



FAMIC TECHNOLOGIES INC.

AUTOMATION STUDIO™

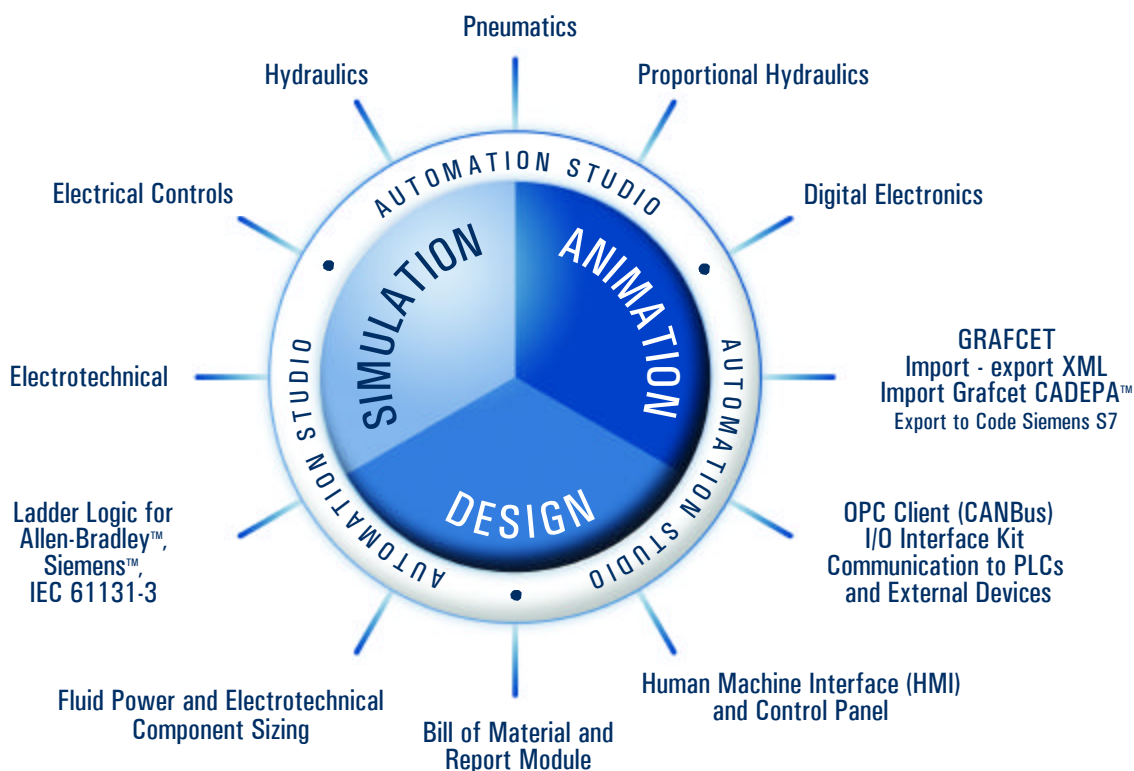
The Tool of Choice for Teaching Hydraulic, Pneumatic, Electrical, and Automation Technologies



Complete • Cost-effective • Efficient

A COMPLETE AND COST-EFFECTIVE SOLUTION...

If you teach on subjects related to hydraulic, pneumatic, electrical, and control technologies, the illustration of concepts and the behavior of systems are no doubt at the heart of your requirements. Created in 1986 by Famic Technologies to meet the needs of technical teaching and training, and used in thousands of schools worldwide, Automation Studio™ is a unique software solution, which offers intuitive design, animation, simulation, and system analysis functionalities in a versatile and user-friendly environment. It allows teachers to expose more content in less time, improves students' understanding of concepts and diagnosis capabilities, and brings to schools, colleges, and universities an optimal return on investment.



Ideal for Technology Curricula

Automation Studio™ does not dictate how to structure a course but completes the curriculum by enriching lectures, textbooks, and lab notes at any level of disciplines related to:

- Automation
- Industrial Mechanics
- Industrial Maintenance
- Instrumentation
- Electromechanical Technologies
- Mechanical Drafting (CAD)
- Agricultural Mechanics
- Mechatronics
- Electrical Engineering Technologies
- Industrial Automation
- and many more

The Most Cost-Effective Solution for Teaching and Learning

Automation Studio™ is a complete solution which covers a wide array of technologies, and which is available at a very attractive price conforming to schools' budgetary constraints.

