

G102 – AC Drive Dimensioning and Selection



Course Type

Classroom course

Course Duration

The course duration is 1 day.

Course Goal

The goal of this course is to teach students the basics of frequency converter drives and give prerequisites to design applications and dimension frequency converter drives.

Student Profile

This course is intended for persons responsible for designing, purchasing or operating electrical drives.

Prerequisites

Prior to attending this course, students should have basic knowledge of electronics.

Course Objectives

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

- Describe frequency converter construction and function principles
- Dimension and select a suitable motor and frequency converter for an application
- Understand the effects of harmonics, bearing currents and EMC

Main Topics

Frequency converter controlled AC-motor:

- Loadability
- Protection
- Bearing currents
- Reinforced insulation

Frequency converter construction and function:

- PWM, pulse width modulated frequency converter
- DTC, direct torque controlled frequency converter

EMC and frequency converters:

- Installation
- Mitigations in industrial environments
- EMC and floating networks

Frequency converter drive dimensioning:

- Pump and fan drives
- Constant torque drives
- Reelers and constant power drives

Harmonics