SIEMENS

SINAMICS S120 - Parameterizing Safety Integrated

General Information

Course Code	SCT-DRS12SAF
Global Code	DR-S12-SAF
Length	4-day
CEUs	2.6

Audience

In this course, one will learn the handling of drive-based Safety Functions; know their applications and parameterize them using Startdrive in the TIA Portal Program. This class is targeted to Commissioning, Engineering, Service and Maintenance personnel.

Prerequisites

Recommended Prerequisites:

- SIMATIC STEP7 PROFIsafe knowledge is useful.

Required Prerequisites:

- SINAMICS S120 Basic Maintenance

OR

- SINAMICS S Setup and Maintenance

Profile

The learner will understand applications of the different safety functions and parameterize them using Startdrive in the TIA Portal. As a result, the learner can take advantage of the benefits over conventional safety technology, like reduced cabling or faster commissioning of identical machines.

In the course the learner goes through all steps for the implementation of the safety functions until the final acceptance report.

Objectives

Upon completion of this course, the student shall be able to:

- Provide examples of Machine Safety fundamentals, standards and regulations.
- Perform a risk assessment procedure.
- Define PL and SIL evaluations.
- Perform a parameterization using Startdrive in the TIA Portal.
- Explain SINAMICS S120 Safety Integrated Basic and Extended functions.
- Demonstrate control of the SINAMICS S120 drive integrated Safety Functions using SIMATIC F-CPU and PROFIsafe.
- Interpret safety function effects on closed-loop control and kinetic energy of an axis on the drive.
- Prepare and execute an acceptance test and report.
- Explain the procedures for handling spare parts and retrofit measures.

Topics

1. Fundamentals, standards and regulations of Machine Safety
2. Procedure for risk assessment
3. Performance Level (PL) and Safety Integrity Level (SIL)
4. Safety Evaluation Tool (SET) for the evaluation of PL and SIL
5. Parameterization using Startdrive in the TIA Portal
6. SINAMICS S120 Safety Integrated Basic Functions and Extended Functions
7. Control of the drive integrated Safety Functions via SIMATIC F-CPU and PROFIsafe
8. Effect of settings of the closed-loop control and the kinetic energy of an axis on the safety functions
9. Execution of the acceptance test and preparation of the acceptance report
10. Procedures for the handling of spare parts and at retrofit measures
11. Practical exercises on training kits with SINAMICS S120 and SIMATIC F-CPU

sitrain.registrar.industry@siemens.com