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AIAO-0700

3U ANALOG INPUT/OUTPUT CARD

The AIAO-0700 is a general-purpose data acquisition control card containing 32 single ended analog inputs and 16 analog outputs. The I/O and power signals are distributed through J2 rear connector.

Features & Benefits

- 32 Single ended inputs
- 16 Outputs
- 12-bit resolution
- Software-selectable range – 0V to 10V, -5V to +5V
- Isolated power from cPCI Bus
- Watchdog Timer
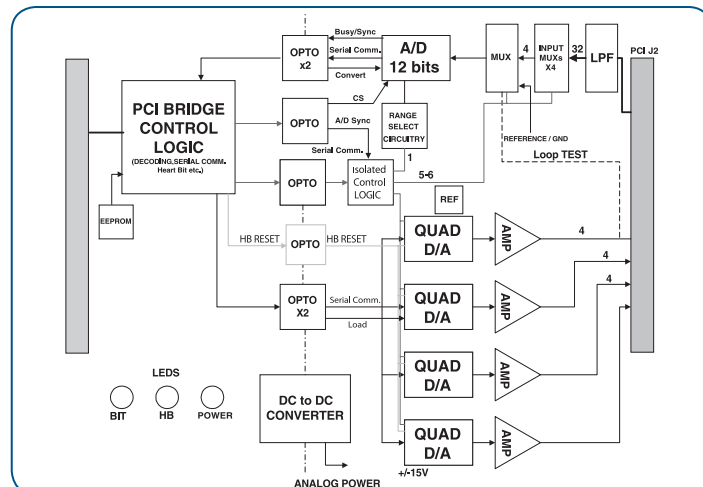- Optional SGLT-0055 rear signal distribution card

Watchdog Timer
The watchdog timer provides the option to turn all outputs inactive if not reset within 100 ms (default timeout).

BIT Indicator
The BIT indicator turns on while the hardware built-in-test is running. If the test fails, the LED remains on.

HB Indicator
The Heartbeat LED turns on when the watchdog timer is enabled and times out.

Block Diagram

Specifications and Ordering Information

Physical

PCB Dimensions	100mm (3.9370") Height x 160mm (6.2992") Depth x 1.6mm (0.0629") Thickness
Form Factor	Plug in Eurocard, 3U Height, 8HP Width (1 slot), IEEE (1101.1, 101.10 and P1101.11)
Rear Connector	Metric 2.0mm grid, female connector type A is used for J1 (cPCI BUS) and J2 (Signal distribution)
Front Panel	128.5mm Height x 20.32mm Depth x 2.5mm Thickness
Weight	200g (0.44lb)
Compliance	PICMG 2.0 R 2.1

Environmental

Operating Temperature	0 to 70°C
Storage	-40 to +85°C
Humidity	5-95% non-condensing

Functional

Bus Interface	Compact PCI, 32 bit (16 bit data transfer), 33MHz
Plug and Play	Supports auto-recognition of board on power-on and plug-in; includes Device ID, Vendor ID, and configuration
Front Panel Indicators	3.3V, 5V, -15V +15V, HB, BIT
Watchdog Timer	Disables outputs (sets all outputs to inactive 0V on timeout)
I/O Protection	2A fuse on each output driver
Response Time	Write to output change – 100 us max Input change to read – 150 us max
Compliance	PICMG 2.0 R 2.1

Power

Digital Section	+3.3VDC @ 20 mA, +5VDC @ 1.36 mA from J1
I/O Section	±15VDC @ 200mA max generated from on-board 6W DC/DC

Input/Output

Number of I/O	48 points (32 input, 16 output)
Input	Single ended
Output	Single ended, ±5mA max
Range	Software selectable - 0V-10V, -5V to +5V
Resolution	12-bit
Accuracy	Full Scale of ±0.2%; Zero Volt - ±5mV

Ordering Code Example:

3U Analog I/O Card	AS00700-01
3U Rear Signal Transition Card	AS00055-01

	A	B	C	D	E
22	Reserved	Reserved	Reserved	Reserved	Reserved
21	+15V	15V Com	(Spare)	-15V	15V Com
20	AO 0	AO 1	AO 2	AO 3	AO 4
19	AO 5	AO 6	AO 7	AO 8	AO 9
18	AO 10	AO 11	AO 12	AO 13	AO 14
17	Sig. Com	Sig. Com	Sig. Com	Sig. Com	Sig. Com
16	AO 15	AI 0	AI 1	AI 2	AI 3
15	AI 4	AI 5	AI 6	AI 7	AI 8
14	AI 9	AI 10	AI 11	AI 12	AI 13
13	Sig. Com	Sig. Com	Sig. Com	Sig. Com	Sig. Com
12	AI 14	AI 15	AI 16	AI 17	AI 18
11	AI 19	AI 20	AI 21	AI 22	AI 23
10	AI 24	AI 25	AI 26	AI 27	AI 28
9	Sig. Com	Sig. Com	Sig. Com	Sig. Com	Sig. Com
8	AI29	AI 30	AI 31		
7					
6					
5					
4	24V	24V Ret	24V	24V Ret	Reserved
3	Reserved	Reserved	Reserved	Reserved	Reserved
2	Reserved	Reserved	Reserved	Reserved	Reserved
1	3.3V	3.3V	3.3V	5V	5V

cPCI J2 Signals

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