# S7-1500 PLC Training Kit



# Kit Code :ES-1500P

## Overview

The EISAC Advanced PLC Training Kit – Siemens S7-1500 Edition represents the pinnacle of industrial automation education. Specifically engineered for high-level engineering applications, this kit brings the sophistication of the world's most advanced PLC to a portable training environment. Featuring an integrated CPU display for real-time diagnostics and high-speed processing, it is the ultimate tool for mastering complex system architectures, high-end motion control, and sophisticated data management within the Siemens TIA Portal ecosystem.

# TRAINING EXPERIMENTS

Advanced Logic Design: Programming complex Function Blocks (FB) and Data Blocks (DB)

Hardware Diagnostics: Utilizing the CPU display for real-time fault analysis and troubleshooting.

Data Management: Mastering Data Logging, Recipe handling, and advanced Memory management

Industrial Communication: Configuring PROFINET RT/IRT networks and S7-Communication

Complex Scaling: Processing high-precision analog signals for sophisticated PID control loops

# SAFETY FEATURES

Galvanic Isolation: Complete electrical separation between 220V AC input and 24V DC logic

Internal Protection: Power supply features integrated short-circuit and thermal overload protection.

Industrial Fusing: Primary AC line is guarded by a high-capacity industrial-grade safety fuse.

Touch-Safe Design: 4mm safety-shrouded banana jacks ensure protection against accidental contact.

Operational Visibility: Illuminated master safety switch provides clear power status indication.

# SYSTEM COMPONENTS

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| Main Controller | Siemens SIMATIC S7-1500 CPU with integrated diagnostic LCD |
| Expansion Modules | Additional I/O Modules for large-scale industrial logic simulation |
| Network Interface | High-Speed PROFINET LAN Port (RJ45) for industrial networking |
| Simulation Matrix | Manual Toggle Switches & Multi-state LED indicators |
| Power Management | Stabilized 24V DC Internal Supply with advanced circuit protection |
| Signal Interface | 4mm Safety Banana Terminals for precision AI/AQ and Digital I/O |

# TECHNICAL SPECIFICATIONS

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|---|---|
| Processing Core | High-performance S7-1500 architecture with integrated system diagnostics. |
| On-Board Display | Integrated LCD screen for CPU status, IP address, and fault monitoring |
| Digital Matrix | Comprehensive 24V DC terminal array with individual LED status feedback |
| Analog Simulation | Precision AI/AQ potentiometers for 0-10V voltage and current signal simulation. |
| Networking | Dual-port PROFINET support for TIA Portal programming and HMI integration. |
| Interface | Laser-etched professional panel with high-contrast industrial labeling |

# MECHANICAL SPECIFICATIONS

Pro-Case Enclosure: Housed in an elite-grade, impact-resistant case for maximum hardware security

Functional Zoning: Intelligently divided faceplate layout for organized and professional wiring

Surface Durability: Laser-etched control surface resistant to wear, chemicals, and scratches

Rugged Mounting: All components are secured on a vibration-resistant internal chassis

Field Portability: Heavy-duty ergonomic handle and secure latches for easy transport to sites.

# SOFTWARE & COMPATIBILITY

Programming Tool: Siemens TIA Portal V13 SP1 up to the latest version (Step 7 Professional)

Language Support: Full support for LAD, FBD, SCL, STL, and GRAPH

Connectivity: Standard Ethernet Cat6 interface for high-speed PC/PG communication

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