



**PROTEGO PLUS**  
ELECTROTECH PVT. LTD.

ProtegoPlus Electrotech Pvt. Ltd.  
Suite 52, Regency Chambers  
41 National Library Rd, Bandra West  
Mumbai 400 050

CIN: U74999MH2022PTC393097  
contact@protegoplus.com  
+91 79775 16390

## Standards-focused training for electrical installations

ProtegoPlus Electrotech Pvt Ltd provides standards-focused training for professionals who design, install, inspect, and verify electrical installations.



### Industry Reality

Conformity with electrical installation standards is critical for electrical designers and verifiers—both from a statutory and safety perspective. This is best achieved when design is carried out by competent professionals who possess a detailed understanding of the standard and how to apply it in real-life situations. This is easier said than done—standards are lengthy and hard to understand, with many cross references making it difficult to relate to what is seen on site.

When trained to the requirements of NEC 2023 and IS 732, as well as their mother document, IEC 60364, electrical designers benefit from:

- Designs which consistently comply
- Inherently safer installations
- Smooth commissioning, testing, and handovers
- Enhanced confidence from clients and regulator
- Increased internal capacity to grow

## The ProtegoPlus Advantage

ProtegoPlus Electrotech Pvt. Ltd. delivers training rooted in real-life installation practices while ensuring conformity to standards. Trainers actively contribute to Indian and international electrical installation standards through BIS and IEC committees.

Our focus is on practical interpretation. We explain why requirements exist, how they apply on site, and how to make defensible technical decisions. Training is structured, rigorous, and aligned with how installations are designed, built, and verified in practice. Courses are delivered online or in person. Participants receive certification on successful completion.

## Structured Training

We offer training on the requirements for electrical design through twelve structured courses, based on either IS 732 (India), BS 7671 (UK and Middle East) and IEC 60364 (international).

These intensive courses are intended for people with a working understanding of electrical installations who would like to learn electrical installation design.

All courses can be delivered in-person or online



## Specialised Training



Our specialised courses focus on the application of the requirements for electrical installations through three-specialised courses- cable sizing, inspection and testing.

Specialised courses are intended for people who have sat all twelve structured courses, or have a working knowledge of their relevant national standard or IEC 60364.

Certain courses can only be delivered in-person

Build teams that apply standards with confidence, consistency, and clarity. Partner with ProtegoPlus Electrotech Pvt. Ltd. to strengthen technical judgement, reduce risk, and raise the safety baseline across your projects and organisation. Get in touch with us to discuss your unique needs and our services tailored to meet them.

