

Item No.: SO4204-7D

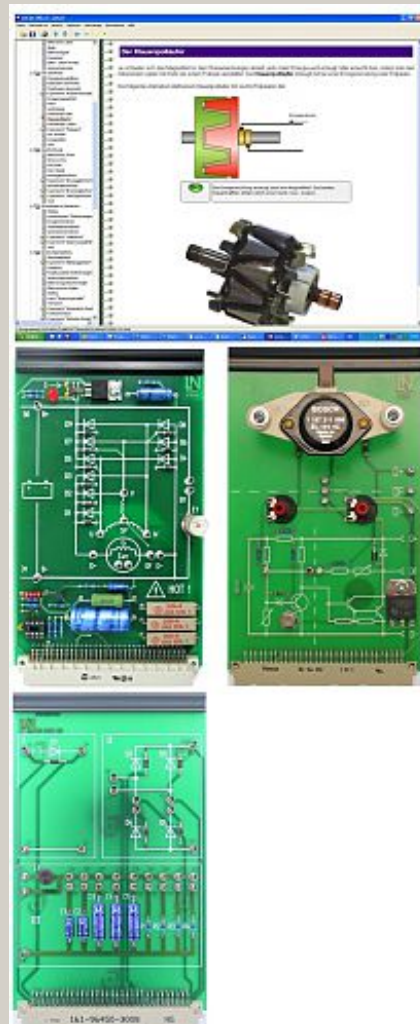
Course - Automotive 4: Alternator/3-phase generator

Includes:

- 1 Experiment card with three-phase generator/alternator, bridge rectifier and battery replacement circuit featuring charge monitoring light
- 1 Experiment card with integrated (original automobile component) and discretely assembled voltage regulators
- 1 Experiment card with half-wave and bridge rectifiers and load circuit
- CD-ROM with Labsoft browser and course software

Course contents:

- Introduction to the basic terminology of magnetism/electromagnetism
- Explaining the Lorentz force phenomenon
- Introduction to the design and function of single-phase and three-phase generators
- Experimental determination of phase-shift with a three-phase generator
- Determining the number of pole pairs of a three-phase generator by measurement
- Introduction to the functioning of diodes
- Identifying difference between Zener and normal diodes
- Introduction to the functioning of transistors
- Explain the design and function of half-wave and bridge rectifiers
- Investigation of half-wave and bridge rectifiers by measurement
- Introduction to circuits in automobiles
- Experimental determination of the functioning of a charge control light
- Experimental determination of the conditions for charging a battery
- Introduction to the principle of voltage regulation in vehicles
- Introduction to the design and function of electromagnetic and electronic voltage regulators
- Investigation of how alternator voltage depends on engine speed and load by measurement



- Measurement of threshold voltage and switching tolerance for a voltage regulator
- Fault simulation (8 simulated faults activated by relay)
- Course duration 7.5 h approx. (fault finding 1.5 h approx.)