

Obtain Your Personal Certification in IEC 61511

Functional safety training on safety instrumented management and protection systems for integrated motor drives



Course overview

This three-day training provides a comprehensive overview of the IEC 61511:2016 and ANSI/ISA 61511:2018 standard for the process industry. The complete safety lifecycle of IEC 61511 will be discussed by industry experts, and practical examples and exercises will be provided within the training.

Training topics

- **Overview of functional safety and scope of IEC 61511:2016**
- **Management of functional safety**
 - Safety lifecycle structure
 - Activities, responsibilities and competency
 - Risk evaluation and management
 - Verification, validation, assessment and audits
 - Safety instrumented system (SIS) configuration management
- **Process hazard and risk analysis**
 - Different techniques overview
 - Security risk assessment (SRA)
- **Allocation of safety functions to protection layers**
 - Layers of protection analysis (LOPA) techniques and requirements for protection layers
- **SIS safety requirements specification (SRS)**
 - Safety instrumented function (SIF) requirements
 - Application program requirements specifications
- **SIS design, engineering and application programming**
 - General requirements and hardware concepts
 - Hardware architectural constraints implementing Route 1H and Route 2H
 - Selection of devices per IEC 61508 and IEC 61511
 - Maintenance/engineering interface and testing design requirements
 - Quantification of random failures
 - Application program development, design and testing requirements
 - SIS testing and factory acceptance test (FAT)
- **Installation, commissioning and validation requirements**
 - SIS validation planning and site acceptance test (SAT)
 - Application program validation techniques
 - Activities mandatory prior to introduce the identified hazards
- **Operation, maintenance, modifications and decommissioning**
 - Requirements to operate and maintain the SIS
 - Proof testing and inspection for every SIF
 - Maintenance override switch (MOS) structure
 - Competency training for operators and maintenance personnel
 - Modifications requirements including functional safety assessment and re-verifications



Optional UL Certified Functional Safety Professional Exam

Participants who complete all three days of training are eligible to take a two-hour certification exam on the morning of the fourth day. Those who pass the exam are individually certified as a *UL Certified Functional Safety Professional* in IEC 61511 or *UL-CFSP*.

Upon the successful completion of the *UL-CFSP* exam, participants will receive a certificate and badge that they can use to demonstrate their competence in IEC 61511 functional safety. The certification is valid for three years, after which individuals may recertify.

Why choose UL?

From materials testing to supply chain management, new energy options to security and interoperability solutions, leverage our expertise and insights to navigate the global regulatory landscape and bring your products to market.

Our global network of technical experts and state-of-the-art facilities, along with our longstanding relationships with regulatory authorities, partner laboratories and industry technical leaders, helps manufacturers gain the compliance credentials they need to compete in a more complex global supply chain.



Objectives

Upon completion of this workshop, you will be able to:

- Understand the contents and intent of IEC 61511:2016 and ANSI/ISA 61511:2018
- Provide evidence of competency of IEC 61511
- Support development of a safe product according to IEC 61511

Target audience

- Hardware/firmware designers
- Development managers
- Project and product leaders
- Compliance engineers
- Design and manufacturing engineers



Knowledge you can trust – Our experienced staff will support you from the initial design stage of product development through testing and production. Our experts can assist you in understanding the certification requirements for your specific markets.



Speed and efficiency – Our cost-effective systems and state-of-the-art facilities cut through the red tape and help accelerate your time to market.



Single-source provider – We help meet your compliance needs and — by bundling safety, performance and interoperability services — save you valuable time and money.



Global reach and access – Our global network of expert engineers helps you understand the various national and global requirements for your specific market application.

For more information, call 1.864.630.5373, email: kvasales@UL.com or visit kvausa.com.



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