## COURSE 1: INTRO TO ELECTRICAL INSTALLATION DESIGN

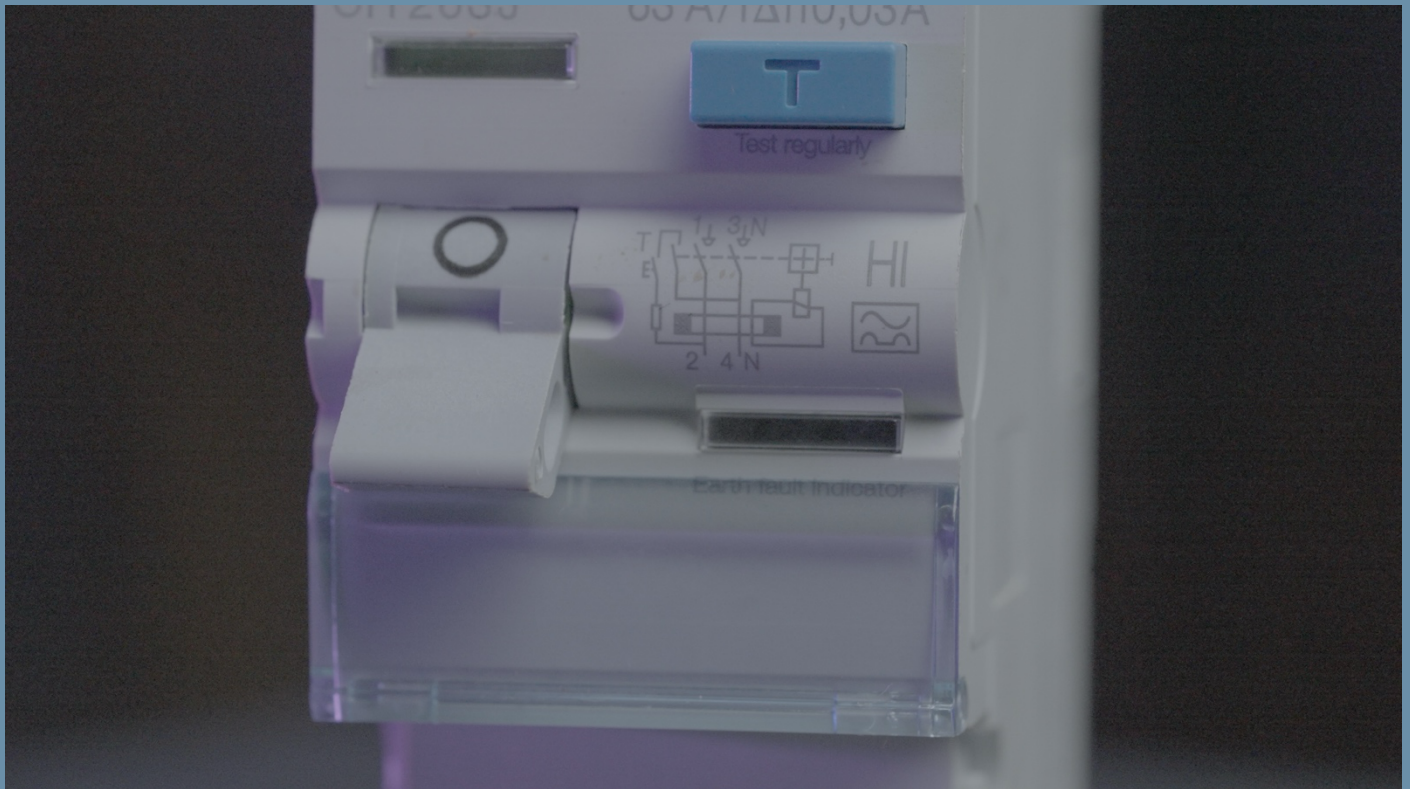


Covers the following:

- Applicable standards: IS 732, SP 30 and IEC 60364
- Scope: Where can the standards be applied, and what do the standards cover
- Fundamental principles of electrical installation design
- Stages of electrical work: design, selection, erection & verification
- Terminology used in electrical installation design
- Characteristics of electrical installations
- Characteristics of electrical supplies
- Classification of earthing arrangements
- Basic user requirements in electrical installations

**12 HOURS**  
**1.5 DAYS**

## COURSE 2: PROTECTION AGAINST ELECTRIC SHOCK



Covers the following:

- Requirements for protective measures and their applicability
- Protective measure vs protective provisions
- Basic protective provision vs fault protective provision vs enhanced protective provision
- Protective measure: Automatic disconnection of supply
- Protective measure: double or reinforced insulation
- Protective measure: electrical separation
- Protective measure: Extra-low voltage
- Additional protection: RCDs and supplementary equipotential bonding
- Applicability of additional protection
- Correlation between earth-fault loop impedance and OCPD/RCD rating
- Applicability of protective provisions in different earthing arrangements

