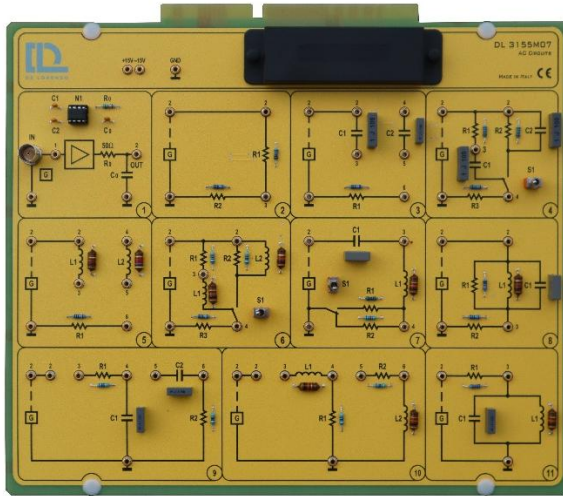




## AC CIRCUITS



**DL 3155M07**

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 operating principle of the alternating current circuits with the use of inductors, resistors and capacitors. They also begin to understand the function of filters and resonant circuits.

### THEORETICAL TOPICS

- Sinusoidal alternating currents and voltages
- Vector and symbolic representation of the sinusoidal electric quantities
- Product of a sinusoidal quantity by a constant
- Sum and difference of sinusoidal quantities
- Product of two sinusoidal quantities
- Product of a sinusoidal quantity by a complex number
- Elementary bipoles: R, L, C
- Series and parallel of the bipoles: R-L, R-C, R-L-C
- Oscillating circuits: frequency response of the ac circuits
- Low-pass filter, high-pass filter, pass-band filter
- Fault simulation

### CIRCUIT BLOCKS

- Alternating quantities
- Resistive circuit
- Capacitive circuit
- R-C circuit (series and parallel)
- Inductive circuit
- R-L circuit (series and parallel)
- Series resonant circuit
- Parallel resonant circuit
- Low-pass filter (R-C)
- High-pass filter (C-R)
- Low-pass filter (L-R)
- High-pass filter (R-L)
- Pass-band filter

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 3155M07SW)

**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.

