OCTOBER 2021

ABB Electrification UK

CIBSE CPD Seminars

ELCPD-01

Selectivity & Coordination with Power Circuit Breakers

This is a basic introduction to the different IEC types of LV circuit protection & all the relevant coordination standards prevalent in the UK and international markets. The needs of each type are described with the implications on each at installation.
The presentation identifies generic classes of circuit breakers, their physical characteristics & ratings.
The relative requirements of Time/Current Selectivity, Energy Selectivity and Back-Up Protection are explained in full, whilst more advanced zone selectivity techniques are also covered.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-02

Selecting Circuit Breakers Using Software Based Sources

This topic 'demystifies' the digital selection of coordinated upstream and downstream devices, focussing on the differences between back-up protection, or as it is sometimes incorrectly termed, cascading, and full energy-based selectivity. The presentation also provides examples of how to achieve selectivity using comprehensive energy-based criteria, rather than purely 'Short Circuit' and 'Overload' protection. There is a working example of a Amtech ProDesign Selectivity study and we examine the detail of selection criteria. We also consider a few tips and tricks when using trip unit settings to achieve total selectivity.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-03

Advanced Circuit Protection In Buildings and Infrastructure

Explains the role of ANSI codes in identifying the choice of basic protection functions, protection relays, software and other future digital means.
There is also an introduction to the microgrid buildings concept incorporating a requirement for interface and adaptive protection; load shedding; ATS functioning; synchronization and load managing through a power controller. This shows methods of achieving such facets through 'conventional' means & also through contemporary digitised methods. The topic discusses the future of software as a service for digital delivery.
In concluding the topic covers time based & zone selectivity, as well as directional versions of the same parameters of protection across the buildings sector.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-04

Protection Against Electric Shock & Thermal Effects According to BS 7671 18th Edition

Introducing BS7671:2018 and specifically highlighting new measures on protection against electric shock, thermal effects and the risks of fire therein.
The presentation covers more detail on the development and electrical solutions now available around modern thermal protection devices.
It also considers and explains impending BS7671:2018 recommendations on upstream arc quenching devices, optical arc detection and mitigating devices.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-05

Life Safety Transfer Switching

Detailing influences on the growing importance of transfer switch classification in life safety applications. Including an assessment of global standards and typical applications.
This covers preferred applications on all switching types; MTS, RTS & ATS controlling methods; as well as open delayed, open in phase & closed transition.
There is a full explanation of utilisation categories and the relative importance of fixed, switched and overlapping neutrals.
Contains a description of how single and dual by-pass systems impact on design.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-06

LV Switchboard Design to BS EN 61439

Discusses the consequences of change from BS 60439 in 2014 to the contemporary, BS EN 61439.
Emphasis on explaining the impact of forms of separation on panel design, built-in life protection measures and the dangers associated with potential internal arc faults.
A consideration of measures that can be applied to achieve comprehensive functional safety and avoid such life-threatening energy release, with consideration on the potential consequence of such incidents.

Duration: 1 Hour CIBSE CPD Approved

CPD CIBSE APPROVED UNTIL 2023

ELCPD-07

Electronic Power Breaker Trip Units

An outline of the differences between Thermal/Magnetic Circuit Breakers and Electronic equivalents. A comparison of the basic advantages and disadvantages for each.
The topic also explains other such features as Earth Fault Loop Impedance Values (Zs); lower trip unit ambient sensitivities; and comparative preferential power losses exclusively from electronic trips over thermal/mag counterparts.
Modern electronic breakers now include on-board analytical features such as embedded metering to class 1 and asset and facilities management; plus, advanced direct comms and BMS/EMS interoperability.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-08

Smart & Connected Communications (Bus Communications)

Contemporary fundamentals of bus communication with an impact assessment on power systems from remote control and settings, supervision, automation, diagnosis and maintenance. A consideration of potential modern communications issues. An assessment of protocols and their respective use and benefit. The emergence of IEC 61850 with a look at the difference between horizontal and vertical communications.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-09

Energy & Asset Management

This CPD looks at the subject of trends in the Energy and Asset management market. How can we save money and avoid penalties and at the same time improve energy efficiency and productivity by optimizing through digital transformation? Learn how to create a roadmap for energy management processes including accreditation to ISO 50001:2018 and how predictive maintenance enables OPEX savings in assets highlighting return of investment (ROI)calculation.
This includes an example of an energy and asset management platform for MV and LV power-distribution with advanced features to support the elevation of quality in electrical systems through Energy Monitoring; Energy Forecasting; Power Control; Power Quality; Predictive & Condition based maintenance; Asset Monitoring & Alerting and Notification.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-10

Decarbonising buildings (Low & Zero Carbon Buildings)

An assessment of how to improve a building's energy usage and an assessment of current directives & legislation to deliver Low to Zero Carbon (LZC), or Net Zero building optimisation.
The use of energy performance optimisation equipment and software such as embedded metering, asset management, communication, operational logic, and load management control.
The importance of network analysis, power quality and harmonics improvements are considered in the contemporary building designs.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-11

