edibon

Engineering and Technical Teaching Equipment

INTRODUCTION

A common problem appears when there are heavy rains or a pipe damaged: floods. Nowadays, that problem is controlled thanks to the flooding control technology. It is not only used at home but also in ships, submarines or streets that are frequently flooded.

GENERAL DESCRIPTION

The Flooding Control Application, "AEL-AD22", is designed to know and study the operation of the most common flooding control systems.

This application has two parts. On one hand, there is a water tank divided into two parts: one to simulate the flooding and the other one to evacuate water. There is a solenoid valve to exchange the water through a water pump between both parts. On the other hand, the application includes the following elements: two flood detectors, one of them built-in, a pilot lights module that can be activated by sensors and an indoor siren. Therefore, this application allows the student to learn about the operation of flooding control systems.

The AEL-AD22 includes the following modules:

- N-ALI02. Domestic Main Power Supply.

- N-ALI03. AC Auxiliary Power Supply.

- N-DET03. Fitted Power Supply (gas and flooding detector).

- N-DET01. Flooding Detector.

- N-DET04. Fitted Flooding Detector.

- N-SEL03. Three-Pilots Lights.

- N-SEL21. Indoor Siren.

Expansion learning software:

In addition, Edibon provides expansion learning software (AEL-AD22/ICAI) to reinforce knowledge about this field.

This software is formed by:

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

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

The application AEL-AD22 can be mounted on rack (option A) or on rail (option B):

Option A:

This application needs the following racks:

- N-RACK-M.

Optionally the AEL-WBR. Electrical Workbench (Rack) can be supplied to place the rack/s.

Option B:

This application can be mounted on rail.

Optionally the AEL-WBC. Electrical Workbench (Rail) can be supplied to mount the modules.

The application includes the following modules:

- N-ALI02. **Domestic Main Power Supply.**
  - Voltage supply (Single-Phase): 230 VAC, PH+N+G.
  - ON-OFF removable key.
  - Output Voltage Connections:
    - Two Single-Phase: 230 VAC.
    - Single-Phase supply wire connecting plug.
  - Differential magnetothermal, 2 poles, 25 A, 30 mA AC 6 KA.

N-ALI02

- N-ALI03. **AC Auxiliary Power Supply.**
  - Voltage supply (Single-Phase): 230 VAC PH+N+G.
  - Output voltage:
    - Single-Phase 24 VAC/12 VAC.
    - 24 VDC.
    - 0 - 24 VDC through potentiometer.

N-ALI03

- N-DET03. **Fitted Power Supply (gas and flooding detector).**
  - Voltage supply, 230 VAC.
  - Output voltage, 12 VAC.
  - Ground connection.
  - Service LED.

N-DET03

- N-DET01. **Flooding Detector.**
  - Voltage supply, 230VAC
  - Frequency: 50/60 Hz.
  - Power: 5 W.
  - Alarm LED.
  - One input for probe.
  - Two alarm outputs.
  - Connectable to the solenoid valve.
  - Status LED.

N-DET01

- N-DET04. **Fitted Flooding Detector.**
  - Voltage supply 12 VAC.
  - One input for probe.
  - Two alarm outputs.
  - Alarm and status LED.
  - Acoustic alarm.

N-DET04

- N-SEL03. **Three-Pilots Lights.**
  - Voltage supply, 24 VAC.
  - Colors: red, yellow and green.

N-SEL03

- N-SEL21. **Indoor Siren.**
  - Volume configuration through voltage, 12-24 VDC.
  - 87-112 dB.
  - 12 – 30 mA.
  - 32 tones.

N-SEL21

- **All necessary cables to realize the practical exercises are included.**

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.- Checking and measuring on the main power supply.

2.- Checking the working of the auxiliary power supply.

3.- Checking the working of pilot-lights by connecting as visual alarms.

4.- Checking the working of the built-in power supply.

5.- Checking the operation of the flooding detector.

6.- Checking the operation of the built-in flood detector.

7.- Checking the operation of the siren, used as visual and acoustic alarm.

8.- Simulate floods and evacuations with the water tank and the electrovalve.

REQUIRED SERVICES

- Electrical supply: single phase, 230 V./50 Hz. or 115 V./60 Hz.

