

**PLC TRAINER**

Ref: 0610

1 / 1

ITEM	REFERENCE	DESCRIPTION	QTY.
1	PLCE	PLC TRAINER	1
2	0620PARTS	COMPONENTS AND SPARE PARTS	1
3	0620PA	COMPLEMENTARY ITEM	1
4	0620IYPM	INSTALLATION AND STARTING-UP	1
5	0620CAPRO	TRAINING AND BRINGING UP TO DATE OF TEACHERS	1
6	0620TD	TEACHING TECHNIQUES "KNOW-HOW"	1
7	0620MANU	DOCUMENTATION AND MANUALS	1

**Notes:**

## 1) Multipost option:

This module has only one unit in each item, but we can recommend the number of units for 10 or 30 students working simultaneously.

## 2) Supply conditions:

## a) Technical conditions included:

- Laboratories adaptation.
- Installation of all units supplied.
- Starting up for all units.
- Training about the exercises to be done with any unit.
- Teacher training related with t and the teaching unit and the teaching techniques uses.
- Technology transfer.

## b) Commercial conditions:

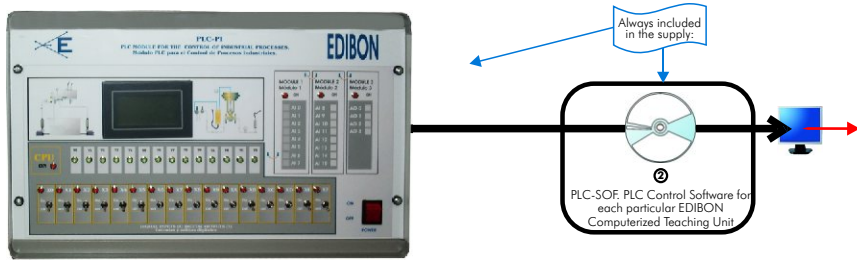
- Packing.
- Financing charges.
- C.I.F. charges.

## c) Others conditions:

- 8 Manuals for each EDIBON teaching unit:
  - . Required services manual.
  - . Assembly and installation manual.
  - . Interface and software/control console manual.
  - . Set in operation manual.
  - . Safety norms manual.
  - . Practices manual.
  - . Maintenance manual.
  - . Calibration manual.

**See Catalogues in next pages** 

### PLC-PI. Module for the Control of Industrial Processes (for working with EDIBON Computerized Teaching Units)



① Unit: PLC-PI. PLC Module for the Control of Industrial Processes (for working with EDIBON Computerized Teaching Units).

#### SPECIFICATIONS SUMMARY Items supplied as standard

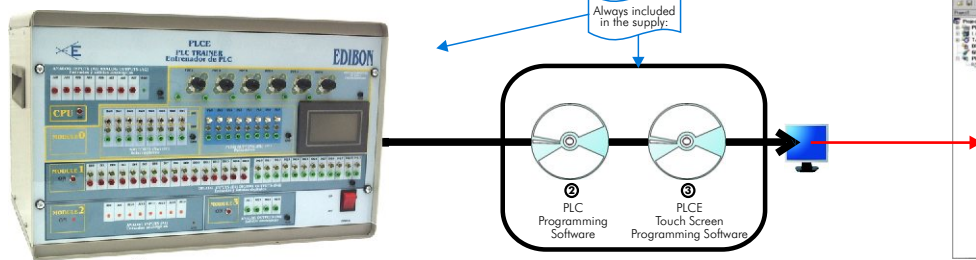
- ① **PLC-PI Unit:**  
This PLC-PI unit contains a box, with a front panel in order to manipulate the unit in a simple and easy way, the power supply and all necessary connectors and cabling and, additionally, the PLC itself with its own touch screen. We have design and supply the proper software for any particular application (for each particular EDIBON Computerized Teaching Unit).  
Steel box. Circuit diagram in the front panel.  
Front panel:  
Digital inputs(X) and Digital outputs (Y) block. 16 Digital inputs. 14 Digital outputs.  
Analog inputs block: 16 Analog inputs. Analog outputs block: 4 Analog outputs.  
Touch screen.  
Back panel: Power supply connector. Fuse 2A. RS-232 connector to PC  
Inside:  
Power supply outputs: 24 Vdc, 12 Vdc, -12 Vdc, 12 Vdc variable.  
Panasonic PLC: High-speed scan of 0.32 sec. for a basic instruction. Program capacity of 32 Ksteps, with a sufficient comment area. Multi-point PID control.  
Digital inputs/outputs and analog inputs/outputs Panasonic modules.  
Communication RS232 wire, to computer (PC).
- ② **PLC-SOF. PLC Control Software:**  
For each particular EDIBON Computerized Teaching Unit.
- ③ **Cables and Accessories**, for normal operation.
- ④ **Manuals:** This unit is supplied with 8 manuals.  
Dimensions (approx.) =Unit: 490 x 330 x 310 mm. Weight: 30 Kg.

