



## Machine Description

The **20 I/O Programmable Logic Controller (PLC) HMI Trainer** is an integrated training system combining a PLC CPU module and a touch-screen Human Machine Interface (HMI) within a compact enclosure. The system is designed for ease of use and is suitable for controlling pneumatic, hydraulic, and other industrial automation systems.

The trainer features:

- **Output Section:** Equipped with dual-color LED indicators (green/red) connected in parallel with PLC outputs to display logic status. Outputs are also accessible via **4 mm safety sockets** for connection to external actuators.
- **Input Section:** Includes multiple toggle switches for manual input signal generation, along with **4 mm safety sockets** for interfacing with external sensors and transducers.
- **Integrated Design:** PLC and I/O devices are housed within a single casing for convenient operation.
- **Programming:** Configurable via PC using standard PLC programming software.

## Specifications & Accessories

### 1. PLC CPU (Compulsory)

- Type: Standard **20 I/O PLC**
- **Digital Inputs:** 12 (24 VDC)
- **Digital Outputs:** 8 (Relay contacts)
- **Program Capacity:** 8K steps (32 KB)
- **Data Memory:** 8K words
- **Programming Language:** Ladder Diagram
- **Analog Inputs:** 2
- **Analog Outputs:** 1
- **Communication Ports:** USB, RS232C
- **Timers/Counters:** 256 each
- **High-Speed Counters:**
  - 100 kHz × 2 inputs
  - 10 kHz × 4 inputs

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



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## 2. HMI Touch Screen Programmable Terminal (Compulsory)

- Display Size: 7" Touch Screen HMI
- Interfaces: RS232C and USB ports
- Mounting: Supplied with enclosure and stand

### Application Modules

The trainer includes modular applications designed to simulate real industrial processes and enhance practical understanding of PLC programming and system design.

### Modules Included:

- DC Motor Control
- Stepper Motor Control
- Servo Motor Control
- 7-Segment Display
- Traffic Light Simulation
- Proximity Sensors:
  - Inductive
  - Capacitive
- Infrared Sensor
- Elevator Simulation

### Manuals & Experiment Procedures

- Equipment Operation Manual – 1 Set

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