One Solution for Several Departments for a Maximum Return on Investment

Since it covers most industrial technologies, Automation Studio™ is ideal for many curricula, and can be therefore used by several departments. Departments can then take advantage of one single complete software solution while allocating its cost on their different budget.

... TO TRAIN FUTURE TECHNICIANS AND ENGINEERS

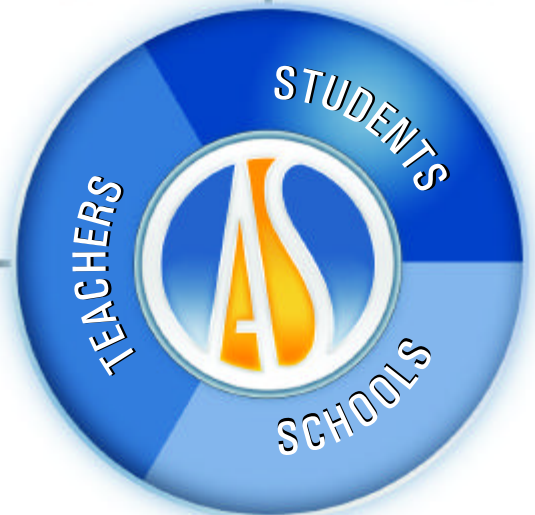
The entire school benefits from integrating Automation Studio™ into its curricula. Automation Studio™ is the ultimate software solution to teach basic concepts or to provide advanced training on industrial technologies. Thanks to its intuitive and user-friendly interface, its efficient design tools, its realistic simulation, its dynamic animations, and its multi-technology environment, students, teachers, as well as the whole school can take advantage of Automation Studio™ capabilities.

STUDENTS

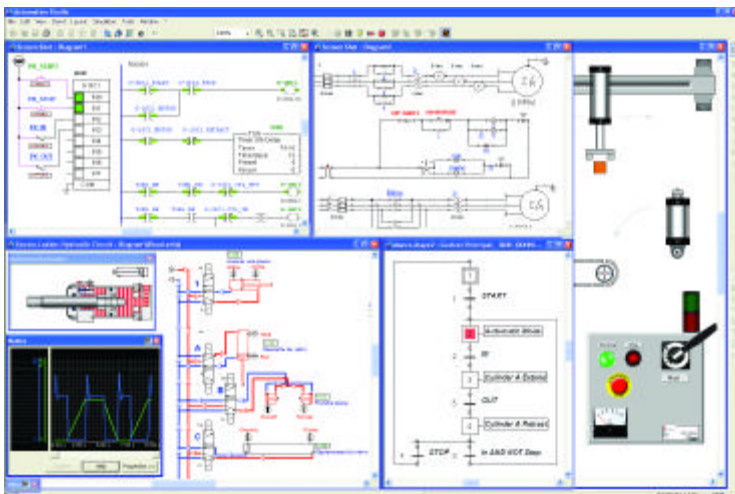
- ✓ Improves knowledge retention
- ✓ Validates theories studied in class
- ✓ Illustrates systems behavior dynamically and in full color
- ✓ Reinforces the understanding of systems interactions
- ✓ Exposes students to a wider range of technologies
- ✓ Allows to virtually test all types of systems.

TEACHERS

- ✓ Simplifies teaching since it can be easily used for demonstrations
- ✓ Allows to expose more content in less time
- ✓ Facilitates the demonstration of systems interactions
- ✓ Allows to create flexible, dynamic, and interactive teaching material
- ✓ Secures teaching and learning by working on virtual systems
- ✓ Easily integrates into the course content
- ✓ Can be easily handled by both teachers and students



Automation Studio™ A multi-technology simulation



SCHOOLS

- ✓ Guarantees an optimal return on investment
- ✓ Eliminates the need to purchase other software covering only one technology
- ✓ Can be used in conjunction with other departments
- ✓ Limits the purchase of expensive and often inaccessible hardware
- ✓ Trains students on a leading-edge tool commonly used in the industry
- ✓ Improves the quality of education