**8 HOURS**  
**1 DAY**

## COURSE 3: PROTECTION AGAINST THERMAL EFFECTS

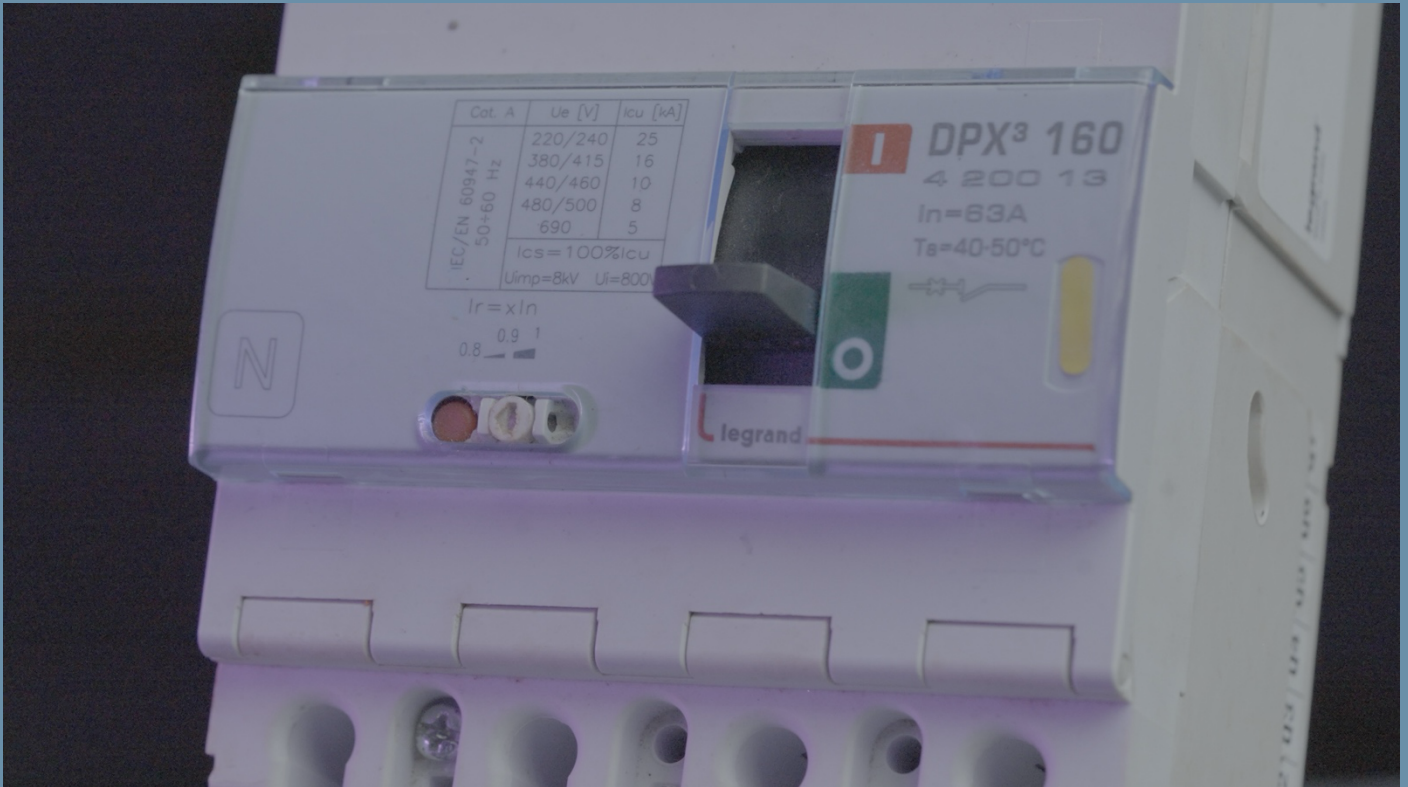


Covers the following:

- Protection against fire caused by electrical equipment
- Protection against arc-faults: AFDDs, 300mA RCDs
- Precautions in fire-risk locations
- Provisions for escape routes
- Requirements for cable smoke density in fire conditions
- Classification of fire risk as external influences
- Requirements for wiring systems
- Requirements for accessories
- Locations with endangered or irreplaceable goods
- Protection against burns
- Protection against overheating
- Precautions for heat-producing equipment

**8 HOURS**  
**1 DAY**

## COURSE 4: PROTECTION AGAINST OVERCURRENT



Covers the following:

- Protection of line conductors
- Protection of neutral conductors
- Coordination of conductors with overload protective devices
- Coordination of conductors with short-circuit protective devices
- Overload protection of conductors in parallel
- Short-circuit protection of conductors in parallel

