

Course description

J130 Power Electronics UNITROL® 1000 Service and Commissioning

Course goal

UNITROL® 1000 provides a comprehensive range of Automatic Voltage Regulators and is intended for small generators and industrial synchronous machines. The maximum output current for continuous operation is 15 ADC. The most advanced microprocessor technology together with IGBT semiconductor technology allows it to be used in all conceivable areas of application. The course goal is to teach students to operate, maintain and perform simple troubleshooting of the automatic voltage regulator (AVR).

Learning objectives

Upon completion of the course students will be able to operate the system either using the front panel or the PC tool, perform standard maintenance work.

Participants

Operator and maintenance personnel in power plants and industrial sites

Prerequisites

Basic knowledge of electronics and power generation
Basic personal computer knowledge

Topics

Basics of the synchronous machine

Duties of excitation system

Major components of the UNITROL® 1000

The Hardware configurations and parts

- Control elements
- Device connections
- Inputs/outputs

The main software function of UNITROL® 1000

- Voltage regulator
- Limiters
- Power factor and Var control
- Droop compensation control



- Boost output
- Synchronisation
- Monitoring and protection

Operating aspects

- How to use the front plate panel
- Start/Stop sequence
- Commands and Indications
- Exercises using the demo equipment

How to use the PC-tool

- How to install the PC-tool
- How to display signals
- How to change parameter
- How to operate the voltage regulator using the PC-tool

- Exercises using the demo equipment and PC-Tool

Servicing and Faults

- Trouble shooting
- Maintenance aspects

Methods

Lectures

Hands on training using demo equipment with generator simulator

Duration

3 days

Number of Participants: max. 6

Tailor made on-site courses on request