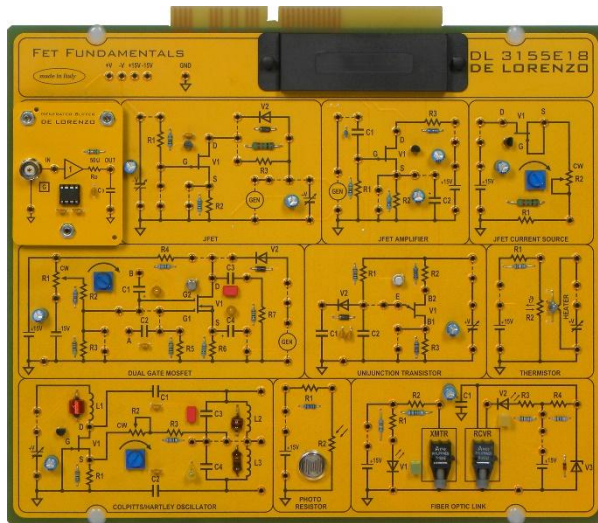


## FET FUNDAMENTALS



**DL 3155E18**

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 characteristics of the JFET transistor with variants as MOSFET and UJT and its application as in Colpitts and Harley oscillators, in thermistor and photo resistor sensors and in the transmitter/receiver of light through the optical fiber.

### THEORETICAL TOPICS

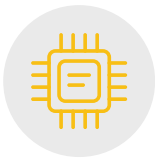
- Junction FET
- JFET operating characteristics
- The effect of gate bias on pinch-off
- JFET dynamic characteristic curves
- JFET amplifier fundamentals
- JFET amplifier dc operation
- JFET amplifier ac operation
- JFET used as current sources
- Dual Gate MOSFET
- MOSFET fundamentals and modes of operation
- MOSFET voltage amplifier
- Unijunction transistors fundamentals
- UJT operating characteristics
- UJT waveform generation
- Hartley and Colpitts oscillators fundamentals
- Hartley oscillator operation
- Colpitts oscillator operation
- Transducers fundamentals
- Thermistor operation
- Photo resistor operation
- Fibre optic light transfer

### CIRCUIT BLOCKS

- JFET
- JFET Amplifier
- JFET Current Source
- Dual Gate MOSFET
- Unijunction Transistor
- Thermistor
- Colpitts / Hartley Oscillator
- Photo resistor
- Fibre Optic Link

Complete with theoretical and practical manual.

Dimensions of the board: 297x260mm



# ELECTRONICS



## 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 3155E18SW)

## 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.

