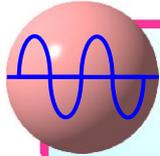


# Bridging the Gap between Real World and Computer



## AIO3382U/4U Analog I/O and Digital I/O Card



### Features

- ▶ 8 channel 16-bit differential or single-end analog inputs
- ▶ Software selectable input range :  
-10V~ +10V, -5V~ +5V, 0~10V, 0~5V
- ▶ 2 channel 16-bit analog output (AIO3382U)  
4 channel 16-bit analog output (AIO3384U)
- ▶ Option add-on module for 0~20mA, 4~20mA sink or source output (AIO3382UA/UB, AIO3384UAA/UAB/UBB)
- ▶ 2 byte configurable TTL I/O
- ▶ IO00, IO01 as trigger / counter in, IO10, IO11 as trigger out of timer/counter function
- ▶ 2 32-bit multifunction timer / counters
  - programmable one-shot
  - square wave generator
  - event counter
  - PWM generator

### Introduction

AIO3382U/3384U has 2/4 channels analog and 2 channel analog with programmable input range, 2 byte configurable TTL I/O.

Option add-on module (2 channel per module) can convert the voltage output to 0~20mA or 4~20mA output (sink or source) for driving current loop devices.

The extra 2 32-bit timer/counter ports also provide you versatile functions such as : programmable one-shot, rate generator, square wave generator, software/hardware triggered strobe, event timer/counter, triggered timer/counter, PWM generator, ... A small card with abundant functions.

Dll is provided for WINXP, WIN7 and later or LINUX platform and sample programs come with VB source code.

### Applications

- ▶ Analog Input Section :  
For measurement of analog signal such as :  
temperature, voltage, current, flow, light ...  
Note : The analog signal should be pre-processed to the acceptable range of the card
- ▶ Analog Output Section :  
For control or signal generation such as :  
inverter speed, servo motor speed, wave generation, valve control, light control...
- ▶ Digital Section :  
For the control of digital i/o : switch input, relay control, trigger output.....
- ▶ Counter/Timer Section : event counting ;  
periodic interrupt source, PWM generator (can work as D/A with external low pass filter),  
counter/timer with trigger out, duration counter

### Specifications (With Matched Wiring Board)

#### Analog Input

- ▶ Input Channels : 8 channel differential or single-end.
- ▶ Resolution : 16-bit
- ▶ Input Range : -10V~ +10V, -5V~ +5V, 0~10V, 0~5V (software)  
0~20mA , 4~20mA (hardware selectable)
- ▶ Conversion Speed : 5us per channel

#### Analog Output

- ▶ Output Channels : 2/4 channel
- ▶ Resolution : 17-bit
- ▶ Output Range : -10V~ +10V,  
0~20mA, 4~20mA source / sink (option)

#### 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

- ▶ PCI Data Width : 32-bit
- ▶ Card ID : 0-15 selectable
- ▶ Interrupt : software disable/enable
- ▶ Dimension : 167(W)\*115(H)mm, 6.6(W)\*4.6(H)in



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## Pin Assignments

JF1			
-15Vout	37	19	+15Vout
GND	36	18	GND
AI7-	35	17	+5Vout_PC
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+
DA_V3	27	9	AI0+
DA_V1	26	8	DA_V2
DA_I_source3	25	7	DA_V0
DA_I_source2	24	6	DA_I_sink3
DA_I_source1	23	5	DA_I_sink2
DA_I_source0	22	4	DA_I_sink1
GND	21	3	DA_I_sink0
+24Vin	20	2	GND
		1	+24Vin

JM5			
IO00	1	14	IO10
IO01	2	15	IO11
IO02	3	16	IO12
IO03	4	17	IO13
IO04	5	18	IO14
IO05	6	19	IO15
IO06	7	20	IO16
IO07	8	21	IO17
GND	9	22	GND
GND	10	23	GND
GND	11	24	GND
+5Vout_PC	12	25	+5Vout_PC
+5Vout_PC	13		

## 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

- **AIO3382U** : Analog I/O Card, 8 AI 2 AO, 16 TTL, 2 multi-function timer/counter card (Include bracket kit for TTL I/O)
- **AIO3382UA** : Analog I/O Card, 8 AI 2 AO, 16 TTL, 2 multi-function timer/counter card (2 current source AO)(Include bracket kit for TTL I/O)
- **AIO3382UB** : Analog I/O Card, 8 AI 2 AO, 16 TTL, 2 multi-function timer/counter card (2 current sink AO)(Include bracket kit for TTL I/O)
- **AIO3384U** : Analog I/O Card, 8 AI 4 AO, 16 TTL, 2 multi-function timer/counter card(Include bracket kit for TTL I/O)
- **AIO3384UAA** : Analog I/O Card, 8 AI 4 AO, 16 TTL, 2 multi-function timer/counter card (4 current source AO)(Include bracket kit for TTL I/O)
- **AIO3384UAB** : Analog I/O Card, 8 AI 4 AO, 16 TTL, 2 multi-function timer/counter card (2 current source AO, 2 current sink AO)(Include bracket kit for TTL I/O)
- **AIO3384UBB** : Analog I/O Card, 8 AI 4 AO, 16 TTL, 2 multi-function timer/counter card (4 current sink AO)(Include bracket kit for TTL I/O)
- **JS51026** : DIN rail mounted dummy wiring board (D type 37P male to terminals) 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
- **JS51050** : DIN rail mounted dummy wiring board (D type 25P male to terminals) for JM5 I.12
- **M270325X4** : D type 25P male-female cable 1.5M for JM5 I.17
- **M270325X4S** : D type 25P male-female cable 1.5M, shielding for JM5 I.17
- **M270325X0** : D type 25P male-female cable 3.0M for JM5 I.17
- **M270325X0S** : D type 25P male-female cable 3.0M, shielding for JM5 I.17
- **SM23404** : Extension kit for JM5 (bracket and flat cable for 25p female D type connector)