**8 HOURS**  
**1 DAY**

## COURSE 5: PROTECTION AGAINST VOLTAGE DISTURBANCES AND ELECTROMAGNETIC DISTURBANCES

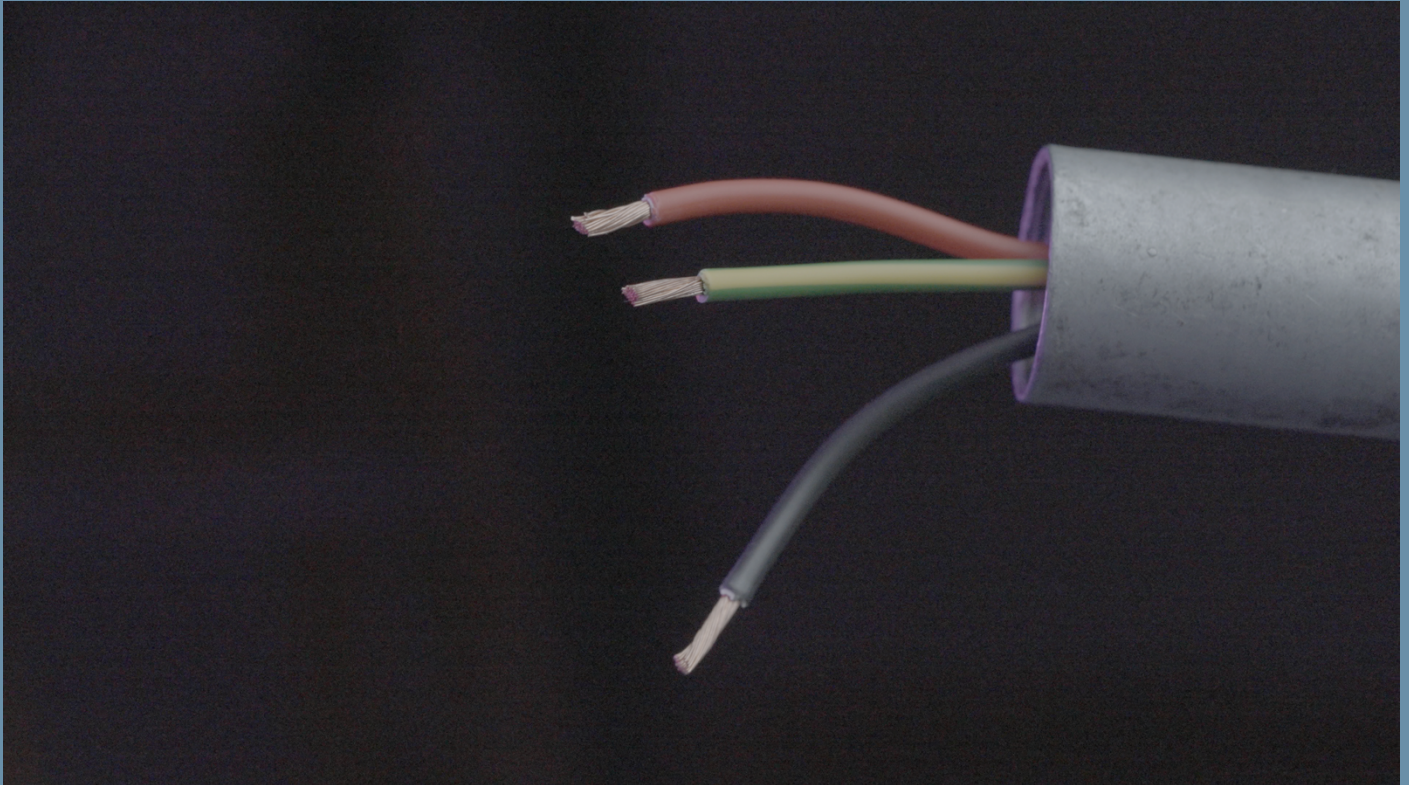


Covers the following:

- Protection against temporary over-voltages caused by hv faults
- Protection against temporary over-voltages caused by LV faults
- Protection against atmospheric-origin transient over-voltages (type I SPDs)
- Protection against switching-caused transient over-voltages (type II + type III SPDs)
- Measures to reduce electromagnetic interference
- Role of earthing and equipotential bonding to reduce electromagnetic interference
- Installation of cables to reduce electromagnetic interference
- Protection against undervoltage

