

PISO-PS600

PCI Bus, High-speed, DSP-based,
6-axis Motion Control Card with FRnet Master

Features

- DSP-based motion control card with PCI interface
- Independent 6-axis motion control
- Support both full-closed and semi-closed control modes
- Pulse Output Rate: 4 MHz (Max.)
- Maximum Encoder input frequency: 12 MHz
- 4-step home mode with auto-searching
- 2- to 6-axis linear/2- to 3-axis circular interpolation function
- Programmable T/S-curve acceleration and deceleration
- Change speed and position on the fly
- High-speed position latch and compare trigger
- Fully-functional manual-pulse-generator and jog functions
- Expandable remote I/O:
  128 DI and 128 DO via a two-wire FRnet interface

Introduction

The PISO-PS600 controller combines a new generation 1600 MIPS digital signal processor with a 9526 logic element FPGA (Field Programmable Gate Array), I/O buffering circuitry, and motion control characterization software to control the position of 6-axis pulse command servo/stepper motors. The PISO-PS600 not only realizes motion control using full-closed loop (or semi-closed loop) operations and error handling, but also adopts feed-forward gain to reduce the speed profile following errors to achieve position control.

The PISO-PS600 can be used on any IPC with a PCI bus, and is suitable for general-purpose motion control applications. This card also contains one FRnet port which allows the fast digital I/O of the IPC to be easily expanded. This two-wired FRnet interface allows a maximum 128 DI and 128 DO channels, which are automatically scanned within a period of 0.72 ms. In additions to its wide speed range, this intelligent motion controller also has a variety of built-in motion control functions, such as 2- to 6-axis linear interpolation, 2- to 3-axis circular interpolation, T/S-curve acceleration/deceleration, and automatic homing, etc.

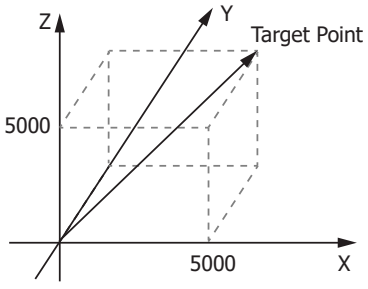
Specifications

Model	PISO-PS600
Software	
OS Support	Windows 7/10 32/64-bit Windows XP/2000 32-bit
Utility	EzGo Utility
Hardware	
Connector	68-pin VHDCI Connector and 20-pin SCSI-II
General	
No. of Axes	6
Operation Mode	Full-closed Loop, Semi-closed Loop
Speed Profile	T/S-curve
Servo Update Rate	2 KHz
Position Control Mode	Incremental mode and Absolute mode
Command Type	Pulse Command
Axis I/O	
Servo Interface Output	SVON, ALM_RST, ERC
Latch Input	High-Speed 5 V or 24 V NPN
Mechanical Switch Input	Home, LMT+/-, NHOME, EMG
Position Compare Output	High-Speed 5 V TTL or 24 V open collector
Servo Interface Input	INP, ALM, RDY
Encoder Input	
Ring Counter Mode	32-bit
Mode	A/B Phase, Up/Down
Counting Rate	12 MHz (Max.)

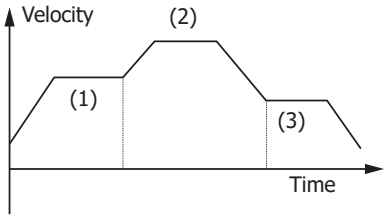
Model	PISO-PS600
Counter Width	32-bit
Pulse Output	
Mode	CW/CCW, PULSE/DIR
Rate	4 MHz (Max.)
Interpolation	
Cicular	Any 2 axes
Helical	Any 3 of 6 axes
Linear	Any 2 to 6 of 6 axes
Digital Input	
Channels	Local: 12 DI Expandable: 128 DI
Isolation (with DN-8368)	2500 Vrms optical isolation
Digital Output	
Channels	Local: 3 DO Expandable: 128 DO
Isolation (with DN-8368)	2500 Vrms optical isolation
PC Bus	
Type	Universal PCI Bus
Power	
Consumption	+5 V @ 500 mA
Environment	
Operating Temperature	0 ~ +60 °C
Storage Temperature	-20 ~ +80 °C
Humidity	5 ~ 85% RH, Non-condensing

