



AUTOMATION

Advancements in the automation industry have led to a great demand for skilled technicians with real world, hands-on experience. Intelitek's comprehensive training solutions are designed to engage students in a vast range of automated processes while developing problem solving and collaboration skills. Intelitek's project-based approach enables students to achieve outstanding results and display their career-readiness in a valid, measurable format.

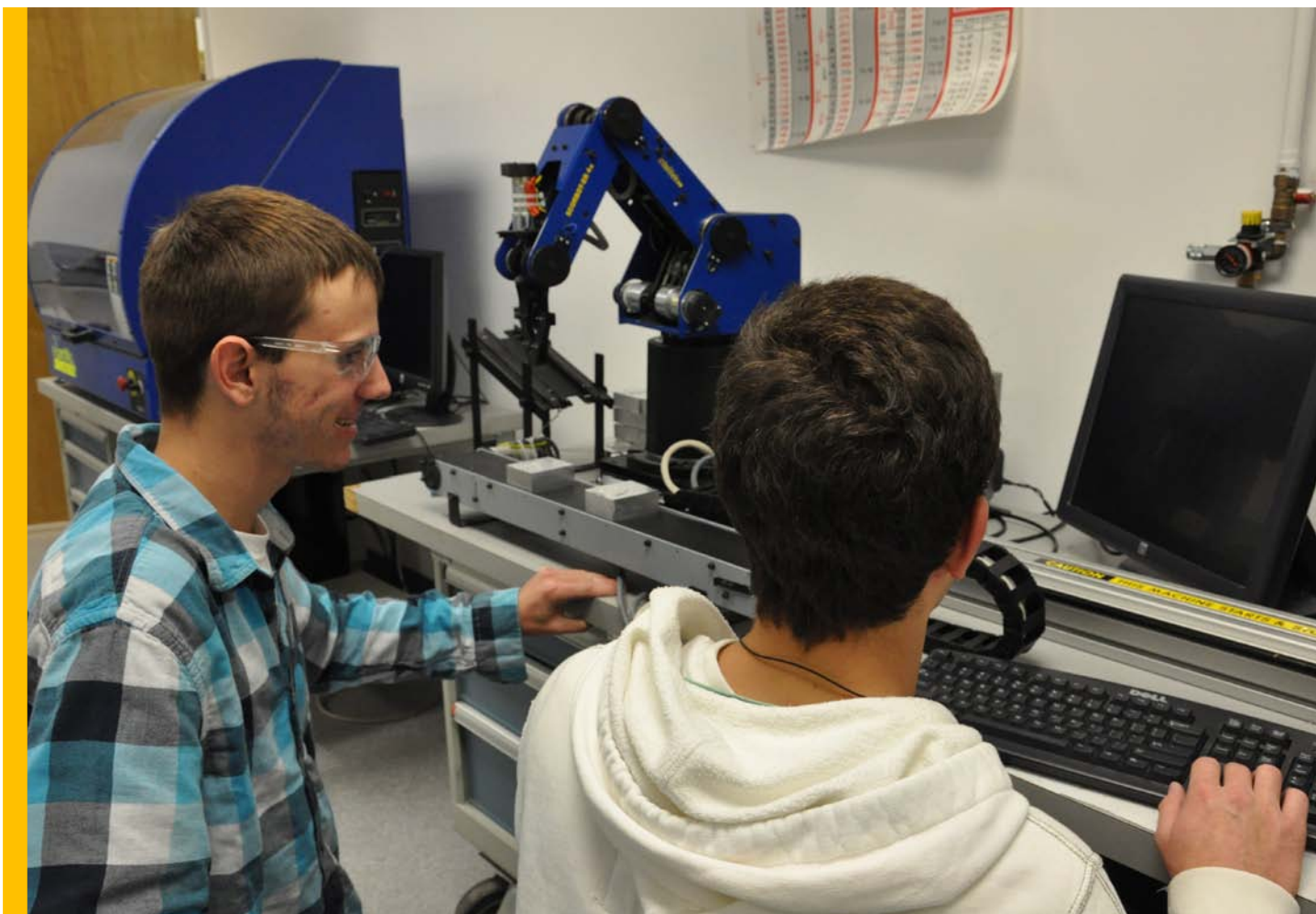
Academic Representative:



Technology Education Concepts

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Intelitek Pedagogic Values

Employers in industry are challenged with the discrepancy between knowledge and experience. The modern technical program needs to bridge the gap and churn out graduates that not only know the theory of the field in which they plan to work, but also have enough experience to be productive on day one.

Project-based learning and platforms for interactive trainings, like the JobMaster Training Station for Automation from Intelitek, are a step in the right direction. Intelitek curriculum integrate with industry hardware and provide students with projects performed on real equipment so

they will have in depth knowledge and hands-on experience when they find a job.

However, skills based training that provides independent and group work projects, and send students to the test bench with a challenge they need to solve, develops the soft skills that can make the difference between a worker and an employee for life. Skills based programs from Intelitek develop thinking skills, problem solving, teamwork, and negotiation techniques. Students learn to think outside the box and this is what will turn graduates into top employees in industry with lifetime job skills.

Quality Hardware

JobMaster provides exposure to industry-standard practices with hardware platforms consisting of industry-grade components.