**8 HOURS**  
**1 DAY**

## **COURSE 6: COMMON RULES FOR SELECTION AND ERECTION OF ELECTRICAL EQUIPMENT**

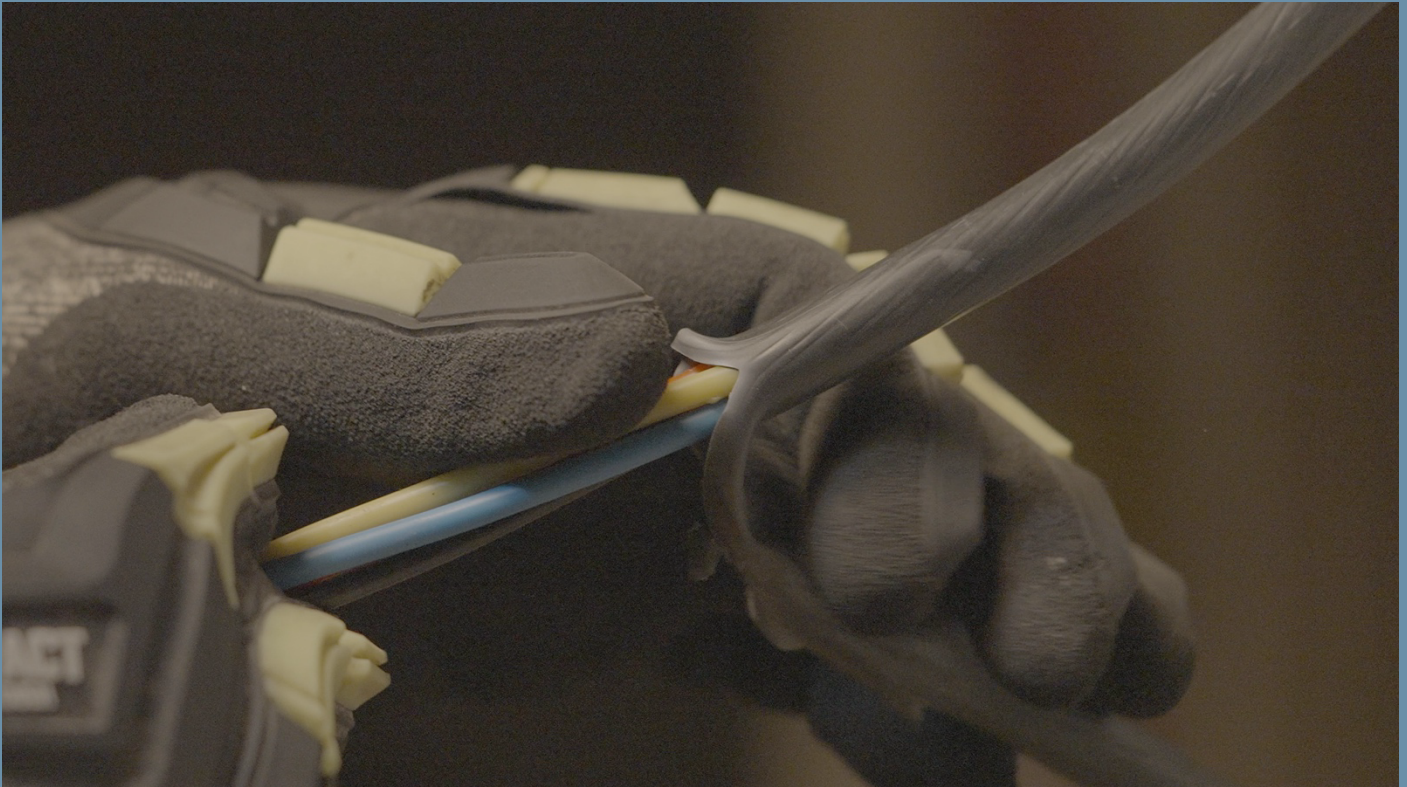


Covers the following:

- Selection of products complying with product standards
- Classification of external influence
- Identification of conductors (including colour coding)
- Identification of protective devices
- Diagrams and labels
- Preventing mutual detrimental influence
- Pollution degrees for protective devices

