

Unit: AE-PLC-MAE. Electrical Handling Workstation

INTRODUCTION

Since the 1950s, the computer integration in the manufacturing systems has been a complete revolution, increasing productivity and quality of all type of products. These computer integration systems included a lot of components from very different technologies as hydraulic, pneumatic, electrical, robotics, chemical, etc. For this reason these types of systems requires workers with specific skills to ensure that they are working properly.

The Electrical Handling Workstation, "AE-PLC-MAE", has been designed by EDIBON to study how to manage a handling system with an electrical manipulator. The "AE-PLC-MAE" includes industrial components to conform the system such as PLCs, pneumatic components, industrial sensors, etc.

The "AE-PLC-MAE" workstation includes a set of practical exercises through which the student will understand how to control an automatic filtration system.

GENERAL DESCRIPTION

The "AE-PLC-MAE" is an electrical handling system commanded by a PLC. The "AE-PLC-MAE" is composed of a two axis electrical manipulator with a pneumatic gripper to transport the pieces from the input pieces holder to the corresponding position, depending on the specifications. The system is equipped with different sensors in order to identify the piece color and position.

The "AE-PLC-MAE" workstation has been designed as a modular system to facilitate the understanding of the equipment operation:

- The PLC: is composed of an AE-PLCB that contains a HMI device, analog and digital input/output modules, etc. and the required extra modules to put into operation the workstation successfully.
- The control panel: emergency stop push button switch, start/stop button, reset button, light indicator to show the state of the workstation, etc.
- The pneumatic circuit: contains the required solenoid valves, filters and regulators to assure the correct working and safety of the unit.
- The workstation: is composed of real components used by the industrial automatic conveyor systems such as: capacitive sensors, limit switch sensors, position sensor, etc.

The "AE-PLC-MAE" workstation can work alone and/or in conjunction with other workstations to make up a complete Flexible Manufacturing system*.

*The Flexible manufacturing systems product list is available at the "60.-MECHATRONICS, AUTOMATION AND COMPUMECHATRONICS" area.



ISO 9001:2015 Quality Management (for Design, Manufacturing, Commercialization and After-sales service)



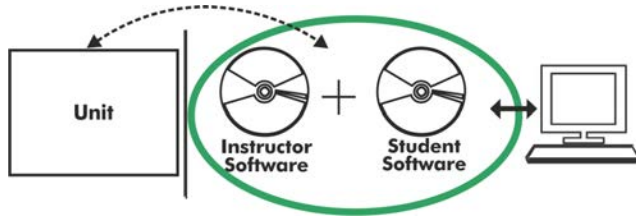
European Union Certificate (total safety)



Certificates ISO 14001 and ECO-Management and Audit Scheme (environmental management)



Certificate and Worlddidac Member

AE-PLC-MAE/ICAI. Interactive Computer Aided Instruction Software System:

With no physical connection between unit and computer (PC), this complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM-SOF) totally integrated with the Student Software (EDIBON Student Labsoft -ESL-SOF). Both are interconnected so that the teacher knows at any moment what is the theoretical and practical knowledge of the students.

Instructor Software**- ECM-SOF. EDIBON Classroom Manager (Instructor Software).**

ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual students, workgroups, units, etc... so the teacher can know in real time the level of understanding of any student in the classroom.

Innovative features:

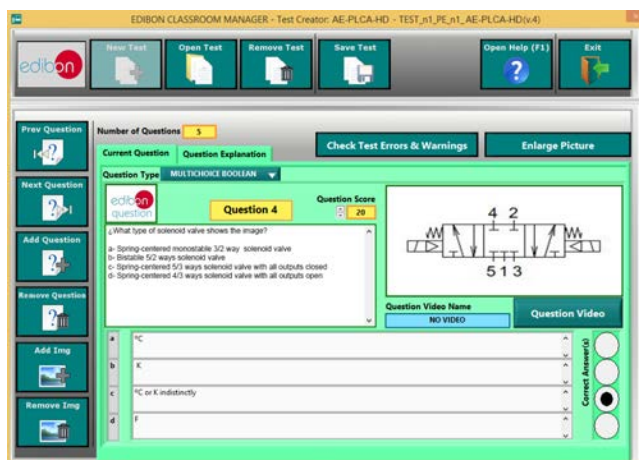
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.
- Updatable Contents.
- Report generation, User Progression Monitoring and Statistics.



