# Caneco TCC software

## Curve discrimination

Ref. INST 106

### GOAL:

To be able to use the discrimination module in the Caneco Time Current Curve application for MV/LV installations, and to consequently deduce the protective device settings.

### Intended for

- **Design Office technicians and engineers**
- **Project Managers**
- **Engineers and technicians in Project Owners' electrical maintenance services**

**Duration:** 2 days (14 hours)
**Capacity:** 6 persons max.

### Prerequisites

- BTEC Higher National Diploma, NVQ Level 3
- Excellent knowledge of protective device setting principles in HV / LV
- Completion of the Caneco HT INST 104 course or be very familiar with MV distribution and equipment and the IEC 60-909 standard

### Teaching resources

- One computer per participant, videoprojector, course material

## Course contents

### Methodology

| | Theory | Practical |
|---|---|---|
| | 70% | 30% |

### > Refresher on the principles of designing over-current discrimination

- Reminder of the types of effective short-circuit currents: maximum and minimum, peak values
- Operating currents, equipment thermal stresses, neutral earthing
- Selecting protective device fuses, digital relays, current transformer
- Principle of the protection zone plan, types of discrimination

### > Standard aspects

- Applying the standard

### > Getting started with the Caneco HT discrimination module

- Configuring project information
- Explanation of the tool menu bar
- Software functions

### > Printouts

- Preview before printing, saving the report file in different formats
- Print configuration
- Producing and viewing data labels
- Presentation of the results table (semi-automatic)

### > Application exercises

*1st study: Delivery substation*

- Study of the overall protection incoming feed, an output of a transformer with fuse protection and an outgoing feed with a digital relay circuit-breaker to a transformer

*2nd study: Delivery substation with loop output*

- Study of the settings for loop output relays, discrimination with simple distribution of a transformer substation

*3rd study: Alternator-in-parallel supply providing standbypower*

- Assessing short-circuit levels, protective device setting group, directional protection
- Evaluation, comments

### > Miscellaneous

- Operating feedback
- Changes in the Caneco HT application and the Caneco TCC module