Skill-based E-learning Content

JobMaster curriculum are skill-based, developed by industry experts from Fortune 1000 companies across a wide range of sectors.

The skill-based training consists of individual exercises that reproduce essential tasks performed by maintenance technicians, equipment operators, and machine repairmen.

Industry Competence

JobMaster's interactive and multi-disciplinary curriculum entrench values that help secure jobs and work skills to enable students to thrive in collaborative workplaces with the can-do and problem solving attitude employers seek.



AUTOMATION CURRICULUM

JobMaster Pneumatic Training Series



Intelitek's Pneumatics Technology training is a four part curriculum for learning air power to prepare students for careers in industry. The hands-on, task-based skills training educates students on the fundamentals and advanced principles of Air Power and Pneumatic Systems. Students will learn to configure industrial pneumatic components in order to create a

variety of pneumatic applications. Students can connect different elements, change physical parameters and observe system responses. The unique combination of software, simulation and real industrial equipment introduces students to the design, programming and control of pneumatically operated systems.

Pneumatics Technology 1: Fundamentals of Pneumatics

HOURS OF INSTRUCTION: 15

TYPE 

Introduces the principles of pneumatics and pneumatically controlled systems commonly used in automated manufacturing environments.

LANGUAGES  

COURSE OUTLINE

- Introduction to Pneumatics
- Atmospheric Pressure & Vacuum
- Atmospheric Pressure, Vacuum and Mechanical Work
- The Double-Acting Cylinder
- 3/2 Valves
- Controlling a Piston with PBs
- 5/2 Air-Operated, Air-Returned Valve
- 5/2 Air-Air Valves
- Laws of Gases
- 3/2 Air-Operated, Spring-Returned Valve
- Spot Welding System
- 3/2 Roller Valves
- Task - A Semi-Automatic System

CATALOG #: 77-8068-0000

Pneumatics Technology 3: Fundamentals of Electro-Pneumatics

HOURS OF INSTRUCTION: 15

TYPE 

Enables students to grasp the fundamentals of pneumatic and electro-pneumatic controlled systems commonly used in modern automated manufacturing environments. In this module, students are exposed to the function and operation of electric/electro-pneumatic components such as switches, relays, timers, electrical push buttons, solenoid operated valves and proximity sensors.

LANGUAGES  

COURSE OUTLINE

- Review Pneumatics Concepts
- Building a Basic Electrical Circuit
- The 5/2 Solenoid-Spring Valve
- The 5/2 Solenoid-Solenoid Valve
- Magnetic Switches
- Implementing the Logic Function AND
- Implementing the Logic Function OR
- Implementing the Logic Function NOT
- Sequential Operation
- The Relay
- Unlatching a Relay
- Building a Fully Automatic Circuit
- Adding a Delay Using an Electric Timer
- Unlatching a Fully Automatic Circuit
- Measuring Cylinder Speed

CATALOG #: 77-3039-0000

Pneumatics Technology 2: Advanced Pneumatics

HOURS OF INSTRUCTION: 15

TYPE 

Covers advanced principles and components of pneumatics and pneumatically controlled systems, including timing diagrams and the logic functions AND and OR.

LANGUAGES  

COURSE OUTLINE

- The Logic Function AND
- Implementing AND in a Pneumatic Circuit
- The Toggle Valve
- Using AND to Build a Fully Automatic System
- The Logic Function OR
- Implementing OR in a Pneumatic Circuit
- Circuit with Two Double-Acting Cylinders
- Sequential Cycle
- A Delay
- Sequential Control with a Timed Delay
- Opposing Control Signals
- Timing Diagrams
- Using a Single Pilot Valve to Prevent Opposing Control Signals
- Using A Single Pilot Valve in a circuit

CATALOG #: 77-8069-0000

Pneumatics Technology 4: Advanced Pneumatics & Electro-Pneumatics

HOURS OF INSTRUCTION: 15

TYPE 

This final module enables students to grasp the fundamentals of advanced pneumatic and electro-pneumatic controlled systems commonly used in modern automated manufacturing environments.