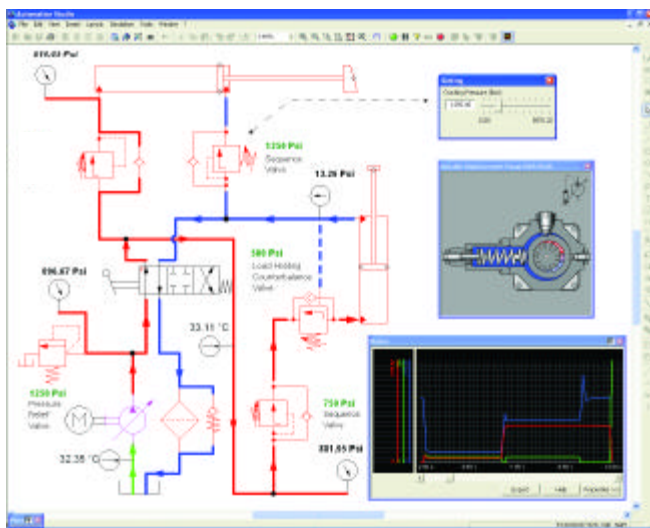
"I have been in Fluid Power for over thirty years and have always been limited to the complexity of the circuits I could draw using software. I must admit you have made my job as an instructor very easy because Automation Studio contains all the tools necessary to draw circuits that meet my needs and to simulate them. Automation Studio is simply great; according to me Automation Studio is second to none."

Steven Dick, Northwest State Community College, Industrial Technology Instructor.

A FLEXIBLE AND INTEGRATED SOLUTION...

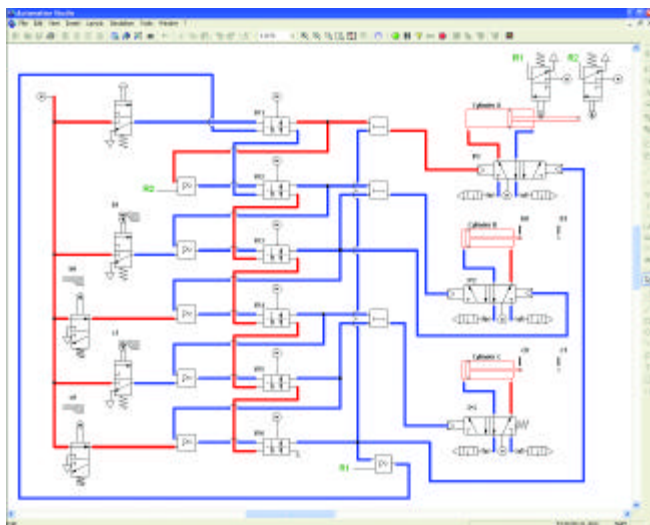
Hydraulics and Proportional Hydraulics

Complying with ISO 1219-1 and 1219-2 standards, the Hydraulics and Proportional Hydraulic Libraries offer all the component symbols required to create hydraulic systems. The libraries include hundreds of symbols such as directional valves, variable displacement pumps, and motors so as to create all types of systems, from simple to complex. Components are preconfigured but can be easily sized so as to realistically reproduce the system behavior by considering pressure, flow as well as pressure drops. Simulation parameters such as loads, leaks, thermal phenomena, fluid viscosity, and flow characteristics can also be configured.



