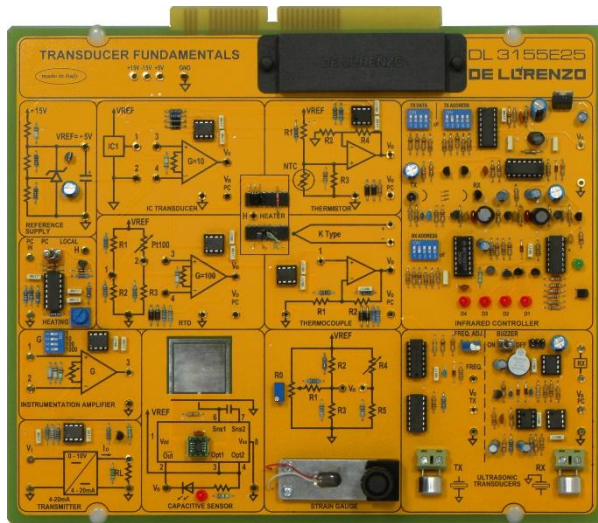




TRANSDUCER FUNDAMENTALS



DL 3155E25

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 principles of the most common sensors such as those of temperature, of pressure, ultrasonic, infrared and capacitive.

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)

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

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 3155E25SW)

Required:

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
- **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.

