
COURSE DESCRIPTION

J670 UNIREC

Service and Commissioning training

Course goal

The course goal is to teach students to start-up, adjust, operate, maintain and troubleshoot the UNIREC system.

Learning objectives

Upon completion of this course, the students:

- Remembers the synchronous machine and its operating conditions
- Know the design aspects of UNIREC and its possible configuration
- Are familiar with the principle mode of operation of the electronic devices
- Can read and interpret the hardware drawing
- Are able to operate the voltage regulator using the excitation control builder tool
- Change parameters and display signals
- Use the trending and data logger
- Reading the fault logger
- Identify and interpret alarm indication
- Can explain the most important software functions
- Are able to localize and replace defective components
- Are familiar with the test and commissioning procedure for UNIREC

Participant profile

Application, Test, Service and Commissioning Engineers

Prerequisites

- Basic knowledge of electronics and power generation
- Personal computer knowledge is required
- English Level: B1

Topics

- Basic of excitation system and operating condition of the synchronous machine
- Configurations of UNIREC for various applications
- Setting, Indication and principle of operation of the hardware devices
 - Main Controller AC 800PEC
 - Excitation Controller CCM6080
 - Measuring and I/O interfaces (CIO)
 - Converter Interface (CCI)
 - Service Control Panel SCP
 - Converter types
- Principle of operation of the software, difference to UN6080
- Ethernet addressing and communication to upper control systems
- How to use the tools for UNITROL 6080 utilized for commissioning
 - PECTool for SW download and upload
 - PECTool for trending and data logger
 - Control Builder for Parameter modifications

- How to use the Service Control Panel SCP
 - How to change parameters, how to record signals using the data logger and trending features
 - Software downloads
- Discussion of the most important parameters
- Hands-on Training using UN6080 training equipment

Learning methods and tools

- Lectures and demonstrations
- Practical exercises with training equipment

Enrollment

Registration Link: [J670 - UNIREC Service and Commissioning](#)

Duration

5 days classroom training,
Max. 8 participants

Classroom training



Course map

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Topics	<ul style="list-style-type: none"> — Course overview – Basics of excitation system — Thyristor Converter – Overview of UNIREC System – System Topology – Application Range – Converter Types – Control Panels – How to use Excitation Control Terminal - Operation - Trending - Data Logger - Events – User’s manual operation 	<ul style="list-style-type: none"> – Principe of operation of UNIREC – Interface – How to operate – Use of Control Builder interaction windows – Operation with the Service Control Panel (SCP) – Factory/Site visit 	<ul style="list-style-type: none"> – Hardware Concept – Hardware Components – Function of the Hardware Components – How to read the Hardware Schema – Hardware Schema Exercisese – Software Concept – Software Function – Software Tools – Software Handling 	<ul style="list-style-type: none"> – Overview of the PECTool – Display Events – Action for Alarm and Faults – Trending – Transient Recorder – Change IP Address Setting of controllers – Backup / Download the software – Control Builder Project Backup/Restore – Download the CIT software to the controller 	<ul style="list-style-type: none"> – Commissioning Procedure Overview – Specific Tests – How to perform preventive maintenance work - schedule - procedures - spare parts – How to perform corrective maintenance work - Alarm handling - troubleshooting procedure - Replacement of defective components – Evaluation – Conclusion & Feedback
Time	8:30 am – 4:30 pm	8:30 am – 4:30 pm	8:30 am – 4:30 pm	8:30 am – 4:30 pm	8:30 am – 4:30 pm

Typical course layout (time or sequence may change)

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