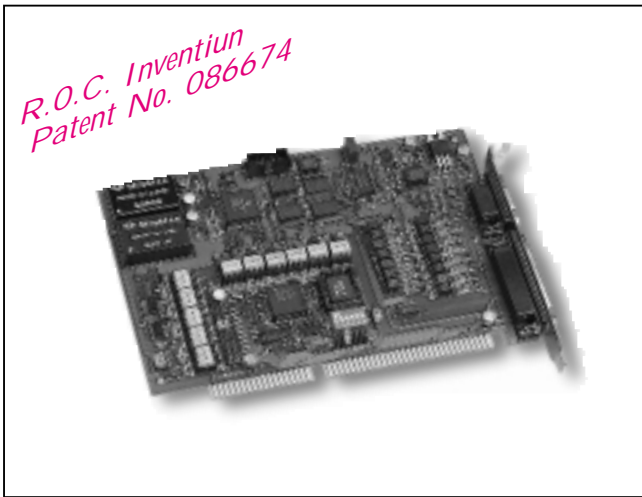




# ISO-LDH/ISO-LDL

## Isolated Strain Gauge Type Loadcell Input Board



### Functional Description

The ISO-LD series is a Bus-type isolated loadcell input board. The isolation inputs can operate with up to 500Vrms of common-mode voltage.

The ISO-LD series features a 12 bit analog-to-digital converters, on board 1 K bytes FIFO buffer, one loadcell signal input channel, one analog input channel, 8-channel 12-24V isolated digital inputs, 7-channel isolated open-collector digital outputs, one programmable 8-bit LED indicator to indicate the magnitude of strain gauge input signal. The ISO-LD series board is suitable for static force measurement and dynamic force analysis. Because there are on board excitation voltage, high gain amplifier, user don't have to buy any excitation voltage and signal conditioning module.

The board also have some special features, such as: 1). 12-bit programmable offset voltage. Therefore the user can cancel the DC bias and amplify the AC signal; 2). The isolated structure eliminate the ground loop noise and protect your computer; 3). On board FIFO buffer support gap-free A/D conversion under DOS environment; 4). Except the loadcell input channel, there are a lot digital I/O and one analog input channel. The user can implement a measurement and analysis system.

### Features

- n AT bus
- n 500 VDC photo-isolation protection
- n one strain gauge input channel
- n One analog input channel
- n Built-in 1K bytes FIFO
- n Excitation voltage for loadcell: 12V, 50mA
- n Maximum gain up to 40,000
- n Programmable 12-bit resolution, DC offset voltage (0-5V)

- n Second order low pass filter build-in
- n Direct connection to strain gauge type loadcell
- n 8-channel 12-24V isolated digital input
- n 7-channel isolated open-collector digital output
- n Programmable 8 bits LED indicator
- n Command set programming

### Applications

- n Strain gauge type loadcell measurement
- n Dynamic force on line monitoring system
- n Dynamic pressure measurement

### Specifications

#### n Analog Input Specifications

- Channels: 1 loadcell input channel & 1 analog input channel
- Resolution: 12-bits
- Conversion rate: 16 KS/s max
- Nonlinearity: +/- 0.01 %
- Gain error: 0.005% of reading maximum
- Input Impedance: 10,000MΩ | 6pF
- bias current: +/- 3 nA (maximum)
- Input offset current: +/- 2 nA (maximum)
- CMRR: 90 dB ( Minimum)
- Recommended warm-up time: 10 minutes
- On chip sample & hold

