

Item No.: CO4204-4A

Course - Electrical engineering 4: Magnetism/electromagnetism

Includes:

- 1 Experiment card with 7 specific circuits
- Transformer with removable iron core
- Compass needle for investigating magnetic fields
- Electromagnetic components: reed switches, Hall switches and relays
- CD-ROM with Labsoft browser and course software

Course contents:

- Explanation of the phenomenon of magnetism
- Identification of magnetic materials
- Listing examples for the use of magnetic materials in electrical engineering
- Introduction to and explanation of the terms magnetic poles, magnetic fields, field lines and field intensity
- Investigating the magnetic field of a current-carrying conductor
- Investigating the magnetic field of a coil (with air, with iron core)
- Introduction to and explanation of the term electromagnetic induction
- Investigating the switch-on and switch-off response of an inductor
- Lorentz force
- Design and function of a transformer
- Investigating the effect of an iron core on the transmission response of a transformer
- Determining the transmission ratio of a transformer by measurement
- Measuring the response of a transformer to various loads
- Design of electromagnetic components: relays, reed switches
- Experimental demonstration of the function of relays and reed switches
- Experimental investigation of application circuits using electromagnetic components: control circuits with latching, Hall sensors
- Course duration 4 h approx.

