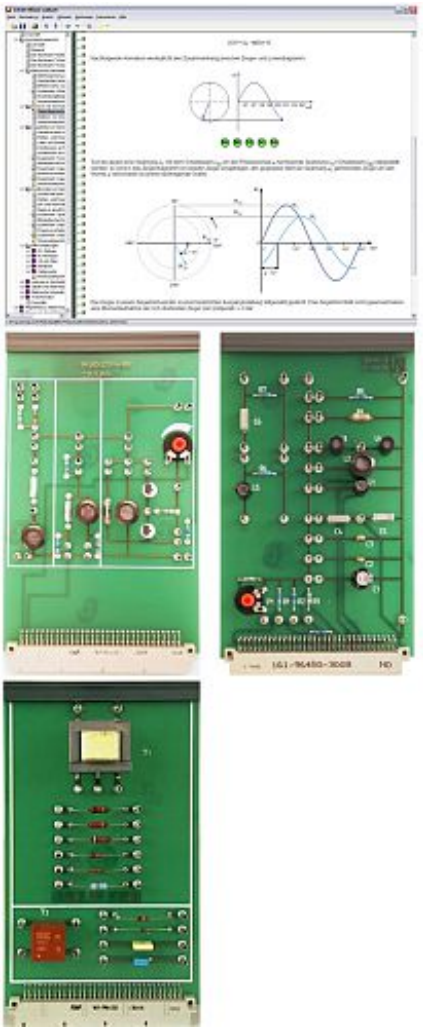
Item No.: SO4204-4F

Course - Electrical engineering 2: AC technology



Includes:

- 1 Experiment card with R, L, C passive components for combination using 2-mm sockets
- 1 Experiment card with RLC resonant circuits, 1 circuit tunable
- 1 Experiment card with 1 power transformer, 1 repeater transformer and load circuits
- CD-ROM with Labsoft browser and course software

Course contents:

- The distinction between DC and AC variables
- Characteristics of sinusoidal signals
- RMS values of various periodic signals
- Using vector diagrams to depict sinusoidal signals
- Using vector diagrams for computation
- Introduction to characteristic parameters for capacitors and inductors
- How capacitors and coils store energy
- Determining the capacitance of capacitors by measurement
- Determining the inductance of coils by measurement
- Introduction to the term reactance and the difference between capacitive reactance and inductive reactance
- Determining the reactance of coils and capacitors by experiment
- Investigating the AC-response of RC and RL voltage divider circuits
- Investigating the frequency response of simple filter circuits for alternating and square-wave voltages
- How electrical resonant circuits work
- Introduction to the terms resonance, quality Q, bandwidth and critical frequency of resonant circuits
- Measuring the frequency response of series and parallel resonant circuits
- Tuning a parallel resonant circuit with a varicap diode
- Explanation of the terms active, reactive and apparent power
- Investigating response of transformers to loads: loaded, unloaded and short-circuit measurements
- Identifying the typical areas of application for power and repeater transformers
- Measurement and analysis of the frequency response of power transformers
- Investigating the frequency response of repeater transformers
- Measurement and analysis of the frequency response of repeater transformers
- Fault simulation (4 simulated faults activated by relay)
- Course duration 8 h approx. (fault finding 1 h approx.)