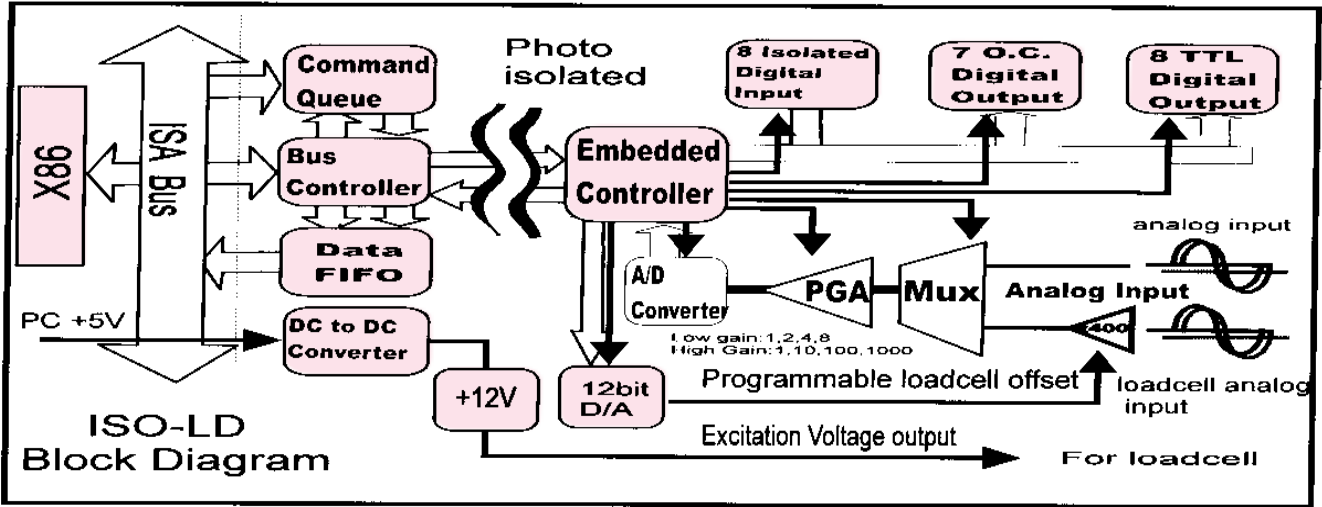
#### n ISO-LDH Input Range

- Analog input range: 0~10V, 0 ~1V, 0~0.1V, 0~0.01V
- Strain Gauge input range: 0 ~ 37.5mV
- Resolution

Gain	Input range(mV)
400	0~37.5
4,000	0~15
40,000	0~12.75

#### n ISO-LDL Input Range

- Normal input range: 0~10V, 0~5V, 0~2.5V, 0~1.25V
- Loadcell input range: 0 to 37.5mV
- Loadcell offset voltage adjustment: 0 to -5V, 8-bit
- Resolution



Gain	Input range(mV)
400	0~37.5
800	0~25
16,00	0~18.75
3,200	0~15.625

- **Loadcell Offset Voltage Adjustment**  
0 to -5V, 12-bit resolution
- **Digital I/O**  
8 photo-isolated 12~24V digital input  
7 isolated open-collector digital output (100mA)  
8 TTL/LED output

### Software

- ISO-LD Development Toolkit for DOS

### Order Description

- ISO-LDH: High gain loadcell input and digital I/O board
- ISO-LDL: Low gain loadcell input and digital I/O board

### Options

- DN-25 I/O Connector block with DIN rail mounting
- S-50: S type loadcell

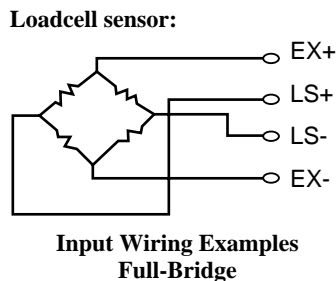
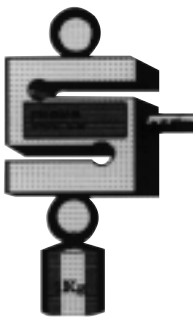
### S TYPE LOADCELL SENSORS

There are a lot Strain Gauge type LOADCELL sensors available for the ISO-LD board. The user can find the S-50 Loadcell from options to match ISO-LD board to implement a loadcell measurement starter kit.

### Specifications

- Capacity: 60Kg
- Rated Output: 2 mV/V
- Total error: 0.05%
- Repeatability: 0.03%
- Creep: 0.05%/30 min
- Resolution: 1/10,000
- Input Resistance: 410 +/- 15Ω
- Output Resistance: 350 +/- 5Ω
- Max. Excitation Voltage: 20V
- Compensated Temperature Range: -10°C ~ 50°C
- Safe Temperature Range: -20°C ~ 70°C
- Temp. Effect on Rate Output: 0.03% Load/10°C
- Zero Balance: ±5% R.O.
- Safe Overload Rating: 150%
- Cable Length: 2M
- Cable connection: Input:Red(EX+), Black(EX-)  
Output: Green(LS+), White(LS-)

### Free: Application notes - A002



- Power Requirements: +5V @400mA(max)
- General Environment
- Operating temp: 0-50°C
- Storage temp: -20°C to 70°C
- Humidity: 0 to 90%
- Dimensions: 190 mm x 105 mm

EX+ : Excitation Voltage +  
LS+ : Loadcell+  
LS- : Loadcell-  
EX- : Excitation Voltage-