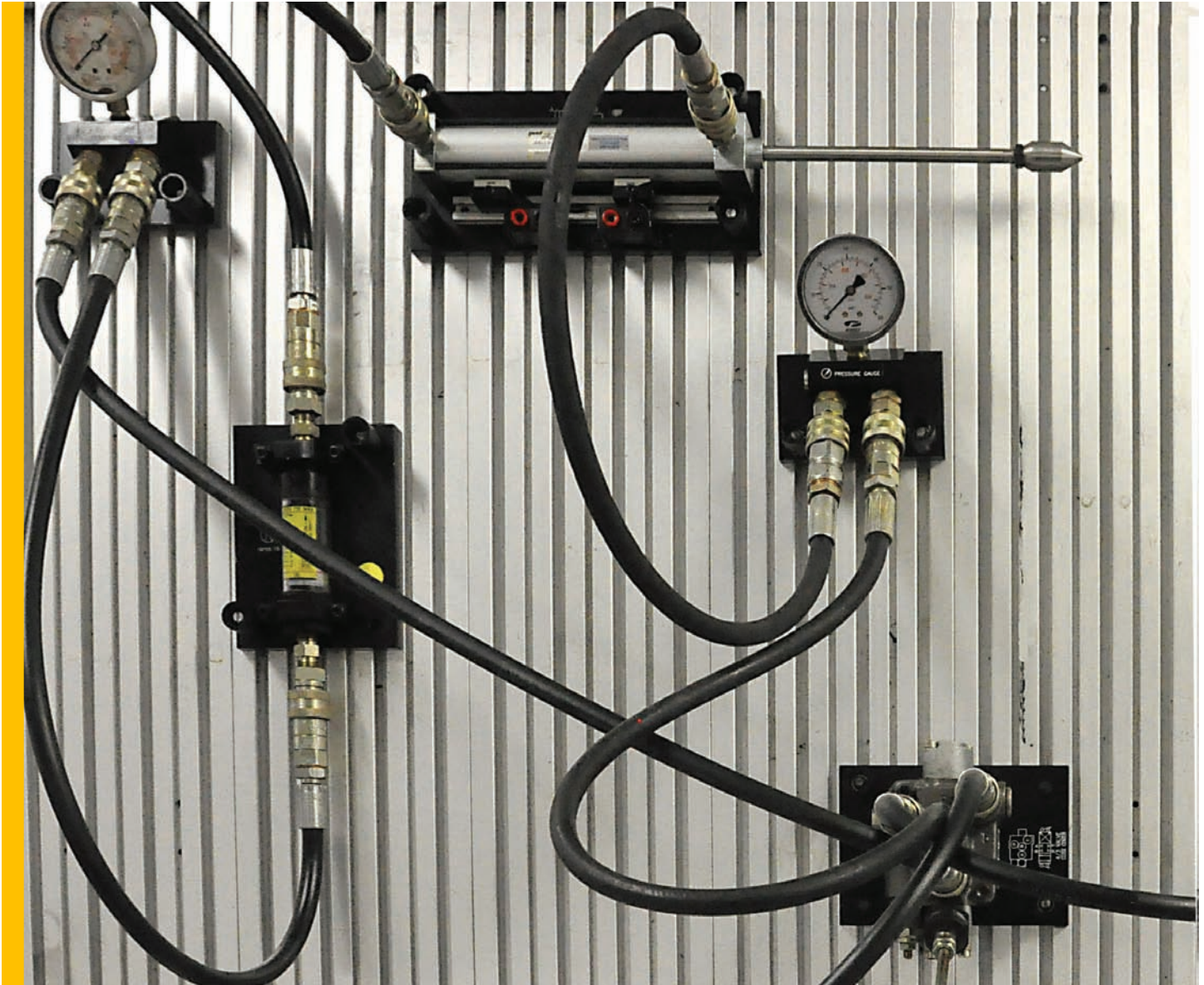
LANGUAGES  

COURSE OUTLINE

- The Single-Acting Cylinder
- The 5/3 Closed-Center Valve
- The Manual 5/2 Valve
- Sequential Operation
- Vacuum Generator and Pad
- Pneumatic Counter
- Quick Exhaust Valve
- Switches and Relays
- 5/2 Solenoid Spring-Return Valve
- Pressure Sensor
- Latching a Relay
- Overlapping Control Signals
- Timing Diagram
- Overlapping Signals Solution
- Using a Timer
- Using a Counter

CATALOG #: 77-3040-0000

JobMaster Hydraulic Training Series



Intelitek's Hydraulics Technology training is a three part curriculum for learning fluid power to prepare students for careers in industry. The hands-on, task-based skills training educates students on the fundamentals and advanced principles of Fluid Power and Hydraulic Systems. Students will learn to configure industrial hydraulic components in order to create a variety

of hydraulic applications. Students can connect different elements, change physical parameters and observe system responses. The unique combination of software, simulation and real industrial equipment allows students to test and troubleshoot simulated circuits and then implement the hardware connections on real hydraulic circuits.

Hydraulics Technology 1: Fundamentals of Hydraulics

HOURS OF INSTRUCTION: 15

TYPE 

Introduces students to the principles of hydraulics and the use of fluid power in automated manufacturing environments.

LANGUAGES  

COURSE OUTLINE

- Basic Principles of Hydraulics
- Pressure and Force
- Pressure Gauges
- Hydraulic Power Transmission
- Hydraulic Power Source
- Determining Component Characteristics
- Controlling the Flow Rate
- Flow Control Valves
- 4/3 Closed-Center Valve-Construction
- 4/3 Closed-Center Valve Characteristics
- Power Transformation Using a Double-Acting Cylinder
- Loading a Piston
- Controlling the Piston Location

CATALOG #: 77-8008-0000

Hydraulics Technology 2: Fundamentals of Electro-Hydraulics

HOURS OF INSTRUCTION: 15

TYPE 

In this course students create, modify, operate and observe simulated hydraulic and electro-hydraulic devices and circuits. They also have the opportunity to configure and connect simulated components to create a variety of applications, changing physical parameters and observing system responses.

