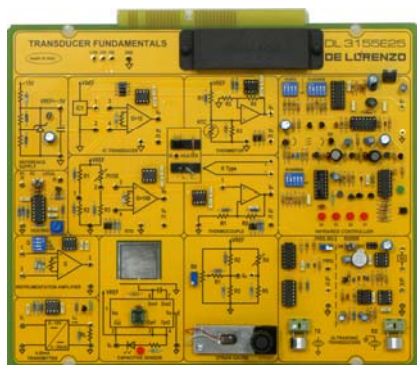


TIME ELECTRONIC BOARDS

TRANSDUCER FUNDAMENTALS



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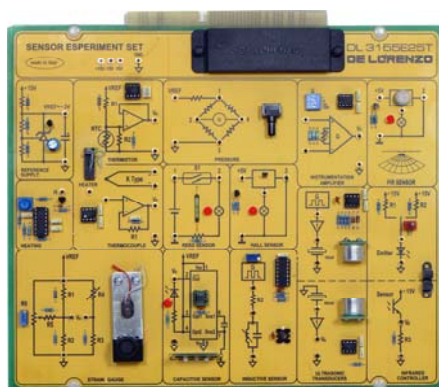
Theoretical topics:

- Measurement of temperature through an IC transducer
- Measurement of temperature through a current output IC transducer
- Measurement of temperature through a thermocouple
- Measurement of temperature through an NTC thermistor
- Measurement of temperature through an RTD
- Familiarization with capacitive sensors
- Measurement of the deformation through an instrumentation amplifier
- Familiarization with Infrared controllers and protocols (TX/RX)
- Familiarization with Ultrasonic sensors and transducers (TX/RX)
- Fault simulation

Circuit blocks:

- Reference voltage supply
- Heating section (with internal or external command)
- Instrumentation amplifier
- Current transmitter (4÷20 mA)
- IC transducer
- Thermistor (NTC)
- Resistance Temperature Detector (RTD)
- Thermocouple
- Capacitive sensor
- Strain gauge
- Infrared controller
- Ultrasonic transducers

SENSOR EXPERIMENT SET



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Theoretical topics:

- Measurement of the temperature through a thermistor
- Measurement of the temperature through a thermocouple
- Applications of the Wheatstone
- Types of fluid pressure measurements
- Absolute pressure sensor
- Gauge pressure sensor
- Differential pressure sensor
- Pressure transducers
- Passive Infrared Sensors (PIRS)
- Hall's effect and Hall's potential difference
- Measurement of the deformation through a strain gauge
- Capacitive sensors
- Inductive proximity sensors
- Ultrasonic transducers
- Reception of ultrasonic signals
- Infrared transmission and controller
- Fault simulation

Circuit blocks:

- Measurement of T through a thermistor
- Measurement of T through a thermocouple
- Pressure Sensor
- P.I.R. Sensor
- Magnetic switch
- Hall sensor
- Measurement of the deformation through a strain gauge
- Use of the capacitor sensor
- Inductive sensor
- Transmission and reception of ultrasonic signals
- Infrared transmission and reception