

Transformer testing Course

Course author: Balazs Sztari

Transformers
ACADEMY





Learn about relevant standards, test and evaluation methods, and requirements for test equipment of power transformers.

Balazs Sztari, the author, graduated as electrical engineer in Budapest. Beside of factory acceptance tests, his team performs commissioning, diagnostics and R&D tests on power transformers and rotating machines. He is currently a member of Cigre A2.53 working group.

The course is intended for:

1. Engineers and technicians, or students of the relevant topics
2. Company managers
3. All the employees of the transformers industry
4. Anyone interested in the transformer testing topic

Course details and key lesson points



Course outline and main entries

This course will be held on three levels: basic, intermediate and master's. The lessons for each level are listed as follows:

Basic level

E-lesson #1: Introduction

Basic presentation about transformer tests and the different topics will be discussed deeper, or the area of discussed topics will be extended based on the feedback and interest of the audience

E-lesson #2 - Measurement of voltage ratio and check of phase displacement

The definitions, test circuit requirements, procedures and results evaluation of voltage ratio and phase displacement measurement on transformers

E-lesson #3: Winding resistance measurement

The techniques and method of this test



Intermediate level

E-lesson #4: Short-circuit impedance and load loss measurement

Teaching very important and guaranteed parameters of the transformer, thus their correct and accurate measurement is essential

E-lesson #5: No-load loss and current measurement

Guiding through the topic of the elementary parts of every transformer factory acceptance test

E-lesson #6: Dielectric tests on power transformers

Providing an overview of dielectric tests without going into the details of test techniques. The overview lesson organizes the tests according to their standard (IEC and IEEE) requirements and which part of the transformer insulation is tested

E-lesson #7: Lightning impulse test

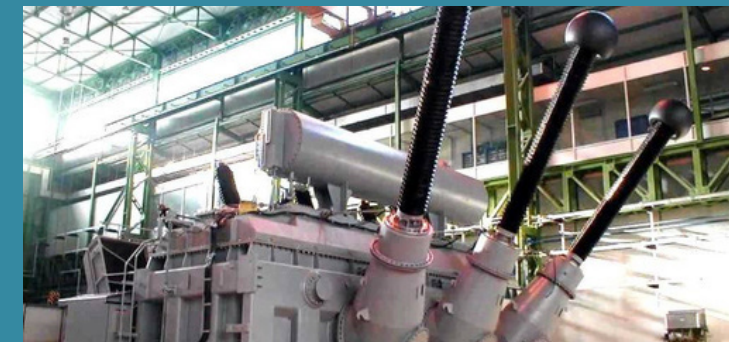
Showing the basics and techniques of lightning impulse test with the usual detailed explanations

E-lesson #8: Lightning impulse test (part 2)

The second part of lightning impulse testing lesson, with focus on wave-shape control and evaluation of oscillatory and high overshoot LI waveforms, including some examples of LI failure.

E-lesson #9: Switching impulse test

Learn about IEC and IEEE standard requirements, test connections, waveform control and evaluation, testing techniques, and failure cases



E-lesson #10: Applied voltage test

Keep learning about relevant standards, test and evaluation methods, and requirements of test equipment for applied voltage test of power transformers.

E-lesson #11: Line terminal AC withstand voltage test (LTAC)

Learn about IEC and IEEE standard requirements, test connections, testing techniques, and failure cases

E-lesson #12: Induced voltage test and PD measurement

The details of required test equipment, the test procedure, the interpretation method, and fault cases

Master's level



E-lesson #13: Temperature rise test

The theoretical fundamentals and standard references of this test., the details of required test equipment, the test procedure, the interpretation method, and fault cases

E-lesson #14: Sound level measurement

The measurement methods and standard references of this test, the details of required test equipment, the test procedure, the interpretation method

E-lesson #15: Temperature rise test (part 2)

This lesson is a continuation of lesson #13

E-lesson #16: Measurement of zero-sequence impedance

Discussing this important parameter for three-phase electrical network design and fault calculations. J

E-lesson #17: Insulation resistance measurement

The theoretical background and practical application of this measurement

E-lesson #18: Capacitance and dielectric dissipation factor measurement

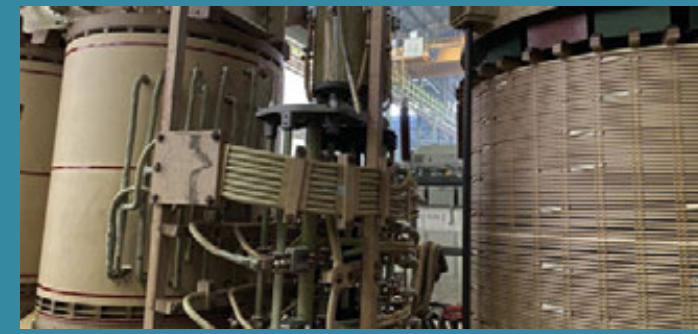
Learn about the AC insulation test method for the capacitance and loss factor. One of the most common methods for determining the quality and condition of transformer insulation.

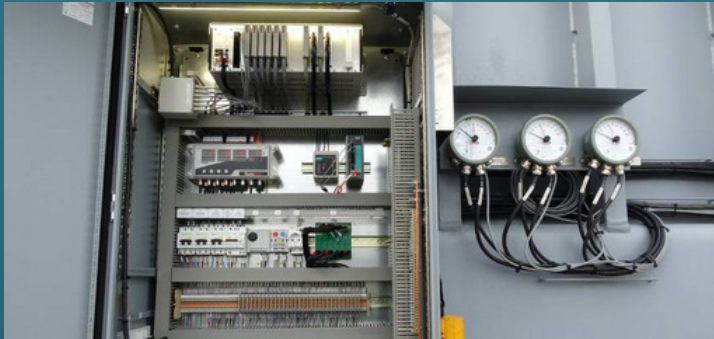
E-lesson #19: Testing of tap-changers and built-in current transformers

Explaining the tap-changers and built-in current transformers, as important components of the power transformer

E-lesson #20: Mechanical tests of power transformers

Details of the IEC and IEEE standard methods and their acceptance criteria, and some practical advice





E-lesson #21: Testing of auxiliaries of power transformers

Functional testing of control and protection devices of power transformers are the topic of this lesson, since they are the routine tests during FAT and an essential site commissioning test



Testimonials



Easy to follow and understand

Good job! To the point coverage of subject

Clear and practical. Presenter is enthusiastic which makes for a good experience.

Thanks to this course, I am improving my knowledge about transformer diagnostics.

I really appreciate the flexibility and the accessibility - thanks!

This is an awesome overview about transformer tests

Technical knowledge of the presenter is really immense!



Contact:

info@merit-media.com

Web:

transformers-academy.com