

Maintenance and Operation of SENTRON 3WL and 3WA Air Circuit Breakers (LV-CBMAIN)

Short Description

This training course is intended for service, maintenance, and operating supervision personnel who work with SENTRON 3WL and 3WA air circuit breakers. Participants will learn about the design, functional principles, operation, inspection, and maintenance of both types of air circuit breakers. In addition, fault diagnosis, replacement of accessories and components, and the principles of protection and communication in low-voltage power distribution systems are covered.

Objectives

After completing the training, participants will be able to:

- Understand the design and operating principles of 3WL and 3WA air circuit breakers
- Safely operate, inspect, and maintain the circuit breakers
- Identify wear on main contacts and arcing chutes
- Replace accessories and components (such as ETUs and motor operating mechanisms)
- Configure settings of electronic protection units
- Perform testing and diagnostics, including documentation
- Apply the communication capabilities of 3WL and 3WA circuit breakers in practice

Target Group

- Service and maintenance technicians
- Installation and operating supervisors
- Operating personnel
- Panel builders and low-voltage technical specialists

Content

Basics and Theory

- Introduction and basic principles of low-voltage switchgear and control gear
- Switching principles and fields of application
- Overview of the SENTRON 3WL and 3WA portfolio

3WL and 3WA Air Circuit Breakers

- Design, functionality, and operation
- Differences and innovations of the 3WA compared to the 3WL
- Integration into switchgear assemblies and retrofit options

Inspection and Maintenance (Practical Part)

- Inspection of main contacts and arcing chutes
- Maintenance criteria and maintenance intervals
- Installation and removal of accessories, such as:
 - ETU (Electronic Trip Unit)
 - Motor operating mechanism
 - Shunt releases and undervoltage releases
- Practical maintenance and inspection instructions

Electronic Protection

- Principles of low-voltage protection technology
- Fault scenarios, selectivity, and back-up protection
- Adapt settings and perform testing of ETUs (3WL and 3WA)
- Firmware and software updates (e.g. ETU600 for 3WA)

Testing and Diagnostics

- Internal testing
- Testing with manual test equipment
- Software-supported testing (3WA), including reporting and documentation

Communication and Digitalization

- Principles of industrial communication (e.g. Ethernet or PROFINET)
- Communication and option modules for 3WL and 3WA
- Introduction to and practical exercises with the powerconfig software tool
- Integration into energy and installation monitoring systems

Support

- Available Siemens documentation
- Online support and digital tools

Note

- * Practical exercises using 3WL and 3WA ACB breakers

* Safety shoes are mandatory!

Type

Face-to-face training

Duration

3 days

Language

en, nl

Fee

1,875 EUR