



## PISO-PS410

PCI Bus, High-speed 4-axis Motion Control Card  
with FRnet Master

### Features

- Independent 4-axis motion control
- Support for hand wheel and jog functions
- 4-step home modes with auto-searching
- 2/3-axis linear interpolation function
- 2-axis circular interpolation function
- Programmable T/S-curve acceleration and deceleration
- Programmable ring counter
- Alarm reset and error counter clear output (ERC)
- High-speed auto incremental and auto reloadable compare output (CMP)
- Expandable remote I/O:  
128 DI and 128 DO via a two-wire FRnet interface



### Introduction

The PISO-PS410 is a 4-axis stepping/pulse-type servo motor control card that can be used on any IPC with a 5 V or 3.3 V PCI bus, and is suitable for general-purpose motion control applications. This card equipped with one FRnet Master which allows the fast remote I/O of the IPC to be expanded easily. The two-wired FRnet interface allows a maximum 128 DI and 128 DO channels, which are automatically scanned within a period of 0.72 ms.

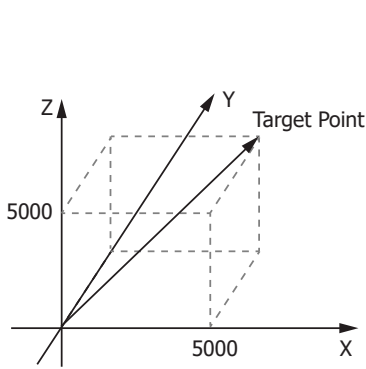
In addition to its wide speed range, this intelligent motion controller also has a variety of motion control functions built in, such as 2/3-axis linear interpolation, 2-axis circular interpolation, T/S-curve acceleration/deceleration, numerous synchronous actions, automatic homing, and others. A major advantage is that the majority of the PISO-PS410 motion control functions are performed by the high-performance motion ASIC with little load on the processor. The motion status, FRnet I/O, and the other I/O cards on the IPC can still be monitored while driving the motors. As the low CPU loading requirements of the PISO-PS410 is minimal, one or more motion cards can be used with a single IPC. ICP DAS also provides a variety of functions and examples that can be used to reduce the need for additional programming, making it a highly cost-effective solution for motion control application developers.

### Specifications

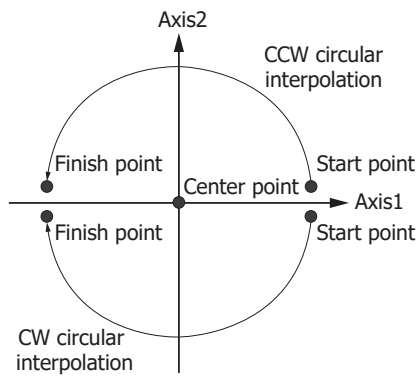
Model	PISO-PS410
<b>Software</b>	
OS Support	Windows 7 32/64-bit Windows XP/2000 32-bit
Utility	EzGo Utility
<b>Hardware</b>	
Connector	100-pin SCSI-II
<b>General</b>	
No. of Axes	4
Operation Mode	Semi-closed Loop
Synchronous Action	10 activation factors and 14 actions
Speed Profile	T/S-curve
Position Control Mode	Incremental mode and Absolute mode
Command Type	Pulse Command
<b>Axis I/O</b>	
Servo Interface Output	SVON, ALM_RST, ERC
Mechanical Switch Input	Home, LMT+/-, NHOME, EMG
Position Compare Output	High-Speed 5 V TTL or 24 V open collector (2 of any 4 axes)
Servo Interface Input	INP, ALM
<b>Encoder Input</b>	
Ring Counter Mode	32-bit
Mode	A/B Phase, Up/Down
Counting Rate	4 MHz
Counter Width	32-bit

Model	PISO-PS410
<b>Pulse Output</b>	
Mode	CW/CCW, PULSE/DIR
Counter Width	32-bit
Rate	4 MHz (Max.)
<b>Interpolation</b>	
Circular	Any 2 axes
Linear	Any 2 to 3 of 4 axes
<b>Digital Input</b>	
Channels	Local: 4 DI Expandable: 128 DI
Isolation	2500 Vrms optical isolation
<b>Digital Output</b>	
Channels	Local: 4 DO Expandable: 128 DO
Isolation	2500 Vrms optical isolation
<b>PC Bus</b>	
Type	Universal PCI Bus
<b>Power</b>	
Consumption	+5 V @ 500 mA
<b>Environment</b>	
Operating Temperature	-20 ~ +75°C
Storage Temperature	-30 ~ +85°C
Humidity	5 ~ 85% RH, Non-condensing

## Features of Motion Function

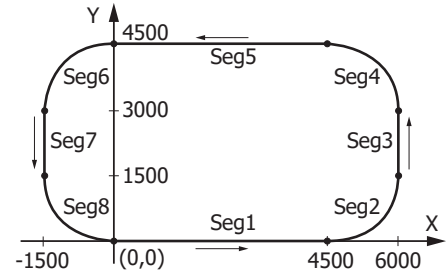


2 or 3-Axis Linear Interpolation

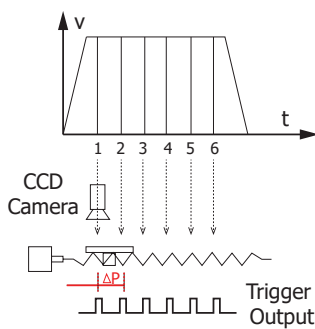


2-Axis Circular Interpolation

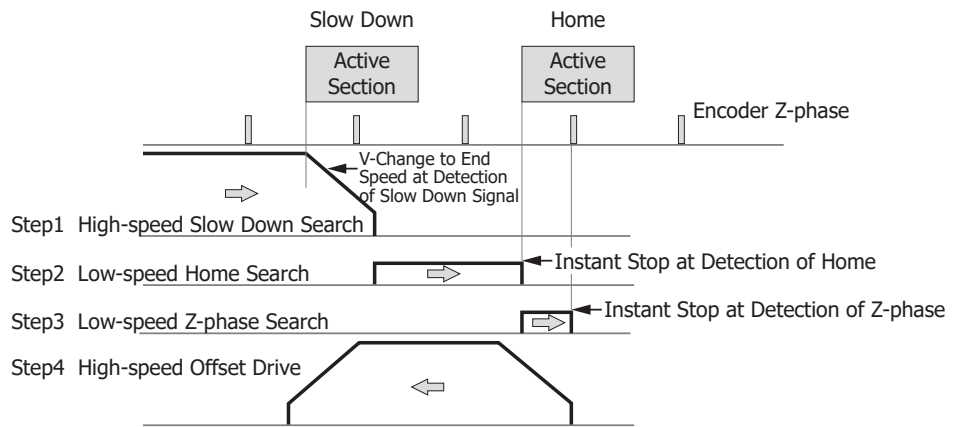
8 Segments Continuous Interpolation Motion (Linear + Circular)



Continuous Interpolation



High Speed Position Compare



4 Steps Automatic Home Searching

## Ordering Information

<b>PISO-PS410</b>	Universal PCI Bus, High-speed 4-axis Motion Control Card with FRnet Master
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## Accessories

DN-84100U	Universal Snap-on Wiring Terminal Board for PISO-PS410 and PISO-PS810
CA-SCSI100-15	SCSI-II 100-pin & 100-pin Male Connector Cable, Length 1.5 M