Flexible Manufacturing System 6

AE-PLC-FMS6

edibon

Engineering and Technical Teaching Equipment

EDIBON PATENT

Available with PLC, as:
- PANASONIC
- SIEMENS
- MITSUBISHI
- ALLEN BRADLEY
- OMRON

Etc...

Teaching Technique used

Computer Control System

① Unit: AE-PLC-FMS6. Flexible Manufacturing System 6

1.1 AE-PLC-PAN. PANASONIC PLC Application

② PLC and HMI programming software

Computer (not included in the supply)

④ SAC. Silent Air Compressor Unit

⑤ Cables and Accessories

⑥ Manuals

* Minimum supply always includes: 1 + 2 + 3 + 4 + 5 + 6 (Computer not included in the supply)

③ Component Workstations:

3.1 AE-PLC-A. **Feeding Workstation for Pieces**

3.2 AE-PLC-CF. **Sorting Workstation.**

Key features:

➢ **Open Control + Multicontrol + Real-Time Control.**

➢ **PLC and HMI programming software.**

➢ **Projector and/or electronic whiteboard compatibility allows the unit to be explained and demonstrated to an entire class at one time.**

➢ **Capable of doing applied research, real industrial simulation, training courses, etc.**

➢ **Remote operation and control by the user and remote control for EDIBON technical support, are always included.**

➢ **Totally safe, utilizing 3 safety systems (Mechanical, Electrical & Electronic).**

➢ **Designed and manufactured under several quality standards.**

➢ **Optional software to perform 2D and 3D simulations of the processes studied and supervise and control the real system (SCADA).**

➢ **Optional ICAI software to create, edit and carry out practical exercises, tests, exams, calculations, etc. Apart from monitoring user's knowledge and progress reached.**

OPEN CONTROL
+
MULTICONTROL
+
REAL TIME CONTROL

www.edibon.com
⤷PRODUCTS
⤷60.- MECHATRONICS & COMPUMECHATRONICS

For more information about Key Features, click here

PDF Adobe

You Tube

INTRODUCTION

Since the 1950s, the computer integration in the manufacturing systems it has been a complete revolution, increasing productivity and quality of all type of products. These computer integration systems included a lot of component 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 Flexible Manufacturing System 6, "AE-PLC-FMS6", has been designed by EDIBON to study how work a complete manufacturing system.

The "AE-PLC-FMS6" system includes a set of practical exercises through which the student will understand how work an automatic pieces feeding system and a sorting system.

GENERAL DESCRIPTION

The Flexible Manufacturing System 6, "AE-PLC-FMS6" is a modular system composed of two workstations: the "AE-PLC-A" feeding workstation for pieces and the "AE-PLC-CF" sorting workstation.

The objective of the "AE-PLC-FMS6" system is to provide pieces of different colors and materials and sorting them depending on the specifications of the system.

Each workstation is locally commanded by a PLC device and, in turn, a central PLC coordinates all workstations. The communication network between workstations and PC is based on the Ethernet protocol.

The "AE-PLC-FMS6" system design by EDIBON allows the users to learn the basic concepts of automation as the operation of an Ethernet network or how to program a PLC and about other areas as pneumatic, electro-pneumatic, etc.

The optional "AE-AS" software is design to teach the students how works real automation software. This software allows making 2D and 3D processes simulations, supervising and controlling SCADA systems, programming and communicating PLCs, simulating hydraulic, pneumatic and electronic devices' operation, etc.

EXERCISES AND PRACTICAL POSSIBILITIES TO BE DONE WITH THE MAIN ITEMS

Practical possibilities to be done with the Flexible Manufacturing System 6 (AE-PLC-FMS6):

1.- Introduction to flexible manufacturing system (FMS).

2.- Introduction to pneumatics and electro-pneumatics.

3.- Introduction to vacuum technology.

4.- Study of the sensor detection.

5.- Testing the digital inputs and outputs of the automatic system through a PLC.

6.- Modify manufacturing parameters through the PLC.

7.- Configuration of a pneumatic application.

8.- Introduction to the Human-machine interface systems (HMI).

9.- Study of an automatic control of an industrial system.

10.- Control of the flexible manufacturing system through a central PLC in an Ethernet network with local PLC in each workstation.

