

## Mark II course

Learn the operations, maintenance and troubleshooting techniques on this control systems in a classroom environment as opposed to 2pm Friday afternoon when the demand is high and the unit won't start.

This course is intended for E/I Technicians, Engineers and Operators.

### Course Outline

#### Introduction

- Instructor
- Course Outline
- Daily Schedule
- Questions

#### Gas Turbine Theory

- Simply Cycle Gas Turbines
- Performance Curves

#### Equipment Overview

- Gas Turbine
- Accessory Base and Auxiliary
- Equipment
- Component Description

#### Auxiliary Systems

- Schematic Piping Diagrams
- Device Summary
- Lube Oil and Hydraulic Supply
- Trip Oil and Control Oil
- Gas Fuel System
- Fuel Forwarding and Fuel Oil System
- Atomizing Air Systems and Purge
- Water or Steam Injection System
- Cooling and Sealing Air
- Cooling Water
- Other

**Control Panel Arrangement****Test Equipment****Power Supplies****Control Principles****Control Sequences Using Elementaries****Start Up Control**

- System Description
- Drawings

**Speed Control****Temperature Control****Servo Valve Drive Systems****Overspeed / Over Temperature****Protective Circuits****Calibration Procedures**

- Control Specifications
- Start Up Control
- Speed Control
- Temperature Control
- Fuel Control Mechanisms

**Troubleshooting**

- Routine Problems
- Case Discussions

**Course Conclusion****Objectives**

After five days you will master the following objectives:

- Competently use the GE Mk-II drawings/schematics normally available on the job-site.
- Thoroughly understand the print and identification numbering system used throughout the turbine control system.
- Trace out the electrical signals throughout the control systems.
- Understand the basic theory used with summing devices.
- Understand the hydraulic servo-mechanisms.
- Given a normal change in operating conditions, describe the proper response of the control system and the response of the individual components.
- Understand the appropriate calibration procedures.
- Understand troubleshooting sequences peculiar to this control system.
- Communicate control problems in a more effective manner.

**Examination & Diploma**

Those who attend this course are automatically qualified to take the Certification Examination.

There are no additional expenses to participate in the exam. An 80% pass mark is required and the examination length will not exceed 2 hours.

Those who obtain a positive result will receive a diploma which is internationally accepted and accredited by IACET (International Association for Continuous Education and Training).

**Specifications****Entrance requirement**

Both levels are required to participate:

- Engineer
- I&C Technician

**Instructor**

The Mark II course will be presented by a highly respected professional with GE field and training experience. This course will be executed in English: all training material is in English as well.

**Price**

The price for this course is 2.500,00 Euros per person. (VAT excluded).

Payment in advance after receipt of our invoice.

ABN-Amro Bank, Arnhem, the Netherlands

Bank account: 530028778

IBAN: NL30ABNA0530028778

BIC (Swift code): ABNANL2A

**What's included?**

- Training manual
- A training by a certified trainer who uses sheets for presentation.
- Lunch
- Examination

**What's not included?**

- Hotel & accommodation

Upon request accommodation can be booked for you, but for your own expense. The cost for an overnight stay is about 120,- euro's per night. Please mention your request for a hotel accommodation in your email.

**Location and duration**

The location of this course is in Arnhem, the Netherlands and has a duration of five days.

Monday	10.00 – 17.00
Tuesday – Thursday	09.00 – 17.00
Friday	09.00 – 16.00

A free lunch, coffee & tea and soft drinks are included.

**Registration**

Wish to participate? Please register online at [www.speedtronic.com](http://www.speedtronic.com) or fill in the registration form in this brochure and fax it to +31.481.42.00.76

Don't forget to subscribe at least 4 weeks prior to the first course day. When registered, you will receive an order confirmation.

**Cancellation**

If you have subscribed and you are forced to cancel due circumstances beyond your control, you can cancel the registration according our cancellation policy below:

- Cancellation up to 6 weeks before course date: full refund
- Cancellation < 6 weeks: no refund, but the opportunity to attend next course.

We reserve the right to cancel or to defer the course to a later date in the event of too few participants. In such case a full refund will be in order.

We are not responsible for any expenses related to non-refundable airline tickets or hotel accommodations.

**Further information**

If you need more information about this course or other course possibilities, please don't hesitate to contact us  
phone: +31.481.42.00.73  
e-mail: [sales@speedtronic.com](mailto:sales@speedtronic.com)