LANGUAGES  

COURSE OUTLINE

- The World of Electro-Hydraulics
- Mechatronics and Hydraulic Systems
- Building a Dowel Insertion System
- Controlling a Hydraulic Press
- Controlling a Barricade
- Sequential Operation
- Grain Gate Valves
- Controlling a Cargo Airplane Door
- Increasing System Efficiency
- The Relay
- Latching a Relay
- Semi-Automatic Press System
- The Timer
- Irrigation System
- Improving Control in a Circuit with Sequential Operation

CATALOG #: 77-3025-0000

Hydraulics Technology 3: Advanced Hydraulics & Electro-Hydraulics

HOURS OF INSTRUCTION: 15

TYPE 

The final course introduces students to advanced hydraulics and electro-hydraulics and the use of fluid power in automated manufacturing environments. Students use software to create, modify, operate and observe simulated hydraulic and electro-hydraulic devices and circuits.

LANGUAGES  

COURSE OUTLINE

- Hydraulic Systems Usage & Control
- Electrical Control Signals
- Controlling Piston Speed
- Non-Return Pilot Valve
- Bi-Directional Motor
- Pressure Relief Valve
- 4/3 Closed-Center Valve vs. 4/3 Tandem- Center Valve
- Simultaneous Operation of Two Components
- Controlling Two Actuators Using Two Valves
- Roller Valves
- Limit Switch
- Sequence Valve
- Sequential Operation
- Pressure-Reducing Valve
- Latching a Relay
- Timers
- Automatic Cycle

CATALOG #: 77-3026-0000

JobMaster PLC Training Series



Intelitek's Programmable Logic Controller Technology training is a four part curriculum that gives students a solid grasp of the control logic behind the operation of industrial PLCs, ladder logic programming, inputs and output devices and electrical control. The training is integrated with PLCMotion, a simulation software package that lets students observe and understand the control logic behind the operation of industrial PLCs. Students learn to program a PLC and simulate industrial applications. They also use a virtual training panel to test input and output responses to ladder diagrams.

Programmable Logic Controllers curriculum emphasize PLC theory and basic programming. Students learn how to program and use PLCs in industrial applications that require electrical control. The PLC courses feature powerful PLC simulation control software that allows students to program a PLC and simulate industrial applications. The combination of graphic simulation software with PLC virtual hardware enables students to test and correct control programs both online and offline.

PLC Technology 1: Fundamentals of Ladder Logic

HOURS OF INSTRUCTION: 15

TYPE 

LANGUAGES  Es  En

COURSE OUTLINE

- Examining Input/Output Relationships
- PLC Monitoring Tools
- Writing and Simulating a Basic Ladder Diagram
- Project: Controlling a Sorting System
- NOT Logic
- AND Logic
- OR Logic
- Project: Arsenic Filling Station
- Latching and Unlatching Outputs
- Improving Elevator Control
- One Shot Rising
- Timer On Delay
- Timer Off Delay

CATALOG #: 77- 3032-0000

PLC Technology 2: Advanced Ladder Logic

HOURS OF INSTRUCTION: 15

TYPE 

LANGUAGES  Es  En

COURSE OUTLINE

- Bits and Words
- Counter Up and Reset
- Counter Down
- Project: Implementing CTU and CTD
- The Equal (EQU) Instruction
- The Not Equal (NEQ) Instruction
- Project: Applying Equal and Not Equal
- The Less Than (LES) Instruction
- The Greater Than (GRT) Instruction
- Project: Implementing GRT and LES
- The Move (MOV) Instruction
- The Add (ADD) Instruction
- The Subtract (SUB) Instruction

CATALOG #: 77- 3033-0000

PLC Technology 3: PLC- Controlled Pneumatic Systems

HOURS OF INSTRUCTION: 15

TYPE 

LANGUAGES  Es  En

COURSE OUTLINE

- The Pneumatic HMI
- Manual Control of a Pneumatic Piston
- Semi-Automatic Control Systems
- Semi-Automatic Action Using a 5/2
- Spring-Return Valve
- Fully Automatic Operation
- Fully Automatic Operation with Spring
- Timers
- Counters
- Sequential Operation with Two Double- Acting Cylinders
- Sequential Operation with Three Double- Acting Cylinders
- Solving Opposing Control Signals
- Solving Opposing Control Signals in a Three Cylinder System
- Controlling a System with a Variable Timer
- Advanced Operation

CATALOG #: 77- 3034-0000

PLC Technology 4: PLC- Controlled Hydraulic Systems

HOURS OF INSTRUCTION: 15

TYPE 

LANGUAGES  Es  En

COURSE OUTLINE

- Using a 4/2 Sol-Sol Valve to Control a Double-Acting Cylinder
- Using a 4/2 Sol-Spring Valve to Control a Double-Acting Cylinder
- Using a 4/3 Sol-Sol Valve to Control a Double-Acting Cylinder
- Using a Fully Automatic Hydraulic Circuit
- Using a Fully Automatic Hydraulic Circuit with a Timer
- Using a 4/3 Sol-Sol Valve with a Counter
- Using a Fully Automatic Hydraulic Circuit with an OSR
- Instruction
- Sequential Operation with Two Double- Acting Cylinders
- Sequential Operation with Three Double- Acting Cylinders
- Sequential Operation with Two Double- Acting Cylinders and a Delay
- Sequential Operation with Three Double- Acting Cylinders and a Delay
- Variable Timers
- Variable Counters
- Project: Port Soil Removal System

CATALOG #: 77- 3035-0000

JOBMASTER TRAINING STATION



This double-sided, portable, modular training bench is the base platform for Intelitek automation education programs that teach students hands-on skills to prepare them for the real world.

