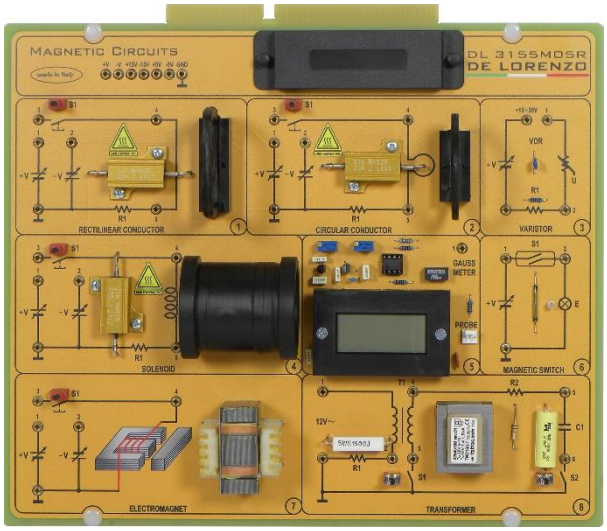
TIME ELECTRONIC BOARDS

MAGNETIC CIRCUITS



DL 3155M05R

The design and construction of electronic circuits to solve practical problems is an essential technique in the fields of electronic engineering and computer engineering.

With this board the students can study the characteristics of a magnetic field generated by three different types of conductors (rectangular conductor, circular and solenoid), the functionality of a magnetic switch and of an electromagnet with the hysteresis loop and the operating principle of the nonlinear resistance.

THEORETICAL TOPICS

- Characteristics of the magnetic field
- Diamagnetic, paramagnetic and ferromagnetic materials
- Soft and rigid ferromagnets
- Hysteresis cycle
- Magnetic quantities and relevant measurement units
- Hall's effect and Hall's potential difference
- Hopkinson's law
- Energy of the magnetic field
- Study of VDR
- Fault simulation

CIRCUIT BLOCKS

- Magnetic field created by a rectilinear conductor
- Magnetic field created by a circular conductor
- Magnetic field created by a solenoid conductor
- Measurement of the magnetic induction
- Magnetic switch
- Electromagnet
- Hysteresis cycle
- Resistor not linear (VDR)

Complete with theoretical and practical manual.
Dimensions of the board: 297x260mm

CAI SOFTWARE:
Each board of the TIME system can be supplied complete with a Student Navigator software that allows students to perform their learning activities through a Personal Computer, without the need for any other documentation.
Ordering code: please add SW after the code of the board (i.e. DL 3155M05RSW)

Required:
POWER SUPPLY NOT INCLUDED
Base frame with power supply (completed with connecting cables):
- **DL 3155AL3** - Base frame with power supply and interface to pc and virtual instrumentation
- **DL 3155AL2** - Base frame with power supply and interface to pc

Basic power supply (connecting cables not included):
- **DL 2555ALF** - DC power supply ±5 ±15 0±15 Vdc, 1A
- **DL 2555ALS** - AC power supply 24 Vac, 2A
- **TL 3155AL2** - Connecting cables

Choosing this power supply, for the execution of the experiments, it is normally required the use of an oscilloscope and two multimeters.