11.- Manage the flexible manufacturing system through the HMI device.

Practical possibilities to be done with the optional software Automation Systems Simulation Software (AE-AS):

12.- Introduction to the SCADA control system.

13.- OPC server system with Ethernet.

14.- SCADA control of an automatic industrial system through PC.

Practical possibilities to be done with the Workstation alone:

- Filtration Workstation (AE-PLC-A).

15.- Manual control of a Feeding system.

16.- Automatic control of a Feeding system.

17.- Change the parameters of the Feeding process.

18.- Optimize the process time.

19.- Study and analysis of the faults inserted in the process with the fault generation module.

- Mixing Workstation (AE-PLC-CF).

20.- Manual control of a sorting system.

21.- Automatic control of a sorting system.

22.- Change the parameters of the sorting process.

23.- Optimize the process time.

24.- Study and analysis of the faults inserted in the process with the fault generation module.

- Several other exercises can be done and designed by the user.

REQUIRED SERVICES

- Electrical supply: single phase, 220V./50 Hz. or 110V./60 Hz.
- Computer.

DIMENSIONS AND WEIGHTS

AE-PLC-FMS6:

- Dimensions: 2500 x 900 x 1500 mm. approx.
  (98.42 x 35.43 x 59.05 inches approx.)
- Weight: 240 Kg. approx.
  (529 pounds approx.).

RECOMMENDED ACCESSORIES (Not Included)

- AE-AS. Automation System Simulation Software (Optional).

AVAILABLE VERSIONS

Offered in this catalogue:

- AE-PLC-FMS6. Flexible Manufacturing System 6.

Offered in other catalogue:

- AE-PLC-FMS1. Flexible Manufacturing System 1.
- AE-PLC-FMS2. Flexible Manufacturing System 2.
- AE-PLC-FMS3. Flexible Manufacturing System 3.
- AE-PLC-FMS4. Flexible Manufacturing System 4.
- AE-PLC-FMS5. Flexible Manufacturing System 5.
- AE-PLC-FMS7. Flexible Manufacturing System 7.
- AE-PLC-FMS8. Flexible Manufacturing System 8.
- AE-PLC-FMS9. Flexible Manufacturing System 9.
- AE-PLC-FMS10. Flexible Manufacturing System 10.
- AE-PLC-FMS11. Flexible Manufacturing System 11.
- AE-PLC-FMS12. Flexible Manufacturing System 12.
- AE-PLC-FMS13. Flexible Manufacturing System 13.
- AE-PLC-FMS14. Flexible Manufacturing System 14.

AE-PLC-FMS6/ICAI. Interactive Computer Aided Instruction Software System:
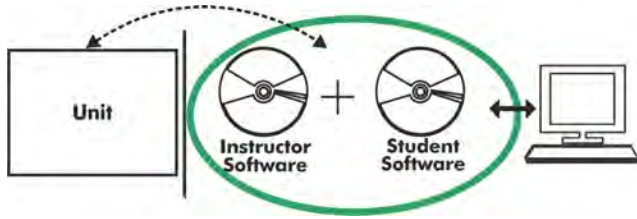
With no physical connection between unit and computer (PC), **this complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM-SOF) totally integrated with the Student Software (EDIBON Student Labsoft -ESL-SOF).** Both are interconnected so that the teacher knows at any moment what is the theoretical and practical knowledge of the students.
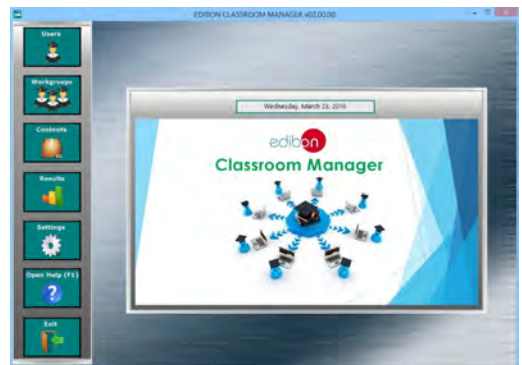
<u>Instructor Software</u>

- 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.