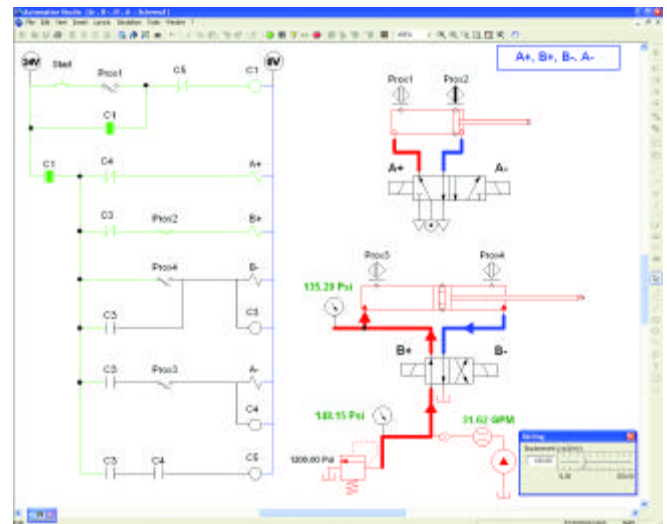
Pneumatics

The Pneumatic Library includes all the symbols necessary to create pneumatic, electropneumatic and moving part logic systems. Like in the Hydraulic Module, the parameters of pneumatic components can be configured so as to show a realistic behavior.



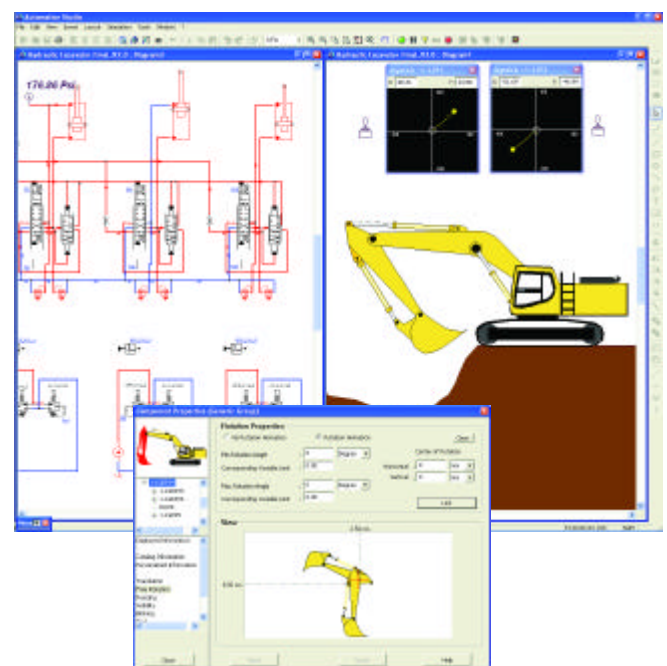
Electrical Controls (IEC, JIC)

The Electrical Controls Library interacts with all the components from other libraries so as to create electrically controlled systems. It includes switches, relays, solenoids, push-buttons and many more components.



HMI and Control Panels

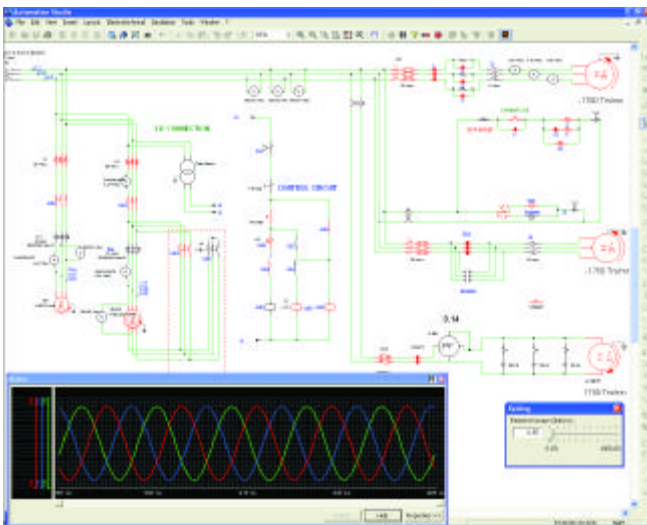
This module allows to easily create animated shapes and control panels, and to reproduce, thanks to a 2D visual representation, the behavior of the whole equipment. Movements and animations of all types are recreated thanks to simulation, and assigned by variables to all shapes. The module features components such as switches, push-buttons, potentiometers, measuring instruments, etc.