This modular training panel for the career tech classroom integrates all the components for teaching advanced industrial automation. The

station is a double sided workbench that can be configured with a series of modular components to fit diverse training curriculum, classroom projects or competency tests.

The structured panels create a safe and scalable teaching platform that can be assembled on the fly, reconfigured between classes and expanded over time

Description of the Training Station

The JobMaster training station is a base platform for Intelitek education programs that teach high school, vocational school, college and university students hands-on skills to prepare for careers in industry.

Integrated with Intelitek curriculum, the system offers in-depth theory and workplace training. The courses from Intelitek prepare students to work with actual equipment they will find in the field.

Using standard mountings and flexible modules, the training station can be configured, dismantled and reconfigured regularly. The station is designed for ease of mobility to allow seamless mobility to other classrooms or storage. The double-sided panel can facilitate one large project or multiple smaller project simultaneously.

Features:

- Modular design.
- Double-sided .
- Independent groups on single panel.
- Supports identical or different setups.
- Mobile with everything onboard for easy transportation between classrooms.
- Fold out side table.
- Rugged, industrial design.
- Storage space and workspace built in.
- Standard mounting hardware.
- Large selection of hardware options.

SPECIFICATIONS:

- Dimensions: (WxDxH)
53.4" x 31.5" x 68.9" (1330 mm x 800 mm x 1750 mm)
- Panel Working Area Dimensions: (WxH):
47.3" x 31.5" (1200 mm x 800 mm)
Aluminum panel with T-slots
- Weight : ±250-300 kg
- Optional add on storage cabinet available

ELECTRONICS MODULE SPECIFICATIONS

Power Supply Module:

- Input 110-220 VAC
- Output 24 VDC
- Supplies power to all the electrical modules via banana plug connections
- ON-OFF Switch and illuminated lamp



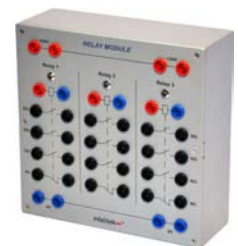
Operational Module:

- 2 buses for 24V DC
- 3 toggle switches
- 3 way : OFF, momentary ON, ON
- 3 push button- red, yellow & green:
- One NO contact
- Red ON/OFF, yellow & green Momentary
- 3 Indicator Lamps
- lamps & switches are combined
- Red, yellow & green, 24 VDC
- One Buzzer: 24 VDC



Relay Module

- 2 buses for 24V DC
- 3 relays, 24VDC with led indicator
- Each relay has 3 NO & 1 NC contacts