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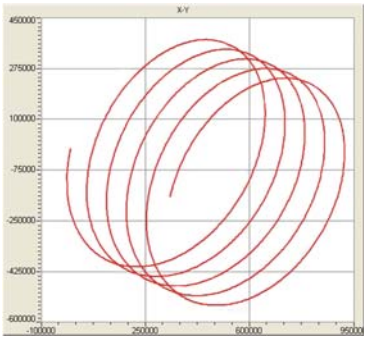
Features of Motion Function



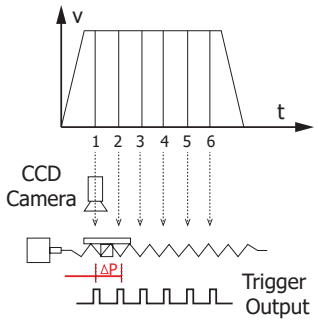
2 to 6-Axis Linear Interpolation



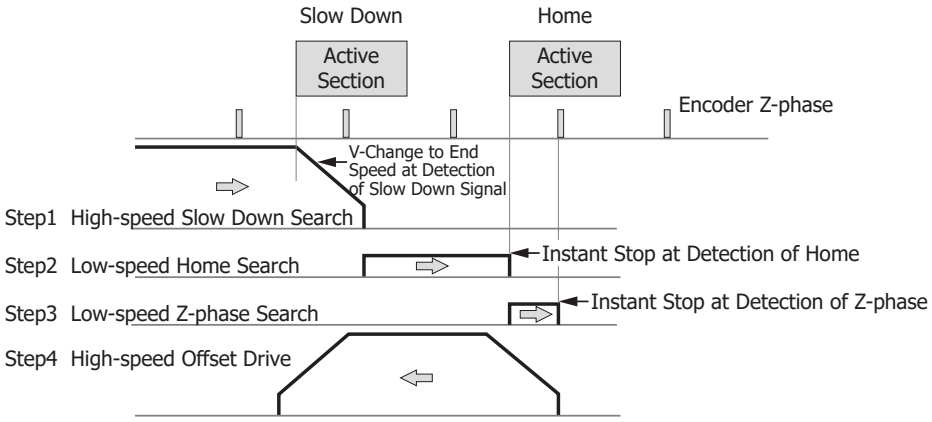
Multi-Axis Continuous Interpolation
(With Acc. and Dec.)



3-Axis Circular or Helical Interpolation



High Speed Position Compare



4 Steps Automatic Home Searching

Ordering Information

PISO-PS600	Universal PCI Bus, High-Speed, DSP-based, 6-axis Motion Control Card with FRnet Master



Huge Command Buffer and Real Time Coordinate Transformation Suitable for Robotic Control

Accessories

DN-8368UB	Photo-isolated Universal Snap-on wiring terminal board
DN-8368GB	Photo-isolated General-purpose wiring terminal board
DN-8368MB	Photo-isolated Snap-on wiring terminal board for Mitsubishi MELSERVO-J2 servo amplifier
DN-20M	Manual-Pulse-Generator (MPG) and FRnet Input Board for PISO-PS600/VS600/PMDK (RoHS)
CA-MINI68-15	68-pin VHDCI to SCSI-II Connector Cable, Length 1.5 M
CA-SCSI20-M1 CA-SCSI20-M3 CA-SCSI20-M5	20-pin SCSI-II Male connector cable (for Mitsubishi J2 series motor), Length 1 M / 3 M / 5 M

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