

## Preface

The S5-115F is a failsafe programmable controller for the mid performance range. It is for use wherever safety is the first priority and where potential dangers must be avoided.

Hardwired solutions have dominated failsafe technology until now. With the S5-115F, you can now apply all the advantages of our programmable controllers (PLCs) to your safety-related controls. You write your process-oriented program as before and then enter all safety-related data with the COM 115F programming software.

You require detailed information in order to use the controller to its best advantage.

This manual aims to provide the necessary information in condensed form without overloading the user with superfluous knowledge, which means:

- Standardization of terminology
- More detailed breakdown of subjects
- Illustration of individual problems
- User-friendly arrangement of the contents
- Particular observance of the rules of safety technology

In this way, you will gain all the information required to operate your S5-115F. This manual is aimed at:

- Users with little previous experience
- SIMATIC S5 experts
- Officials conducting Licensing Authority acceptance tests.

However, the applications are so numerous that not all the problems that might occur can be dealt with in one manual. You will find a list of Siemens representatives in the Appendix who will help you in those cases where the manual cannot answer your questions.

## Introduction

Please read the introduction carefully. You will then find it easier to use the manual and this will save time.

This manual contains a detailed description of the S5-115F PLC with the CPU 942-7UF15. For the description of the S5-115F PLC with the CPU 942-7UF11 or CPU 942-7UF12, see the manual with the order no. 6ES5 998-1UF21. For the description of the CPU 942-7UF13 or CPU 942-7UF14 (incl. product information), see the manual with the order no. 6ES5 998-1UF23.

## Description of Contents

This manual consists of two volumes and contains a detailed description of our SIMATIC S5-115F failsafe programmable controller.

Volume 1 contains the description of the hardware components. The contents of this volume can be divided into blocks according to topic:

- Reference manual  
(System Overview, Technical Description)
- Installation and operation  
(Installation Guidelines, Startup, Addressing)
- Special capabilities  
(Analog Value Processing, Communications Capabilities)
- Overview of technical specifications
- Safety-related rules and regulations

Volume 2 contains the description of the software components. The contents of this volume can be divided into blocks according to the following topics:

- Working with COM 115F programming software  
In the chapter "Configuring with COM 115F" you will find all the steps you require for configuring your S5-115F with the CPU 942-7UF15. Of course, you can also configure programmable controllers with the CPU 942-7UF11 to CPU 942-7UF14 using COM 115F system software, Version 3.2.
- Programming Guide  
(Introduction to STEP 5, STEP 5 Operations)
- Testing  
(Program Test, Error Diagnostics)
- Blocks  
(Description of integral blocks and the use of loadable function blocks)
- Simple installation example with configuration of an S5-115F

You will find additional information in tabular form in the Appendices.

At the end of the book you will find correction forms. Please enter in these forms any suggestions you may have for improvements and corrections and send them to us. Your comments will help us to improve the next edition.