

Course Name: **INDUSTRIAL DRIVES**

Short description

This training course shows you how to adapt parameter settings for 6RA80 SINAMICS DC MASTER drive with dc motor and SINAMICS G120 INVERTER with 3 phase induction motor it also gives you the opportunity to broaden your theoretical knowledge by means of exercises carried out on special training equipment. Once you have completed the course, you will be familiar with the functions of ac & dc drive and the respective interfaces. You will also be able to commission any drive quickly and reliably. Routine fault diagnosis and rectification help save time and optimize the availability of your plant.

Objectives

This course is intended to provide knowledge and skills related to the 6RA80 SINAMICS DC MASTER and SINAMICS G120 inverter module as it pertains to commissioning, operation, configuration, maintenance, diagnostics, and troubleshooting. It is formatted as a combination of instruction and carefully structured, hands-on exercises aimed at developing job related knowledge and skill.

Target Group

- Engineering students, Trainers, Planners/implementers, Programmers, Operators, Service engineers/service technicians.
- Commissioning /Configuration/ Maintenance/ Application engineers.

Content

- Brief basic power electronics (including Thyristors, Power-Transistors & IGBTs), Control system (including closed loop control, PID basic concept), DC Motor and AC Motor Basics (construction, principle of operation, T-N Characteristics etc.).
- DC & AC Drives Basics (Block diagram, 1Q-4Q principle of operation, T-N Curves etc.).
- Selections, Calculations & applications of typical DC drives & AC drives.
- Siemens DC Drives (6RA80) & G120 inverter - Ratings, Specs, features, options & applications.
- Structure and functional principles of the SINAMICS DC MASTER converter: Control Unit CUD, Power Module, excitation circuit, interfaces.
- Design and principle of operation of the SINAMICS G120 inverter with: 1.Control Unit (CU), 2.Power Module (PM).
- Commissioning and parameterization activities using the BOP operator panels as well as the STARTER PC program.
- Optimizing current regulation and closed-loop speed control, automatic optimization.
- Trace signals within the drive configuration utilizing BICO technology.
- Function block diagrams: Set point channel, inputs/outputs, free function blocks.
- Concept of CDS and DDS, Operating states, alarms, and fault codes.
- Practical exercises with the BOP and STARTER on training equipment.
- Troubleshoot drive failure to respond to a command source, Use the diagnostic fault and warning to troubleshoot the system.

Prerequisites

- Basic knowledge on electrical machine, drives, power electronics, control system, digital electronics and computer networking.
- The ability to use an MS Windows PC, keyboard and mouse.

Note

In this course you will work with 6RA80 SINAMICS DC MASTER DRIVE, SINAMICS G120 INVERTER, BOP and software SINAMICS STARTER.

Type

Face-to-face training.

Duration

36 hrs.

Language

English.

