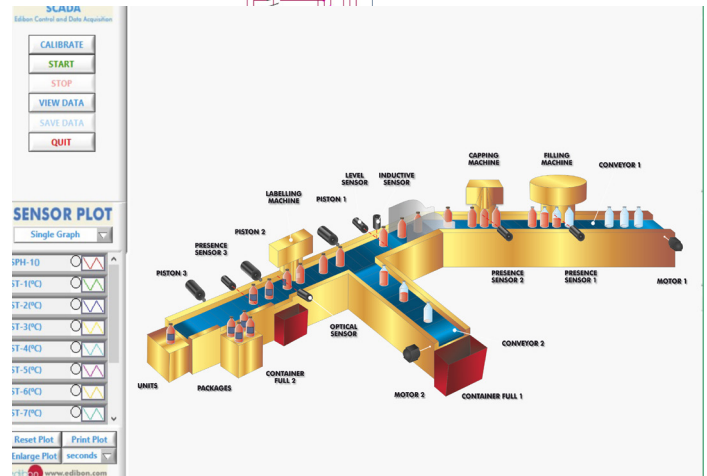
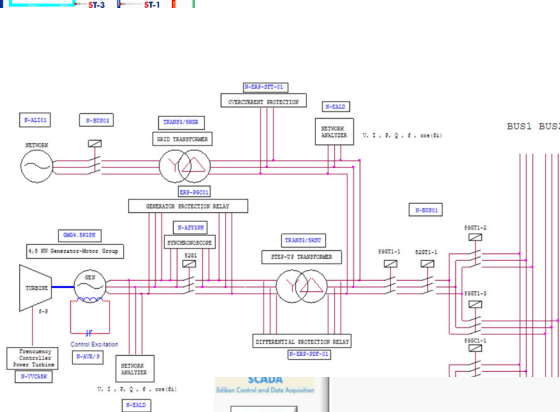
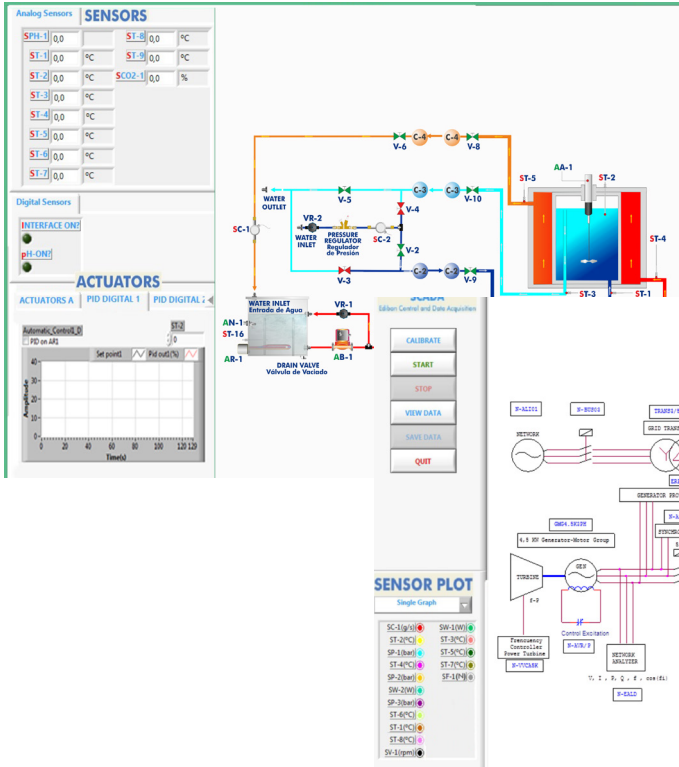


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 Y
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Software: AE-AS. Automation System Simulation Software

INTRODUCTION

The prior design and simulation of industrial environments or processes to be carried out is one of the essential steps that must be followed to guarantee the correct operation of an industrial system.

The "AE-AS" is supplied with a set of practical exercises that will help the students to understand the operation of industrial automation software, to simulate a 2D and 3D process and to perform SCADA control and supervision tasks on a real application and to carry out programming and communication tasks with the automata of the real application.



ISO 9001: 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)



"Worlddidac Quality Charter" and Platinum Member of Worlddidac

GENERAL DESCRIPTION

The "AE-AS" software is designed to perform the following tasks: 2D and 3D simulation of a real automation system, data acquisition, supervision and control (SCADA) with a real automation system through OPC protocol communication and carry out automata programming directly from the software.

The "AE-AS" designed by EDIBON allows the user to learn the basic concepts of industrial automation software that performs SCADA control functions, automata programming, 2D and 3D automation systems simulation, configuration of the properties of pneumatic and hydraulic components, etc. without any previous knowledge or experience.

SPECIFICATIONS

The "AE-AS" includes:

2D and 3D systems simulations.

