

G570e- DC Fundamentals – Internet course

DC machine basics and DC drive basics



Course Type

Internet course

Course Duration

The course duration is approximately 0,5 - 1 day depending on personal background knowledge and study pace.

Course Goal

The goal of this course is to teach students the fundamentals of DC technology.

The training covers the following topics:

- DC machine basics
- DC drive basics (6-pulse-bridge)

Student Profile

This course is intended for electricians, technicians, and engineers who install, operate and service DC drives.

This course is also suited for beginner in DC technology and interested persons.

Prerequisites

- Basic knowledge about power electronics.
- Experience in using a computer and Internet browser. The recommended browser is Microsoft Internet Explorer version 5.0 or later.
- An Internet connection

Description

This course includes self-study material, self-assessment questions and interactive exercises.

Course Objectives

Upon completion of this course, students will be able to:

- Understand the principle functionality of a DC machine
- Understand the principle functionality of a DC drive
- Describe the operation modes of a DC drive system

Main Topics

- Construction of a DC machine
- Types of DC motors
- Functionality of motor windings
- Operation mode of DC machines

- General layout of a thyristor based converter
- Functionality of a 6-pulse thyristor bridge
- Armature 2-quadrant and 4-quadrant converter
- Armature voltage and current
- Continuous and discontinuous current
- Driving and braking mode
- Controller structure in a DC drive
- Field converter
- Commutation
- Harmonics and electrical distortion
- Typical drive configurations
- Fusing of DC drive systems

Course Specifications



DC Fundamentals

DC Technics G570 e

Portfolio G575 e

DCS800 Basics

DCS800 D1...D4 G560 e
 • DCS800 Hardware c
 • Firmware Structure
 • Software Tools

DCS800 D5...D7 G561 e
 • DCS800 Hardware c

Advanced Courses

CoDeSys Programming G562 e
c

Large Drives G568 e
c

Cranes G567 e
c

Revamp / Rebuild G566 e
c

Sales / Marketing

DC-Market G571 e
c

Channel Management G572 e
c

Dimensioning G573 e
c

e e-learning c classroom
 G5xx course number

Workshops

CoDeSys Professional G562 e
c

CoDeSys Winder G563 e
c

CoDeSys Non-motoric applications G564 e

Customer's PLC G565 e

