I-8094H-G

High-speed 4-axis Motion Control Module with FRnet Master & Internal CPU

Features

- Independent 4-axis motion control
- Support for hand wheel and jog functions
- 2/3-axis linear / 2-axis circular interpolation function
- Continuous interpolation function
- Programmable T/S-curve acceleration and deceleration
- A maximum pulse output rate of 4 Mpps for each axis
- Pulse Output Types: CW/CCW or PULSE/DIR
- 32-bit encoder counter for each axis
- Encoder Pulse Input Types: A/B Phase or Up/Down
- Programmable automatic homing for each axis
- Position comparison management and software limits
- A wide range of synchronous actions (event-triggered actions)
- Expandable Remote I/O: 128 DI and 128 DO via a two-wire FRnet interface

Introduction

The **I-8094H** is a 4-axis stepping/pulse-type servo motor control module that can be used on any of the ICP DAS PAC series controllers, and is suitable for general-purpose motion applications. The I-8094H has the full functions of the I-8094A with the addition of an FRnet port, which allows the fast remote I/O of the module to be expanded easily. This two-wired FRnet can automatically scan its 128 DI and 128 DO channels within a period of 2.88 ms.

The internal CPU allows the module to be used to perform motion operations without requiring a PAC. When working with a PAC, it also allows users to perform additional functions by integrating user-defined subroutines (Macro functions) from an external source, meaning that customized proprietary processes (know-how) can be embedded in the module. The I-8094H module also contains a high-performance motion ASIC.

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 I-8094H motion control functions are performed by the high-performance motion ASIC with little load on the processor. While driving the motors, the motion status, and the status of the other I/O channels on the PAC modules, can still be monitored.

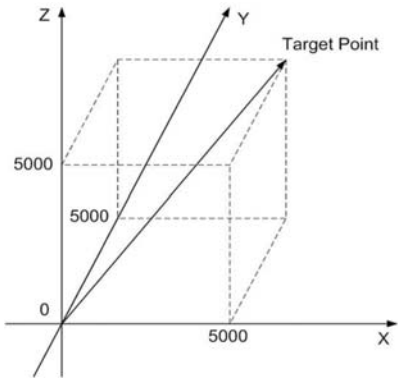
As the CPU loading requirements of the I-8094H is minimal, one or more motion modules may be used with a single PAC controller. ICP DAS also provides a variety of functions and examples that can be used to reduce the need for additional programming by users, making it a highly cost-effective solution for motion control application developers.

Specifications

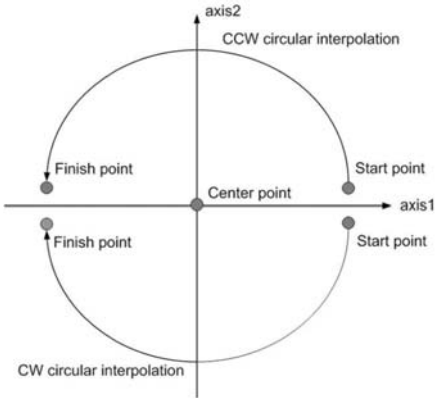
Model	I-8094H-G
General	
Number of Axes	4
Pulse Output Rate	4 MHz (Max.)
Command Type	Pulse Command
Resolution	32-bit
Pulse Output Mode	CW/CCW, PULSE/DIR
Operation Mode	Semi-closed Loop
Linear Interpolation	Any 2 to 3 of 4 axes
Circular Interpolation	Any 2 axes
Speed Curve Profile	T/S-curve
Motion Relative I/O	Home, LMT+/-, NHOME, EMG, INP, ALM, SVON
Synchronous Action	10 activation factors and 14 actions
Ring Counter Mode	32-bit
Position Control Mode	Incremental mode and absolute mode
Position Compare Trigger	10 KHz
Encoder Interface	A/B pulse, Up/Down
Encoder Counter	32-bit

Model	I-8094H-G
Encoder Counting Rate	4 MHz (Max.)
Digital Input Channels	Expandable : 128 DI
Digital Output Channels	Expandable : 128 DO
I/O Isolation (with DN-8468)	2500 Vrms optical isolation
Connector	68-pin SCSI-II connector
Power Consumption	+5 V @ 500 mA
Macro Functions	•User-defined subroutines •The contents of subroutines can be different depending on the users custom designs •Functions can be loaded as a macro on-line •Macro can be run as default function calls •User's know-how can be maintained in privacy
Environmental	
Operating Temperature	-20 ~ +75°C
Storage Temperature	-30 ~ +85°C
AmbientRelativeHumidity	5 ~ 90% RH, non-condensing

