CERTIFIED FUNCTIONAL SAFETY APPLICATION TECHNICIAN & EXPERT

CFSAT – SGS-TÜV Saar **CFSAE** – SGS-TÜV Saar

SICK
Sensor Intelligence.

Would you like to contribute to the operational safety and legal certainty of your company? SICK offers two functional safety courses with a TÜV certificate: CFSAT and CFSAE. These comprehensive courses are conducted by SICK experts in machine safety and provide a well thought-out combination of theory and practice with a high degree of interaction.

After completing the courses you can take the associated exam. On passing the exam you will receive a qualification certificate and can use the title "Certified Functional Safety Application Technician – SGS-TÜV Saar" or "Certified Functional Safety Application Expert - SGS-TÜV Saar" on your business card.

CERTIFIED FUNCTIONAL SAFETY APPLICATION TECHNICIAN (CFSAT)

WHAT ARE THE LEARNING OUTCOMES?

On completion of the CFSAT course for technicians, you will be able to:

- Estimate the effectiveness of the installed protective devices
- Check protective devices according to a specification
- Identify hazards
- Advise on the use of protective devices
- Support the purchasing department in defining the safety-related requirements on machines and production lines
- Propose measures to maintain the safety of machines
- Recognize safety-related impairments for machine operators and lack of machine safety
- Take the Certified Functional Safety Application Technician exam

WHAT DOES THE COURSE FOR TECHNICIANS COVER?

- Fundamental standards and regulations for safe machinery, including ISO 12100, ISO 13849, IEC 60204, ISO 13855, ISO 13857, ISO 14120 and EU Machinery Directive, EU Work Equipment Directive from the perspective of the machine operator.
- Thorough checking of protective devices
- Identify hazards
- Identification of safety-related impairments for machine operators
- Application of measures to maintain the safety of machine operators
- Support when purchasing machines with safety-related requirements.

The optional 2-hour certification exam is held at the end of the course.

WHO SHOULD ATTEND?

The CFSAT course is aimed at service and maintenance personnel for machines and systems, safety officers, system integrators, and designers with a basic knowledge of machine safety.

PREREQUISITES FOR CERTIFICATION

To complete the course with a certificate, you will require:

- At least 2 years of work experience with industrial machinery
- Basic knowledge of automation engineering and familiarity with electrical safety requirements
- Basic knowledge of functional safety and machine safety standards and regulations
- A pass in the CFSAT exam

CERTIFIED FUNCTIONAL SAFETY APPLICATION EXPERT (CFSAE)

WHAT ARE THE LEARNING OUTCOMES?

On completion of the CFSAE course, you will:

- Have a comprehensive understanding of functional safety and machine safety standards
- Be able to review, select and integrate protective devices, including knowledge of the requirements on complete circuits and circuit diagrams in order to effectively reduce the hazards associated with machinery
- Be able to analyze and carry out the technical measures required for risk reduction, for example identifying errors and their root causes, potential vulnerabilities, and the reliability of protective systems
- Perform calculations for safety circuits, define a validation plan, and complete the documentation according to ISO 13849 and IEC 62061
- Have the knowledge and understanding needed to take the Certified Functional Safety Application Expert exam

WHAT DOES THE COURSE FOR EXPERTS COVER?

- Application of the standards ISO 12100, ISO 13849, IEC 61508, IEC 62061, IEC 60204, ISO 13855, ISO 13857, ISO 14120 and the European Machinery Directive from the perspective of the machine manufacturer
- Risk assessment and risk reduction
- Safeguarding and complementary protective measures
- Requirements on the safety functions of machinery
- Application of protective devices
- Determining the minimum distances of protective devices
- Integration of protective devices into control systems
- Documentation of design and verification requirements

The optional 4-hour certification exam is held at the end of the course.

WHO SHOULD ATTEND?

The CFSAE course is aimed at machine builders, system integrators, developers, and application engineers who are responsible for machine safety and have a comprehensive knowledge of machine safety.

PREREQUISITES FOR CERTIFICATION

To complete the course with a certificate, you will require:

- Work experience in the area of functional safety
- Existing knowledge of functional safety standards and best practices
- Comprehensive knowledge of the following standards: ISO 12100, ISO 13849, IEC 61508, and IEC 62061
- Experience and understanding in the field of functional safety management
- At least 2 years of professional experience with industrial machines and 3 years in functional safety
- A pass in the CFSAE exam

WHAT ARE THE ADVANTAGES OF THIS TRAINING?

- Both the CFSAT and CFSAE courses will enable you to contribute to operational safety in your company
- You will be trained by experts with comprehensive technical knowledge and longstanding experience
- You will benefit from a structured, practical knowledge transfer and helpful training documents for your daily work
- You will exchange ideas and experience with other attendees who work with safety-related applications
- You will advance your career development with certified proof of your expertise and experience.
- You can use the title "Certified Functional Safety Application Technician" or "Certified Functional Safety Application Engineer" on your business card if you pass the optional exam.

FREQUENTLY ASKED QUESTIONS ABOUT THE COURSES

CAN I COMPLETE THE COURSE BUT NOT TAKE THE EXAM?
Yes, the exam is voluntary. Attending the course and passing the exam are the prerequisites, however, for obtaining the CFSAT or CFSAE certificate. Attendees who do not wish to take the exam do not need to pay the exam fee.

WILL THE COURSE DISCUSS THE STANDARDS IN DETAIL?
The CFSAE discusses the standards in detail. Both courses build on the attendee's existing knowledge of functional safety.

ARE COPIES OF THE STANDARDS INCLUDED IN THE COURSE MATERIALS?
Attendees are recommended to obtain their own copies of the standards, in particular for the CFSAE course.

WHAT IS THE FORMAT OF THE EXAMS?
Both exams comprise multiple-choice questions. The CFSAE exam also includes open questions, e.g., on the calculation of PL and SIL. The CFSAT exam is conducted online.

WHAT HAPPENS IF I DON'T PASS THE EXAM?
It is recommended that you only repeat the course and/or the exam after a minimum of 6 months of further learning and collecting experience. You can also attend SICK's advanced courses.

HOW LONG IS THE CERTIFICATION VALID FOR?
The CFSAT certificate is valid for five years. Once you have gained sufficient work experience, you may wish to complete the CFSAE course. The CFSAE certificate is valid for five years, too. To extend the certificates by further five years, you need to provide evidence that your knowledge is still up-to-date and that you apply the regulations in your work. SICK offers a recertification exam.

WHERE IS THE COURSE OFFERED?
The course can be conducted in a SICK training facility or at the customer's premises. The CFSAT course is also conducted online as a virtual classroom. You can find the course details online on your local SICK page ➜ www.sick.com

WHAT ARE THE ORDERING DETAILS FOR PRICE INQUIRIES?
CFSAT Classroom Training, part no.: 1614670 ➜ with online exam, part no.: 1615884, 3.5 days in total (net training time 6 h per day)

CFSAT Virtual Classroom, part no.: 1616333 ➜ with online exam, part no.: 1615884, 5 days in total (net training time 5 h per day)

CFSAE Classroom Training, part no.: 1610643 ➜ with exam, part no.: 1612592, 4.5 days in total (net training time 6,5 h per day)

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