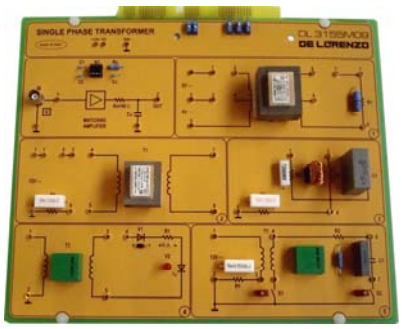
TIME ELECTRONIC BOARDS

SINGLE-PHASE TRANSFORMER



DL 3155M09

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

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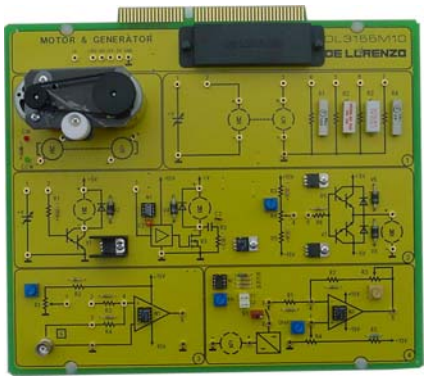
MOTOR AND GENERATOR



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Theoretical topics:

- Separate excitation dc motors
- Shunt excitation dc motors
- Series excitation dc motors
- Compound excitation dc motors
- Power and efficiency
- Dc motors as generators
- Dc motors as tachometric dynamo
- Dc motor speed control
- Transistor operation
- Semi controlled single-phase bridge operation
- Totally controlled single phase bridge operation
- Linear control and PWM control
- Closed loop control
- Fault simulation

Circuit blocks:

- Measurement of the speed of a dc motor
- Counter electromotive force of a dc motor
- Load operation of a dc motor
- Power and efficiency
- Control circuit of a dc motor
- Adjustment of the PWM speed
- Adjustment of the closing loop speed