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PRODUCT DATA SHEET
Catalogue reference for product evaluation

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PLC and HMI Advanced Training System | MX-07

Category: Mechatronics · **Order Code:** MX-07 · **Country of Origin:** India

Product Overview

The PLC and HMI Advanced Training System MX-07 teaches PLC programming, HMI design, and industrial automation. This PLC and HMI advanced training system features a Siemens S7-1500 PLC with CPU 1511-1 PN, a 10.1-inch MTP1000 HMI, STEP 7 and WinCC Unified software, and automation modules for motor, sensor, and process control.

View this product online: https://scienticoindia.com/product/plc-and-hmi-advanced-training-system-mx-07/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

PLC and HMI Advanced Training System MX-07 — Technical Specifications

Parameter	Value
Model	MX-07
PLC Series	Siemens SIMATIC S7-1500
PLC CPU	CPU 1511-1 PN
HMI	Siemens MTP1000 Unified
HMI Display Size	10.1-inch
PLC Programming Software	STEP 7 Professional V21
HMI Engineering Software	WinCC Unified Engineering V21
Simulation Software	S7-PLCSIM
Drive Software	SINAMICS Startdrive, where required
Industrial Communication	Industrial Ethernet switch
Power Supply	Switched-mode power supply (SMPS)
I/O Types	Digital inputs and outputs, analog inputs and outputs
Connection System	Labelled safety sockets and patch leads
Mounting Structure	Mobile training table with aluminium enclosure base

Technical Data

PLC and HMI:

- Siemens SIMATIC S7-1500 with CPU 1511-1 PN
- Siemens MTP1000 Unified HMI, 10.1-inch
- Engineering PC for programming, HMI configuration, and monitoring

Software:

- STEP 7 Professional V21
- WinCC Unified Engineering V21
- S7-PLCSIM
- SINAMICS Startdrive, where required
- Valid licences for specified packages

Connectivity and Power:

- Industrial Ethernet switch
- Switched-mode power supply
- Separate PLC and field connection modules
- Labelled safety sockets and patch leads

Field Devices:

- Digital and analog instruments
- Actuators

Key Features

Key Features

- Siemens PLC Platform: SIMATIC S7-1500 with CPU 1511-1 PN for industrial programming
- 10.1-Inch HMI: Siemens MTP1000 Unified for process visualisation and control
- Engineering Software: STEP 7 Professional V21, WinCC Unified Engineering V21, and S7-PLCSIM
- Digital and Analog I/O: Interfacing with sensors and actuators
- Ethernet Communication: Industrial Ethernet switch links PLC, HMI, and PC
- Modular Automation: Dynamic modules for motor, sensor, and pneumatic control
- Process Applications: Static modules for traffic signals, lifts, water level, and conveyors
- Safe Connections: Labelled safety sockets and patch leads

Experiments

- PLC architecture and hardware configuration
- Program development using STEP 7 Professional
- Digital and analog input and output interfacing
- PLC program simulation with S7-PLCSIM
- HMI screen development with WinCC Unified
- Real-time process monitoring and control via HMI
- Industrial Ethernet communication between PLC, HMI, and PC
- Sensor interfacing and signal monitoring
- Relay logic and switchgear control
- Pneumatic solenoid and cylinder control
- AC motor control with VFD and PLC
- Motor speed monitoring with encoder feedback
- Temperature, flow, and load measurement
- Star-delta motor starting sequence
- Traffic signal, staircase lighting, and elevator sequencing
- Water level control

- Conveyor sequencing
- Stepper and servo motor control
- PLC fault diagnosis and troubleshooting

Construction and Design

The MX-07 is mounted on a mobile training table with an aluminium enclosure base. The enclosure houses the Siemens PLC, HMI, SMPS, and industrial Ethernet switch. Labelled safety sockets and patch leads connect field devices. Separate PLC and field connection modules organise wiring for practical exercises.

Software

Standard configuration includes STEP 7 Professional V21, WinCC Unified Engineering V21, S7-PLCSIM, and SINAMICS Startdrive where required. Valid licences are provided for the specified packages. The software is compatible with the supplied PLC and HMI.

Scope of Delivery

- 1 PLC and HMI advanced training system MX-07
- 1 Siemens SIMATIC S7-1500 PLC (CPU 1511-1 PN)
- 1 Siemens MTP1000 Unified HMI (10.1-inch)
- 1 Engineering PC
- 1 Industrial Ethernet switch
- 1 SMPS and electrical accessories
- Digital and analog instruments and actuators
- Labelled safety sockets and patch leads
- 1 Mobile training table with aluminium enclosure base
- Dynamic and static automation modules
- Software licences: STEP 7 Professional V21, WinCC Unified Engineering V21, S7-PLCSIM
- 1 Set of textbooks and operating manuals

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q: Which PLC does the PLC and HMI Advanced Training System MX-07 use?
A: It uses a Siemens SIMATIC S7-1500 PLC with CPU 1511-1 PN.

Q: What HMI is included with the MX-07?
A: A 10.1-inch Siemens MTP1000 Unified HMI is included.

Q: Which software is supplied with the MX-07?
A: STEP 7 Professional V21, WinCC Unified Engineering V21, and S7-PLCSIM are supplied. SINAMICS Startdrive is included where required for drive applications.

Q: Can the MX-07 simulate PLC programs before hardware testing?
A: Yes. S7-PLCSIM supports PLC program simulation.

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