CC Conveyor Belt Workstation

AE-PLC-CTCC

PLC programming software

Computer
(not included in the supply)

Unit: AE-PLC-CTCC. CC Conveyor Belt Workstation

Key features:

➢ **PLC and HMI device programming software**

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

➢ **Suitable for applied research, real industrial simulation, training courses, etc.**

➢ **Totally safe, using three safety systems (mechanical, electrical and electronic).**

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

➢ **Optional ICAI software to create, edit and carry out practical exercises, tests, exams, calculations, etc., apart from supervising the knowledge and progress achieved by the user.**

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↳PRODUCTS
  ↳60.- MECHATRONICS & COMPUMECHATRONICS AND
  70.- MECHANICS

For more information about Key Features, click here

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 include a lot of component from very different technologies as hydraulic, pneumatic, electrical, robotics, chemical, etc. For this reason, these types of systems require workers with specific skills to ensure that they are working properly.

The DC Conveyor Belt Workstation, "AE-PLC-CTCC", has been designed by EDIBON to study how manage a DC conveyor system. The "AE-PLC-CTCC" includes industrial components to conform the system such as PLCs, positioners, industrial sensors, etc.

The "AE-PLC-CTCC" workstation includes a set of practical exercises through which the student will understand how control an automatic DC powered conveyor system.

GENERAL DESCRIPTION

The "AE-PLC-CTCC" is a DC powered conveyor system commanded by a PLC. The "AE-PLC-CTCC" is composed by a conveyor, 4 position sensors to stop the conveyor at different positions, motor positioner, DC motor driver and DC motor to a complete control of the conveying.

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

- The PLC: is composed by the CPU PLC unit and all the extra modules needed to perform a correct working of the workstation.

- The control panel: with start/stop button, emergency pushbutton, reset button, light indicators to show current state of the process, etc.

- The workstation: is composed by real components used by the industrial automatic conveyor systems such as: capacitive sensors, limit switch sensors, position sensor, etc.

The "AE-PLC-CTCC" workstation that 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 "Flexible Manufacturing Systems (FMS)" area of the general catalogue.

SPECIFICATIONS

Control panel:

    Mushroom head emergency stop push button switch.

    Start and Stop pushbuttons.

    Switch for manual or automatic operation.

    Light indicator.

    Led stack light.

    Terminal block to connect the individually identified inputs and outputs of the unit.

Electrical components:

    DC motor.

    DC motor controller.

Sensors:

    2 limit switches.

    2 Capacitive sensors.

Fault generation module:

    Box with lock with key.

    Allows to generate 20 different faults.

    Each fault is generated through toggle switches.

Recommended accessories: (Not included)

• AE-PLCB. **Basic PLC Trainer (optional).**

The AE-PLCB is available with different PLC manufacturer models. All models contain the following modules:

N-ALI02: is the Main power supply.

N-CPU: is the PLC CPU that contain the digital In/Out terminals. All CPUs types allow to connect with the PC (for programming and monitoring) and the other modules of the trainer through an Ethernet network.

N-ESA: is the analog In/Out module used to acquire and generate analog signals.

N-HMIB: is the Human Machine Interface module with a touch screen.

N-MT: is the test module with switches, push buttons and potentiometers to generate digital and analog signals.

Software to program the PLC and the HMI device.

• SAC. **Silent Air compressor Unit (optional).**

Low noise level: 40 Db maximum.

Capacity of the boiler: 9 l.

Power: 340 W.

Air intake: 50 l/min.

Maximum pressure: 8 bar or 0.8 MPa.

It Includes hoses to easy connect with the EDIBON units.

Cables and Accessories, for normal operation.

Manuals: This unit is supplied with the following manuals: Required Services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices Manuals.

EXERCISES AND PRACTICAL POSSIBILITIES

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

2.- Study of the sensor detection.

3.- Manual control of a DC conveyor system.

4.- Automatic control of a DC conveyor system.

5.- Change the parameters of the conveyor system.

6.- Optimize the process time.

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

REQUIRED SERVICES

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

DIMENSIONS AND WEIGHTS

AE-PLC-CTCC:

-Dimensions: 600 x 800 x 1200 mm approx.

(23.62 x 31.49 x 47.24 inches approx.)

-Weight: 40 Kg approx.

(88 pounds approx.)

RECOMMENDED ACCESSORIES (Not included)

- AE-PLCB. Basic PLC Trainer (optional).
- SAC. Silent Air compressor Unit (optional).

