

## PCI-PID01

### PCI Proportional-Integral-Derivative Controller board



#### INTRODUCTION

A proportional-integral-derivative controller (PID controller) is a generic control loop feedback mechanism widely used in industrial control systems.

#### GENERAL DESCRIPTION

- ◆ PCI Specification V2.2 32bit 33MHz 5V/3.3V Compatible
- ◆ Load Cell / LVDT Analog Input
- ◆ 20-Bit Max. 52ksps ADC
- ◆ 16-Bit Max. 3Msps DAC
- ◆  $\pm 10V$  PID AMP Output
- ◆ PWM UP/DOWN Output
- ◆ 3 Phase Encoder Input
- ◆ 4 Channel Digital Input/Output

#### APPLICATION

- ◆ Data acquisition
- ◆ Laboratory instrumentation
- ◆ Process control systems

#### SOFTWARE

- **Operating System**
  - Windows 2000/XP/7/8/10 (32/64bit)
- **Recommended Software**
  - Visual basic/C++ with Board API(DLL)

#### SPECIFICATION

##### ■ Analog Input (ADC)

- Number of Channels : 4
- Maximum Input Range :  $\pm 10V$
- Resolution : 20 Bit
- Sampling : 5 ~ 10,000sps
- Channel 0,1 : Load Cell, Displacement Sensor Input, Variable Amplification
- Channel 2 (CMD) : Control Signal
- Channel 3 (AMP) : Process Signal

##### ■ Analog Control Signal (DAC)

- Number of Channels : 1
- Resolution : 16 Bit
- Maximum Update : 3Msps
- Output Frequency : 0.00001 ~ 1000Hz

##### ■ Analog Output (AMP\_OUT)

- Number of Channels : 1
- Output Level :  $\pm 10V$
- Output Amplification Control : Digital Potentiometer
- Output Method : Voltage / Current Control

##### ■ Encoder Input

- Number of Channels : 1
- Isolated A/B/Z (3-Phase)
- Signal : Isolated Differential Line Driver Input

■ **PWM Output**

- Number of channels : 1 (UP/DOWN)
- Signal : Isolated Differential Line Driver Input

■ **Digital Input**

- Number of channels : 4
- Input Range : Isolated 12V ~ 24VDC

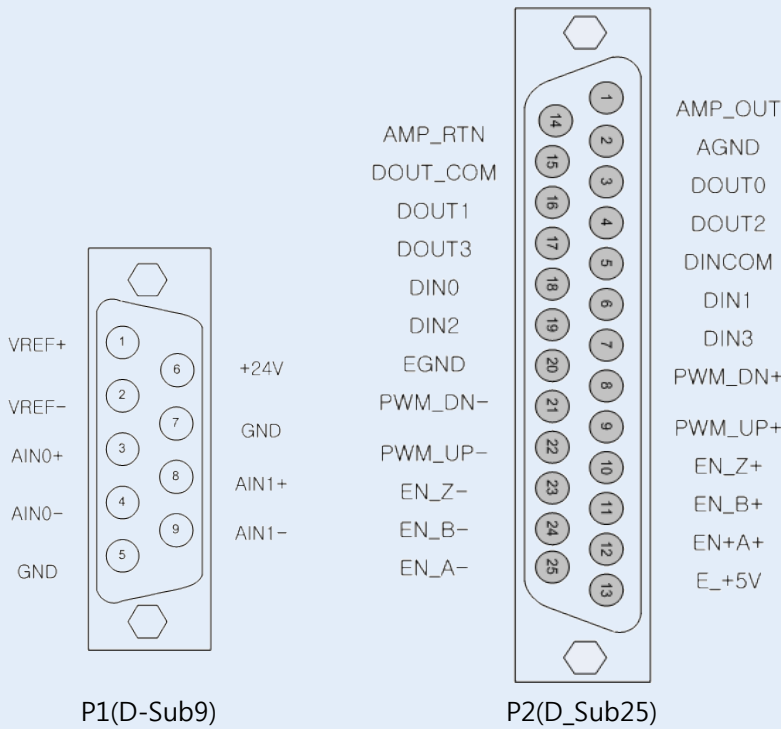
■ **Digital Output**

- Number of channels : 4
- Output Range : Isolated 12V ~ 24VDC

**PHYSICAL/ENVIRONMENTAL**

■ **Dimension**

- Connector  
P1, D-SUB-9S Female Type : Analog Input from control device  
P2, D-SUB-25P Male Type : Analog Output (AMP), Digital In/Out, Encoder Input
- Dimension (not including Bracket) : 157mm x 100 mm



■ **Temperature**

- 0 to 60°C, Operating
- -20 to 80°C Storage

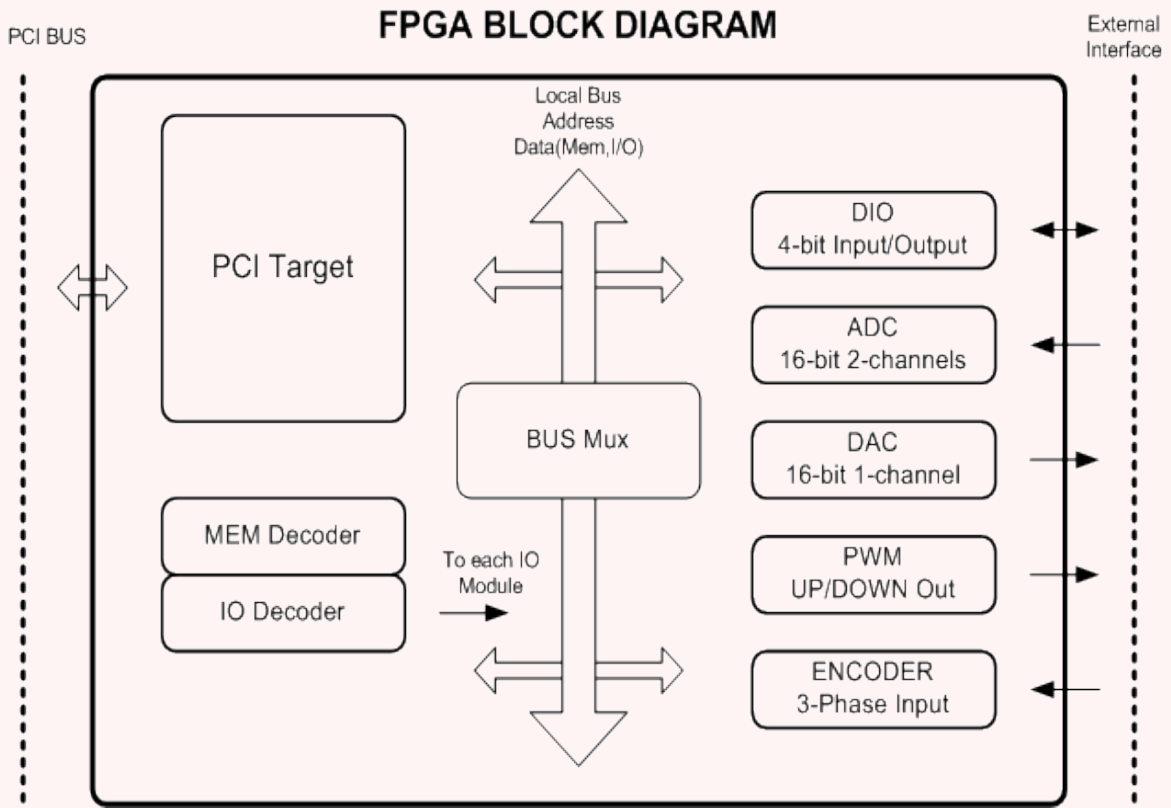
■ **Relative Humidity**

- 5 to 95%, Non-considering

■ **Power Requirement**

- +5VDC(±5%) at Max. 250mA typical

**BLOCK DIAGRAM**



■ **Function**