**6 HOURS**  
**1 DAY**

## COURSE 7: SELECTION AND ERECTION OF WIRING SYSTEMS

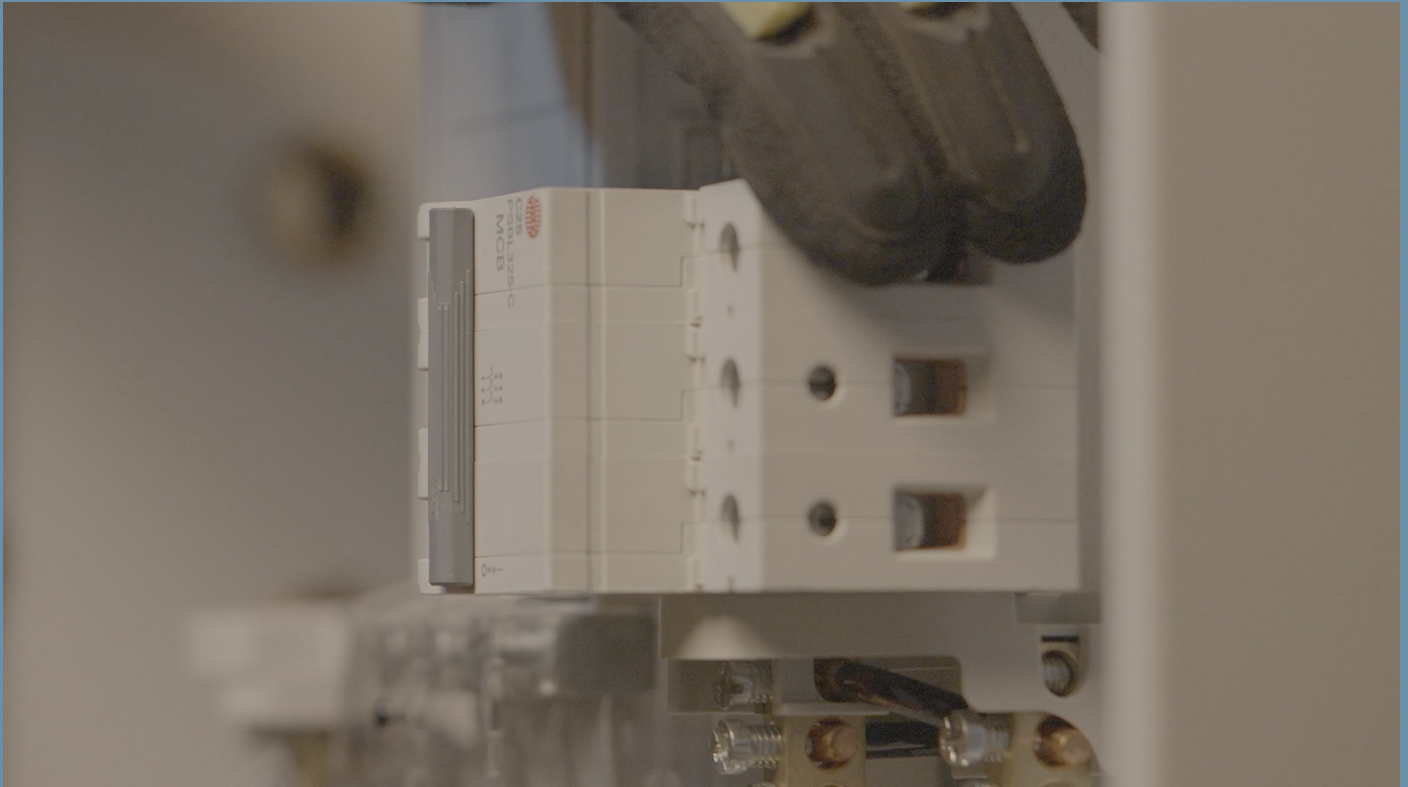


Covers the following:

- Types of wiring systems
- Prevention of eddy currents
- Wiring system installation methods (arrangements and reference methods)
- Selection of wiring systems for external influences
- Considerations for single-core cables
- Considerations for voltage drop
- Considerations for class 5 and class 6 cables
- Cable sizing for grouping
- Cable sizing for ambient temperature
- Selection of enclosures
- Selection of terminals and connecting accessories
- Ensuring maintainability
- Ensuring compatibility
- Protection of wiring systems within fire segregated areas
- Selection of wiring systems for fire performance
- Proximity of wiring systems to other building services

**12 HOURS**  
**1.5 DAYS**

## **COURSE 8: SELECTION AND ERECTION OF SWITCHING, ISOLATING, PROTECTIVE AND MONITORING DEVICES**



Covers the following:

- Selection of OCPDs
- Selection of RCDs (including type A, F & B)
- Selection of AFDDs
- Selection of SPDs
- Selection of contactors and isolators
- Selection of protective devices for breaking capacity
- Positioning of protective devices
- How to achieve selectivity between OCPDs
- How to achieve selectivity between RCDs
- How to achieve back-up protection between OCPDs
- Selection of isolating and switching devices
- Selection of RCMs and IMDs

