

## ISA Analog Input Board

# ISO-813

## 32-channel 12-bit 10KS/s isolated analog input board



### Functional Description

The ISO-813 is a bus-isolated 12-bit A/D board for PC/AT compatible computers. Its isolation range is increased to 3000 V that extend the application field to real industry application. It is backward compatible to 813 families. When compared with PCL-813 or ACL-8113, the ISO-813 adds x16 Programmable Gain Control range. On-board FPGA increase the stability of this board. It is the most cost effective isolated A/D board in the world. If the user need high sampling rate, differential input and FIFOs-on-board isolated A/D card, please refer to our ISO-AD32.

### Applications

- Data acquisition
- Harsh environment operation
- Signal isolation

### Specifications

#### Analog Input

- Number of channels: 32 single-ended
- Resolution: 12-bit
- ADC conversion rate: 10KS/s max
- Input impedance: 10M $\Omega$
- Over voltage protection:  $\pm 35V$
- Accuracy: 0.01% of reading  $\pm 1$  bit
- Linearity:  $\pm 1$  bit
- On chip sample & hold
- Zero drift:  $\pm 25ppm/^\circ C$  of FS max

### Features

- 32 single-ended analog input channels
- 12-bit A/D converter ( ADS 774 or equivalent)
- 3,000VDC photo-isolation protection
- Analog input range  
Bipolar : +/- 10V, +/- 5V, +/-2.5V, +/-1.25V, +/-0.625V, +/-0.3125V  
Unipolar: 0-10V, 0-5V, 0-2.5V, 0-1.25V, 0-0.625V
- Programmable gain control: 1, 2, 4, 8, 16
- Built-in 3000V DC/DC converter
- A/D trigger mode: software trigger
- A/D data transfer mode : polling

### General Specifications

- I/O connector: one 37-pin D-Sub female
- Power requirements: +5V @ 850 mA max
- Operating temperature: 0 ~ 60 $^\circ C$
- Operating humidity: 0 ~ 90% non-condensing
- Storage temperature: -20 ~ 70 $^\circ C$
- Dimensions: 174 mm x 122 mm

### Pin Assignment

AI_31	37	19	A.GND
AI_29	36	18	AI_30
AI_27	35	17	AI_28
AI_25	34	16	AI_26
AI_23	33	15	AI_24
AI_21	32	14	AI_22
AI_19	31	13	AI_20
AI_17	30	12	AI_18
A.GND	29	11	AI_16
A.GND	28	10	A.GND
AI_15	27	9	A.GND
AI_13	26	8	AI_14
AI_11	25	7	AI_12
AI_9	24	6	AI_10
AI_7	23	5	AI_8
AI_5	22	4	AI_6
AI_3	21	3	AI_4
AI_1	20	2	AI_2
		1	AI_0

### Ordering Information

#### Standard

**ISO-813:** 32-channel 12-bit 10KS/s isolated analog input board

**ISO-813/S:** ISO-813 with DB-8325

#### Optional

**DB-8325:** Daughter board with signal conditioning circuitry

**DB-37:** Directly connection terminal board

**DN-37:** DIN-rail mounting terminal board