

# ET-M8194H

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

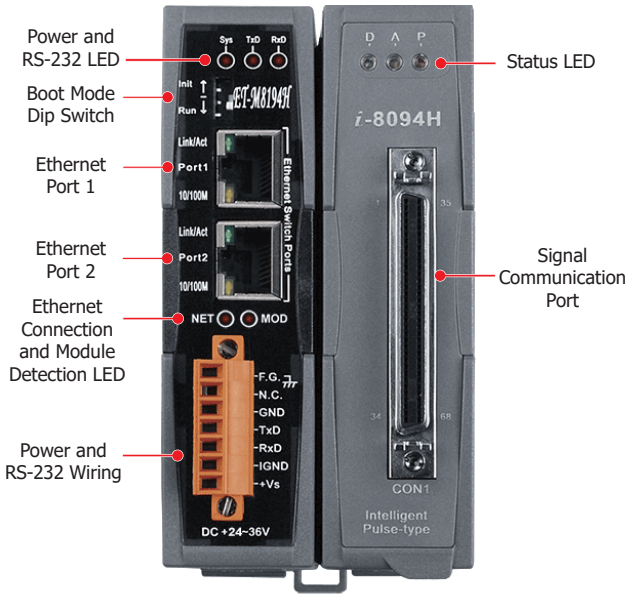
## Features

- Remote control via Modbus TCP
- Can be controlled using SCADA, PAC, or PLC
- 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
- Library for rapid development of applications
- Easy wiring for multi-station applications
- Can be set as a remote or stand-alone motion controller
- Supports high-speed FRnet I/O: 128 DO and 128 DI

## 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




**ET-M8194H Interface Functions**

## Software Supported: ET-M8194H SDK

### EzMove Utility



EzMove is a configuration utility developed by ICP DAS 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 EzMove Utility is a Modbus client, it 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 provides 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



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## Specifications

| Model | ET-M8194H |
|---|---|
| **Software** | |
| OS Support | Windows 7/8/10<br>32/64 bit |
| Development | Visual C++ lib/DLL, C#,<br>VB.Net DLL, Visual Basic 6.0,<br>BCB 5.0, 6.0<br>Macro Programming |
| Utility | EzMove Utility |
| **Hardware** | |
| Connector | 68-pin SCSI-II |
| **General** | |
| No. of Axes | 4 |
| Motion Control Type | IC Chip Based |
| Synchronous Action | 10 activation factors and 14 actions |
| Speed Profile | T/S-curve |
| Position Control Mode | Incremental<br>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 |
| Latch Input | Yes |
| Manual Pulse Generator | Yes |
| Mechanical Switch Input | Home, Limit+/-, Near Home, Emergency |
| Position Compare Output | 10 KHz (X and Y only) |
| Servo Interface Input | INP, ALM |
| **Encoder Input** | |
| Mode | A/B Phase, Up/Down |

| Model | ET-M8194H |
|---|---|
| Ring Counter Mode | 32-bit |
| Counting Rate | 4 MHz |
| Counter Width | 32-bit |
| **Pulse Output** | |
| Mode | CW/CCW, PULSE/DIR |
| Counter Width | 32-bit |
| Rate | 4 MPPS (Max.) |
| **Interpolation** | |
| Cicular | Any 2 axes (one group only) |
| Continuous | Yes |
| Linear | Any 2 to 3 axes (one group only) |
| **Digital Input** | |
| Channels | Local: 4 DI<br>Expandable: 128 DI |
| Isolation | 2500 Vrms (with DN-8468) |
| **Digital Output** | |
| Channels | Expandable: 128 DO |
| Isolation | 2500 Vrms (with DN-8468) |
| **Ethernet** | |
| Protocol | Modbus TCP |
| **Power** | |
| Input Range | +24V |
| **Mechanical** | |
| Dimensions (mm) | 65 x 121 x 99 (W x L x H) |
| **Environment** | |
| Operating Temperature | -20 ~ +75°C |
| Storage Temperature | -30 ~ +85°C |
| Humidity | 10 ~ 90% RH, Non-condensing |

## Applications

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

## Ordering Information

| | |
|---|---|
| **ET-M8194H** | Ethernet Remote Automation Unit with High-speed 4-axis Motion Control Module |

## 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<br>CA-SCSI30-H3<br>CA-SCSI50-H2 | 68-pin SCSI-II Connector Cable; Length 1.5 M<br>68-pin SCSI-II Connector Cable; Length 3.0 M<br>68-pin SCSI-II Connector Cable; Length 5.0 M |



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