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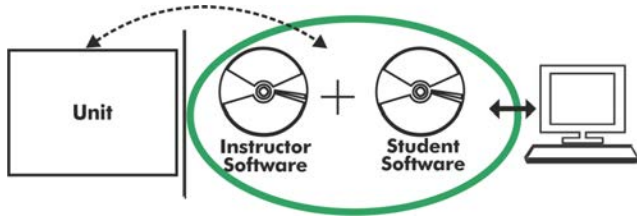
With no physical connection between unit and computer (PC), **this complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM-SOF) totally integrated with the Student Software (EDIBON Student Labsoft -ESL-SOF).** Both are interconnected so that the teacher knows at any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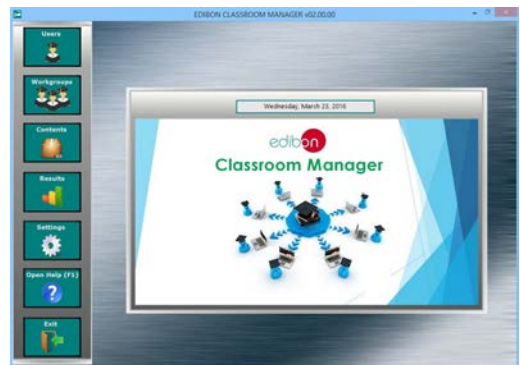
Instructor Software

### - 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
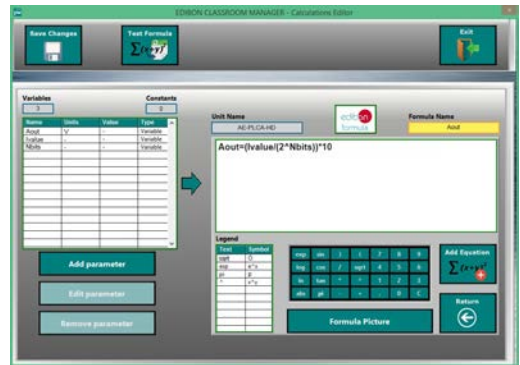
ECAL. EDIBON Calculations Program Package - Formula Editor
Screen
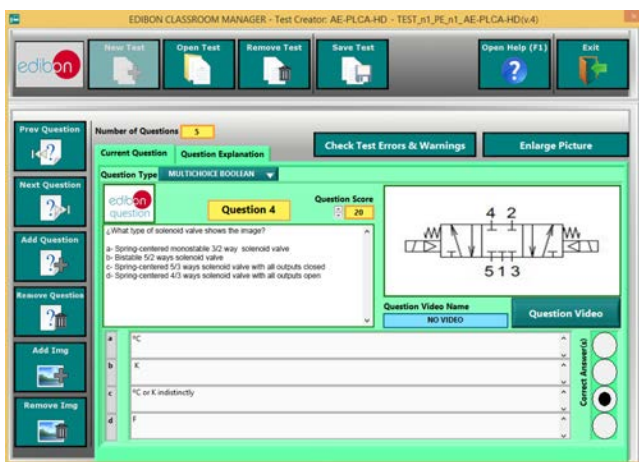
ETTE. EDIBON Training Test & Exam Program Package - Main Screen with
Numeric Result Question

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.

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

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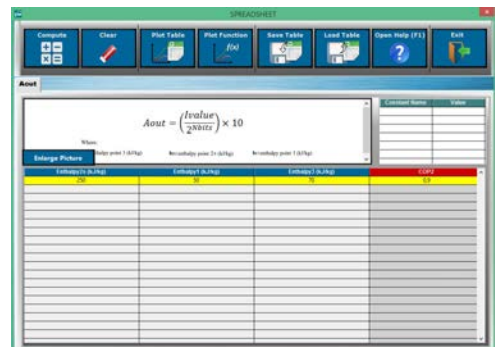www.edibon.com/en/files/expansion/ICAI/catalog

EPE. EDIBON Practical Exercise Program Package Main Screen
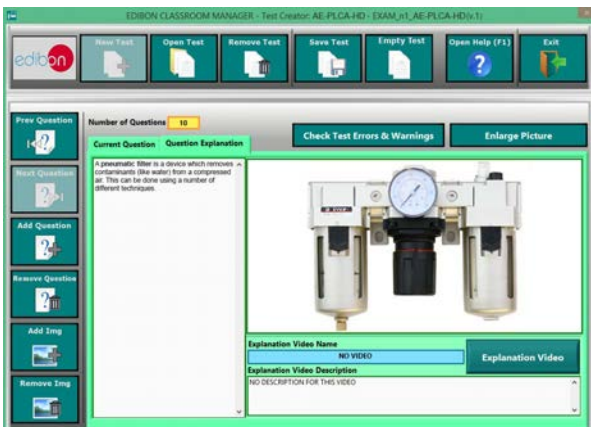
ERS. EDIBON Results & Statistics Program Package - Question Explanation

ECAL. EDIBON Calculations Program Package Main Screen

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

REPRESENTATIVE: