






Video Course with Online Practical Parts: Power System Protection Testing with the OMICRON Test Universe



 Handling time: approx. 25 hrs.

 English

 # oCprs14en

Benefit from a unique and flexible course combination. Get to know the OMICRON Test Universe Software from scratch with the help of short video tutorials. Perform real protection tests in our test lab via remote access on a protection relay and a CMC test set. You will work out realistic tasks to get familiar with the different software modules. Our trainer will assist you personally through email, phone or via our OMICRON APP to solve the given tasks. The trainer will supervise your test steps during the practical parts and support you when implementing the newly acquired knowledge into practice. This course will enable you to create comprehensive and reusable test sequences for overcurrent, distance and differential relays.

Objectives

- > Performing commissioning and periodic tests of protection relays
- > Testing overcurrent, distance and transformer differential relays with the OMICRON Test Universe
- > Using the OMICRON Test Universe from scratch

Content

- > Quick current and voltage output for easy wiring tests
- > Configuration of the test object parameters and the test hardware
- > Creating a flexible test plan for overcurrent relays including testing pick-up values and trip times
- > Hands-on testing of the overcurrent protection function
- > Creating a flexible test plan for distance relays including testing the trip times and zone reaches as well as switch on to fault (manual close) and auto-reclosing
- > Hands-on testing of distance relays
- > Creating a flexible test plan for transformer differential relays including testing the stability during external faults, the tripping characteristic, the trip times and the harmonic restraints
- > Hands-on testing of transformer differential relays

Solutions

Test Universe

Audience

Technical staff from utilities, transmission and distribution networks, railway grids, service companies and manufacturers involved in protection testing

Prerequisites

Basic knowledge of power system protection



Structure

Timeframe: 5 weeks | Work effort: ca. 25 hours

Introduction

Joint Introduction Session

- > Welcome
- > Schedule and timetable
- > Course material
- > Task overview, work assignments and details to practical parts

Unit 1

Configuration of test object parameters and hands-on testing of overcurrent protection

- > Self-study
- > Creating an OCC-document for testing overcurrent
- > Review
- > Practical part

Unit 2

Hands-on testing of distance relays

- > Self-study
- > Creating an OCC-document for distance relays
- > Review
- > Practical part

Unit 3

Hands-on testing of switch on to fault and autoreclosure

- > Self-study
- > Creating an OCC-document for modules
- > Review
- > Practical part

Unit 4

Hands-on testing of transformer differential relays

- > Self-study
- > Creating an OCC-document for differential relays
- > Review
- > Practical part

Implementation

This course is divided into four thematic units. Each part starts with the self-study of the respective Test Universe module. Realistic tasks will facilitate you to become familiar with the software. The active exchange with the other course participants and the continuous support from the trainer will help you to complete the given exercises. Based on this knowledge, you will create an OCC-test document on your own. The trainer will review the file before you perform the practical test in our test lab. For this you will get remote access to our (test) substation with protection relays from different manufacturers.

Your advantage: you decide when you work on the topics and exercises in a given time frame. Our OMICRON trainer is available during the entire period. Furthermore, a wide range of training material e.g. videos, documents and templates will be provided.

Your Tools

- > Computer/laptop with internet access
- > Headset
- > Webcam
- > OMICRON Test Universe
- > Cisco Webex access (provided by OMICRON)

Join our training courses and get registered on www.omicron.academy