WITH NUMEROUS LIBRARIES INTERACTING WITH EACH OTHER

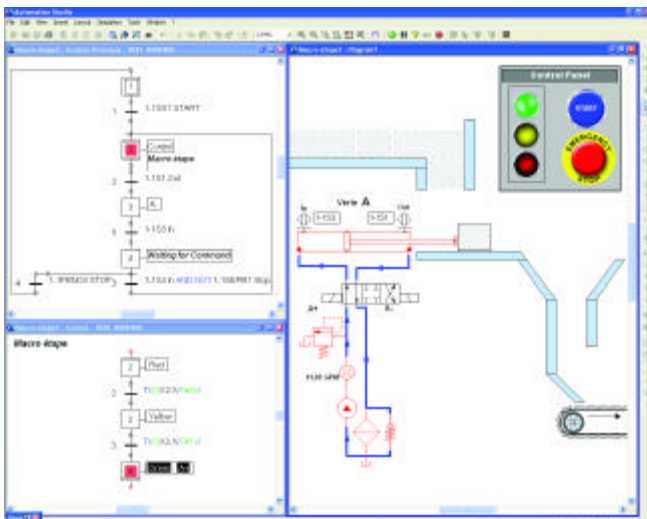
Electrotechnical (IEC, NEMA)

The Electrotechnical Library offers a wide array of components to create AC and DC electrical circuits, from simple to complex. Users can modify the simulation parameters such as resistance, inductance, torque, and frequency, as well as advanced parameters including the mutual inductance of motors rotors and stators, the inertia constant, etc. To illustrate more complex concepts, users can modify the simulation parameters, and visualize speed, torque, mechanical power, etc. Parameters and constraints applied to the systems allow to analyze and better understand the system behavior thanks to simulation.



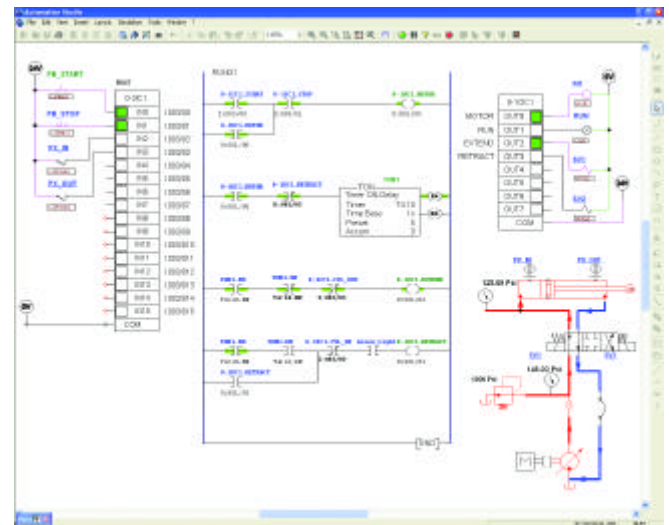
Sequential Function Chart (Grafcet)

Thanks to its editor and simulation, the Sequential Function Chart (SFC) Module is the tool of choice to implement control structures according to the IEC61131-3 standards. This universal method can be used in conjunction with any other library. SFC allows to get on to control systems more effectively, and provides excellent supplemental documentation for pneumatic, hydraulic, and electrical projects as recommended by ISO and IEC standards.



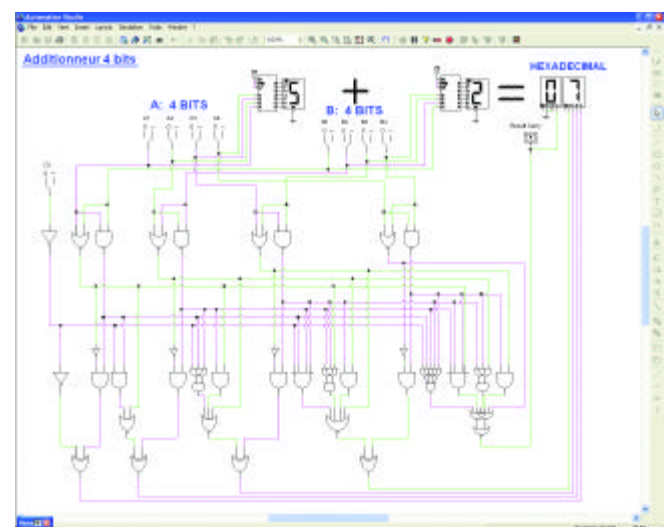
Programmable Logic Controller

Automation Studio™ contains three libraries of PLC Ladder Logic compliant with Allen Bradley™, Siemens™, and IEC61131-3. These libraries include all the ladder logic functions such as contacts, input/output, timers, counters, logic test, and mathematical functions. It becomes then easy to create and simulate the control part of an automated system. Combined with other libraries, the Programmable Logic Controller Libraries allow to implement a complete virtual factory.



