

## IEC 60664 ADVANCED COURSE

The IEC 60664 Advanced Course offers an in-depth exploration of the IEC 60664 standard, complemented by practical examples, team exercises, and insights from our extensive industry knowledge and experience. Emphasizing real-world applications, this course equips your team with comprehensive knowledge and practical expertise for effective implementation and advanced insulation coordination.

**DURATION:** 3 Days

**LANGUAGE:** English or German

### COURSE CONTENT:

#### IEC 60664-1 Concepts

- TTransient, steady-state and peak voltage definitions
- Overvoltage categories
- Pollution degree and impact on isolation
- Solid insulation and characteristics
- Comparative tracking index and the relation to IEC 60112
- Environmental impact on creepage and clearance
  - Altitude and relation to Paschen's Law
  - Temperature
  - Vibrations
  - Humidity
- Electrical field distribution and the concept of homogeneous and inhomogeneous fields
- Partial discharges

#### IEC 60664-1 Design for insulation coordination

- Dimensioning of clearances
- Dimensioning of creepage distances
- Applications of annexes and tables for defining creepage and clearance distances
- Factors that can influence comparative tracking index and impact on PCB design
- Factors that can reduce the isolation requirements
- Detailed worked examples based on projects

#### IEC 60664-1 Test and measurements

- Verification of clearances, and creepage
- Verification of solid insulation
- Dielectric tests on complete equipment
- Sampling and measurement accuracy

**Your partner for functional safety and regulatory compliance.**

## IEC 60664

### INSULATION COORDINATION:

Equipment within low-voltage systems



We are happy to work with your organization to develop **customized and cost-effective training** that meets your requirements in terms of date, timing and content.

### PLEASE CONTACT US FOR YOUR BOOKING OR ENQUIRY:

info@lorit-consultancy.com  
+43 676 338 8884 or  
+44 7708 360023

## **COURSE CONTENT:**

### **IEC 60664-1 Test and IEC 60664-3 specify and applying coating potting and molding protection**

- Consideration of different coating types
- Design requirements
- Coating tests, temperature conditioning and polarizing voltage
- Adhesion tests
- Partial discharge extinction voltage
- Resistance to soldering heat, flammability and solvent resistance measurements

### **IEC 60664-4 high frequency isolation design considerations**

- 30kHz to 10MHz considerations
- Clearance distances
- Creepage distances
- Solid insulation considerations
- High-frequency testing
- Non sinusoidal voltages

### **IEC 60664 relation to other standards**

- Detailed look at projects and examples from IEC TR 60664-2-1
- Relationship to other automotive/non-automotive standards e.g. UN standards and ISO 26262, ISO 17409 & ISO 6469
- Relationship to IEC 60601 & IEC 61010
- Discussion points and further review of project examples
- Summary of course

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## **TARGET AUDIENCE:**

Product safety engineers, compliance engineers, product designers, regulatory approval staff, production support engineers, quality assurance staff.

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## **PREREQUISITES:**

This course is designed for participants with previous experience in the IEC 60664 standard or can be adapted to your previous knowledge.

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## **FURTHER INFORMATION:**

The training takes place either online or live. The duration of the training is 8 hours each day (including a 30-minute lunch break and 2 shorter breaks). On request we grant a discount for group bookings.