**More information in:** [www.edibon.com/products/catalogues/en/units/automationssystem/plcunitoperations/PLC-PI.pdf](http://www.edibon.com/products/catalogues/en/units/automationssystem/plcunitoperations/PLC-PI.pdf)

#### PRACTICAL POSSIBILITIES

- 1.- Control of the particular unit process through the control interface box without the computer.
- 2.- PID control.
- 3.- Visualization of all the sensors values used in the particular unit process.
- 4.- Calibration of all sensors included in the particular unit process.
- 5.- Hand on of all the actuators involved in the particular unit process.
- 6.- Realization of different experiments, in automatic way, without having in front the particular unit. (These experiments can be decided previously).
- 7.- Simulation of outside actions, in the cases do not exist hardware elements. (Example: test of complementary tanks, complementary industrial environment to the process to be studied, etc).
- 8.- PLC hardware general use.
- 9.- PLC process application for the particular unit.
- 10.- PLC structure.
- 11.- PLC inputs and outputs configuration.
- 12.- PLC configuration possibilities.
- 13.- PLC program languages.
- 14.- PLC different programming standard languages (ladder diagram (LD), structured text (ST), instructions list (IL), sequential function chart (SFC), function block diagram (FBD)).
- 15.- New configuration and development of new process.
- 16.- Hand on an established process.
- 17.- To visualize and see the results and to make comparisons with the particular unit process.
- 18.- Possibility of creating new process in relation with the particular unit.
- 19.- PLC Programming Exercises.
- 20.- Own PLC applications in accordance with teacher and student requirements.