**12 HOURS**  
**1.5 DAYs**

## **COURSE 9: SELECTION AND ERECTION OF EARTHING ARRANGEMENTS AND PROTECTIVE CONDUCTORS**

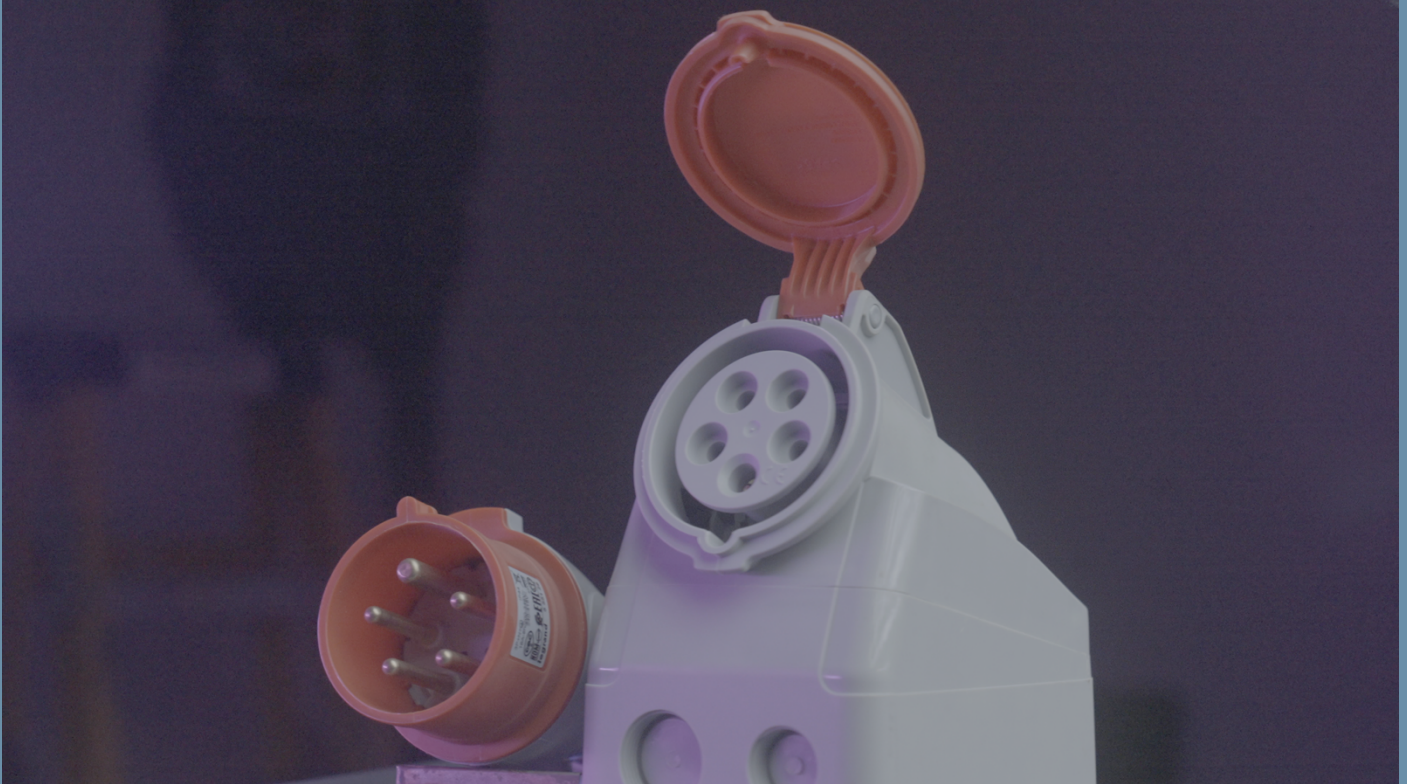


Covers the following:

- Sizing protective earthing conductors
- Sizing circuit protective conductors
- Sizing protective bonding conductors
- Identification of exposed and extraneous conductive parts
- Functional earthing arrangements and sizing of its conductors
- Functional bonding arrangements and sizing of its conductors