Digital Electronics

This library comes complete with standard devices including inverters, logic gates, flip-flops, counters, shift registers, comparators, switches, LEDs, 7-bar display, decoders, multiplexers, etc.



"...As the student advances, Automation Studio simulation software reinforces the circuitry and interaction between the various electrical, pneumatic and hydraulic components. We find Automation Studio an excellent teaching tool."

Paul Todd, Warkwickshire College, United Kingdom

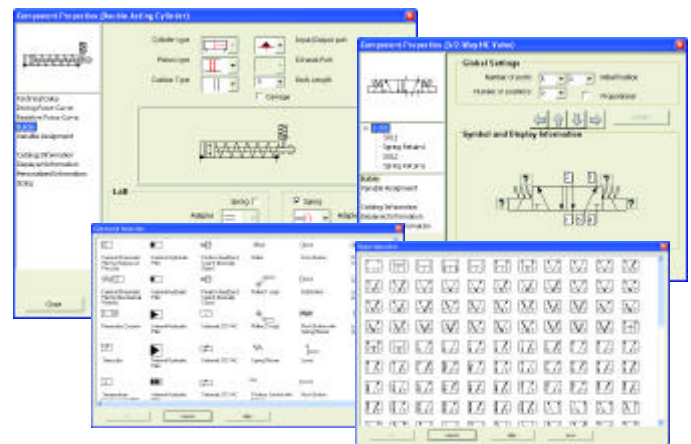
A DYNAMIC AND REALISTIC SIMULATION...

A Dynamic, Realistic, and Visual Simulation for Instant Understanding

Automation Studio™ implements reliable and weighted modeling techniques based, among other, on the Bernoulli's law and gradient method. It allows to reproduce accurately the system behavior in a dynamic and visual way. During simulation, components are animated, and lines and wires are color-coded according to their state. Simulation can then help to explain systems operation, from the component up to the system level, and to assimilate more quickly theories and concepts studied in class. The simulation paces "Normal", "Slow Motion", "Step by Step", and "Pause" allow to control the simulation speed of selected diagrams.

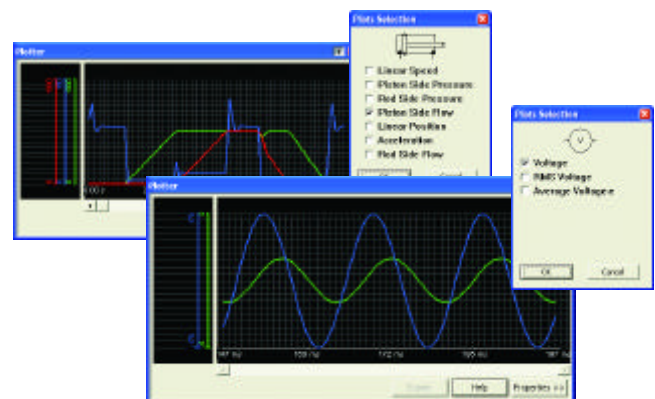
Truly User-Friendly Configuration Tools

Automation Studio™ allows you to modify the configuration of valves, cylinders, motors, etc, so as to obtain components which are graphically compliant with your requirements, and which will show an accurate behavior during simulation.



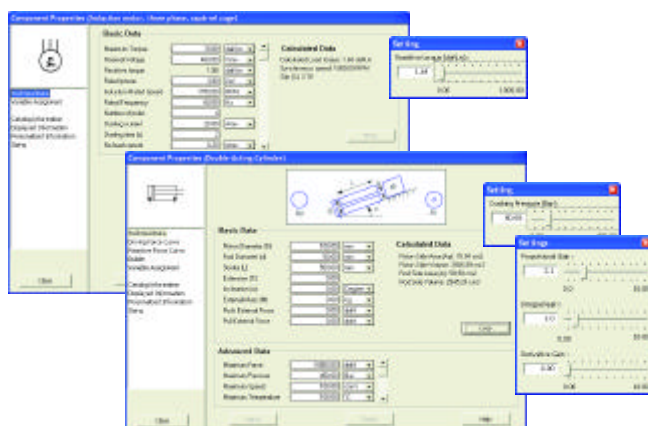
Plotting Simulated Parameters for Basic or In-Depth Analysis

With a simple drag and drop operation, you can plot simulated parameters and variables. The results can be easily exported into a text file, spreadsheet or database application for further analysis.



