

PHYSICS

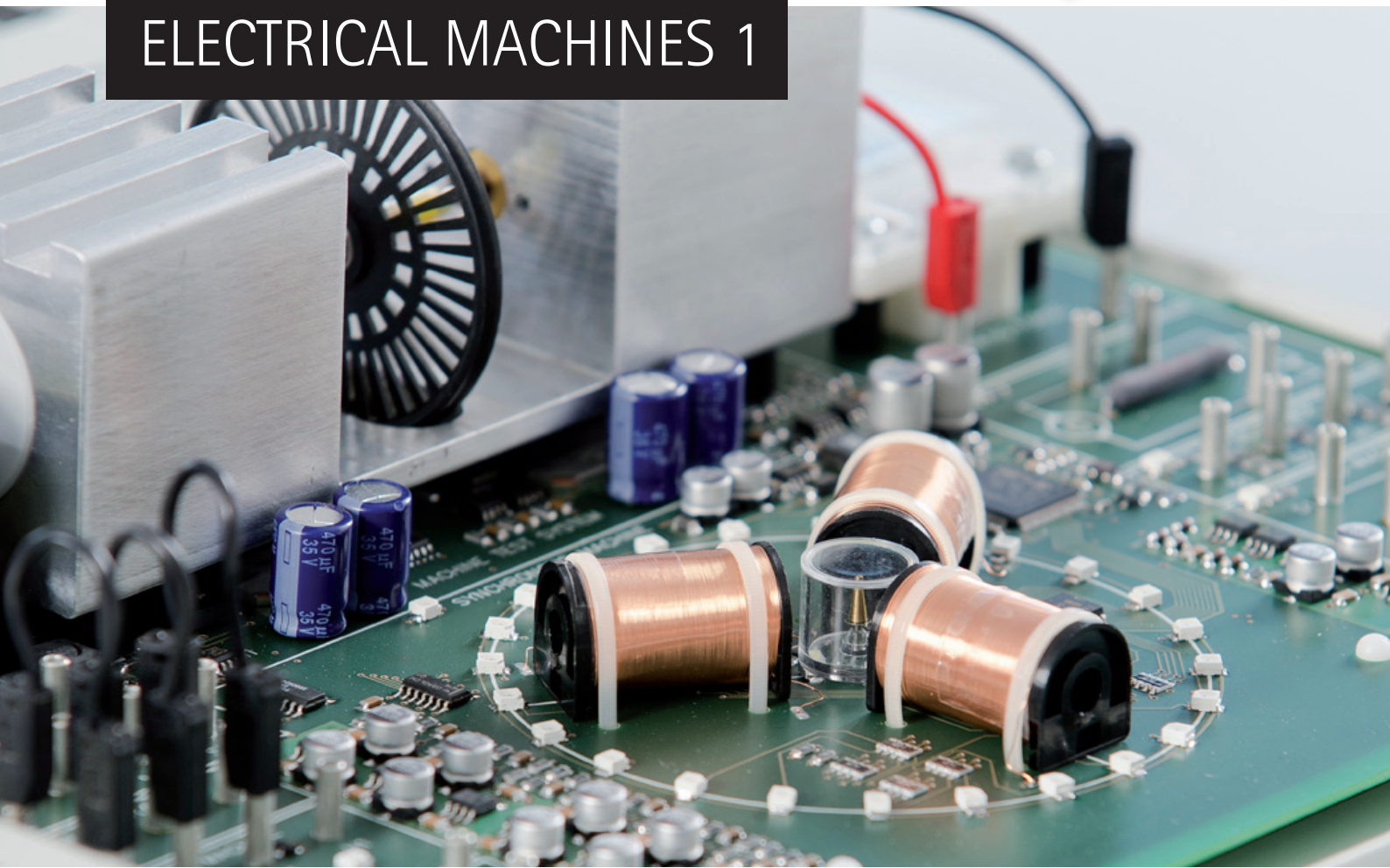
CHEMISTRY
BIOLOGY

ENGINEERING



NEW
PRODUCT
2012

COM3LAB COURSE ELECTRICAL MACHINES 1



CHARACTERISTIC CURVE RECORDING AND CONNECTION TECHNOLOGY FOR ELECTRICAL MOTORS AND GENERATORS

- The most compact solution for electrical machines on the market
- Intelligent μ -control enables a wide range of experiments right up to integrated machine test systems

LEYBOLD®



COMBINE THEORY AND PRACTICE OPTIMALLY

COM3LAB is a special learning environment. COM3LAB courses combine learning software with real hardware. They are used flexibly in schools, universities or industrial companies in the support of training. COM3LAB courses are equally suitable for presentations, for self-study or for projects. They consist of an electronic and an interactive textbook and the corresponding hardware.

All COM3LAB courses are able to be update online.

The new COM3LAB course provides an experimental insight into the connection technology and operating behaviour of all important electrical machines in the smallest possible space. In addition to numerous functional models, measurement and power supplies, the course even offers a small test system with two coupled electrical machines for characteristic curve recording and generator operation.

Subjects

Forces in magnetic fields

Experiments for Lorentz force

Commutator machines

Function and setup

The DC machine terminal board

Operation as shunt- or series wound motor

Generator operation

Changing of speed and rotation direction

Recording torque/speed characteristic curves

Three phase AC machines

Star and delta connection

Start-up behaviour of synchronous machines

Speed measurement on synchronous machines

Observation of load angle

Connection and operation of asynchronous machines

Measurement of speed and slip

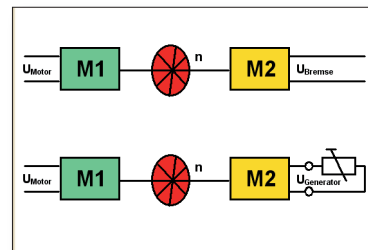
Representation of the torque/speed characteristic curve

Asynchronous machines with star-delta starting

Stepper motor

Half and full step operation

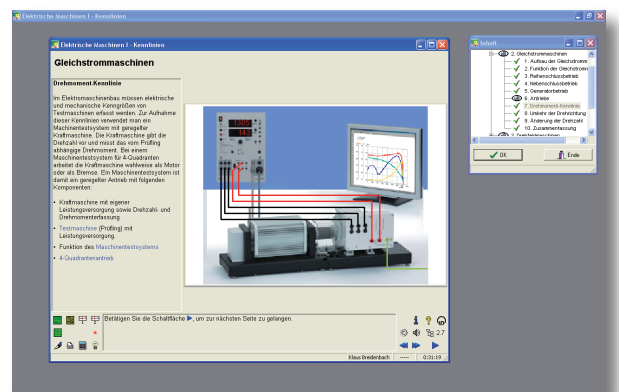
Speed reversing, detent torque and stepping loss



Excerpt from the interactive textbook:
the machine unit in braking and
generator operation

In July you can find more information on the technical details, requirements and prices on the Internet at:

COM3LAB COURSE: ELECTRICAL MACHINES 1
CATALOGUE NO.: 700 25



Excerpt from the interactive textbook: characteristic curve
recording on electrical machines