counter
- ▶ PWM controller



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Pin Assignments

JM0			JF0		
IO00	1	14	PWM-	68 34	PWM+
IO01	2	15	TRIG-	67 33	TRIG+
IO02	3	16	+5Vout_PC	66 32	+5Vout_PC
IO03	4	17	+5Vout_PC	65 31	+5Vout_PC
IO04	5	18	Z-	64 30	Z+
IO05	6	19	B-	63 29	B+
IO06	7	20	A-	62 28	A+
IO07	8	21	NC	61 27	NC
GND	9	22	NC	60 26	NC
GND	10	23	OVN	58 24	OV1P
GND	11	24	OVN	57 23	OV1P
+5Vout_PC	12	25	DO17	56 22	DO16
+5Vout_PC	13		DO15	55 21	DO14
			DO13	54 20	DO12
			DO11	53 19	DO10
			OVN	52 18	OV0P
			OVN	51 17	OV0P
			DO07	50 16	DO06
			DO05	49 15	DO04
			DO03	48 14	DO02
			DO01	47 13	DO00
			COM14	46 12	COM14
			DI17	45 11	DI16
			DI15	44 10	DI14
			COM10	43 9	COM10
			DI13	42 8	DI12
			DI11	41 7	DI10
			COM04	40 6	COM04
			DI07	39 5	DI06
			DI05	38 4	DI04
			COM00	37 3	COM00
			DI03	36 2	DI02
			DI01	35 1	DI00

Ordering Information

- ▶ **DIO8217** : 32-Channel Digital I/O Card 16 DI and 16 DO Photo-Coupler Isolated
- ▶ **JS510681** : DIN rail mounted dummy wiring board (68P SCSI-II female to terminals) for JM0 I.12
- ▶ **M26J68681M5FW** : 68-pin SCSI-II Centronic cable 1.5 M for JF0 I.18
- ▶ **M26J68683M0FW** : 68-pin SCSI-II Centronic cable 3.0 M for JF0 I.18
- ▶ **JS51050** : DIN rail mounted dummy wiring board (D type 25P male to terminals) for JM0 I.12
- ▶ **M270325X4** : D type 25P male-female cable 1.5M for JM0 I.17
- ▶ **M270325X4S** : D type 25P male-female cable 1.5M, shielding for JM0 I.17
- ▶ **M270325X0** : D type 25P male-female cable 3.0M for JM0 I.17
- ▶ **M270325X0S** : D type 25P male-female cable 3.0M, shielding for JM0 I.17
- ▶ **SM23404** : Extension kit for JM0 (bracket and flat cable for 25P female D type connector)

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