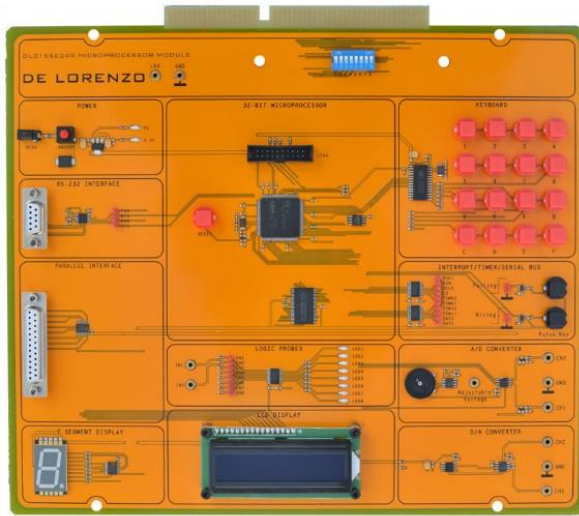




## 32-BIT MICROPROCESSOR MODULE



**DL 3155E24R**

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 properties and characteristics of the microcontrollers, in a complete software development environment for Cortex-M3

### THEORETICAL TOPICS

- Structure of the bipolar transistor
- The ARM Cortex-M3 processor
  - What is ARM Cortex-M3 processor
  - Internal structure of a processor system
  - The memory model
- The microprocessor
  - General characteristics
  - Electrical characteristics
  - Internal architecture
  - Interface with SRAM and Flash
- The 32 bit Microprocessor Module DL 3155E24R
  - General presentation
  - The Microprocessor
  - Flash and Ram memories
  - The keypad
  - The LCD display
  - Parallel and serial interfaces
  - A/D and D/A converters
  - Other devices
- Development of 32 bit programs
  - Introducing to programming language
  - Development environment
  - The development software
  - Debug the program
- Preparation of practical experiments

### CIRCUIT BLOCKS

- 32 bit microprocessor
- External RAM
- External serial flash
- RS-232 interface
- Parallel interface
- Keypad
- Interrupt/Timer/Serial bus
- 7-segment display
- Logic probes
- A/D converter
- D/A converter

Complete with theoretical and practical manual.

The development software can run on the following operating systems:

Windows XP, Windows 7 (32/64 bit), Windows 10 (64 bit)

Dimensions of the board: 297x260mm



# TIME ELECTRONIC BOARDS



## 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 3155E24RSW)

## 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
- **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.

