ET-M8194H

Ethernet Remote Unit with High-speed 4-axis Motion Control Module

Features:

■ Remote control via Modbus TCP

■ Can be controlled using SCADA, PAC or PLC, etc.

■ Can be integrated into multi-station, multi-axis applications

■ 4-axis motion control capability

■ 2/3-axis Linear Interpolation Function

■ 2-axis Circular Interpolation Function

■ Programmable Automatic Homing function

■ EzMove Utility for configuration and macro programming

■ Test motion functions via EzMove without compilation

■ API Library for rapid development of applications

■ Easy wiring for multi-station applications

■ IP_lock function for remote control security

Introduction:

The ET-M8194H is a new product from ICP DAS that can be used to implement remote control functionality via the Ethernet and includes an I-8094H module (a 4-axis stepping/pulse-type servo motor control module with an embedded CPU) and an Ethernet communication interface. The intelligent ET-M8194H can provide users with the ability to develop a wide range of remote motion control applications, and can be integrated in any system where the host platform is built on the Modbus TCP protocol (for example: PC, PAC or PLC). In addition, implementing a multi-station, multi-axis motion control solution can easily be achieved by cascading several ET-M8194H devices using Ethernet cables, either with or without Ethernet switches. ICP DAS also provides the EzMove Utility and an API Library that can be used to configure the ET-M8194H and to rapidly develop customized control applications.

Hardware Interface:

ET-M8194H Interface Functions

Software Supported: ET-M8194H SDK

EzMove Utility

EzMove is a configuration utility developed by ICPDAS for the ET-M8194H controller. It is intended to perform motion control tasks and movement test on equipment without the need to first create customized applications. As the ET-M8194H is a Modbus client, the EzMove Utility can be used to create and edit Macro Programs (MP), which can then be uploaded to the ET-M8194H. The EzMove Utility can also display and plot position/velocity of all four axes as well as display Modbus TCP messages for easy reference.

API Library

The ET-M8194H API Library is composed of nine groups of functions, which can be utilized to edit Macro Programs (MP) and send Modbus TCP commands required to control or configure the I-8094H. The library provide users with the ability to simultaneously control a large number of ET-M8194H from the PC.

DLL and libraries for the following development environments are provided:

- Visual C++
- BCB 5.0, 6.0
- C#, VB.NET
- Visual Basic 6.0

Specifications:

Interpolation Functions	Linear Interpolation (Interpolation Speed: 4 Mpps): 32-bit max. for any single command Circular Interpolation (Interpolation Speed: 4 Mpps): 32-bit max. for any single command Continuous Interpolation (Interpolation Speed: 2 Mpps): Yes
Drive Speed Curve	Maximum Drive Speed: 4 Mpps Constant Speed Driving Trapezoidal Acc/Dec Driving Asymmetrical Trapezoidal Driving Asymmetrical Trapezoidal Automatic Deceleration Driving S-curve Acc/Dec Driving Asymmetrical S-curve Driving
Position Control	Logic Position Counter/Bit Length for output pulse: 32-bit Real Position Counter/Bit Length for output pulse: 32-bit Position Compare Register Number/Axis: 2 Software Limit Position Counter Variable Ring
Auto-Home Search	Individual configuration (4-step) for each axis including irregular operation handling
Synchronous Action	10 activation factors (provocatives or events) and 14 actions
External Signal for Driving	Fixed/Continuous Pulse Output Manual Pulse
Other Functions	Drive Speed/Output Pulse Number Change during Driving Triangle Form Prevention of Speed Curve
Servo Motor Signal	Servo Ready and Alarm Input Signals/Axis Servo Enable Output/Axis
Other Input Signals	IN0 (Near Home), IN1 (Home), IN2 (Z-phase), IN3/Axis Emergency Signal
Input Signal Integral Type Filter	Filter Time Constant: 2 ~ 16 ms, 8 stages
Environmental	Operating Temperature: -20 ~ +75°C Storage Temperature: -30 ~ +85°C Operating Humidity: 10 ~ 85% RH, non-condensing Storage Humidity: 5 ~ 90% RH, non-condensing
FRnet Interface	Max. 128 DI and 128 DO channels Hardware auto-scan I/O every 0.72 ms Two-wire Serial Bus to reduce wiring needs Max. communication distance: 100 M A wide range of FRnet I/O terminal boards and modules are available

Applications:

- ➡ X-Y-Z Table
- ➡ Fix-Pitch Stamping Machine
- ➡ Transfer Machine
- ➡ Spinner
- ➡ Loader/Unloader

Ordering Information/Accessories:

Model No.	Description
ET-M8194H	Ethernet Remote Automation Unit with High-speed 4-axis Motion Control Module
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-H / CA-SCSI30-H / CA-SCSI50-H	68-pin SCSI-II Connector Cable; Length 1.5 M / 3.0 M / 5.0 M

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