

## Course description

# F332

## Electronic releases

### Course Duration

The duration is 1 day.

### Course type

This is a classroom course with activities led by an instructor.

### Course Goal

After this course, you will have a depth knowledge of electronic protection releases and the protections they implement. You will be able to select the proper protection release, depending on the application.

### Student Profile

The course is intended for technicians.

### Prerequisites and Recommendations

The student must have a basic electro technical knowledge.

The following courses should be completed:

- F330 - Introduction to circuit breakers
- F300e - Tmax circuit breakers
- F310e - Emax circuit breakers



### Main Topics

- Basic concepts
  - overcurrent electronic releases: structure and functions
  - comparison to electromechanical releases
  - self-supply and auxiliary supply
- ABB SACE range of electronic protection releases
  - MCCB releases
  - ACB releases
- Overcurrent protections
  - basic protections: overload and short-circuit
  - selective short circuit protection
  - how to read time-current curves
  - advanced functions: start-up thresholds, double S, thermal memory
- Ground fault protection
  - distribution systems
  - G and double G protections
  - RC protection
- Advanced protections
  - voltage-based protections
  - reverse power protection
  - Early Fault (EFDP)
  - zone selectivity
  - directional protection
  - directional zone selectivity
  - dual setting
- Additional functionalities
  - measurements
  - signaling / communication
  - event detection + logging
  - fault / alarm data logging
- Sample applications
  - feeder protection
  - transformer protection
  - connection to Profibus via EP010 Fieldbus Plug
  - connection to Ethernet networks