
COURSE DESCRIPTION

G830 MEGADRIVE-LCI with AC 800PEC Service & 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.

Main learning objectives

Upon completion of this course, the participants will be able to:

- 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 localize faults and replace defective parts

Participant profile

Commissioning, application and service engineers

Testing and maintenance personnel who need deep knowledge in LCI - systems

Prerequisites

- Electro technical college qualifications or equivalent
- Basic knowledge of synchronous machines
- Basic knowledge of personal computers

Topics

Power electronics in general

- The function of rectifiers and inverters

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 troubleshooting

- Replacement of Thyristors
- Software tools:
 - AC 800PEC tool
 - LCI Control Terminal (Operation, Event, Transient Recorder)
- Test programs

Course type

This is a face to face class room training with maximum 6 participants.

Learning methods

- E-Learning, internet-based course
- Lectures and demonstrations
- Practical exercises with training equipment

Duration

5 days classroom training

To register:

Please apply online ([signup](#) required): [ABB MyLearning/G830](#)

Additional course dates are available on request.

Please note: The course is only carried out if at least 4 participants have been booked.

Course outline

DAY 1	DAY 2	DAY 3
<ul style="list-style-type: none">– Course overview– Basic LCI-Theory<ul style="list-style-type: none">- overview- rectifier- mode of operation- block-diagram- 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
DAY 4	DAY 5	
<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– Trouble shooting– Commissioning procedure	



Classroom training



Hands-on training

COURSE DESCRIPTION ADD-ON FOR G830

G830vc MEGADRIVE LCI with AC 800PEC

Service & Commissioning

Virtual Classroom

Preface

Due to travel restrictions in connection with COVID-19, the access to normal classroom trainings is limited. Therefore, we offer the course also as Virtual Classroom version. Certain parts of the course can be taught through web tools, but some hands-on exercises cannot be covered through web. Therefore, special prerequisites and certification limitations apply.

Main learning objectives and topics

The objectives and topics are the same as for the regular classroom course (see course description *G830 – MEGADRIVE -LCI with AC 800PEC Service & Commissioning*), except hands-on training requiring hardware.

Participant profile

Same as for regular classroom course

Prerequisites

- On-site service experience on MV Applications
- Successful completion of the preparation tasks

Methods

- In the mornings: Approx. 3h instructor-led Virtual Classroom training (e.g. via MS Teams)
- Interactive training with state-of-the-art online tools in small classes of 5 – 10 participants.
- In the afternoons: Self-learning tasks on training equipment accessed over web, self-study and self-assessments; trainer available for support

Limitations

The following topics cannot be covered to the same degree as in the regular classroom training:

- Operation of trainings unit
 - Execution of the test programs
 - Measurements with oscilloscope
 - Fault finding exercises on trainings unit
- Those topics are taught as good as possible using videos, demonstrations, case studies, etc.

But the practical skills have to be acquired through other means in order to achieve the certificate.

It is strongly recommended to participate after this training to the classroom training G839 MEGADRIVE-LCI hands-on course to get deeper knowledge of the product. The certificate can be acquired by a self-declaration followed by an assessment.

Duration

- Up to 8 hours e-learning and preparation tasks
- 5 days Virtual Classroom training

To register

Please apply online (log in to MyLearning first): [ABB MyLearning/G830](https://mylearning.abb.com/G830)