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How To Use This User Guide

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 is intended to help you find and use the information in this user guide.

Assumptions

This user guide assumes that you have the skills or fundamental understanding of the following information.

- Basic electronics concepts (voltage, switches, current, etc.)
- Basic motion control concepts (torque, velocity, distance, force, etc.)

Contents of This Manual

This user guide contains the following information.

Chapter 1: Introduction

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

Chapter 2: Getting Started

This chapter contains a detailed list of items you should have received with your SX shipment. It will help you to become familiar with the system and ensure that each component functions properly.

Chapter 3: Installation

This chapter provides instructions for you to properly mount the system and make all electrical connections. Upon completion of this chapter, your system should be completely installed and ready to perform basic operations. Tuning considerations and procedures are also provided.

Chapter 4: Application Design

This chapter will help you customize the system to meet your application's needs. Important application considerations are discussed. Sample applications are provided.

Chapter 5: SXF Follower

This chapter explains the SXF Following function and the SXF's capability to support absolute and incremental encoders.

Chapter 6: Hardware Reference

This chapter contains information on system specifications (electrical, dimensions, and performance). It may be used as a quick-reference tool for proper switch settings and connections.

Chapter 7: Troubleshooting

This chapter contains information on identifying and resolving system problems.

Installation Process Overview

To ensure trouble-free operation, pay special attention to the environment in which the SX equipment will operate, the layout and mounting, and the wiring and grounding practices used. These recommendations are intended to help you easily and safely integrate SX equipment into your manufacturing facility. Industrial environments often contain conditions that may adversely affect solid-state equipment. Electrical noise or atmospheric contamination, may also affect the SX System.

Developing Your Application

Before you attempt to develop and implement your application, there are several issues that you should consider and address.

- ① Recognize and clarify the requirements of your application. Clearly define what you expect the system to do.
- ② Assess your resources and limitations. This will help you find the most efficient and effective means of developing and implementing your application (hardware and software).
- ③ Follow the guidelines and instructions outlined in this user guide. Do not skip any steps or procedures. Proper installation and implementation can only be ensured if all procedures are completed in the proper sequence.

Installation Preparation

Before you attempt to install this product, you should complete the following steps:

- ① Review this entire 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, Getting Started*.
- ④ Perform as many basic functions as you can with the preliminary configuration. You can only perform this task if you have reviewed the entire user guide. You should 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 all of the system's functions and used or become familiar with all of the system's features, carefully read *Chapter 3, Installation*.
- ⑥ After you have read Chapter 3 and clearly understand what must be done to properly install the system, you should begin the installation process. Do not deviate from the sequence or installation methods provided.
- ⑦ Before you begin to customize your system, check all of the systems 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 any potential system difficulties before they affect your system's operation.

Conventions

To help you understand and use this user guide effectively, the conventions used throughout this user guide are explained in this section.

Commands

All commands that you are instructed to enter are shown in capital letters. The symbol **>**, is the SX command prompt. The command is displayed in boldface. A delimiter (space or carriage return) is required after each command. A description is provided next to each command example.

Command	Description
>MR	Sets motor resolution to 25,000 steps/rev

The system ignores command syntax that is not within the valid range for a specific command. A **?** prompt will be returned by the drive when the last command entered was not understood, or a parameter limit was exceeded.

Motors

S Series and SX Series motors are one in the same (interchangeable terms).

Warnings & Cautions

Warning and caution notes alert you to possible dangers that may occur if you do not follow instructions correctly. Situations that may cause bodily injury are present as warnings. Situations that may cause system damage are presented as cautions. These notes will appear in bold face and the word warning or caution will be centered and in all capital letters. Refer to the examples shown below:

WARNING

Do not touch the motor immediately after it has been in use for an extended period of time. The motor may be hot.

CAUTION

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

Related Publications

- Current Parker Compumotor Motion Control Catalog
- SX Indexer/Drive Software Reference Guide