**8 HOURS**  
**1 DAY**

## COURSE 10: SELECTION & ERECTION OF OTHER EQUIPMENT

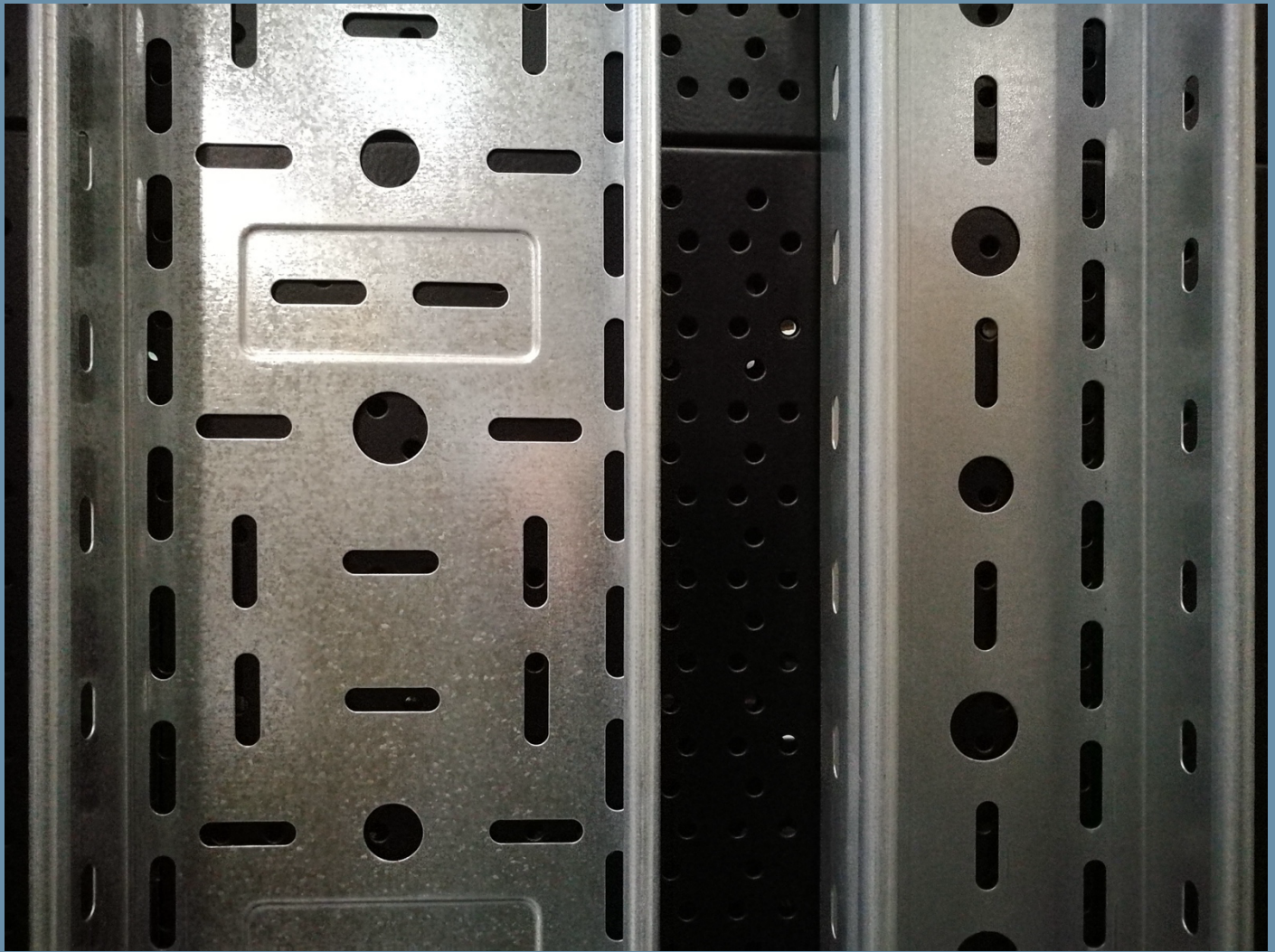


Covers the following:

- Protective devices for LV generators
- Earthing arrangements and protective conductors for LV generators
- Considerations for LV generators for parallel operation with mains supply
- Considerations for LV generators for switched alternative to mains supply
- Selection & erection auxiliary circuits
- Selection & erection plugs and sockets
- Selection & erection of luminaires and lighting installations

**8 HOURS**  
**1 DAY**

## **COURSE 11: SELECTION & ERECTION OF SAFETY SERVICES**



Covers the following:

- Classification of safety services
- Source of safety services
- Circuits for safety services
- Wiring stems
- Emergency lighting
- Fire sealing

**8 HOURS  
1 DAY**

## COURSE 12: SELECTION & ERECTION OF STATIONARY SECONDARY BATTERIES



Covers the following:

- Operation modes of systems with stationary secondary batteries
- Characteristics of stationary secondary batteries
- Protection against electric shock
- Protection against short-circuits
- Islanding
- Isolation

**8 HOURS  
1 DAY**

## SPECIAL COURSE 1: THREE-DAY INTENSIVE COURSE ON CABLE SIZING



Covers sizing cables according to:

- Maximum operating temperature (current-carrying capacity)
- Maximum admissible voltage drop
- Electromechanical stresses likely to occur during overcurrent
- Maximum loop impedance requirements for the disconnection of protective devices
- Method of installation
- Triplen harmonic content

**24 HOURS**  
**3 DAYS**

## SPECIAL COURSE 2: THREE-DAY INTENSIVE COURSE ON VISUAL INSPECTION



Covers visual inspection of the following:

- Provisions for protection against electric shock
- Presence of fire barriers
- Adequate selection of conductors for current-carrying capacity
- Adequacy of wiring systems including containment and support systems
- Appropriate choice and setting of protective devices for selectivity and back-up protection
- Appropriate selection, location and installation of overvoltage protection devices
- Appropriate selection, location and installation of isolating and switching devices
- Appropriate selection of equipment appropriate for external influence
- Identification of conductor function
- Presence of diagrams, warning notices
- Identification of electrical equipment
- Adequacy of conductor termination
- Appropriate earthing arrangements and protective conductors
- Adequacy of equipment for operation and maintenance
- Provisions for protection against electromagnetic disturbances

**24 HOURS  
3 DAYS**

## SPECIAL COURSE 2: THREE-DAY INTENSIVE COURSE ON TESTING



Covers the following:

- Measurement of conductor resistance and comparison to design values
- Measurement of insulation resistance of wiring system and comparison to minimum values
- Measurement of earth-fault loop impedance and comparison to design values
- Testing of RCDs and comparison of result to product standard requirements
- Testing and calculations to determine voltage drop for comparison to design values
- Test of phase sequence for intended use.

**24 HOURS**  
**3 DAYS**