



PRODUCT OVERVIEW

The PLC Trainer with Flexible Manufacturing System (FMS) is designed to provide technical and practical experience in modern industrial automation and Industry 4.0 (IR4.0) technologies.

The system consists of a PLC-based automation platform integrated with an IoT Gateway, Human Machine Interface, Distribution Module, Processing Module, Transfer Module, Testing Module, Conveyor System and Ejecting Module. Each module can be operated independently or integrated to form a complete small-scale automated manufacturing system.

The trainer enables users to perform programming, system configuration, monitoring and troubleshooting activities in a simulated industrial environment.

SYSTEM CONFIGURATION

Main Components

- Human Machine Interface (Laptop or Equivalent)
- Programmable Logic Controller (PLC)
- IoT Gateway
- Distribution Module
- Processing Module
- Transfer Module
- Testing Module
- Conveyor System
- Ejecting Module

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



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- Interconnecting Cables and Accessories

System Concept

The trainer is designed as a modular automation platform where:

- Each station can be programmed independently.
- Individual stations can be interconnected.
- The complete system operates as a small-scale Flexible Manufacturing System (FMS).
- Networked automation can be connected to a cloud-based server through the IoT Gateway for implementation of Industry 4.0 concepts.

PLC SYSTEM

Parameter	Specification
PLC Platform	Siemens S7 Series or Latest
Programming Standard	IEC 61131-3
Programming Languages	Ladder Diagram (LD)
	Sequential Function Chart (SFC)
	Function Block Diagram (FBD)
	Statement List (ST)

HUMAN MACHINE INTERFACE

The Human Machine Interface provides:

- Process interaction
- System monitoring
- Configuration functions
- Programming support
- Troubleshooting exercises

Laptop or equivalent engineering workstation shall be supplied as part of the system.

IoT ENABLED INDUSTRY 4.0 ARCHITECTURE

The system incorporates an IoT Gateway to enable:

- Networked automation
- Connectivity to cloud-based servers
- Industry 4.0 implementation
- Data communication between automation modules and cloud environment

TRAINING CAPABILITIES

The trainer allows users to gain practical experience in:

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PLC Programming

- Ladder Diagram (LD)
- Sequential Function Chart (SFC)
- Function Block Diagram (FBD)
- Statement List (ST)

Automation System Configuration

- PLC setup and configuration
- Module integration
- System operation
- Process control

Troubleshooting

- Fault identification
- Program verification
- System diagnostics

ELECTRICAL REQUIREMENTS

Parameter	Specification
Supply Voltage	230 VAC
Frequency	50 Hz
Phase	Single Phase

PNEUMATIC REQUIREMENTS

Parameter	Specification
Pneumatic Supply	From Existing Overhead Pneumatic Supply Available in PLC Laboratory

ENGINEERING WORKSTATION (PC)

Where supplied with a desktop computer, the minimum specification shall be:

Component	Specification
Processor	Intel Core i7
Memory	16 GB DDR5 RAM
Storage	Minimum 256 GB SSD + 1 TB HDD
Display	Minimum 24-inch LCD Monitor
Operating System	Licensed Windows 11 or Higher
Accessories	Keyboard and Mouse Kit

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STANDARD SUPPLY

Item	Qty.
PLC Trainer System	1 Set
Human Machine Interface	1 Set
PLC Controller	1 Set
IoT Gateway	1 Set
Distribution Module	1 Set
Processing Module	1 Set
Transfer Module	1 Set
Testing Module	1 Set
Conveyor System	1 Set
Ejecting Module	1 Set
Programming Software (Perpetual License)	1 Set
Connectors, Peripherals & Accessories	1 Lot
Documentation Package	1 Set

APPLICATION AREAS

- Industrial Automation & Control Systems
- Robotics Technology
- Flexible Manufacturing System Training
- Industry 4.0 Demonstration
- Technical Education and Skills Development

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