

## Series 90-70 Programming with Logicmaster, Part 1

### Course Description

The **90-70 Programming with Logicmaster Part 1** Course provides students who are or who will be involved in the programming and troubleshooting of a **90-70** system, a comprehensive introduction to the 90-70 PLC and Logicmaster 90-70 programming software. The course provides the student with the fundamentals to organize, implement and program a **90-70** system by providing course materials and an experienced instructor to guide the student through the demonstrations and hands on lab exercises based on real world applications.



### Who Should Attend?

The course is designed for electrical technicians, electricians, and programmers new to ladder logic programming who will be tasked with developing and enhancing programs in the future.

### Are There Any Prerequisites?

Participants should have a basic understanding of electrical fundamentals to attend this course.

### What Tasks Will Be Taught in This Class?

Upon completion of this Course, the student will be able to:

- Describe the Programmable Controller components and the functional operation of a PLC.
- Install Series 90-70 hardware and Logicmaster™ 90 software.
- Configure the power supply, CPU, input/output modules, and optional modules into the Series 90-70 system.
- Describe the operation and use of the Series 90-70 instruction set, consisting of Timers and Counters, Math, Relation, Convert, Data Move, Bit Operations, Table Operations and Control Operations.
- Develop relay ladder logic programs for the Series 90-70 Central Processing Unit using Logicmaster 90 software.
- Perform basic diagnostic and troubleshooting procedures on a Series 90-70 Programmable Controller.
- Interpret PLC and I/O Fault Tables as software troubleshooting tools.

### Course Length

4.5 days

### Suggested Class Size

10 students

### Class Hours

8:00 am - 5:00 pm, daily



## Course Agenda

*(Schedule and content may vary.)*

### Day 1

#### Morning:

##### Introduction

Overview the Series 90-70 system.

##### Fundamentals of Programmable Controls

Basic functions of a programmable controller.

##### 90-70 Basic System

Basic hardware and scanning operations of the 90-70.

##### 90-70 I/O System

Basic components and functions of the Series 90-30 Input/Output system.

##### Programming Device

Benefits and operation of the programming device used in the system.

#### Afternoon:

##### Program Organization

Describing how the software is organized.

##### Series 90 Configuration

Configuring a 90-70 system.

### Day 2

#### Morning:

##### Series 90-70 Program Software Familiarization

Navigate within the Logicmaster 90 programming software.

#### Afternoon:

##### Series 90 Software Familiarization

Describe the development aspects of Logicmaster 90 software.

##### Relay, Timer & Counter Functions

### Day 3

#### Morning:

##### Data Operations Group

Perform an exercise based on a functional specification using data operations instructions.

#### Afternoon:

##### Data Move Functions

### Day 4

#### Morning:

##### Data Table Group

Lab exercise based on a functional specification using data table instructions.

#### Afternoon:

##### Bit Operations Group

### Day 5

#### Morning:

##### Program Control Group

Perform an exercise based on a functional specification using program control instructions

#### Afternoon:

##### Nothing

