مركز الوقت للتدريب
Time Training Center

ALLEN BRADLEY RS LOGIX COURSE

Introduction

This comprehensive course introduces participants to the fundamentals and advanced features of the RSLogix 500 programming environment used with Allen-Bradley PLCs. Designed for aspiring automation professionals, maintenance engineers, and technicians, the training covers everything from PLC basics and ladder logic programming to real-time monitoring and troubleshooting. Participants will gain hands-on skills in RSLogix 500 software navigation, programming, and communication setup—crucial for anyone working with MicroLogix or SLC 500 series PLCs. By the end of the course, learners will be equipped to build, simulate, and troubleshoot complete PLC projects confidently.

Learning Objectives

- Navigate RSLogix 500 and RSLinx Classic
- Create and configure new PLC projects
- Develop ladder logic using core instructions
- Apply timers, counters, and data handling
- Monitor logic and troubleshoot systems
- Simulate PLC projects using real-world scenarios

Course Details

Mode of Training	Classroom or Online
Duration	5 Days

Who Should Attend

- Maintenance and automation technicians
- Electrical and instrumentation engineers
- Industrial control system programmers
- Professionals working with Allen-Bradley PLCs
- Learners aiming to enter industrial automation

Certificate(s)

Participants who complete a minimum of 80% of the total training hours will receive a **Certificate of Completion** issued by **Time Training Center**. This certificate reflects their active participation and commitment to professional development in the relevant field.

Course Outline

Module 1: Introduction to PLCs and RSLogix 500

- What is a Programmable Logic Controller (PLC)?
- Allen-Bradley PLC family overview (SLC 500 & MicroLogix)
- RSLogix 500 vs RSLogix 5000 vs Studio 5000
- Introduction to Rockwell Automation software suite

Module 2: RSLogix 500 Software Basics

- Installing RSLogix 500 and RSLinx Classic
- Navigating the RSLogix 500 interface
- Creating and managing projects
- Processor and I/O configuration

Module 3: Ladder Logic Programming Fundamentals

- Understanding Ladder Diagram (LD) structure
- Basic instructions: XIC, XIO, OTE
- Ladder logic scan cycle
- Introduction to data files and addressing (e.g., B3, N7, T4)

Module 4: Timers and Counters

- TON (Timer ON Delay), TOF (Timer OFF Delay), RTO (Retentive Timer)
- CTU (Count Up), CTD (Count Down), RES (Reset)
- Practical applications of timers and counters

Module 5: Arithmetic and Logical Operations

- Arithmetic instructions: ADD, SUB, MUL, DIV
- Comparison instructions: EQU, NEQ, LES, GRT, LIM
- Data manipulation: MOV, COP, CLR

Module 6: Program Control and Subroutines

- JMP, LBL, MCR, SBR, JSR, RET
- Using conditional branching
- Organizing code using subroutines

Module 7: Data Files and Addressing

- Data types and files: Inputs (I), Outputs (O), Bits (B), Integers (N), Timers (T), Counters (C)
- Symbolic addressing and tag naming
- Creating user-defined data structures (UDTs)

Module 8: Communication with PLCs

- Using RSLinx for communication setup
- Setting up DF1 and Ethernet/IP drivers
- Downloading/uploading programs
- Going online and monitoring logic

Module 9: Troubleshooting and Diagnostics

- Forcing I/O for testing
- Cross-reference and search tools
- Error codes and fault handling
- Best practices for debugging logic

Module 10: Hands-On Practice and Projects

- Programming a traffic light controller
- Water tank level control system
- Motor start/stop interlock circuit
- Capstone project with documentation

Module 11: Final Assessment and Certification

- Practical exam: Troubleshooting and programming task
- Written test: Theory and logic design1
- Course completion certificate (if applicable)

Methodology

We employ a comprehensive and applied learning strategy, integrating theory with real-world implementation:

- ❖ **Conceptual Learning**: Expert-led sessions on catalytic theory and engineering principles
- ❖ **Interactive Workshops**: Group exercises, presentations, and technical discussion forums
- ❖ **Case-Based Learning**: Industry-specific examples and troubleshooting scenarios
- ❖ **Technology Integration**: Digital tools, simulations, and catalyst modeling applications
- ❖ **Assessment**: Pre-tests, post-tests, and Competence Validation Exams for Certified courses to ensure knowledge transfer and skills validation

Note: Instructors may adjust the training approach to fit technical requirements or participant engagement levels.

Instructors

Our instructors for this course are automation and control systems professionals with deep expertise in PLC programming and industrial automation. They bring over 10 years of industry experience, especially in configuring, programming, and maintaining Allen-Bradley PLC systems. Their practical insights help bridge theory with real-world applications. All instructors are vetted for both technical knowledge and teaching skills. Detailed profiles will be shared upon request.

About Time Training Center

Time Training Center is a leading professional training institute in Abu Dhabi that provides students and professionals with quality education and skill development programs. Time Training Center is accredited by the Abu Dhabi Center for Technical Vocational Education & Training (ACTVET) with a specialization in Computer and Management Training programs and certified by QA QC with ISO 9001:2015.

Operating in Abu Dhabi for over 3 decades, Time Training Center has established brand value as a high-quality Management & Technical Training Center in Abu Dhabi. We have also secured strong loyalty from corporate companies and associations with our holistic and practical teaching approach.

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