

Gain expertise in  
Functional Safety Controls System Design

OMRON

# Functional Safety Training Program for Engineers

Comprehensive 9-week training program with TÜV Rheinland Certification exam



 **TÜVRheinland®**  
Precisely Right.

- Develop your team's expertise on functional safety design and machine guarding
- Ensure teams stay up-to-date on latest safety standards
- Boost your TÜV Rheinland Certification exam passing rate with our expanded training program
- Demonstrate your commitment to employee development

# Become credible functional safety engineers in machine safeguarding designs

As your trusted partner in automation and safety, Omron offers TÜV Rheinland Functional Safety Training to help engineers and maintenance personnel keep their knowledge current and increase their credibility. The program includes detailed coursework designed to prepare professionals for the rigorous TÜV Rheinland Functional Safety Exam.

Omron builds upon the standard TÜV Rheinland Certification Program with an additional 5 days of classroom instruction and 7 weeks of webinar-driven self-study on the job. The TÜV Safety Exam is offered at the conclusion of the 9-week training.

## Coursework will cover the following topics:

- Safety standards (ISO 13849-1; ISO 13849-2; ISO 12100; IEC 62061)
- Risk assessment
- Machinery directives
- Guarding types and complementary controls (such as E-Stops)
- Functional safety management and software
- Stop categories and resetting expectations





## Boost Your TÜV Exam Passing Rate with an Expanded Training Program

The TÜV Functional Safety Exam is notoriously difficult, even for those who just completed the standard four-day training program. That's why Omron offers a significantly enhanced training program that is delivered over nine weeks. With an additional 20 hours of classroom instruction plus a seven-week period of self-study guided by TÜV Expert Certified instructors, Omron provides the tools your team needs to be successful at passing the certification exam.

The benefits of Omron's training extend well beyond the exam success rate. With seven full weeks of self-study for applying the concepts learned in the first classroom session, participating engineers can develop a deep, hands-on understanding of functional safety before the exam day. This ensures a much better retention of key safety concepts throughout an engineer's entire career to ensure compliant and safe machine design.

### Classroom Instruction

Participants complete 20 hours of classroom instruction.

### Practical Application Self-Study

Participants complete 7 weeks of self-study on important TÜV safety topics and attend virtual check-in meetings to ask questions.

### Classroom Instruction

Participants come back to the classroom for the standard 4 days of TÜV instruction.

### TÜV Certification Exam

Participants take the TÜV Functional Safety Exam.

## Give your valued employees some valuable credentials

TÜV Rheinland Certification is a solid testament to the skills and knowledge of your team members and will help bolster your company's overall reputation. Omron is proud to be a trusted partner in functional safety training for industry professionals.

Who may have interest in the TÜV Rheinland Functional Safety for Engineers program?

- Functional Safety Engineering
- Plant engineering teams involved in the safety lifecycle phases for safety systems
- Maintenance personnel who need to maintain and validate safety systems
- EHS managers seeking to become experts in functional machine safety
- HR departments interested in furthering employee development and retention while adding value to the organization



## Course objectives

Upon completion of this class, the student should be able to:

- List risk assessment requirements and be able to conduct a risk assessment
- Correctly identify, interpret and apply the standards for functional machine safety
- Apply the hierarchy of controls
- Identify appropriate risk reduction measures and commensurate with level of risk
- Identify safety devices and their proper applications per current standards
- Create a safety circuit design and distinguish among various safety categories
- Explain how different architectures and designs affect safety levels
- Identify and execute the required functional safety calculations
- Identify procedures for verification and validation documentatio

## Recommended Audience

This course is intended for design, process and safety engineers as well as operating and maintenance personnel who are involved in any of the safety lifecycle phases from hazard and risk assessment, shut down system, fire and gas systems design to testing maintenance.

## Prerequisites

Students are required to have the relevant standards during the training:

- ✓ ISO 13849-1
- ✓ ISO 13849-2
- ✓ IEC 62061
- ✓ ISO 12100
- ✓ Machinery Directive

In accordance with the TÜV Rheinland Functional Safety Training Program, certification as a Functional Safety Machinery Engineer requires a minimum of 3 years of experience in the field of functional safety and a university degree or equivalent engineering experience and responsibilities as certified by employer or engineering institution.



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