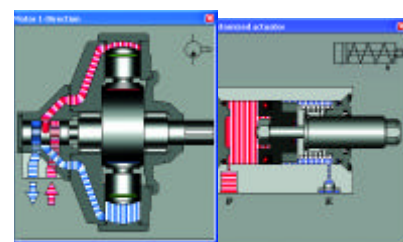
Preconfigured but Adjustable Simulation Parameters for a Quick Software Handling

Default simulation parameters have been set for each component of Automation Studio™ so that no initial configuration is required. Simulation parameters such as applied loads, dimensions, angles, as well as advanced parameters including internal leakage, friction, etc, can be easily modified at will. During simulation, you can also control pressure, flow, temperature, voltage, and electric current, as well as kinematic and dynamic variables like position, speed, acceleration, force, and torque.



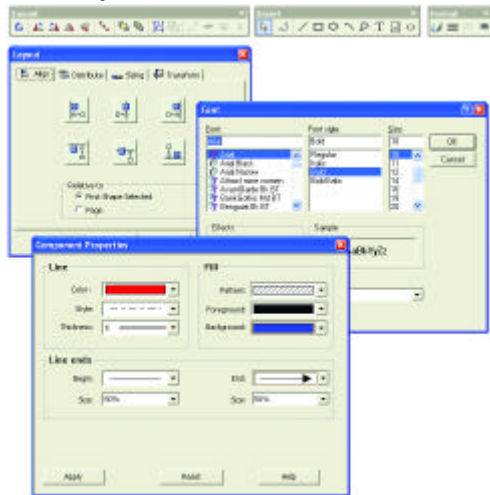
Cross-Section Animations

The animated component cross-sections illustrate the internal functioning of components. The animations are synchronized with the circuit simulation.



Simple and Efficient Design Tools in an Intuitive Environment

Automation Studio™ offers all the functionalities of traditional CAD software but with an exemplary user-friendliness and versatility. The software can be deployed and handled quickly and easily. The software being integrated and complete, it eliminates the need to purchase complementary products to cover a wide array of technologies.



User-Friendly Sizing Module

Automation Studio™ provides calculation worksheets specific to each category of pneumatic, hydraulic, and electrical components which include calculation tools necessary for component sizing. When values are modified, their corresponding parameters are automatically recalculated and replaced in the component properties so that changes are considered during simulation. In addition, users can have quick access to applicable equations and parameters definitions. Thus, Automation Studio™ becomes a reference saving time in searching for equations or relevant technical data in external information resources.

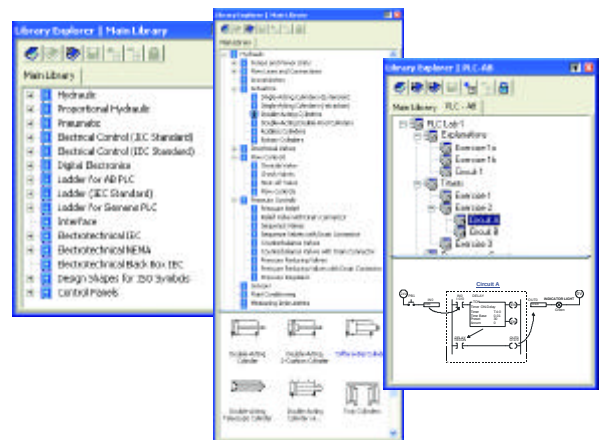


Thousands of Symbols at Hand!

The symbol libraries are compliant with ISO, DIN, IEC, and NEMA standards. Symbols are sorted by categories. This makes it easy to design systems since users simply need to browse through the libraries, select the appropriate components, and drag and drop them onto workspace.