PLC Module

- Model Options:
 - Siemens, Simatic S7-1200
 - Allen-Bradley Micrologix 1100

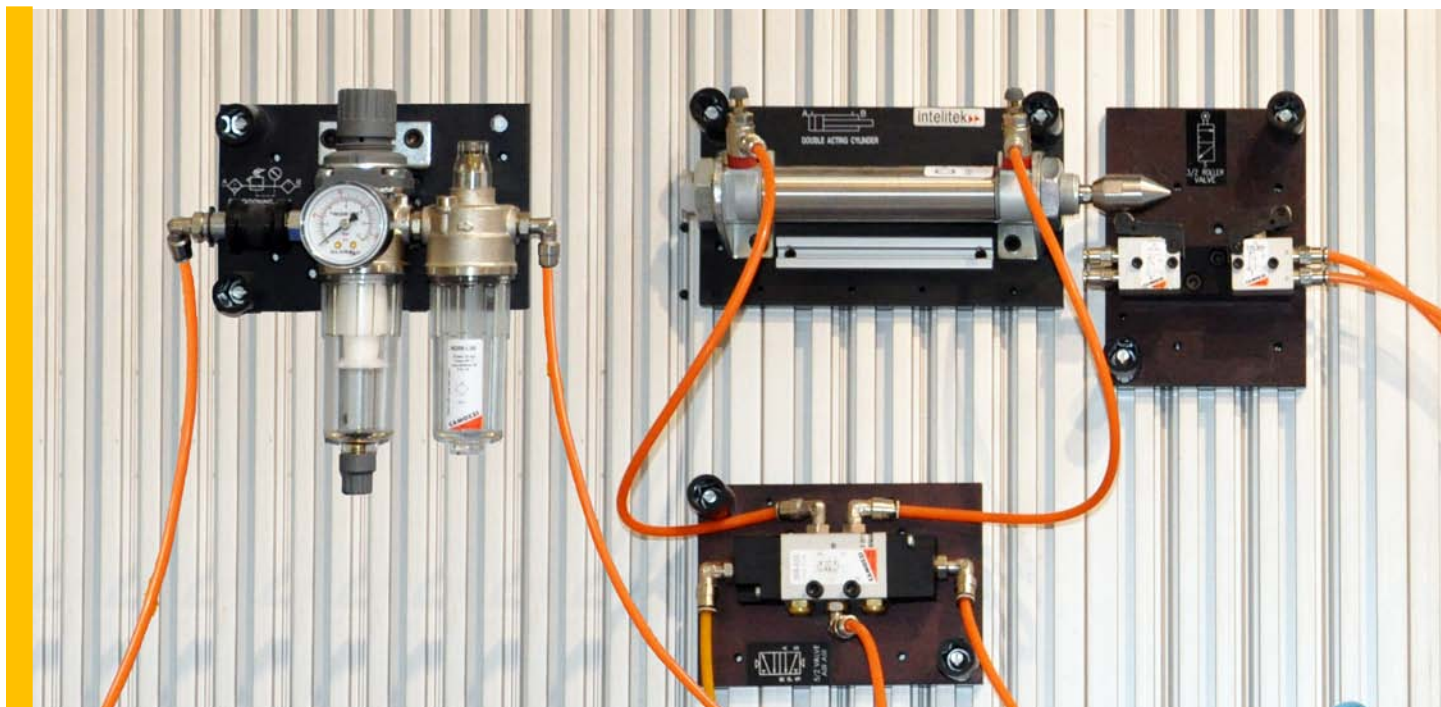


HMI module

- Simatic HMI
- 7" touch display
- LAN connector output
- 24 VDC Input



JobMaster Automation Training Kits



PneuFlex Training Kits

PneuFlex is an educational kit for the assembly of pneumatics circuits and systems. It can be used to teach the fundamentals of pneumatics at both basic and advanced levels.

The PneuFlex pneumatics training system gives students a complete hands-on experience in the design and construction of pneumatic circuits commonly used in industrial applications. Students can mount and configure components on the JobMaster Training Station to create a variety of pneumatics or electro-pneumatics circuits.

FUNDAMENTAL PNEUMATICS (PACKAGE P1)

- Conditioning unit
- Pressure regulator
- Pressure gauge
- Water trap
- Air filter
- Lubrication unit;
- 5/2 double air pilot valve (5/2 air-air control Valve)
- 3/2 mushroom push button (3/2 push button valve) (x2)
- 3/2 lever valve (3/2 manually operated valve, toggle valve)
- 3/2 double roller lever valve (3/2 roller valve)
- 3/2 pneumatic valve (3/2 air-spring control valve)
- AND gate

- OR gate
- NOT gate
- Double-acting cylinder
- Manifold
- T-connector (x4)
- Connector (x4)
- Quick-coupler
- Tubing

ADVANCED PNEUMATICS (PACKAGE P2)

- Double-acting cylinder
- 5/2 double air pilot valve (5/2 air-air control valve)
- Single air pilot valve (x2)
- 3/2 double roller lever valve (3/2 roller valve)
- Pneumatic time delay valve
- Manifold

ELECTRO-PNEUMATICS (PACKAGE P3)

- 5/2 double solenoid valve (5/2 sol-sol control valve) (x2)
- Inductive proximity sensor (x2)
- Magnetic sensors (pair)
- Banana plug cables (14 total), assorted colors and lengths: red, black, gray; 610 mm (24"), 1220 mm (48")

Required Training Station Components

- Electro-mechanical switching unit /PLC unit
- Power Supply - 24 VDC, 4A

HydraFlex Training Kits

HydraFlex are educational kits for the assembly of hydraulic circuits and systems. Kits are used to teach the fundamentals of hydraulics at both basic and advanced levels.

The HydraFlex hydraulics training kits give students complete hands-on experience in the design and construction of hydraulic circuits commonly used in industrial applications. Students can mount and configure components on the JobMaster Training Station to create a variety of hydraulic or electro-hydraulic circuits.

FUNDAMENTAL HYDRAULICS (PACKAGE H1)

- 1 Double-acting Cylinder 1-1/8"
- 1 4/3 selector valve, closed center
- 1 Two-way flow control valve
- 2 One-way flow control valves
- 1 Pressure relief valve
- 1 Flow meter
- 2 Pressure gauges
- 2 T-connectors
- 10 Hydraulic hoses, various sizes
- Hex wrench
- 1 Funnel
- 2 Gallons hydraulic oil

ADVANCED HYDRAULICS (PACKAGE H2)

- Double-acting cylinder, diameter 3/4"
- 4/3 selector valve, open center (4/3 directional valve, open center)

- Pressure reducing valve
- Manifold (x2)
- Coiled hoses
- Temperature gauge
- Hoses: 80 cm (x2)

ELECTRO-HYDRAULICS (PACKAGE H3)

- 4/3 double solenoid valve (4/3 sol-sol valve, tandem center)
- 2/2 solenoid valve (2/2 sol-spring valve)
- Magnetic sensors (x3)
- Banana plug cables (14 total), assorted colors and lengths: red, black, gray; 610 mm (24"), 1220 mm (48")
- Electric distributor

Required Training Station Components

- Electro-mechanical switching unit/PLC unit
- Power Supply - 24 VDC, 4A

PLC Training Kits

PLC OPTIONS

The JobMaster Training Panel is designed to work flexibly with industry equipment and supports a variety of PLC modules including:

Siemens SIMATIC S7-1200

- 14 digital inputs, 10 relay outputs
- 2 analog inputs, 2 analog outputs
- Communications: PROFINET
- Power supply: 24 VDC
- Work memory: 125 kbyte
- Load memory: 4 Mbyte
- Programming language: STEP 7

Allen-Bradley MicroLogix 1100

- 10 inputs, 24 VDC sink/source
- 6 relay outputs
- RS232 and DH485 communication
- Power supply 20.4-26.5 VDC
- 1K EEPROM Memory