### PLCE. PLC Trainer

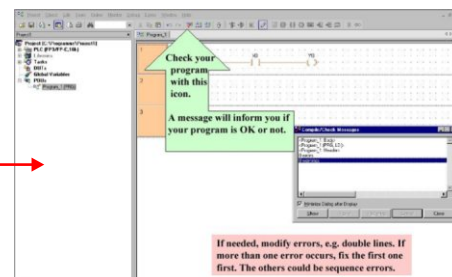


① Unit: PLCE. PLC Trainer

#### SPECIFICATIONS SUMMARY Items supplied as standard

- ① **PLCE. Unit:**  
This PLCE unit contains a box, with a front panel in order to manipulate the unit in a simple and easy way, the power supply and all necessary connectors and cabling and, additionally, the PLC itself with its own touch screen.  
Steel box. Circuit diagram in the front panel.  
Front panel:  
Several 12V sources that can be activated through switches, 8 lever type and 8 push button type switches with their corresponding led that indicates the ON/OFF state of the source. 6 variable sources (potentiometer), 0 to 10V. 16 digital inputs. 14 digital outputs. 8 analog inputs. 4 analog outputs. ON/OFF power switch. Several mass connections (GND). Touch screen.  
Back panel: Power supply connector. Fuse 2A. RS-232 connector to computer (PC).  
Inside:  
Power supply 100... 240V (AC).  
Panasonic PLC:  
High-speed scan of 0.32 sec for a basic instruction. Program capacity of 32 Ksteps, with a sufficient comment area. High-speed counter. Multi-point PID control.  
Digital inputs/outputs and analog inputs/outputs Panasonic modules.  
Communication RS 232 wire, to computer (PC). PC Bases Programming.
- ② **PLC Programming Software:**  
Compatible with actual Windows operating systems. Several programming languages can be used: ladder diagram (LD), structured text (ST), instructions list (IL), sequential function chart (SFC), function block diagram (FBD). Variables editors, configuration, programming and documentation. To symbolize the application objects: bits, words, function blocks, inputs/outputs...  
Operands available: inputs and outputs (X/Y), as well as internal memory areas, internal relays, special internal relays, timers and counters, data registers, special data registers, file registers, link registers and relays. You can use either Matsushita and/or IEC addresses. There are 3 type on constants: decimal, hexadecimal and BCD. This software provides elementary and user defined data types. Matsushita Floating Point Instructions Set. Uploading of source programs from PLC possible. "Black boxing" of programs. Reuse of programs is easy.
- ③ **PLCE Touch Screen Programming Software:**  
Tools for Screen Creation. Plenty of functions. Screens Creation. Drawing Functions. Easy Operativity (Click and slip). Easy creation of user libraries. Printing. Easy use. Bitmaps Editor.
- ④ **Cables and Accessories**, for normal operation.
- ⑤ **Manuals:** This unit is supplied with 8 manuals.  
Dimensions =490 x 330 x 310 mm. approx. Weight: 20 Kg. approx.

**More information in:** [www.edibon.com/products/catalogues/en/units/automationssystem/plcprocesssimulation/PLCE.pdf](http://www.edibon.com/products/catalogues/en/units/automationssystem/plcprocesssimulation/PLCE.pdf)



#### PRACTICAL POSSIBILITIES

##### Using the PLC Programming Software:

- 1.- Creating applications for a PLC and loading them in the PLCE.  
The programs can be written in several programming languages: Ladder diagram (LD). Structured text (ST). Instructions list (IL). Sequential function chart. (SFC). Function block diagram. (FBD).
- 2.- Check the digital inputs and their value and how to store in the variable.
- 3.- Use of several inputs with the purpose of activating an output.
- 4.- To assign names to the contacts in the edition area.
- 5.- Use of all digital inputs (16) and to create a variable per digital input.
- 6.- Interacting with a digital output, whose value will depend on that established in a variable.
- 7.- How to use several digital variables and outputs.
- 8.- How to use analog inputs.
- 9.- How to use analog outputs.
- 10.- Use of temporizers.
- 11.- Logic functions implementation.
- 12.- Application of the instructions set and reset.
- 13.- Program jumps (conditional and non-conditional).
- 14.- Timer, counter and comparators.
- 15.- Use of subroutines and interruptions events.
- 16.- Functions library.
- 17.- Regulation controls. PID function.
- 18.- Analog Inputs/Outputs. Real Time visualization.  
\* Some applications related to these practices are included in the supply.

##### Using the PLCE Touch Screen Programming Software:

- 19.- How to create a simple application for the PLCE screen.
- 20.- How to commute digital outputs of the PLC through the screen.
- 21.- How to commute several digital outputs simultaneously. (Working with words).
- 22.- Writing on and reading from a data register.
- 23.- How to write a data register in a range of values.
- 24.- Switching from one screen to another.  
\* Some applications related to these practices are included in the supply.

##### Other practical possibilities:

- It is possible to make simulations without need of any external element, causing analog inputs and/or digital ones, and to observe what happens in the outputs.
- It is also possible to introduce real analog inputs (for example: the transducer value in volts of a temperature sensor) and/or digital inputs (for example: an external pulser) and to connect real actuators in the output, (for example: a pump).