EISAC™
Art Of Automation

S7-1200 PLC +HMI Training Kit



Kit Code :ES-1400H

Overview

The EISAC Advanced Integrated Automation Suite is a premier industrial training solution designed for high-level automation engineering and technical education. This suite provides a comprehensive, "all-in-one" environment for developing, testing, and simulating complex industrial control systems. By integrating the industry-standard Siemens S7-1200 PLC with the KTP400 Basic HMI, it offers a seamless platform to master the TIA Portal ecosystem.

The system is engineered for versatility, allowing it to function as a standalone trainer or as a master controller for external industrial processes via its standardized interface

APPLICATIONS

Discrete Control: Mastering logic gates, timers, and advanced counters

HMI/SCADA Design: Developing professional user interfaces, alarm handling, and data logging

Process Automation: Implementation of PID control loops for level and temperature simulation.

Industrial Networking: Setting up PROFINET networks and machine-to-machine communication

Remote Monitoring: Utilizing the integrated web server for remote status tracking

TRAINING EXPERIMENTS

Basic Logic Operations: Implementation of DOL motor starters and interlocking

Analog Signal Scaling: Converting raw sensor data into physical units

HMI Dynamics: Creating animated objects and real-time trend graphs

Sequential Control: Programming complex sequences using Graph or Ladder logic

Diagnostic Tasks: Learning how to use TIA Portal for online hardware diagnostics

SYSTEM COMPONENTS

Controller Unit	Siemens SIMATIC S7-1200 PLC (CPU 1212C/1214C DC/DC/DC)
Visual Interface	Siemens KTP400 Basic (4-inch High-Resolution Touchscreen)
Network Hub	Integrated Industrial Ethernet Switch for multi-node connectivity
I/O Simulation	Manual Simulation Board (Toggle Switches & Potentiometers)
Signal Interface	4mm Safety Terminal Matrix (Access to all Digital & Analog I/O)
Power System	Stabilized 24V DC Internal Supply (Short-Circuit & Overload Protection)

TECHNICAL SPECIFICATIONS

Logic Supply	24V DC Internal SMPS
Digital Inputs	8 x 24V DC (Simulated & External)
Digital Outputs	8 x 24V DC (Transistor Outputs)
Analog Inputs	2 x (0-10V DC) via Multi-turn Potentiometers
Analog Outputs	1 x (0-10V / 4-20mA) via Optional Signal Board
Communication	PROFINET, TCP/IP, Modbus TCP
Programming	TIA Portal (Step 7 & WinCC Basic)

SAFETY FEATURES

Circuit Protection: Primary AC input protected by a high-speed fuse.

DC Safety: Short-circuit and overload protection for all 24V DC distribution points.

Terminal Isolation: Fully shrouded 4mm safety jacks to prevent accidental contact

Visual Monitoring: LED indicators for all I/O status and master power

Grounding: Integrated earth grounding for the entire system chassis

MECHANICAL SPECIFICATIONS

Faceplate: Professional-grade control panel with permanent, high-contrast industrial labeling

Ergonomics: Angled control surface for improved visibility and user comfort

Portability: Integrated heavy-duty handle for field or laboratory mobility

Mounting: Vibration-resistant internal mounting for all electronic components

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www.eisac-automation.com
sales@eisac-automation.com