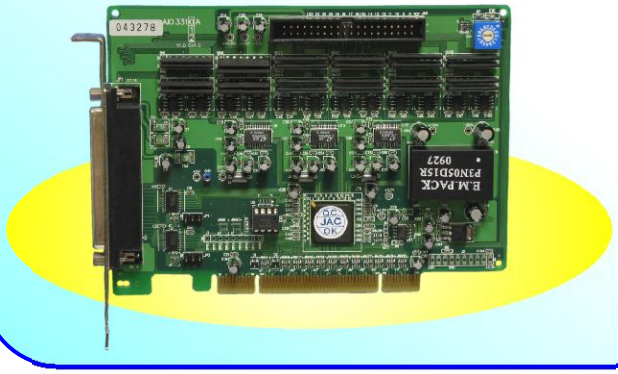
AIO3310A/1A/2A

8/16/24 Channel Analog Input Card



Features

- 8/16/24 channel 16-bit analog inputs (standard : 8 channels)
- Software selectable input range : -10V~ +10V, -5V~ +5V , 0~10V, 0~5V
- single end or differential analog input
- Factory pre-calibrated analog conversion accuracy
- 2 byte-wide programmable TTL I/O
- DIO00, DIO01 as trigger/counter in, DIO10,DIO11 as trigger out of timer/counter function
- 2 32-bit multifunction timer/counters
  - programmable one-shot
  - square wave generator
  - event counter
  - PWM generator

Introduction

AIO3310A/3311A/3312A involves multi-channels of analog input, multi-functions of digital I/O and timer/counter.

Each analog input channel has been calibrated with precision instruments and all the records kept in the on-card EEPROM to give users a transparent environment of accurate result at competitive low price.

Port programmable TTL I/O and two 32-bit timer/counter provide versatile functions such as : programmable one-shot, square wave generator, event counter, and PWM generator.

Multiple selection 8/16/24 channels to cut down cost as you need.

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

Pin Assignments

JF1

-15Vout	37	19	+15Vout
GND	36	18	GND
AI7-	35	17	+5Vout
AI6-	34	16	AI7+
AI5-	33	15	AI6+
AI4-	32	14	AI5+
AI3-	31	13	AI4+
AI2-	30	12	AI3+
AI1-	29	11	AI2+
AI0-	28	10	AI1+
IO17	27	9	AI0+
IO15	26	8	IO16
IO13	25	7	IO14
IO11	24	6	IO12
IO07	23	5	IO10
IO05	22	4	IO06
IO03	21	3	IO04
IO01	20	2	IO02
		1	IO00

JM1

AI8+	1	20	AI8-
AI9+	2	21	AI9-
AI10+	3	22	AI10-
AI11+	4	23	AI11-
AI12+	5	24	AI12-
AI13+	6	25	AI13-
AI14+	7	26	AI14-
AI15+	8	27	AI15-
AI16+	9	28	AI16-
AI17+	10	29	AI17-
AI18+	11	30	AI18-
AI19+	12	31	AI19-
AI20+	13	32	AI20-
AI21+	14	33	AI21-
AI22+	15	34	AI22-
AI23+	16	35	AI23-
+5Vout	17	36	GND
GND	18	37	-15Vout
+15Vout	19		

Specifications (With Matched Wiring Board)

Analog Input

- Input Channel : 8 AI : AIO3310A,
  16 AI : AIO3311A,
  24 AI : AIO3312A
- Resolution : 16-bit
- Input Type : single end or differential
- Input Range : -10V~ +10V, -5V~ +5V , 0~10V, 0~5V
- Input Impedance: 100K ohm
- Range Selection : software selectable per chip
- Conversion Speed : 6us per channel
- Accuracy : full range within 5mV (after calibration)
- Integral Linearity Error : -3 ~ +3 LSB(max)
- Zero Error : - 28 ~ +28 LSB

TTL I/O

- I/O Channels : 16 TTL (port 0, port 1)
- Configuration : byte input/output
- Output Capacity : (sink or source) 24ma @5V
- Output at power on : jumper configurable at high or low

Timer/Counter

- Channels : 2
- Data Length : 32-bit
- Specific Input : trigger in/counter in via digital I/O port 0
- Specific Output : trigger out/counter out via digital I/O port 1
- Time Base : timer @1MHz, counter @33MHz
- Multi-Functions : - programmable one-short
  - square wave generator
  - event counter
  - PWM generator

Main Card General

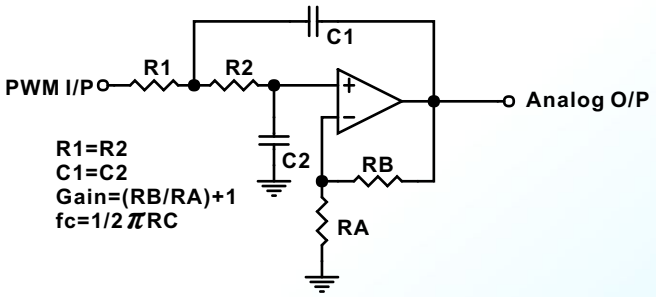
- Interrupt : from TTL or Timer/counter
- PCI data width : 32-bit
- Card ID : 4-bit
- Operation Temperature : 0 °C ~ +70 °C
- Storage Temperature : -20 °C ~ +80 °C
- Operation Humidity : 5~95% RH, non-condensing
- Dimension :156(W)*112(H)mm, 6.2(W)*4.5(H)in

Applications

- ➤Analog signal measurement for physical signal of temperature, voltage, current, flow, light...etc
- ➤digital i/o control of switch input, relay control, trigger output
- ➤Counter/Timer for event counting, periodic interrupt source, PWM generator , counter/timer with trigger out, duration counter

Application Tips

➤Using PWM output as D/A converter



Ordering Information

- ➤**AIO3310A :** Analog I/O Card 8 channels analog input, 16 TTL I/O and multi function timer/counter
- ➤**AIO3311A :** Analog I/O Card 16 channels analog input, 16 TTL I/O and multi function timer/counter
- ➤**AIO3312A :** Analog I/O Card 24 channels analog input, 16 TTL I/O and multi function timer/counter
- ➤**JS51026 :** DIN rail mounted dummy wiring board (D type 37P male to terminals) for JF1 I.12
- ➤**M270337X0 :** D type 37P male-female cable 1.5M for JF1 I.17
- ➤**M270337X0S :** D type 37P male-female cable 1.5M, shielding for JF1 I.17
- ➤**M270337X2 :** D type 37P male-female cable 3.0M for JF1 I.17
- ➤**M270337X2S :** D type 37P male-female cable 3.0M, Shielding for JF1 I.17
- ➤**SM23403 :** Extension kit for JM1 (bracket and flat cable for 37P female D-type connector) (AIO3311A/12A only)

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

Microsoft Visual Basic.NET

Note