

Caneco HT software

Calculating line-to-earth short-circuit current

GOAL:

To be able to use the Caneco HT application for calculating line-to-earth faults in installations.

Intended for

- Design Office technicians and engineers
- Project managers engineers
- Engineers and technicians in project owners' electrical maintenance services

Duration: 1 day (7 hours)

Capacity: 6 persons max.

Prerequisites

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

Teaching resources

- > One computer per participant, videoprojector, course material

Course contents

Methodology

Theory

70%

Practical

30%

> Theory: Studying and calculating line-to-earth short-circuit faults in High Voltage

- Definition of terms relating to line-to-earth faults
- Gathering data from electricity utility and Project Owners. Approximations and assumptions, where applicable
- Method for calculating the neutral and its situation
 - Outline diagram for a MV B network
 - Outline diagram for a MV A network: NPC
 - Generator earthing scheme
 - Transformer earthing scheme
 - Earthing scheme for 3-phase machines
 - Selecting zero-sequence generators
- Description of phase/earth relay protective devices (introduction)

> Practical: Line-to-earth fault data entry windows

The exercises will be carried out on a pre-existing project, with the zero-sequence data to be completed by the participant:

1st application exercise:

- Entering details and calculating a looped MV A wiring system network connected to the public supply

2nd application exercise:

- Line-to-earth fault on generator supply, then loop as above

3rd application exercise:

- Line-to-earth fault on a power-station unit: example as per EN 60909-4. Exercise 2.3

> Calculation orientation

- Running the calculations for the electrical system