

Course description

F331

Standards of circuit breakers

Course Duration

The duration is ½ day.

Course type

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

Course Goal

After this course, you will understand the concepts behind IEC and UL testing procedures. You will also know the additional requirements for circuit breakers used in marine application and subject to approval by shipping registers.

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

- General principles of IEC 60947
 - Definitions
 - Time-current curves and limitation curves: computation and representation
 - Conditioned and limited current
- Test sequences according to IEC 60947-2
 - Type tests and routine tests
 - Number of samples
 - Overtemperature on terminals and choice of cables/busbars in direct connection
- IEC 60947-2 Annexes
 - Additional tests due to electronic release
 - Tests for IT systems
 - Tests on thermomagnetic and residual current releases
- UL/ANSI Standards
 - UL 1066 Standard on ACBs and UL 489 Standard on MCCBs
 - Comparison with IEC, main differences
- CB scheme / GOST
- Shipping register approval
 - Procedure for entirely new breaker (interrupting part and electronic release)
 - New release: renewal of certification
- Specifications for marine applications
 - EMC, environmental, vibration, shock tests
 - Main differences in respect of IEC Standard.

