



## PROGRAMMABLE LOGIC CONTROLLER – 12 IN/10 OUT



**DL 2110AM**

### Technical features

The DL 2110AM configuration includes the following components:

- 1 power supply, 24Vdc/1.5A
- 1 CPU (model Lovato LRD20RD024P1) with 8 digital inputs, 4 digital/analog inputs (in voltage, 0÷10V) and 8 relay outputs
- 1 expansion module (model Lovato LRE02AD024) with 2 analog outputs in voltage (0÷10V) or current (0÷20mA) selectable through two switches
- 2 voltage variable outputs (0÷10V) adjustable through potentiometers
- 12 switches (3 positions each) for enabling the digital inputs
- 8 LED for the visualization of the output states
- 1 USB port for programming
- 2 RS485 ports with Modbus RTU protocol

The front panel also features input/output terminals to facilitate connections between the DL 2110AM module and the hardware applications in the automation laboratory and, in particular, the DL PLC-MAC bench for the study of the automation of a three-phase motor.

It is complete with the software LRXSW, for Micro PLC series LRD, for programming and with all the necessary accessories.

Power supply: single-phase from mains.

The DL 2110AM is a programmable controller that combines high performance and ease of use for those who are entering the world of PLCs for the first time and can be configured both for the frame and for the bench.

It allows controlling machines and plants using the sequential logic that replaces traditional electromechanical panels, saving relays, timers and counters.

Flexibility, as it can be reprogrammed, the possibility of its use in environments with harsh working conditions, reliability and safety, as well as the ability to process both digital and analog signals, are its main advantages.

With this module, students can perform experiments commonly used in the industrial automation environment.

All sections (power supply, digital and analog I/O, and interfaces) are identified through clear blocks that show their types and symbols.

### Experiments:

- How to create a simple latch circuit
- How to create a simple latch circuit (with timer)
- Countdown experiment
- Simulation and control of a conveyor belt
- Simulation with detection of the direction of a conveyor belt
- Simulation of a traffic light
- How to implement an equation
- Simulation of starting and stopping a motor
- Simulation of starting a motor clockwise and counterclockwise
- Simulation of Y/Δ starting a three-phase motor
- Simulation of control in sequence of starting and stopping a motor
- Simulation of a stepper motor