“SIMULATOR TRAINING SYSTEMS”

Programa de adiestramiento “Hands on” altamente efectivo para la enseñanza de Electricidad y P.L.C. en el salón de clase.
¿POR QUÉ ADQUIRIR UN SIMULADOR?

Por medio de la práctica, los estudiantes experimentan la aplicación directa de la teoría. Estos materiales están construidos con franjas de mental, placas de aluminio y componentes industriales que son utilizados mundialmente para que sus estudiantes estén preparados para el mundo laboral.

Beneficios:

- Mejor aprovechamiento por estudiante
- Estructuras en metal para mayor durabilidad
- Soluciones prácticas para su salón de clase
- Equipo ligero, fácil de manejar y acomodar
- Equipo sellado para evitar el polvo

Tel. (787) 786-4212  www.betancespse.com  info@betancespse.com
1756 Ave. Fernández Juncos, San Juan P.R. 00909  /betancesprofessional
PLC Training System helps you train students how to understand, install, repair and troubleshoot Programmable Logic Control systems and equipment to include programming basics.

This CLICK hands-on Programmable Logic Controller training system includes real world components commonly found in the workplace today.

- 1 CLICK PLC
- 2 Industrial Limit Switches with NO & NC contacts
- 2 Industrial Pushbutton Switches with 2 sets of NO and NC contacts
- 1 Alarm buzzer
- 1 2-position Industrial Selector Switch with 1 set of NO contacts
- 3 Lights – Red, Blue & Green
- 2 Standard 8 pin Ice Cube Relays w/sockets
- 1 IEC Motor Starter
- 1 IEC Contactor

For the teacher:

- Students Workbook (pdf)
- PowerPoint Presentation
- Instructor Guidebook
- PLC Programming cable (RS-232)
- PLC Programming Software

This system is designed to be instructor led, with hours of hands-on labs for students to practice what they have learned in an active learning environment.
Electrical Controls Simulator Training System
BPS-LL-8430

Training panel loaded with real electrical control devices. You can train your students how to find and fix problem fast.

The training system is packed with common electrical control components:
• 2 Industrial Limit Switches with NO & NC contacts
• 2 Industrial Push button Switches with 2 sets of NO and NC contacts
• 1 Alarm buzzer
• 1 2-position Industrial Selector Switch with 1 set of NO contacts
• 3 Lights – Red, Blue & Green
• 2 Standard 8 pin Ice Cube Relays w/sockets
• 1 Square D Motor Starter
• 1 IEC Motor Starter
• 1 IEC Contactor
• 1 Solid State Timer/Counter unit

For the teacher:
• Instructor Guidebook (PDF)
• Student Workbook (PDF)
• Handouts
• PowerPoint Presentation

This Training System teaches the operation, troubleshooting and the important aspects of an electrical controls system found in industry today. Electrical controls are often found in manufacturing:

✔ Industrial ✔ Commercial ✔ Healthcare ✔ Government ✔ Offshore ✔ Pipeline

Electrical Controls Training System teaches the basic electrical wiring techniques and troubleshooting methods of a common electrical control system. Students will be able to practice their skills in an active learning environment with hours of hands-on activities using real-world components.
This easy Training System includes hours of hands-on activities that will help any entry level electrical student understand this high demand trade. Training panel’s learning the basics of branch wiring loaded with the most common electrical devices that the students use to actually wire up a real circuit using real tools and real wire.

Includes:

- 1 standard electrical enclosure unit with 4 breakers
- 15A, 20A, 30A
- 1 industrial bell/buzzer assembly
- 2 standard electrical outlet receptacles
- 2 single standard electrical switches
- 2 3-way standard electrical switches
- 1 standard 240V receptacle
- 2 standard light bulbs with wiring base

The wiring scenarios are based on wiring situations electrical workers face on a daily basis in many environments; however, the students work at 12-24 volts on the system, keeping it safe. This system includes an entire classroom curriculum packed with NEC Code information, how-to information, and hours of real-world classroom and hands-on lab training.

- PowerPoint Presentation
- Instructor Guidebook
- Student Workbooks
- Handouts

What will they learn?