PLC KIT CONTENTS (PLC1 PACKAGE)

- **DC servo motor**
 - 4 VDC servo motor
- **Optical encoder unit**
 - One-slot rotating disk with photoelectric sensor
 - Supply voltage: 5 to 24 VDC \pm 10% Ripple P•P 10% or less
 - Current: 100mA
 - NPN, Normally Open (sink)
- **Lead screw**
 - Lead screw with a nut is connected to the motor output shaft by means of a coupling
 - Nut detection: mechanical limit switch, inductive proximity sensor
- **Limit switch, small**
 - Normally open
- **Limit switch, large**
 - Normally open
- **Inductive proximity Sensor**
 - Supply Voltage: 10-30 VDC

- Maximum Consumption: 200mA
- NPN, Normally Open (sink)
- M12 thread
- Length: 50 mm
- Normal Operating distance: 6 mm

Required Training Station Components

- Output lamps
- Buzzer
- Pushbutton and toggle switches

Automation Software Packages

PneuMotion CAD Software

PneuMotion is a computer-aided design tool that teaches students how to design and operate pneumatic and electro-pneumatic circuits. The software's HMI animation provides an accurate working simulation of pneumatic devices and circuits.

PNEUMOTION PNEUMATIC SIMULATOR

- Provides a virtual workspace to build and simulate pneumatic and electro-pneumatic circuits using the virtual components provided.
- Components can be connected in any combination, with no limitation on the number of components used.
- The program creates a technically accurate simulation of any pneumatic or electro-pneumatic circuit.
- The circuit functioning can be simulated at a slow speed, enabling the students to follow the flow of air through the system.
- The circuit components can be viewed in internal view, aiding in understanding how each component functions.
- The circuit components can be viewed in symbolic view, thereby training students to interpret pneumatic diagrams.
- Timing and ladder diagrams are automatically generated.
- Easily understandable design error messages are displayed.
- Circuits can be saved and reloaded or shared with others.

HydraMotion CAD Software

HydraMotion is a computer-aided design tool that teaches students how to design and operate hydraulic and electro-hydraulic circuits. The software's HMI animation provides an accurate working simulation of hydraulic devices and circuits.

HYDRAULIC COMPONENT LIBRARY

- Wide selection of components for hydraulic and electro-hydraulic systems.
- Includes: Power packs, Pumps, Valves, Cylinders, Hoses and Connectors, Gauges, Accumulators, Filters, Electrical Components, Text Components.

FUNCTIONS AND TOOLS

- Component selection and connection.
- Cross-section (symbolic) display of components and circuits.
- Schematic display of components and circuits, as they would appear in standard schematic drawings.
- Ladder diagrams.
- Dynamic simulation of single component operation.
- Timing diagrams.
- Software controls actual electro-hydraulic circuits.
- Software performs on-line graphic tracking of hydraulic circuits in operation.
- Parameter setting options for piston diameter, pump flow, valve setting, etc.
- Software monitors pressure and flow during circuit operation.

PLC Software

PLC curriculum use computer-aided design tools that teach students how to program and use PLCs. Where available, the courseware uses the software from the PLC vendor or Intelitek's PLCMotion software.

STANDARD FEATURES

PLC Editing Module

- Fully operational editor for creating PLC ladder diagrams that incorporates all the basic functions of PLC programming.
- Run, debug and print ladder diagrams from within the PLC editor, making programming easier.
- Create logic control applications by selecting PLC programming functions (inputs, outputs, timers, counters and flags) and linking these instructions to variable addresses.

PLC Simulation Module

- Enables online and offline activation of the application in the HMI alone, or together with actual equipment.
- PLC simulator runs the ladder logic control program while the HMI responds accordingly.

Ladder Diagrams

- Export and display ladder diagrams as IEC 1131-3 Instruction List.

PLC Training Panel Simulator Module

- Activates the PLC simulator with the panel HMI interface.
- Runs previously programmed ladder logic and observes it in the simulation.

HMI Graphic Editor Module

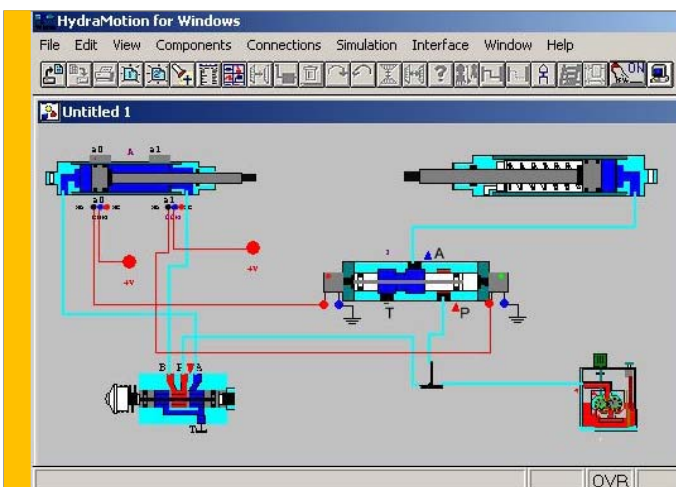
- Interactive graphic module for creating any PLC-controlled system.
- Develop original HMI (human machine interface) applications and visualize production lines and other industrial processes.