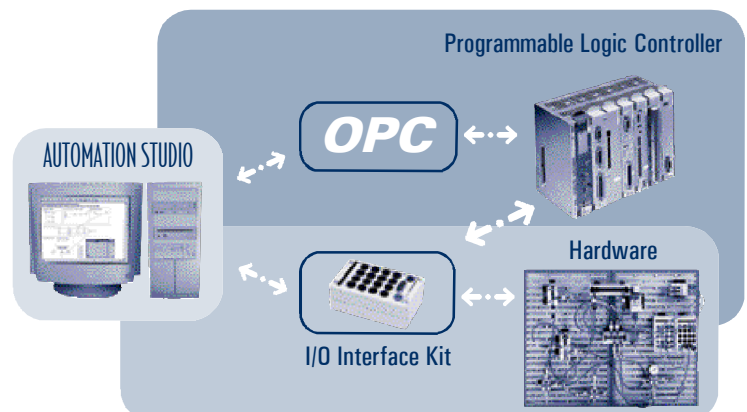
Create and Customize your Own Symbols, Libraries, and Templates

Using the standard components, the flexible drawing tools, and the grouping function, users can create, and customize their own libraries and templates. This makes it easy to create libraries specific to an exercise and containing only the required components.



Interfaces to Programmable Logic Controllers (PLCs) and Equipment

In order to connect Automation Studio™ to an automated system, a hydraulic or pneumatic trainer, you can either use an I/O interface kit or an OPC module. The I/O interface kit is a hardware solution that allows to connect 8 inputs and 8 outputs directly to a PLC or to real equipment such as relays, contacts, valves, sensors, etc. The OPC Client is a standard software interface that allows Automation Studio™ to exchange data with any PLC or other control devices for which a manufacturer supplies OPC server software.



"...I have seen several other software on the market, but none seem to have all the 'bells and whistles' that Automation Studio™ has."

Will Haden, Alabama Industrial Development Training at Mercedes Benz Institute, USA

THE BEST SOFTWARE FOR YOUR TEACHING AND TRAINING NEEDS

Quickly appreciate Automation Studio™ capabilities with a live online presentation!

Learn more about Automation Studio™ thanks to a free online demonstration with one of our specialists! This custom presentation is a dynamic and interactive way to present you our software. It allows you to watch Automation Studio™ in action, to see how intuitive and versatile the software is, and how perfectly it will integrate your curricula. This presentation also focuses on the functions which will best meet your needs and concerns, so as to answer all your questions.

Contact us now to schedule your presentation!

For an advanced use of Automation Studio™, opt for one of our training sessions!

Automation Studio™ does not require any training. However, for an advanced use, we offer a wide range of training programs on Automation Studio™, from on-line training to custom on-site training, and training sessions in our premises in Montreal, we have the right training for you!

Annual Maintenance & Technical Support Plan

Subscribe to our Annual Maintenance & Technical Support Plan which grants you with exclusive advantages such as unlimited access to technical support, access to ALL upgrades and latest developments of Automation Studio™ as soon as they are available.

Libraries and Modules available:

- Electrotechnical
- Electrical Controls
- Ladder Logic for Allen Bradley™, Siemens™, IEC 61131-3
- Grafset (SFC DINC and IEC)
- Pneumatics
- Hydraulics
- Proportional Hydraulics
- Fluid Power and Electrotechnical Component Sizing
- Digital Electronics
- HMI and Control Panels
- Bill of Materials and Report Module
- OPC Client (CANBus), I/O Interface
- Export DXF, EMF, and other formats
- I/O Interface kit (card and relay box)

"...I highly recommend Automation Studio for anyone teaching skilled trades. On a scale of one to ten I would without hesitation give it a solid eleven. I have been using this software for at least the past ten years and it has been an excellent tool for teaching the trades."

Al Manore, Macomb Community College, USA

"...Automation Studio provides an excellent "bridge" from theory to application. Students who use the software more readily develop the ability to build real circuits and demonstrate the understanding of the theories behind the circuitry. It is a very effective teaching tool and I would highly recommend it for the technical instructor."

David Hubert, Texas State Technical College, USA

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