

Course description

G820 Medium Voltage Drives MEGADRIVE LCI with AC 800PEC Operation and Maintenance

Course goal

Load Commutated Inverters (MEGADRIVE LCI) or in other terms Static Frequency Converters (SFC) are used together with large synchronous motors as an adjustable speed drive or to start large gas turbines without high inrush current on the power supply. These systems are available in a power range from 1MW up to 100MW.

The course goal is to teach students to operate, maintain and troubleshoot a MEGADRIVE LCI controlled by AC 800PEC.

Learning objectives

Upon completion of this course, the participants:

- know the function of a MEGADRIVE LCI
- know the different modes of operation
- are able to operate and maintain a MEGADRIVE LCI
- are able to localise faults and replace defective parts

Participants

Operating personnel
Maintenance personnel

Prerequisites

Basic electrotechnical knowledge
Basic knowledge of synchronous machines
Personal computers knowledge is recommended

Topics

- Power electronics in general
- The function of rectifiers and converters
- Static Frequency Converter
- Principal function
 - Configuration for various applications
 - Regulation circuits
 - Characteristic curves
 - Limitations, monitoring and protection
- Operation
- Operating modes
 - Annunciation
- Safety in relation to MEGADRIVE LCI
- Documentation
- Project documentation
 - How to read the Hardware schematics
 - Hardware components
 - Functions, settings



- Interfaces to peripherals
- Water cooling / Air cooling
- Maintenance and Trouble shooting
- Replacement of Thyristors
- Software tools:
 - LCI Control Terminal
 - (Transient Recorder)
- Test programs

Methods

Lectures and demonstrations
Practical exercises inclusive hands-on training using a LCI-model
Factory tour

Duration

4 days
Number of participants: Max. 8
On site course on request

Course description

G820 Medium Voltage Drives MEGADRIVE LCI with AC 800PEC Operation and Maintenance

Course outline

Day 1	Day 2	Day 3	Day 4
<ul style="list-style-type: none">■ Course overview■ Basic LCI-Theorie<ul style="list-style-type: none">- overview- rectifier- mode of operation- blockdiagram- on/off sequences- protection■ Characteristic curves	<ul style="list-style-type: none">■ Operator Training<ul style="list-style-type: none">- Converter- Safety- Operation- Fault handling■ User's manual operation■ Maintenance Training<ul style="list-style-type: none">- Safety instruction- Converter overview- Documentation- How to read hardware drawing■ Factory tour	<ul style="list-style-type: none">■ Maintenance Training (cont.)<ul style="list-style-type: none">- Preventive maintenance- Corrective maintenance■ Overview Hardware component<ul style="list-style-type: none">- signal flow- setting	<ul style="list-style-type: none">■ Maintenance Training (cont.)■ Testprograms overview■ User's manual maintenance and troubleshooting■ Trouble shooting

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Power Electronics and Medium Voltage Drives

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Course description

G830 Medium Voltage Drives MEGADRIVE LCI with AC 800PEC Service and Commissioning

Course goal

Load Commutated Inverters (MEGADRIVE LCI) or in other terms Static Frequency Converters (SFC) are used together with large synchronous motors as an adjustable speed drive or to start large gas turbines without high inrush current on the power supply. These systems are available in a power range from 1MW up to 100MW.

The course goal is to teach students to operate, maintain, commission and troubleshoot a MEGADRIVE LCI controlled by AC 800PEC

Learning objectives

Upon completion of this course, the participants:

- know the function of a MEGADRIVE LCI
- know the different modes of operation
- are able to operate and maintain a MEGADRIVE LCI
- know how to perform the test programs
- are able to localise faults and replace defective parts

Participants

Commissioning, application and service engineers
Testing and maintenance personnel who need deep knowledge in LCI - systems

Prerequisites

Electrotechnical college qualifications or equivalent
Basic knowledge of synchronous machines
Basic knowledge of personal computers

Topics

- Power electronics in general
- The function of rectifiers and converters
- Static Frequency Converter
- Principal function
 - Configuration for various applications
 - Regulation circuits
 - Characteristic curves
 - Limitations, monitoring and protection
- Operation
- Operating modes
 - Annunciation
- Safety in relation to MEGADRIVE LCI
- Documentation
- Project documentation
 - How to read the Hardware schematics
 - Software overview
- Hardware components



- Functions, settings
 - Interfaces to peripherals
 - Water cooling / Air cooling
- Maintenance and Trouble shooting
- Replacement of Thyristors
 - Software tools:
 - PECInstaller
 - LCI Control Terminal (Operation, Event, Transient Recorder)
 - Test programs

Methods

Lectures and demonstrations
Practical exercises inclusive hands-on training using a LCI-model
Factory tour

Duration

5 days
Adds
Number of participants: Max. 6
On site course on request

Course description

G830 Medium Voltage Drives

MEGADRIVE LCI with AC 800PEC Service and Commissioning

Course outline

Day 1	Day 2	Day 3	Day 4	Day 5
<ul style="list-style-type: none">■ Course overview■ Basic LCI-Theorie<ul style="list-style-type: none">- overview- rectifier- mode of operation- blockdiagram- on/off sequences- protection■ Characteristic curves	<ul style="list-style-type: none">■ Operator Training<ul style="list-style-type: none">- Converter- Safety- Operation- Fault handling■ User's manual operation■ Maintenance Training<ul style="list-style-type: none">- Safety instruction- Converter overview- Documentation- How to read hardware drawing■ Factory tour	<ul style="list-style-type: none">■ Maintenance Training (cont.)<ul style="list-style-type: none">- Preventive maintenance- Corrective maintenance■ Overview Hardware component<ul style="list-style-type: none">- signal flow- setting	<ul style="list-style-type: none">■ Maintenance Training (cont.)■ Testprograms■ Flux Calculation■ Check of firing angle	<ul style="list-style-type: none">■ Maintenance Training (cont.)■ Software handling■ User's manual maintenance and troubleshooting■ Trouble shooting■ Commissioning procedure

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