ECM-SOF. EDIBON Classroom Manager (Instructor Software) Application Main Screen



ECAL. EDIBON Calculations Program Package - Formula Editor Screen



ETTE. EDIBON Training Test & Exam Program Package - Main Screen with Numeric Result Question



ERS. EDIBON Results & Statistics Program Package - Student Scores Histogram

- **ESL-SOF. EDIBON Student Labsoft (Student Software).**

ESL-SOF is the application addressed to the Students that helps them to understand theoretical concepts by means of practical exercises and to prove their knowledge and progression by performing tests and calculations in addition to Multimedia Resources. Default planned tasks and an Open workgroup are provided by EDIBON to allow the students start working from the first session. Reports and statistics are available to know their progression at any time, as well as explanations for every exercise to reinforce the theoretically acquired technical knowledge.

Innovative features:

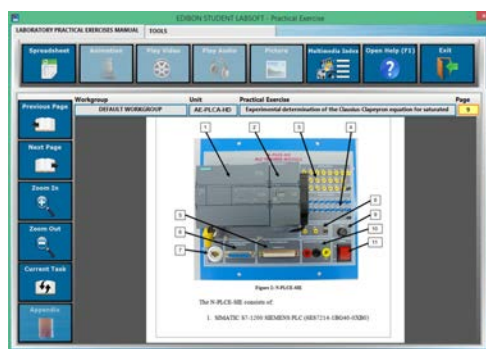
- **Student Log-In & Self-Registration.**
- **Existing Tasks checking & Monitoring.**
- **Default contents & scheduled tasks available to be used from the first session.**
- **Practical Exercises accomplishment by following the Manual provided by EDIBON.**
- **Evaluation Methods to prove your knowledge and progression.**
- **Test self-correction.**
- **Calculations computing and plotting.**
- **Equation System Solver Engine.**
- **User Monitoring Learning & Printable Reports.**
- **Multimedia-Supported auxiliary resources.**

For more information see ICAI catalogue. Click on the following link:

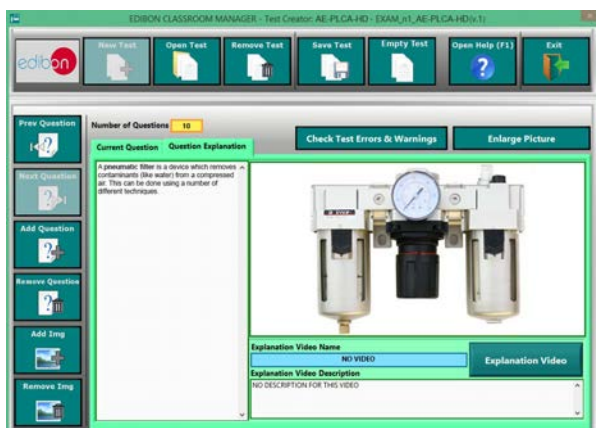
www.edibon.com/en/files/expansion/ICAI/catalog



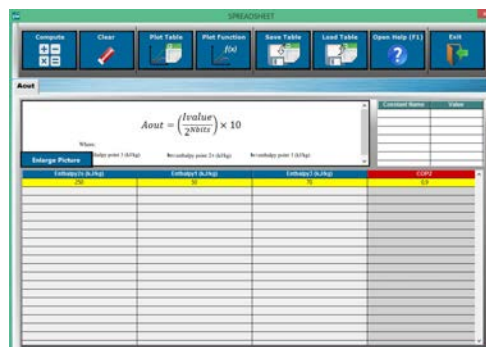
ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen



EPE. EDIBON Practical Exercise Program Package Main Screen



ERS. EDIBON Results & Statistics Program Package - Question Explanation



ECAL. EDIBON Calculations Program Package Main Screen

* Specifications subject to change without previous notice, due to the convenience of improvement of the product.



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REPRESENTATIVE:

