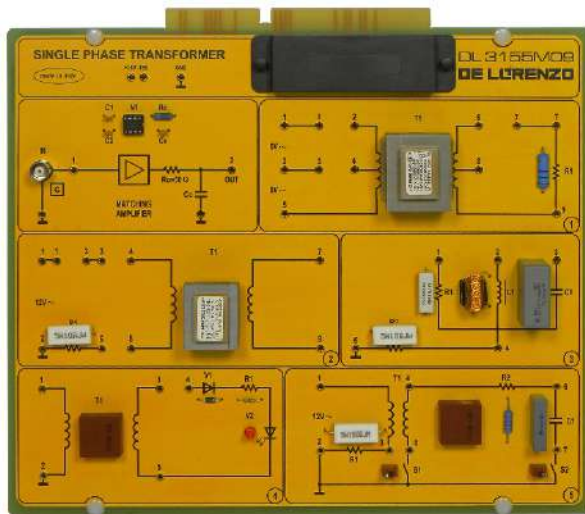




## SINGLE-PHASE TRANSFORMER



**DL 3155M09**

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 single-phase transformers in different load conditions and their phase shift and the principle of the pulse transformer and its relative hysteresis loop.

### THEORETICAL TOPICS

- Ideal transformer: no-load operation
- Ideal transformer: load operation
- Real transformer: no-load and load operation
- Tests on the transformer
- The autotransformer
- Magnetic core
- Electric windings
- Transformer cooling
- Transformer applications
- Pulse transformers
- Transformers for blocked oscillators
- Analysis of the behaviour of voltage vs. time
- Fault simulation

### CIRCUIT BLOCKS

- Voltage and current transformation ratio
- No-load transformer
- Transformer in different load conditions; phase displacement
- Pulse transformer
- Hysteresis cycle of a pulse transformer; magnetic saturation curve

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 3155M09SW)

### 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 2555ALG** - DC power supply  $\pm 5 \pm 15$  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.

