

ABB UNIVERSITY & ONLINE ACADEMY FOR EXCITATION AND SYNCHRONIZATION

# J830 - UNITROL® 6000 Medium Upgrade to X-Power

included in J820, in person training

## Course goals

The course goal is to teach the students how to handle the UNITROL® (X)-Power control hardware and converter system based on the knowledge gained during the J810 and J820 course.

### Main learning objectives

Upon completion of this course, participants will:

- Know the design aspects of UNITROL® 6000 (X)-Power and its possible configuration
- Be familiar with the principal mode of operation of the electronic devices
- Read and interpret the hardware drawing
- Be able to operate the voltage regulator using the excitation control terminal:
- Be familiar with the software structure and its handling (upload, download)
- Be able to use the Control Builder Tool to make modifications on an existing project
- Be able to localize and replace defective components
- Be familiar with the test and commissioning procedure of UNITROL® 6000 X-Power
- Be allowed to start the certification program for commissioning UNITROL® 6000 X-Power

Participant profile(s)		Prerequisites	
_	Service and Commissioning Engineers, System or Application Engineers, Test Engineers	Completed J810 UNITR Commissioning and J8 Control Builder Program English Level: B1	

Delivery and learning methods	Duration		
- Experienced trainer	<ul> <li>Max. 14 participants</li> </ul>		
<ul> <li>Practical exercise using UNITROL® 6000 X- Power excitation</li> </ul>			
- Demo equipment			
- Focus on Hands-on training using generator			
simulator (SMTS-RT)			

# Registration

For registration or enquiries please visit: ABB University & Online Academy for Excitation - Enquiries ABB MyLearning page (requires log in): J830 UNITROL® 6000 Medium Upgrade

Notes

# **Topics**

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- Basic of excitation system and operating condition of the synchronous machine
- Configurations of UNITROL® 6000 X-Power for various applications with its redundancy principle
- Setting, Indication and principle of operation of the hardware device
  - Main Controller AC 800PEC
  - Measuring and I/O interfaces (CIO) Converter Interface (CCI)
  - Excitation Control Terminal (ECT)
  - Converter Control Panel (CCP)
  - · Converter types
- Principle of operation of the software, difference to UNITROL® 6000 X-Power
- Ethernet addressing and communication to upper control systems
- How to use the tools for UNITROL® 6000 X-Power utilized for commissioning
  - · PEC tool for SW download and upload
  - ECT
  - · Control Builder for SW modifications
- How to use the Local Control Terminal ECT
  - How to setup up a particular configuration
  - How to change parameters
  - · How to record signals using the data logger and trending features
  - · Software downloads
- Discussion of the most important parameters
- Modification of the software using Control Builder
- Hands-on Training using UNITROL® 6000 X-Power training equipment