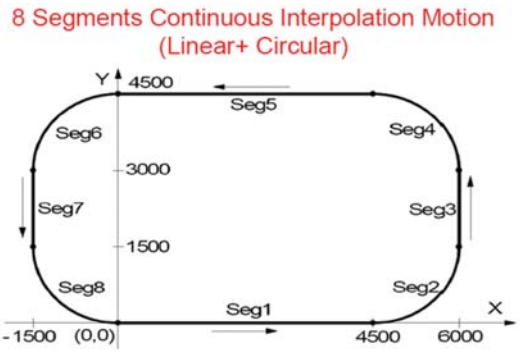
Features of Motion Function



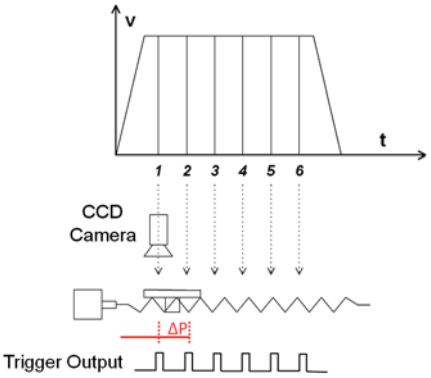
2 or 3-Axis Linear Interpolation



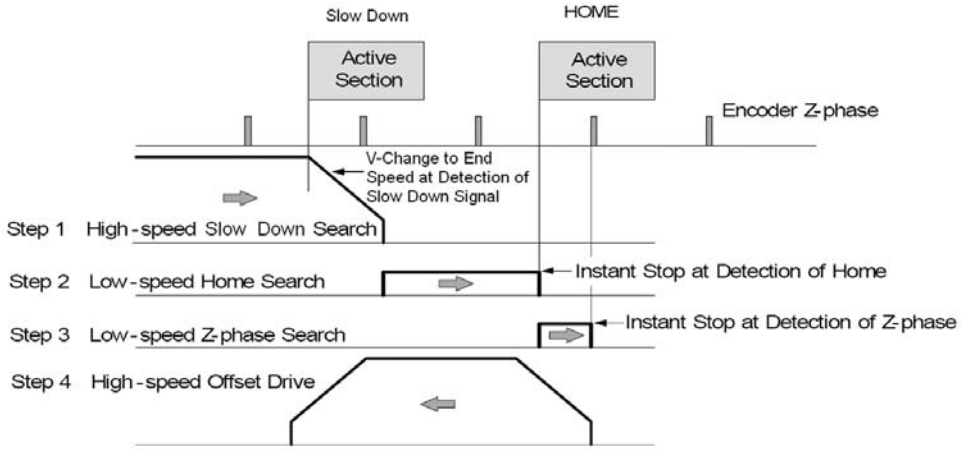
2-Axis Circular Interpolation



Continuous interpolation



High Speed Position Compare



4 Steps Automatic Home Searching

Ordering Information

I-8094H-G	High-speed 4-axis Motion Control Module with FRnet Master and Internal CPU

Accessories

DN-8468UB	Photo-isolated Universal Snap-on Wiring Terminal Board
DN-8468GB	Photo-isolated General Purpose Wiring Terminal Board
DN-8468MB	Photo-isolated Snap-on Wiring Terminal Board for Mitsubishi MELSERVO-J2 Servo Amplifier
DN-8468PB	Photo-isolated Snap-on Wiring Terminal Board for Panasonic MINAS A4/A5 Servo Amplifier
DN-8468YB	Photo-isolated Snap-on Wiring Terminal Board for Yaskawa Sigma II/III/V Servo Amplifier
DN-8468DB	Photo-isolated Snap-on Wiring Terminal Board for Delta ASDA-A Servo Amplifier
DN-8468FB	Photo-isolated Snap-on Wiring Terminal Board for Fuji FALDIC-W Servo Amplifier
CA-SCSI15-H2 CA-SCSI30-H2 CA-SCSI50-H2	68-pin SCSI-II Male-Male Connector Cable, Length 1.5 M / 3.0 M / 5.0 M