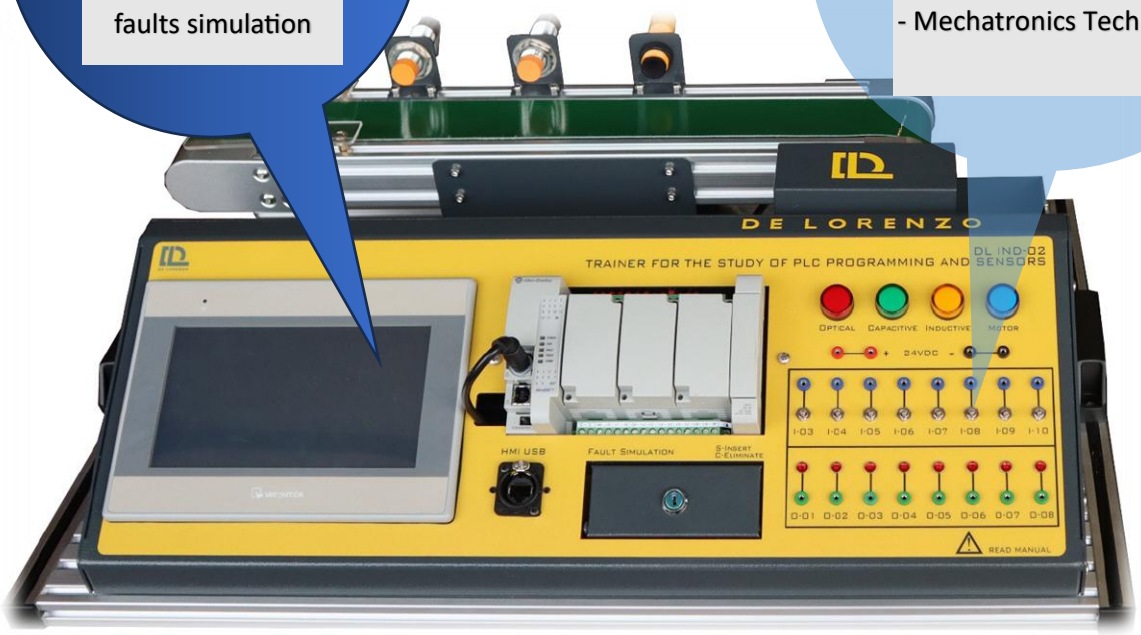
INDUSTRY 4.0

TRAINER FOR THE STUDY OF PLC PROGRAMMING AND SENSORS

DL IND-02

With this trainer the students can perform more than 5 experiments, with faults simulation

Who is it for?
- Automation Technician
- Automatic Systems Maintenance Tech.
- Mechatronics Tech.



This trainer allows programming and operation studies with sensor detection, as well as practices with I/O ports, Modbus protocol with local and remote motor activation.

It is based on a motorized conveyor belt capable of detecting moving pieces simulating an industrial handling system. It is used as a basic training system to learn and to familiarize about real-life PLC's application in automation and mechatronics industries.

Three types of pieces (plastic, aluminum, iron) are supplied and routed to a collection box. The pieces act on three types of sensors normally used in automation which, by means of programming, allow the sorting and counting of the pieces according to the material they are made of.

The operation and the control of the process are achieved through various electro-mechanical components controlled by a PLC.

It also includes an HMI for interaction and information exchange between the system and the users, which completes human-machine information exchange through configuration screens and communication connections. All components are safe and easy to manage.

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TECHNICAL FEATURES

The trainer includes the following components:

- A built-in PLC with 8 digital inputs and 8 digital outputs, allowing the carrying out of various activities to study the operation control of the conveyor and sensors, such as motor command, activation time, selective counting of pieces, etc. with USB or Ethernet ports (for programming) and serial port (Modbus RTU protocol),
- A built-in Human Machine Interface (HMI) with 7" TFT LCD display (800x480), with USB port (for programming) and serial port (Modbus RTU protocol),
- A belt conveyor with a direct current motor with a speed of 47 rpm,
- Optical sensor,
- Capacitive sensor,
- Inductive sensor,
- Interfaces for digital I/O's with 2mm terminals,
- Self-locking switches type for the digital inputs,
- LEDs for the digital outputs,
- LEDs for the sensors,
- LED for the motor,
- Various material objects (plastic, aluminium, and iron) suitable for the system,
- DC voltage output 24V/2A on 2mm terminals,
- Fault simulation area with switches and cover locked by key,
- Power supply: single-phase from the mains, 50/60 Hz.

TRAINING PROGRAM

With this trainer, the students can perform many experiments starting from basic applications regarding the sensors and the actuators to reach the complete one involving both devices PLC and HMI.

The course allows to cover the following topics:

- Control and command activities,
- Generic PLC programming,
- Operational analysis of sensors,
- Operational analysis of belt drives,
- Creation of supervision application,
- Fault and diagnosis.

Supplied with accessories, wiring leads, programming cable, power supply cable, applications and detailed manual covering theoretical and practical topics.

It is available in two PLC options:

- **Allen-Bradley (AB),** Mircro850 series with code **DL IND-02**, or
- **Siemens,** S7 1200 series with code **DL IND-02-1200**.

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