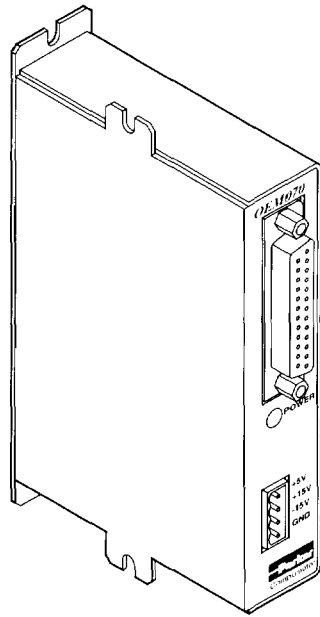


# Compumotor

## OEM070 Servo Controller User Guide



Compumotor Division  
Parker Hannifin Corporation  
p/n 88-014163-01 B



# IMPORTANT

## User Information



### WARNING



OEM Series products are used to control electrical and mechanical components of motion control systems. You should test your motion system for safety under all potential conditions. Failure to do so can result in damage to equipment and/or serious injury to personnel.

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Since Parker Hannifin constantly strives to improve all of its products, we reserve the right to change this user guide and software and hardware mentioned therein at any time without notice.

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# OEM070 Servo Controller

## User Guide

### Revision B Change Summary

May 2000

The following is a summary of the primary technical changes to this document since the previous version was released. This document, part number 88-014163-01**B**, supersedes 88-014163-01**A**.

#### **RS485 Communication Option Added**

RS485 is now available as a custom option. Contact Compumotor's Custom Products Department for details. This feature is available only on OEM070 controllers with firmware 92-016637-01 or later.

#### **Communication Error Checking Added**

SSE (pg. 78) and % (pg. 92) are two new commands added to support communication error checking. These commands are only available on OEM070 controllers with firmware 92-016637-01 or later.

#### **Firmware Upgrade**

The new features and options listed above are available only for firmware 92-016637-01 or later. To upgrade older firmware, units must be returned for hardware and software upgrades at a nominal fee. Contact Compumotor's Customer Service department for details.

#### **Homing Diagrams (pg. 99)**

Homing diagrams have been added to aid in system setup.

#### **Encoder Wiring (pg. 21)**

Encoder wiring and color codes have been added for Compumotor's SM and NeoMetric Series motors. Wiring information for Compumotor's OEM Series motors, which are obsolete, has been removed.

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**OVERVIEW • OEM070**

# OEM070 User Guide

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This user guide is designed to help you install, develop, and maintain your system. Each chapter begins with a list of specific objectives that should be met after you have read the chapter. This section will help you find and use the information in this guide.

## User Guide Chapter Overview

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### **CHAPTER ① INTRODUCTION**

This chapter provides a description of the product and a brief account of its specific features.

### **CHAPTER ② INSTALLATION**

This chapter contains a ship kit list of items you should have received with your OEM070. Instructions to mount and connect the system properly are included. Upon completion of this chapter, your system should be completely installed and ready to perform basic operations.

### **CHAPTER ③ SPECIFICATIONS**

This chapter contains information on system performance specifications (environmental, etc.).

### **CHAPTER ④ TUNING**

This chapter contains information on servo system gains and optimizing the performance of the system. A short procedure is included.

### **CHAPTER ⑤ SOFTWARE COMMANDS**

This chapter contains descriptions of all software commands applicable to the OEM070. These commands are based on Compumotor's popular and easy-to-use X Series Language. The controller also provides additional I/O control and communication capabilities.

## CHAPTER ⑥ TROUBLESHOOTING

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This chapter contains information on identifying and resolving system problems. Descriptions of LED signals, debugging tools, problems/solutions table are included.

### **Installation Process Overview**

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To ensure trouble-free operation, pay special attention to the environment in which the equipment will operate, the layout and mounting, and the recommended wiring and grounding. These recommendations will help you easily and safely integrate the OEM070 into your manufacturing facility. If your environment contains conditions that may adversely affect solid-state equipment (electrical noise or atmospheric contamination), be sure to follow any special instructions to ensure the safety and long life of your equipment.

### **Installation Preparation**

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Before you install this product, complete the following steps:

1. Review this user guide. Become familiar with the user guide's contents so that you can quickly find the information you need.
2. Develop a basic understanding of all system components, their functions, and interrelationships.
3. Complete the basic system configuration and wiring instructions (in a simulated environment, not a permanent installation) provided in *Chapter ② Installation*.
4. Perform as many basic functions as you can with the preliminary configuration. Try to simulate the task(s) that you expect to perform when you permanently install your application (however, do not attach a load at this time). This will give you a realistic preview of what to expect from the complete configuration.
5. After you have tested the system's functions and become familiar with the system's basic features, carefully read *Chapter ② Installation*.



6. After you have read Chapter 2 and clearly understand what must be done to properly install the system, begin the installation process. Do not deviate from the instructions provided.
7. Before you customize your system, check all of the system functions and features to ensure that you have completed the installation process correctly.

The successful completion of these steps will prevent subsequent performance problems and allow you to isolate and resolve potential system difficulties before they affect your system's operation.

## **Warnings & Cautions**

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Warning and caution notes alert you to problems that may occur if you do not follow the instructions correctly. Situations that may cause bodily injury are presented as warnings. Situations that may cause system damage are presented as cautions.

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### **CAUTION**

System damage will occur if you power up the system improperly.

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### **WARNING**

During servo tuning, the system can undergo accidental and violent movement due to improper gain settings and programming errors. Please use extreme caution while prototyping

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**OVERVIEW • OEM070**