

I-8094F-G / I-9094F

High-speed 4-axis Motion Control Module
with FRnet Master

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-8094F and I-9094F are 4-axis stepping/pulse-type servo motor control modules that can be used on the programmable automation controller (PAC) series provided by ICP DAS, and are suitable for general-purpose motion applications. The I-8094F/I-9094F have the full functions of the I-8094/I-9094 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. In addition to their wide speed range, these intelligent motion controllers also have 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-8094F/I-9094F 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-8094F/I-9094F is minimal, one or more motion modules may be used with a single PAC controller. ICP DAS also provides a wide range 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.

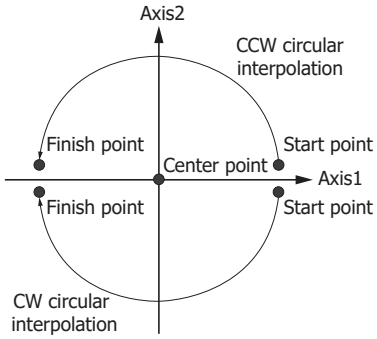
Specifications

Model	I-8094F-G	I-9094F
Software		
Development	Visual C++ lib/DLL C#, VB.Net DLL Visual Basic 6.0	
Utility	EzGo Utility	
Hardware		
Connector	68-pin SCSI-II connector	
General		
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	
Auto-Home Search	Yes	
Input Signal Filter	2 ~ 16 ms, 8 stages	
Axis I/O		
Servo Interface Output	SVON	
Manual Pulse Generator	Yes	
Mechanical Switch Input	Home, LMT+/-, NHOME, EMG	
Position Compare Output	10 KHz (X and Y only)	
Servo Interface Input	INP, ALM	
Encoder Input		
Ring Counter Mode	32-bit	

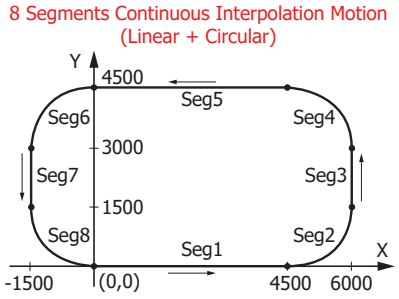
Model	I-8094F-G	I-9094F
Mode	A/B Phase, Up/Down	
Counting Rate	4 MHz (Max.)	
Counter Width	32-bit	
Pulse Output		
Mode	CW/CCW, PULSE/DIR	
Counter Width	32-bit	
Rate	4 MHz (Max.)	
Interpolation		
Cicular	Any 2 axes	
Continuous	Yes	
Linear	Any 2 to 3 of 4 axes	
Digital Input		
Channels	Expandable : 128 DI	
Isolation (with DN-8468)	2500 Vrms optical isolation	
Digital Output		
Channels	Expandable : 128 DO	
Isolation (with DN-8468)	2500 Vrms optical isolation	
Power		
Consumption	+5 V @ 500 mA	
Environment		
Operating Temperature	-20 ~ +75°C	
Storage Temperature	-30 ~ +85°C	
Humidity	10 ~ 90% RH, Non-condensing	

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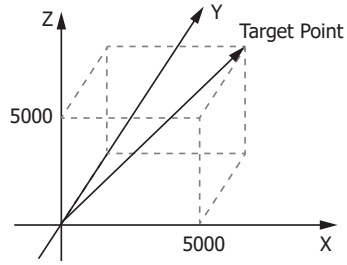
Features of Motion Function



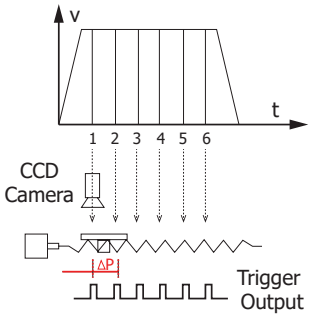
2-Axis Circular Interpolation



Continuous Interpolation



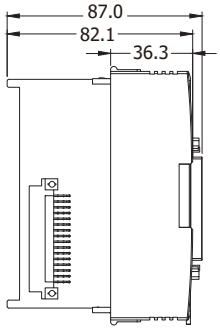
2 or 3-Axis Linear Interpolation



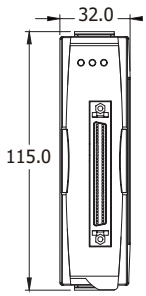
High Speed Position Compare

Dimensions (Units: mm)

I-8094F-G

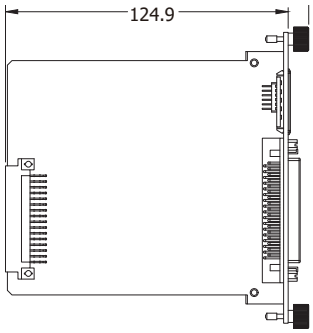


Left Side View

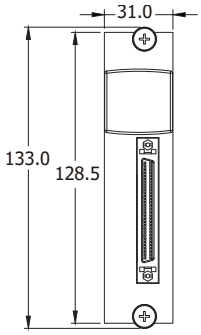


Front Side View

I-9094F

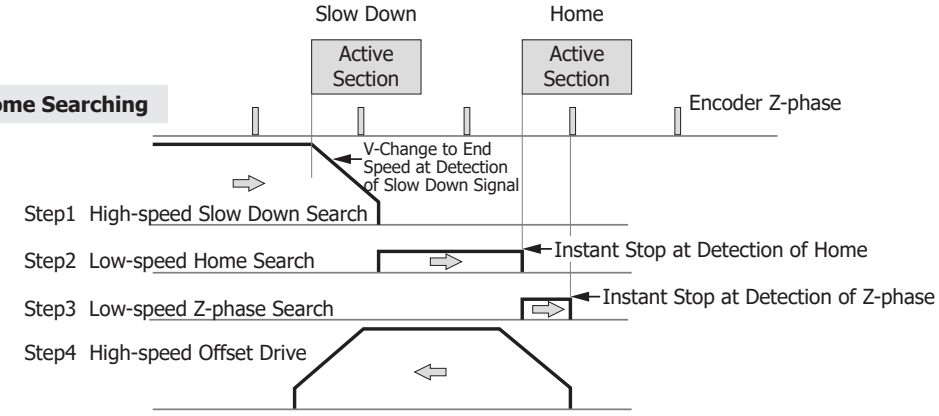


Left Side View



Front Side View

4 Steps Automatic Home Searching



Ordering Information

I-8094F-G	High-speed 4-axis Motion Control Module with FRnet Master (For XP-8000/WP-8000 PAC)
I-9094F	High-speed 4-axis Motion Control Module with FRnet Master (For XP-9000/WP-9000 PAC)

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-H3 CA-SCSI30-H3 CA-SCSI50-H2	68-pin SCSI-II Male-Male Connector Cable, Length 1.5 M / 3.0 M / 5.0 M

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