Functions

- Simulations of sample HMI applications

CATALOG #:

PNEUMOTION	63-9239-0000
HYDRAMOTION	63-9240-0000
PLCMOTION	63-9241-0000

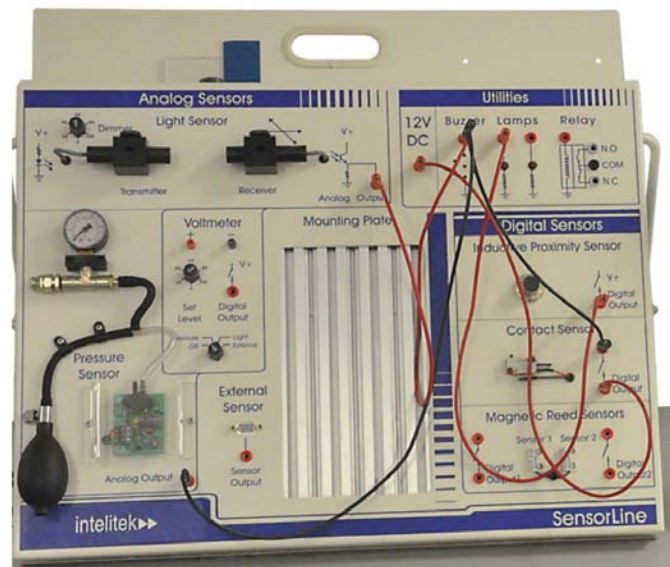


SensorLine - Training Panel

The SensorLine training panel enables hands-on activities with analog and digital sensor applications.

The benchtop panel includes various analog and digital sensors with a set of experiment materials. Students can connect components, change parameters and measure sensor response.

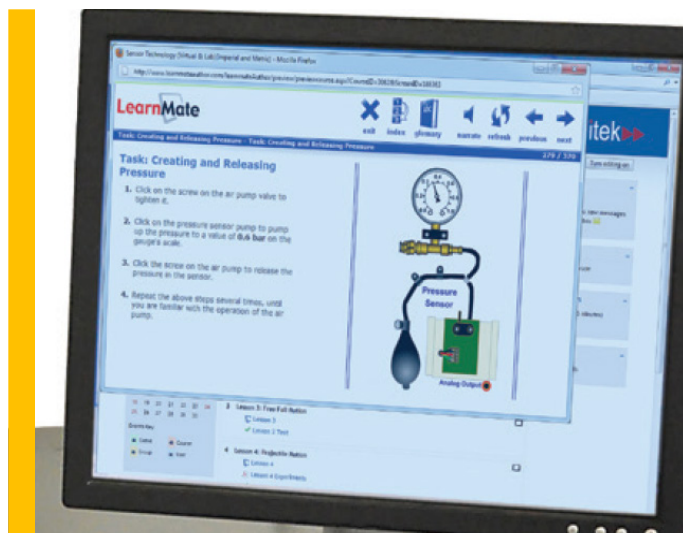
By designing and assembling control circuits, students learn how digital and analog sensors function. Students also learn how a sensor's analog signal is converted to a digital output. SensorLine is certified for CE safety compliance.



STANDARD FEATURES

SensorLine is an educational panel which demonstrates the principles of sensor and control technology. It contains a variety of analog and digital sensors, as well as components which affect or reflect the operation of the sensors.

The unit has a number of devices which can be activated and controlled in various configurations. Students can connect different components, change physical parameters, and measure sensor responses. By designing and assembling basic control circuits using the sensors, students will learn how digital and analog sensors function. Students will also learn how a sensor's analog signal is converted to a digital output. SensorLine can simulate and demonstrate the use of sensors in industrial applications.



Sensor Application Technology

HOURS OF INSTRUCTION: 15

TYPE

LANGUAGES

Sensors Application Technology teaches students how to design and assemble basic control circuits using sensors.

This training system features SensorLine, a training panel with a number of devices that can be activated and controlled in various configurations. The training package includes a power supply and elements for triggering the sensors, such as a light source, a light filter, an optic fiber cable, magnets, an air pump, and aluminum, iron, wood, and plastic blocks. Students connect different components, change physical parameters and measure sensor response.

Students learn how digital and analog sensors function. They also learn how a sensor's analog signal is converted to a digital output.

COURSE OUTLINE

- Introduction to Sensors
- Contact Sensors
- Digital Light Sensors
- Analog Light Sensors
- Reed Switch Sensors
- Logic AND Circuits
- Logic OR Circuits
- Relays - Logic NOT Circuits
- Inductive Proximity Sensors - Introduction
- Inductive Proximity Sensors - Applications
- Pressure Sensors
- On-Off Control System
- Using an Optic Fiber as a Conductor
- Control Circuit Design
- Conclusion

CATALOG #:77-8012-0000

Intelitek Learning Solutions

Intelitek transforms education across the globe with comprehensive technology learning solutions. Our innovative tools and technologies empower instructors and inspire students to improve the world around them. We understand the changing needs of your career and technology classrooms and design flexible solutions that meet those needs.

With sustainable support and professional development to ensure the continued success of your programs, Intelitek programs deliver the competencies needed for in-demand careers.

At Intelitek we are producing results for students, teachers, nations and economies.

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