

## [On-Line] Crane Physics and Drive sizing (CR-BASICS)

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### Short Description

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This course teaches participants to understand the cranes mechanical system and its demand for physical quantities like power, torque, speed, acceleration etc. It provides general understanding of AC motor theory as well as AC converter power electronics.

### Objectives

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This course teaches participants to understand the cranes mechanical system and its demand for physical quantities like power, torque, speed, acceleration etc. It provides general understanding of AC motor theory as well as AC converter power electronics. It enables the participants to size the complete electrical drive systems for crane.

**This course has a Course price of EUR 500, but is free for Partners of Cranes Erlangen.**

### Target Group

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Sales Engineers, Business Developers, HW/SW engineering personnel

### Content

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This course content is:

- Mechanical crane system, drum, gearbox, pulley, load, hoisting and lowering. Calculation of physical quantities like speed, power, torque, acceleration and deceleration.
- Brakes: drum-brake and disc-brake for hoisting gear, built-on holding brakes for travel gear. Safety aspects. Dimensioning of brakes.
- AC motor theory
- AC motor dimensioning: Intermittent duty, overload capability, temperature de rating. Overview of Siemens motor range for crane application
- AC converter theory. SINAMICS S120 / G120 product family. Power infeed concepts with BLM, SLM, ALM or AC/AC power modules. Application manuals: drive selection, common mode oscillation and their effects on motor windings
- SINAMICS sizing, physical aspects

### Prerequisites

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Pre conditional to this course is a degree in electrical engineering

### Note

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**This course has a Course price of EUR 1.650, but is free for Partners of Cranes Erlangen.**

### Type

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Online-Training

### Duration

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5 days

### Language

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en

### Fee

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500 EUR