

TECHSKILLS INTERNATIONAL

The *Leading Edge* in Authentic Industrial Controls Training

**ELECTRIC MOTOR CONTROL • HVAC CONTROLS • FLUID POWER CONTROLS •
MECHANICAL CONTROLS • AUTOMATION & DIGITAL CONTROLS**

FUNDAMENTALS OF TECHNOLOGY BASIC LOGIC CIRCUITS & PROGRAMMABLE LOGIC CONTROLLERS

The TSI Fundamentals of Technology - Basic Logic Circuits and Programmable Logic Controllers is an exploratory technology course using 3 logic control draw-out units that can be installed on a table-top mounting frame.

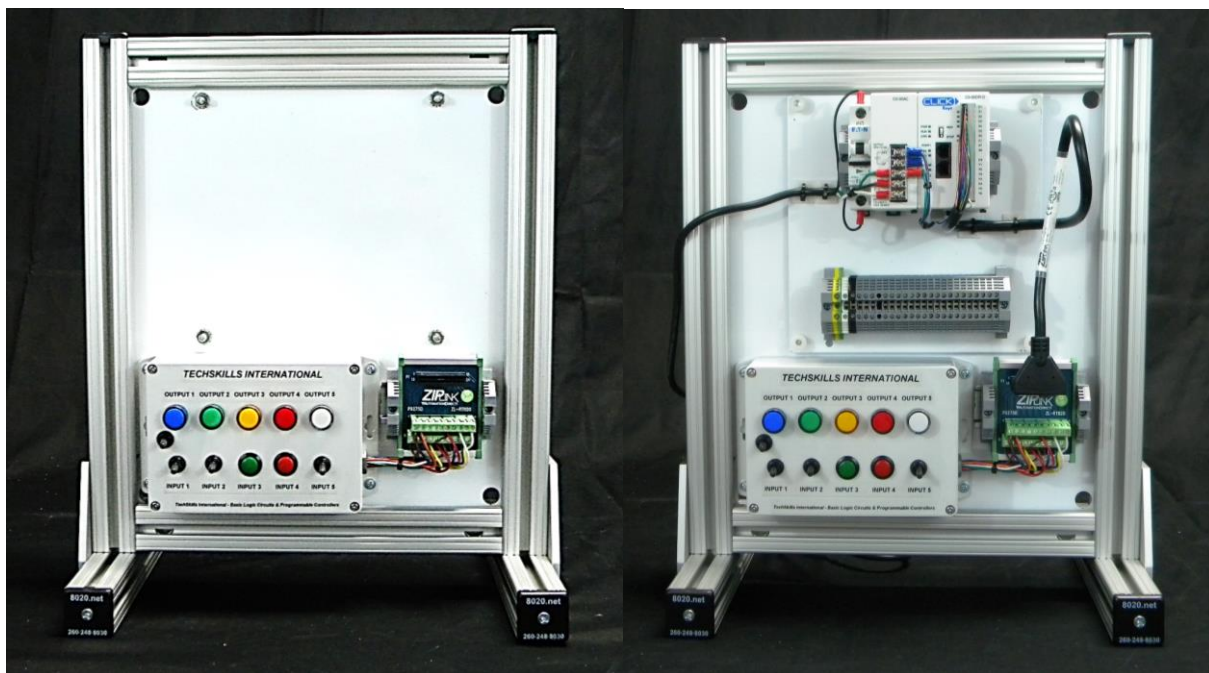
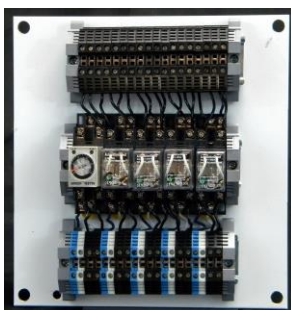


TABLE-TOP MOUNTING FRAME

MOUNTING FRAME WITH PLC INSTALLED

When installed in the mounting frame, the draw-out units illustrated below provide competency-based, hands-on training for theory, programming and operation of basic logic circuits and programmable logic controllers utilized in industry.



TECHSKILLS INT'L
LADDER/RELAY LOGIC



ALLEN BRADLEY
PROGRAMMABLE LOGIC MODULE



AUTOMATION DIRECT
PROGRAMMABLE LOGIC CONTROLLER

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THE TSI LEADING EDGE ADVANTAGES

1. TSI e-Learning courseware presents technical information on operating theory, components and associated hardware for installing, programming, and testing, the actual components in plant electrical and electronic control systems.

TSI e-learning content can be delivered via standard school/industrial computer systems and all current tablet formats.

2. TSI is the leader in providing authentic training solutions. Effective training must duplicate the equipment, tools, technical job requirements, and environment the student will encounter on the job.

3. This course mimics an operating automation system as found in industry. Using industry style work orders and wiring diagrams, the student must wire (connect) electronic control components and equipment then test (operate) the circuits and meet established performance standards.

Course Content

1. Introduction to Plant Automatic Control Systems
2. Relay-Based Control Systems
3. Relay-Based Control Decision-Making (LOGIC)
4. Basic Logic Functions (GATES)
5. Connect and Operate Relay Logic Circuits.
6. Draw and Read Relay Ladder Diagrams
7. Connect and Operate Programmable Logic Module
8. Introduction to Programmable Logic Controllers (PLCs)
9. PLC Components and Functions
10. Connect and Energize PLC
11. Program, Connect and Test Input Devices
12. Program, Connect and Test Output Devices
13. Program, Connect and Test Electric Motor Control Circuit

The following learning activities requires an optional application package.

14. Program, Connect and Operate Field Devices (sensors and actuators).
15. Program, Connect and Operate Conveyor and Motor Drive System
16. Program, Connect and Operate Pick and Place Robot

3. Input power requirements: 120-volts AC @ 15 amps.

4. Max power output to all control devices and equipment not to exceed 24-volts, AC and DC.

TSI 131035A001 - FUNDAMENTALS OF TECHNOLOGY BASIC LOGIC CIRCUITS & PROGRAMMABLE LOGIC CONTROLLERS