



Endorsed Training
Provider®

Control System Safety

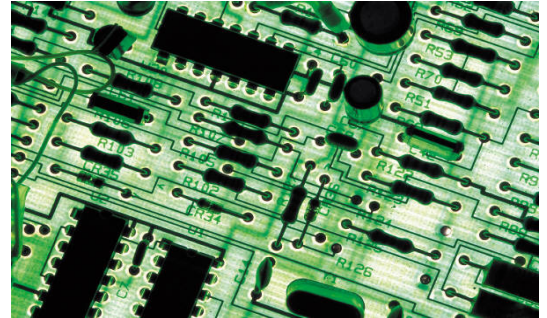


Fountain
Safety Solutions Ltd

The last few years has seen substantial changes in the field of control system safety. Our one-day workshop introduces the new standards that apply to safety of control systems. Our interactive workshop provides guidance on which standards you should apply to your equipment to ensure an efficient and cost effective route to compliance.

Synopsis

The use of electronics and software have become increasingly popular replacing or complementing the traditional electro-mechanical technologies. As a result, new standards governing safety-related control systems have been introduced. There are at least three families of European and International standards that have been published. Applying the right standard from the start can significantly simplify the validation process.



EN 954-1, the standard for the safety of controls of machinery will become obsolete on 30th November 2009 and this course introduces the replacement standards. which can now be applied. Becoming familiar with the new standards will help to ensure smooth transition to the new requirements.

Participant Profile

Product designers, system integrators, engineers, managers, and personnel who have a responsibility for the design, specification, or modification of equipment that has a control system whose failure could result in an unsafe condition.

Key Topics:

Functional Safety & Safety Related Control Systems

Awareness of which British, European and International standards that could apply to equipment

Validation of Control Systems

How to apply, where relevant the standard, EN ISO 13849-2 Validation of safety related control systems

EN ISO 13849 series (replaces EN 954-1)

Introduction to this revised standard and summary of new requirements.

Concept of *Performance Levels*

EN 60261

Awareness of standard for functional safety of machines.

EN 61508

Introduction to this generic functional safety standard

Risk Assessment

Determination of safety *category*; *Safety Integrity level (SIL)*; or *Performance Level*.

FMEA

Circuit Architecture

Redundancy, monitoring

Reliability Requirements

Sources of reliability data

Hardware

Random & systematic failures

Software

Embedded and application software requirements