

# Safety – Seminars

## The road to a safe machine.

A guide for manufacturers and operators.

### Module 3: Practical exercises on the training cell / training rack

#### Module description:

In this training module, you'll gain greater awareness of the configuration options used to operate an F control system safely and apply them in practice.

Working in teams of 2 at each training workstation (training cell or training rack), you'll learn how to commission an F control system, using the appropriate technical documentation as required. Safety functions such as the E-Stop, the safety door circuit, the light grid, as well as the enabling switch will be configured one at a time, the individual functions will then be programmed and put into operation.

Finally, we'll teach you how to analyze errors arising from typical issues, as they always occur during commissioning, as well as testing using the shutdown matrix.

#### Contents:

- Presentation of the tmp training cell
- Presentation of the required technical documentation
- Practical exercise 1: Projecting/configuring the F-PLC
- Practical exercise 2: Assigning the Profisafe address
- Practical exercise 3: Configure I/O modules
- Practical exercise 4: Configuring the Safety Administration function
- Practical exercise 5: Creating variables with Eplan, creating comments
- Practical exercise 6: Programming safety functions
- Practical exercise 7: Commissioning the enabling switch
- Practical exercise 8: Troubleshooting
- Practical exercise 9: Carrying out a test using the shutdown matrix
- Practical exercise 10: Open points, practical examples

#### Duration:

- Approx. 6 - 8 hours

#### Required:

- Basic knowledge of TIA Portal and Step7 programming (cf. TIA module 1 + 2)
- Basic knowledge of Siemens F controls (cf. Safety Module 2)
- Notebook with TIA V16 Update 4 and Safety Advance

#### Trainers:

- Thomas Krusen, Frank Eichenauer, Dominik Holtkötter, Dustin Hollenberg

**Training location:**

- At our Duisburg location
- At your location  
plus travel expenses
- Online

**Certificate of participation:**

- In paper form

**Training materials:**

- Digital

**Number of participants:**

- Minimum 2 participants, maximum 4 participants
- If there are more than 4 participants, we can divide the course into several groups and conduct them on consecutive days.

**Price:**

- 990€ per participant (plus travel expenses)