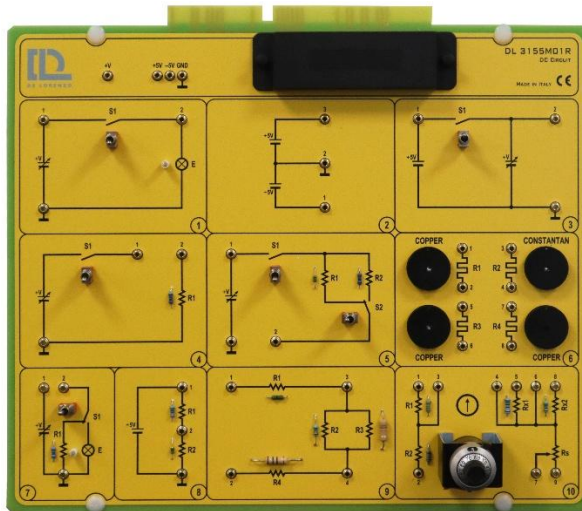




## DC CIRCUITS



**DL 3155M01R**

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 operation of the circuits in direct current, from the use of the generators in series and in parallel to the principle of the Ohm's law and the study of the resistors and their behavior.

### THEORETICAL TOPICS

- Structure of the circuits
- Electric current
- Voltage and electromotive force
- Electric resistance
- Conventional sense of voltage and current
- Types of measurement and types of errors
- Types of instruments
- Measurement of e.m.f. and voltage
- Measurement of the current
- Measurement of the resistance
- Relationships among current, voltage and resistance: Ohm's law
- Conductors resistivity and temperature coefficient
- Circuit with linear and non-linear resistance
- Types of resistors
- Identification of the value of the resistors
- Series and parallel resistors
- Constant signals
- Variable signals
- Wheatstone Bridge
- Fault simulation

### CIRCUIT BLOCKS

- Electrical circuit: Components and measurements
- Series generators
- Parallel generators
- Ohm's law
- Application of the Ohm's law: how a resistance influences the current
- The resistivity: resistance, length, section and resistivity of a conductor
- Linear and non-linear ohmic resistance
- Series circuit: current, resistance and voltage
- Colour code of the resistors
- Wheatstone Bridge

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 3155M01RSW)

**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  $\pm 5 \pm 15$   $0 \pm 15$  Vdc, 1A
- **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.