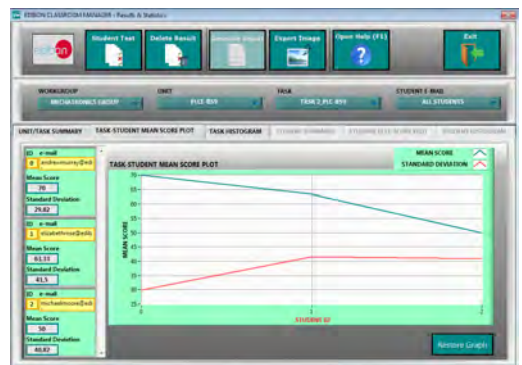• Report generation, User Progression Monitoring and Statistics.

ECM-SOF. EDIBON Classroom Manager (Instructor Software) Application Main Screen
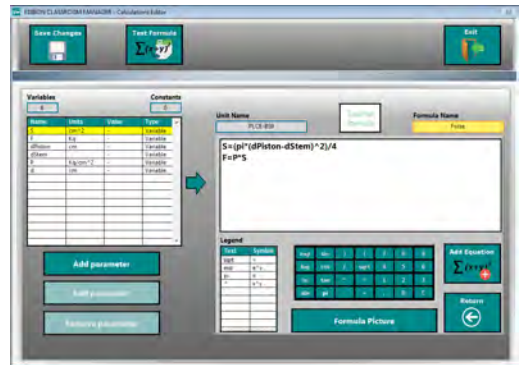
ECAL. EDIBON Calculations Program Package - Formula Editor Screen
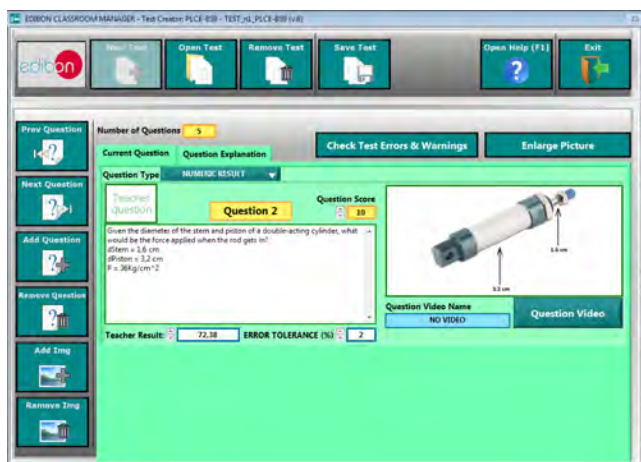
ETTE. EDIBON Training Test & Exam Program Package - Main Screen with Numeric Result Question

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.

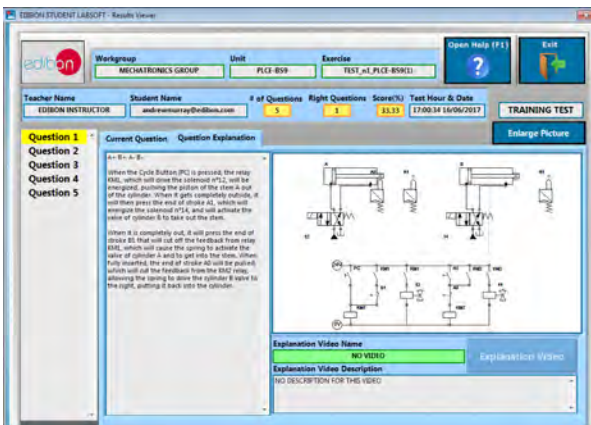For more information see **ICAI** catalogue. Click on the following link:
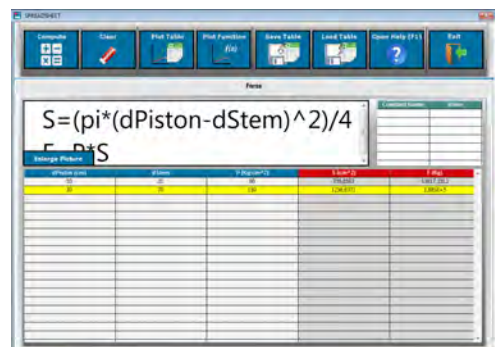www.edibon.com/en/files/expansion/ICAI/catalog

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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