DIMENSIONS AND WEIGHTS

AEL-AD22:

- Dimensions: 640 x 320 x 670 mm approx.

  (25.19 x 12.59 x 26,37 inches approx.)

- Weight: 60 Kg approx.

  (132 pounds approx.)

AEL-AD22/ICAI. Interactive Computer Aided Instruction Software System:
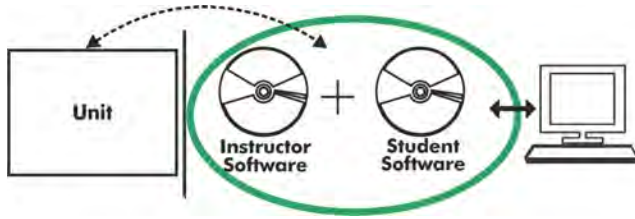
With no physical connection between unit and computer (PC), **this complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM-SOF) totally integrated with the Student Software (EDIBON Student Labsoft -ESL-SOF)**. Both are interconnected so that the teacher knows at any moment what is the theoretical and practical knowledge of the students.
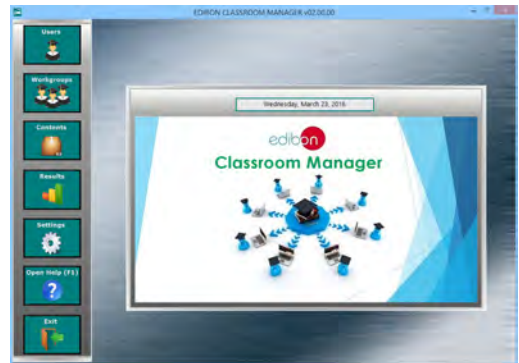
Instructor Software

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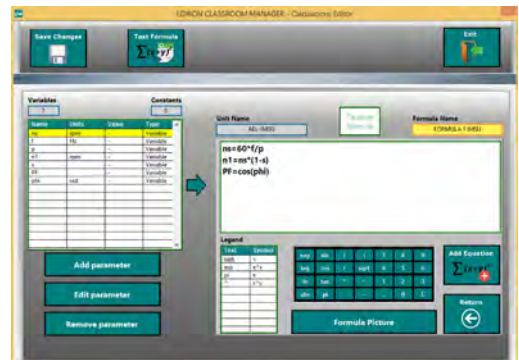
ECAL. EDIBON Calculations Program Package - Formula Editor Screen
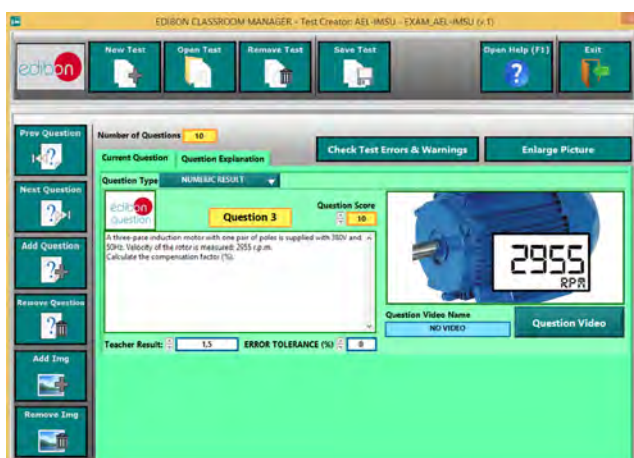
ETTE. EDIBON Training Test & Exam Program Package - Main Screen with Numeric Result Question

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

Student Software

- 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

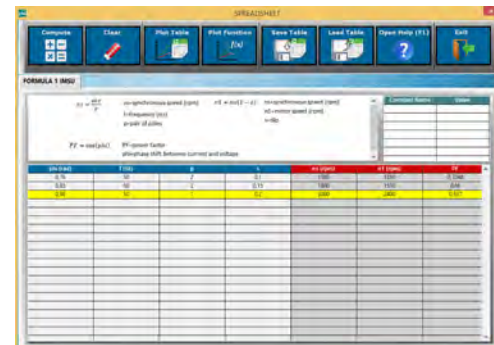EPE. EDIBON Practical Exercise Program Package Main Screen

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: