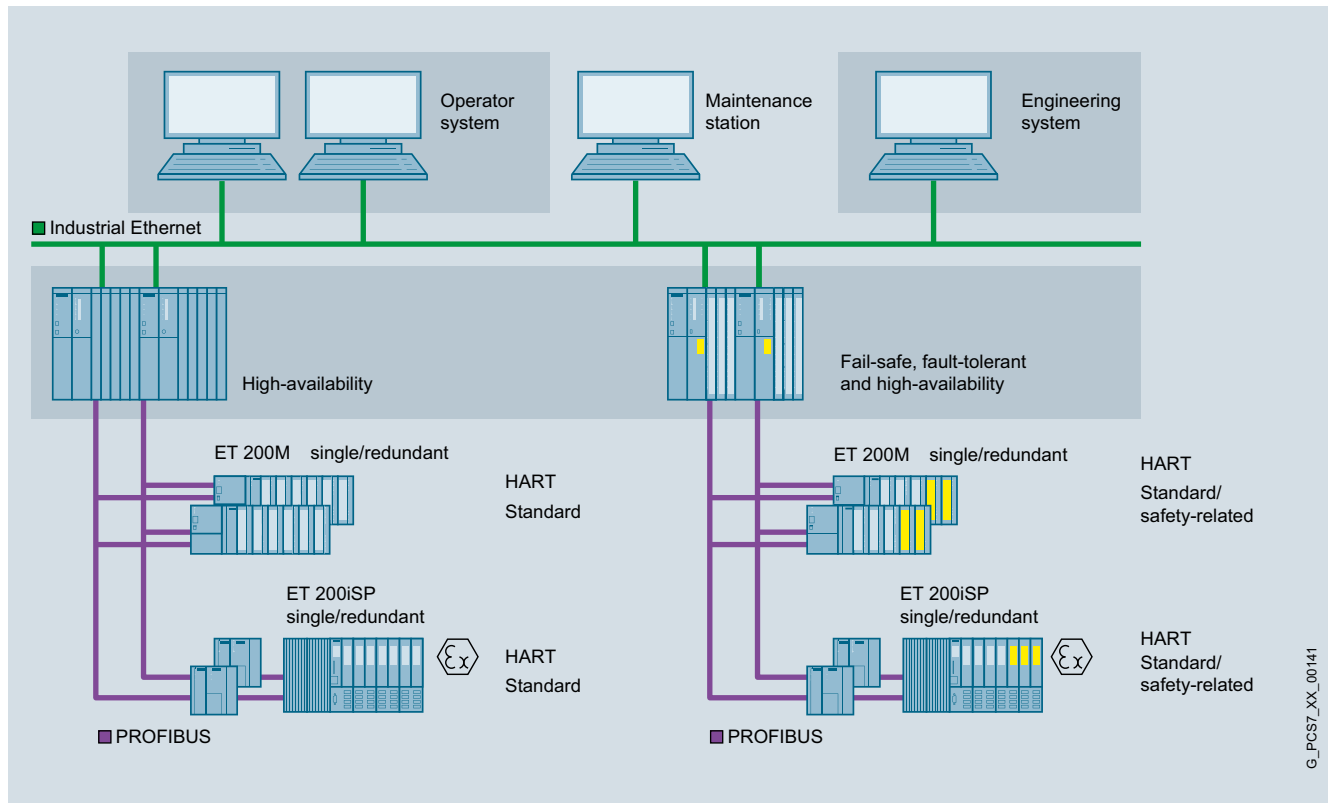# Software for SIMATIC controllers
Options for programming and design

S7 F/FH Systems - Introduction

■ Overview

Common engineering system for basic process control system and safety instrumented system

The process industry frequently features complex technological sequences with high safety demands, and faults and failures in the process automation could have fatal consequences for personnel, machines, plants and the environment. Therefore process safety is of particular significance. The safety technology used must reliably detect errors in the process and also its own internal errors, and automatically set the plant/application to a safe state if an error is detected.

S7 F/FH Systems is the comprehensive range of products and services from Siemens for safe, fault-tolerant applications in the process industry. This is characterized by:
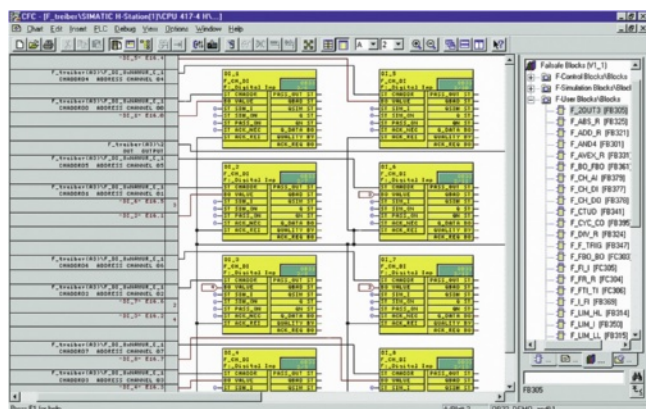
• Safe communication via PROFIBUS with PROFIsafe
• Safe communication also via PROFIBUS PA with PROFIsafe
• ET 200 distributed I/O systems with safety-related I/O modules
• User-friendly process visualization, including safety-relevant fault messages, via the optional operator system
• Engineering system with S7 F Systems software package and SIMATIC Safety Matrix

• AS 412F/FH, AS 414F/FH and AS 417F/FH safety-related automation systems
The safety-related automation systems of the S7 F/FH-System are based on the hardware of the CPU 412H, CPU 414H or CPU 417H that are extended with the S7 F Systems software package to include safety functions. All F/FH systems listed are TÜV-certified and comply with the safety requirements up to SIL 3 according to IEC 61508. There are two design variants:
- Single-channel (with one CPU, safety-related)
- High-availability (with redundant CPUs, safety-related and fault-tolerant)

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Overview

The S7 F Systems engineering tool integrated in the SIMATIC Manager can be used to configure an S7 F/FH System. With this tool you can:

- Parameterize CPU and F-signal modules
- Create safety-related applications in the CFC.

Predefined, TÜV-approved blocks are available for this purpose. The safety-related blocks save the user having to perform redundant programming for detecting and reacting to errors.

Ordering data

	Article No.
S7 F Systems RT license For processing safety-related application programs, for one AS 412F/FH, AS 414F/FH or AS 417F/FH	**6ES7833-1CC00-6YX0**
S7 F Systems V6.1 Programming and configuring environment for creating and operating safety-related STEP 7 programs for an S7 400H-based target system, floating license for 1 user, executable under Windows XP Prof SP2/SP3, Windows Server 2003 SP2 2 languages (German, English) Type of supply: Certificate of license as well as software and electronic documentation on CD	**6ES7833-1CC02-0YA5**
S7 F Systems upgrade from V5.x/V6.0 to V6.1 2 languages (German, English), floating license for 1 user Type of supply: Certificate of license as well as software and electronic documentation on CD	**6ES7833-1CC02-0YE5**

Note:
In the case of an S7 F Systems Upgrade from V5.x to V6.1, the type of S7 F Systems license changes from single license to floating license.