Configurable simulation speed with the modes "normal simulation", "slow motion simulation", "step-by-step simulation" and "pause".

3D editor to import pieces made with compatible formats (.STEP, .STL and .IGES) with most 3D design programs (3D Studio, Solid Edge, CATIA, Solid works, etc.). Capacity to generate 2D and 3D animations associated to the results of the simulation the user is working with.

Possibility to design systems supervision applications.

Capacity for simulating the following systems and synchronizing all the types of simulations included in the software:

- Hydraulic and electrohydraulic: according to ISO 1219-1 and 1219-2 standards, with an extensive library of hydraulic and electrohydraulic components with its standardized symbol.
- Pneumatics and electro-pneumatics: with an extensive library of pneumatic, electro-pneumatic and pneumatic logic components.

Capacity to modify the most important parameters of each hydraulic and pneumatic component, such as: efficiency curves, external loads, leaks, viscosity, thermal characteristics, etc.

- Digital electronics: with an extensive library of standard electronic components (logic gates, amplifiers, transistors, displays, multiplexers, etc.).
- Electrical Single-Line Diagram: with a library that enables to create diagrams for all levels of voltage usually employed in power generation, transport and distribution networks.
- Electrical engineering: with a library that contains a great amount of components to create simple and complex electrical circuits. The models of the components included are generic and real and belong to several manufacturers.

All the libraries include the components and its standardized symbol.

Capacity to program with the following languages:

- GRAFCET: allows encapsulated stages for a better organization of the programmed control structures.
- Block Diagram: blocks included are preset but they can be completely configured by the user.
- Ladder: includes three libraries to program automata from Siemens, Allen Bradley and those fulfilling the IEC61131-3 standard, allowing the PLC to program directly. It also allows for creating and simulating the PLC program in the automated system simulated by the software.
- Digital logic: with an extensive library of logic gates and components configured by the user.
- Function blocks with configurable structured text.

Direct programming in the PLCs from the manufacturers Siemens, Allen Bradley and those fulfilling the IEC61131-3 standard of the programs simulated in the software.

Supervision, control and simulation of the manufacturing process of each station and the complete assembly by an open SCADA system (modification, optimization and development of other projects based on the supplied SCADA system). It allows the user to simulate, supervise and control a real process from the computer.

The SCADA system included is structured by branched screens, the user can access the SCADA system of every station that form the unit from the main SCADA screen.

Each SCADA screen contains a control panel with "Start" and "Stop" buttons, a "Manual/Automatic" switch, "Reset" button and "Emergency stop" button. Besides, it includes a display of the alarms generated in each station (fault warnings, lack of pieces warnings, etc.).

Chart with the signals that indicate the current production state in each station, indicating every motion in real time from the computer.

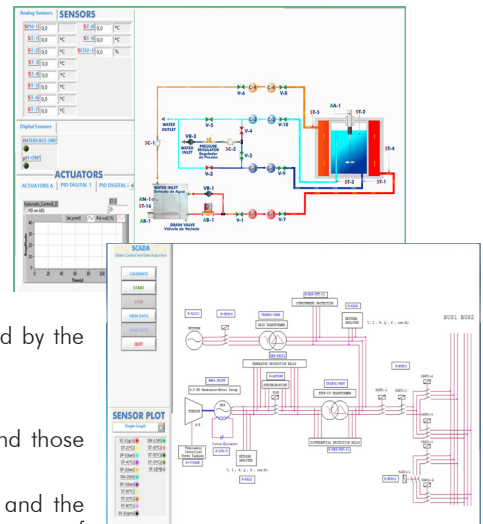
Possibility to control in real time all the variables of the complete system and of every station remotely from the computer, without time limit. Access to the PLC variables, to the library of the components (pneumatic, hydraulic, etc.). Independent windows for 3D models and for the control panel.

Communication with the PLCs of the unit is performed via OPC protocol.

Includes the 3D simulation of the automation system with the control panel and the visualization of the alarms generated by the system.

Manuals:

This unit is supplied with the following manuals: Required services, Installation, Interface and control software, Starting-up, Safety regulations, Maintenance, Calibration, Practical exercises, 2D and 3D system simulation, Automation system simulation, Software environment and language and Application programming.



Software. AE-AS

EXERCISES AND PRACTICAL POSSIBILITIES

- | | |
|-----------------------------------------------------|----------------------------------------------------------------|
| 1.- Introduction to industrial automation software. | 6.- Simulation of electrohydraulic elements. |
| 2.- Simulation of pneumatic elements. | 7.- Connection to a PLC via OPC protocol. |
| 3.- Simulation of hydraulic elements. | 8.- Programming a PLC from the industrial automation software. |
| 4.- Simulation of electrical elements. | 9.- Introduction to a SCADA system. |
| 5.- Simulation of electro-pneumatic elements. | |

REQUIRED SERVICES

- | |
|-------------|
| - Computer. |
|-------------|

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



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