TECHNICAL
EDUCATION
ACADEMY

School of Engineering

COURSE PROGRAMME

000065

ELPO010 - Power Protection Relay Systems

Large or small, each and every industrial, commercial and institutional organization needs to understand how to protect their investment in their electric power systems.



Learn from the Best in the Business!

Course overview

Intermediate level

Why take this course

Large or small, each and every industrial, commercial and institutional organization needs to understand how to protect their investment in their electric power systems. To do this properly, companies need to know how to perform an electrical protection analysis of all the parts of their power system: such as analyse fault data, come up with protection settings, then get all of the components of their plant to be controlled by the operators who are responsible for integrating their power system into communication and data acquisition modes.

The course will benefit personnel of all levels of experience because it covers a range of complexity of relay schemes, methods of testing relays and of analyzing relay operations. We discuss system protection principles, measurement devices used for relaying, basic relay schemes used, and the most common schemes used in the field. This course provides professionals with real examples from actual system protection situations.

Who it is for and how it helps

Electrical/plant engineers, supervisors, technicians and electricians with responsibility for the application, commissioning and/or maintenance of electrical protective equipment used on industrial electrical power systems.

What you will learn

- Develop a structured approach and understanding of major protection schemes
- Ensure safe operation of the electrical equipment and installations
- Become familiar with testing and measuring instruments
- Ensure sensible selection of protection functions and relay types for different operation scenarios
- Implement effective relay protection settings for different zones
- Conduct calculation of fault levels, propose protection settings, and demonstrate protection coordination

Curriculum

Modules 01–06

01 Fundamentals of Electrical Protection

- Power System Protection
- Fuse and MCCB Protection
- Classification and function of relays

02 Electrical Measurement Techniques

- Current and Voltage Transformers
- Current Transformer Magnetisation Curves

03 Fault Analysis and Calculation Techniques

- Basic Fault Level Calculations
- Calculation of Graded Time Settings

04 Testing and Commissioning Techniques

- Primary Injection Testing
- Secondary Injection Testing
- Trip Circuit Supervision Requirements

05 Protective Relaying Techniques

- Transformer Protection
- Motor Protection
- Generator Protection
- Feeder Protection
- Bus Zone Protection

06 Switchgear and Panel Wiring Standards

- Standard Marking of Switchgear Panel Wiring

Participation and contacts

Joining the programme

Contact the Academy and quote course code 000065 to confirm dates, delivery format, prices and enrolment terms.

Training for your team

Tell us your business goals, the roles and number of participants, and your preferred dates and location. This will help us discuss the right training option.

Preparing for the programme

The published programme does not specify any prerequisites. Contact us before enrolling to confirm how to prepare.

Discuss your training needs

mail@tecedu.org
www.tecedu.academy

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