- Basic National Electrical Code wiring requirements
- Wire/conductor sizing
- Fuse & breaker protection
- Panel wiring and construction
- Wiring branch circuits
- Lamp & Luminary circuit operation
- 2 way light switch circuits
- 15 & 20 amp receptacle circuits
- 120 VAC and 240 VAC circuits
- Single and double pole breaker wiring
- Series & parallel circuit operation
Log Out Tag Out Simulator Training System  
BPS-LL-8450

This system is designed to be the first step in a student safety training program. Any person who is working on or near energized parts is required to have this type of training. NFPA70E clearly requires that these workers demonstrate the ability to operate these Lock-Out procedures. The LearnLab Lockout Tagout Training System provides the perfect platform to comply with this training requirement.

Includes:

- Comes with a Lock and Tag kit.
  - 1,2 & 3 pole breaker box
  - Standard disconnect switch
  - Standard on/off switch
  - Plug
  - Gate Valve
  - Ball Valve
  - Lockout Toolbox kit
    - Universal multi-pole lockout
    - Switch lockout
    - Gate valve lockout
    - Ball valve lockout
    - Plug lockout
    - Circuit breaker lockout
    - 2 lockout hasps
    - 2 tags
    - Padlock & key

- Teaching Aids:
  - This system includes an entire classroom curriculum packed with electrical safety information from the NFPA70E, how-to information on demonstrating lockout tagout procedures, and hands-on activities for students to practice their skills.
    - Instructor Guidebook
    - Student workbook (PDF file so you can print as many as you like)
    - PowerPoint Presentation
    - Demonstration Checklist
    - Electrical Safety Handouts

The student will learn to properly apply the following lockouts: electrical disconnect, single and three phase breakers, power cord, switch, air and gas lines, water, steam and liquid pressure. All of the most important and common points that workers will be faced with every day.

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Allen Bradley PLC Simulator Training System
BPS-LL-8460

Allen Bradley Micro 820 PLC Training System helps you train students how to understand, install, repair and troubleshoot Programmable Logic Control systems and equipment to include programming basics.

Includes:
• 2 Industrial Limit Switches with NO & NC contacts
• 2 Industrial Pushbutton Switches with 2 sets of NO and NC contacts
• 1 Alarm buzzer
• 1 2-position Industrial Selector Switch with 1 set of NO contacts
• 3 Lights – Red, Blue & Green
• 2 Standard 8 pin Ice Cube Relays w/sockets
• 1 IEC Motor Starter
• 1 IEC Contactor

For the teacher:
• Students Workbook (pdf)
• PowerPoint Presentation
• Instructor Guidebook
• PLC Programming cable (Ethernet)
• Instructions for Connected Components Software Download

Each student will spend time learning how the Allen Bradley Micro 820 Programmable Logic Controller is connected in common circuits, and will learn how to wire and troubleshoot inputs and outputs. Topics covered:

**PLC Hardware:**
- PLC Configurations
- PLC History
- Input/Output configurations
- Physical Addressing
- Installation

**PLC Operation:**
- Sequence of operation
- Program Scan Cycle
- Data Tables
- Addressing examples

**Installation:**
- Wiring and connections
- Communications setup
- Programming device connections
- Programming devices

**Program Operation:**
- Basic Instructions
- Control bits
- Timers
- Counters
Allen-Bradley VFD Training System is designed for working on real electrical circuits that include a Variable Frequency Drive to control a three phase motor. Also known as adjustable-frequency drives (AFD), variable-speed drives (VSD), AC drives, microdrives or inverter drives. VFD technology is often used to control the rotational speed of 3 phase electric motors in ventilation systems (HVAC) for large buildings, pumps, machines, and other tool drives. Allen-Bradley VFD Training System features the Allen-Bradley PowerFlex 4 series of Variable Frequency Motor Drive.

Includes:
The Allen-Bradley PowerFlex 4 VFD Training System Includes:

- Industrial Panel Indication
- Ice Cube Control Relays
- Industrial Stop-Start Controls
- Selector Switches
- Three Phase Motor
- Rheostat Control (0-10v & 5-20ma)
- Wye wound Induction Motor

For the teacher:
This system includes an entire classroom curriculum packed with how-to information on programming procedures, and hands-on activities for students to practice their skills.

- Student workbook (pdf),
- Instructor Guidebook
- PowerPoint Presentation

This training system gives you the tools to teach:

- Basic theory and history of Variable Frequency Drives
- Internal operation and troubleshooting
- Installation and maintenance of VFD units
- Real world field I/O control theory and operation
- Three Phase Inverter Duty Motor Troubleshooting
- 0-10v & 5-20ma signal generation and input
- VFD Programming basics
- Top Ten Parameter knowledge
- Troubleshooting the VFD and Field I/O
- Real World Hands-On activities for up to 16 classroom hours

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Air Conditioning and Refrigeration Charging & Recovery Training System
BPS-LL-ACR-1478

This course includes a ton of important and needed information ranging from the rules and regulations regarding the refrigerant gasses, how to evacuate and recharge a system, understanding the refrigeration and cooling cycles and the devices that make that all happen! This course material covers the troubleshooting aspects of a system along with the hands-on approach of being able to see first hand, with your own hands, how to connect to, test, check, and make a real air conditioning or refrigeration system work. Here are just a few of the things covered:

- Fundamentals of cooling and refrigeration
- Basic laws of Thermodynamics
- Basic laws of heat transfer and latent heat
- Codes and regulations about refrigerant
- EPA certification and testing aspects
- Energy requirements and specifications
- Types and uses of refrigerant
- Understanding the evaporator and condenser
- What is and what does the metering device do?
- The compressor operation and troubleshooting
- Accumulators, receivers, filters and dryers
- Service valve operation and purpose
- How to use and read a sight glass
- The complete refrigeration cycle
- Service equipment and tool operation
- Understanding and using the refrigerant manifold
- Using a refrigerant recovery machine
- Using micron gauges and leak detectors
- Understanding how to evacuate and recharge a system
- Common problems, failures, and issues
- More…
Mechanical Drives & Lubrication Training System  
BPS-LL-MECH1829

This Hands-On Training System and curriculum is designed to provide a firm foundation that any industrial maintenance, service, or mechanical worker needs to have. Covering a huge array of mechanical drive components and how to properly install, troubleshoot and understand their operation. From drive couplings, belt drives, chain drives and more! Important issues and information about the do’s and don’ts of correct lubrication. Learn how to properly read bearing numbers to find out how much and what kind of lubricant must be used. And a host of other invaluable information that every mechanical worker really needs to know!

The training system includes the high quality steel training platform with the drive table base, a motor simulator, a driven unit simulator, and all of the tools and components shown below to provide an excellent applied and practical training course.

- A Motor Simulator
- A Driven Unit Simulator
- Two heavy duty adjustable bases
- Heavy steel base plate
- Quick bushings and matching belt sheaves
- Chain sprockets, chain and various links
- Laser alignment tool system
- Direct drive coupling
- Spline coupling
- Spider coupling
- Belt tension gauge
- Chain Breaker Tool
- Chain puller
- Dial indicator
- Magnetic instrument base
- Micrometer
- Measuring tape
- Dial Calipers
- Steel Ruler
- Long straightedge
- Plastic toolbox
Hydraulic and Fluid Power Training System  
BPS-LL-HY-1805

LearnLab’s Basic Hydraulics Training System provides a dynamic Hands-On approach for teaching maintenance, engineering, and service workers about the fundamentals of hydraulic fluid power systems found in industry. Hydraulics are found throughout factories, industrial facilities, vehicles, farms, even elevators and other equipment found in healthcare and office facilities! This hands-on training panel features real hydraulic components and real hydraulic fluid power so students actually learn by doing.

The training system includes the high quality training panel with all of the most common hydraulic components as shown below. This heavy duty training simulator is fully self contained with an onboard pump and reservoir. Everything you need to construct dozens of “Real World” hydraulic circuits and emulate many types of fluid powered machines and equipment in use today!

- Hydraulic Motor
- Hydraulic Accumulator
- Two Hydraulic Two Direction Cylinders
- Hydraulic Directional Control Valve
- Hydraulic Flow Control
- Hydraulic Pressure Indicator/Gauge
- Hydraulic Supply Pressure Manifold with Gauge
- Hydraulic Fluid Return Manifold
- Piloted Electric Over Hydraulic Valve
- Motor and Valve Control Panel
- Hydraulic 120 Volt Power Unit & Reservoir
- Quick Disconnect Hoses
- Fiberglass Residual Fluid Catch Pan
- Up to 16 Hours Basic Hydraulics Hands-On Curriculum with Labs
- Instructors Guide Manual
- Color PowerPoint Presentation
This Magic Motor training system is named “Magic” because, just with a simple flip of a switch, this motor simulator changes from a normal functioning induction three-phase electric motor, to a malfunctioning electric motor… or that is… FIVE different malfunctioning electric motors!

Depending on the position on the 6 position selector switch, the motor simulates different common failures. These include:

- Normal Working Motor
- Open Winding
- Shorted Winding
- Shorted Winding (compound short)
- Short to Ground
- Insulation Resistance to Low (megger)
- This light weight simulated motor looks and feels much like a real motor and electrically tests exactly like a real-world motor.

For the teachers:

- Student Workbook (pdf)
- Instructor Guidebook
- PowerPoint Presentation
- LearnLab training systems are designed to be instructor-led by an industry professional with a strong background in the subject matter.

Included class curriculum is designed to teach a student how to troubleshoot and recognize what happens inside the motor and how to identify those different failures. Stop throwing away hundreds or thousands of dollars of motors that are misdiagnosed. Learn how to do it right!
Toolkit for Simulators Training Systems
BPS-LL-8002

Accessory Kit provides the student with everything he or she will need in order to get started. We recommend one kit per student. These tools are commonly used in the workplace all over the world, and provide a real Hands-On learning experience.

Kit includes:
• 25′ Red Wire
• 25′ White Wire
• 3mm Flat Screwdriver
• Combo Screwdriver, Wire Stripper / Cutter
• Auto Ranging Multimeter with Probes

Electrical Controls Bugging Kit
BPS-LL-8003

For use in the Electrical Controls Simulator Training System bugging kit includes defective components for use in placing failures in circuits to allow students to troubleshoot.

PLC/VFD Bugging Kit
BPS-LL-8005

PLC/VFD bugging kit includes defective components for use in placing failures in circuits to allow students to troubleshoot. For use with LearnLab's PLC and VFD Training Systems.
Training Cart for Simulators  
BPS-LL-8007

Training System Cart is a must have for the technical classroom. This works with all tabletop Simulator training systems. The locking tool storage drawer features roller bearing slides and provides a great place to store necessary tools and materials for the training program. The cabinet (also lockable) provides a great place to store the unused training system legs and hardware which helps keep the training system components together and organized.

This heavy-duty cart has a 350 pound load capacity and heavy duty locking rubber wheeled casters. The bottom shelf is 3” deep, providing a great place to store classroom training workbooks. The cart length is 30”, width is 16”, and height is 35-5/16”. With the training system mounted, the overall height is 56-3/4”.

Simuladores también disponibles en maleta

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# Precios Electrical Simulators Systems 2020-2021

<table>
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<tr>
<th>CODIGO BPSE</th>
<th>ITEM DESCRIPTION</th>
<th>Simulador</th>
<th>Simulador + Carrito</th>
<th>Simulador en MALETA</th>
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<td>BPS-LL-8005</td>
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**Simulador de mesa**

**Simulador de mesa y carrito**

**Simulador en Maleta**
• Ventas de productos, servicios y equipo educativo
• Talleres de Desarrollo Profesional para maestros
• Talleres para padres
• Ventas y distribución de textos escolares
• Materiales y efectos de oficina

Servicios sufragados con fondos de los programas Título I, Parte A; Título II, Parte A y Título III, Parte A de la Ley de Educación Elemental y Secundaria de 1965 (ESEA, por sus siglas en inglés).