Modern Solutions for LV Breaker Distribution Applications

An outline of the main UK market share for power breakers in order to determine brand reference points for comparison of technical features. This compares respective technical feature terminology and branding covering basic and advanced protection; communications protocols and standard embedded features; respective trip unit upgrades functions and test kits; comparative trip unit adjustments; and part number cross reference sheets. It also assesses online methods for search for specific technical features.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-12

EV Charging

Considering changes to building regulations; ABB and EV charging in general; the overall market (including cars & standards); DC versus AC charging and the choice of the correct charger for the application. This topic is a comprehensive summary of this rapidly growing and changing technology.
The content covers remote software updates, diagnostics and back office management. It considers the market moves towards interoperability and public rapid chargers to accept debit / credit card payments, as well as reduced charge time requirements in line with the trend for longer range EVs. The new obligatory mandate for EV chargers in most new buildings is considered in detail.

Duration: 1 Hour CIBSE CPD Approved

CPD CIBSE APPROVED UNTIL 2023

ELCPD-13

Emergency Lighting Standards and Guidance

In this CIBSE Approved CPD you will be given all the information on Emergency Lighting Standards and Guidance under BS 5266-1:2016, EN1838:2013 and EN50172:2004 to be able to understand emergency lighting designs, how to meet the requirements, Who's responsible, understand the light level requirements and how to choose the correct emergency lighting system for the building requirements.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-14

Earthing & Lightning Protection to IEC BS EN 62305 standards

Lightning Protection Standards: General background to the nature of lightning and methods of protection relevant to British Standards including risk assessments, installation practices, and test methods. The course also includes the concepts of surge protection and the application of surge protection devices.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-15

Surge Protection to BS EN 62305 and BS 7671 18th Edition

The subject matter covers transient over-voltages, their causes, effects and how to protect against them. The presentation also covers standards requirements and compliance implications.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-16

Medium Voltage In Buildings

This considers contemporary criteria in the application of MV equipment within modern buildings. Issues of particular interest include Non-SF6 switchgear and F-Gas regulations; Air-Insulated equipment and Gas Insulated equipment in a new non-SF6 environment. It shows the growth of digital sensors against more conventional means and details Arc-Flash classification and criteria to IEC 62271, alongside arc ducting and busbar earthing.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-17

Fundamentals of UPS & Critical Power Protection

Starting at the basics of UPS, content considers standards, classifications, concepts and different topologies behind an assembly. It outlines the necessity for making the right choices on design for protecting modern critical loads. The presentation evaluates 'transformer-based' design and 'transformer-less' equivalents. It looks at the evolution of design concepts, comparing monolithic and contemporary modular systems, finishing by referencing both centralized and decentralised parallel architecture.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-18

MV Protection Innovation for Buildings

Answering such questions as what is MV protection, and indeed why is it needed, this presentation covers a comprehensive range of protection principles.
We cover the history of such protection equipment and devices whilst bringing matters up to date with an introduction to the IEC61850 standard. We discover the full range of different communication & automation applications possible under IEC61850 and consider the distinct advantages and simplicity of the latest modern protection devices.
Arc protection and inter protection is identified in this modern context, whilst restricted earth fault protection, remote I/O and contemporary GOOSE message procedures are each included in a number of practical applications and usage examples.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-19

A Prescription for Small To Medium Energy Efficient Building Design (TM39)

The topic starts with an overview of the CIBSE document TM39 Building Energy Management, before looking at other prevalent Energy Distribution & Energy Management standards and regulations in more detail.

We then delve into a more detailed investigation of the settings and challenges involved in achieving this difficult task in a modern small building's environment.

The session draws to a close with a view on energy data gather-ing equipment presently in the market, and also the growing number energy management solutions now developing in the same marketplace.

We conclude by presenting the benefits of such across all utities.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-20

Limited Fire Hazard

This presentation starts by defining true Limited Fire Hazard, in terms of ignitability, propagation, smoke and toxicity, covering the 'Fire Triangle' and 'Fire Retardant Systems'. It outlines materials that would be suitable for Limited Fire Hazard applications, and more importantly, those that are NOT!
Global compliance is an important aspect considered, identifying CERTIRED, FIRAS and FRACS schemes designed to improve performance and standards for manufacturers and suppliers, installation contractors and fire risk assessors. Installation products under fire conditions are fully appreciated.

Duration: 1 Hour CIBSE CPD Approved

ELCPD-21

A Guide to Power Transfer Equipment & Management

Starting with an assessment of the contemporary importance of back-up power in buildings and industry, this presentation widens emphasis to look at the different types of switching classifications across an increasingly complex building services sector. Typical configurations are detailed with their comparative applications in mind and it goes on to look at factors influencing the potential for embedded scenarios in the light of modern progressive breaker technology. Listing global standards, it then looks at typical locations within electrical design layouts.

Duration: 1 Hour CIBSE CPD Approved