

# HELIX SYSTEMS



## Training Division COURSE CATALOG

Dear Customer,

Thank you for taking the time to read about our training offerings.

This catalog contains classes that have been taught previously. Although Helix Systems Training Division is new, our staff has been training individuals on controls systems since 1987. We can design controls training to fit any need.

All of our courses are customized for our customer's specific equipment and the comfort level of the students. We do not rely on the typical one-size-for-all classes that tend to gloss over critical technical issues while promoting commercial information. We are hardware independent educators.

Your willingness to train shows a commitment to maintaining your facilities, improving your processes and raising the level of competence of your employees. We understand your commitment and we guarantee that your investment in our training will meet your goals.

Our training will be straightforward and specific to your needs. Your employees will be treated with respect while being educated by qualified instructors that truly enjoy the training process. Our method of training is engaging and encouraging. By making the training entertaining we gain the students attention and challenge them to exceed their expectations in the labs and exercises.

Our Basic classes use a method of teaching that starts with instructor demonstrations, then progresses through step-by-step directions and ends with assignments based on a control system requirement. This method initially eases students into the lessons, and then progressively requires them to think through the assignments using what they have learned.

Our Advanced classes are short, with a review of basic functions followed by short lectures and long labs. We emphasize techniques that will improve a student's ability to use the technology you have invested in.

We look forward to filling your training needs.

Please contact me for details and pricing.

Drew Marshall  
Training Division Manager  
Helix Systems, Inc.  
[drew.marshall@helixsystems.us](mailto:drew.marshall@helixsystems.us)  
205.243.3192  
[Helix Systems Inc](#)

# CATALOG CONTENTS

<b>1</b>	<b>Allen-Bradley PLC Platforms.....</b>	<b>1</b>
1.1	Basic Maintenance and Troubleshooting.....	1
1.2	Advanced Troubleshooting and Modifying.....	1
1.3	System Design and Programming.....	2
1.4	Programming in Function Block Language.....	2
<b>2</b>	<b>HMI and EOI .....</b>	<b>3</b>
2.1	Wonderware InTouch Basic .....	3
2.2	AB Standard PanelView Basic .....	3
2.3	AB PanelView Plus Basic.....	3
2.4	RSView 32 Basic .....	4
2.5	FactoryTalk View SE Basic.....	4
<b>3</b>	<b>Network Basics and Troubleshooting .....</b>	<b>5</b>
3.1	RSLinx .....	5
3.2	DeviceNet .....	5
3.3	ControlNet.....	5
3.4	Ethernet.....	6
3.5	DH+ .....	6
3.6	Remote I/O.....	6
3.7	Modbus .....	6
<b>4</b>	<b>Drives Diagnostics.....</b>	<b>7</b>
<b>5</b>	<b>Allen-Bradley IntelliCENTER MCC .....</b>	<b>8</b>
5.1	IntelliCENTER Troubleshooting.....	8
5.2	IntelliCENTER Commissioning.....	8
5.3	Your IntelliCENTER .....	8
<b>6</b>	<b>Customized Training .....</b>	<b>9</b>

# 1 Allen-Bradley PLC Platforms

## 1.1 **Basic Maintenance and Troubleshooting**

This course covers Electrical indication and Basic Software based troubleshooting and modifying techniques.

Class Duration: 3 days

Any 2 platforms can be combined for a 4½-day class. These classes can be modified based on customer requirements.

Prerequisites: Knowledge of electrical control systems and Microsoft Windows 2000/XP

### **Courses:**

- **SLC™/MicroLogix and RSLogix 500™ (№ T1.1-500)**
- **PLC 5® and RSLogix 5™ (№ T1.1-5)**
- **CompactLogix® and RSLogix 5000 (№ T1.1-M)**
- **ControlLogix® and RSLogix 5000 (№ T1.1-5K)**
- **GuardLogix™ and RSLogix 5000 (№ T1.1-G)**

## 1.2 **Advanced Troubleshooting and Modifying**

This course covers Advanced Techniques for Troubleshooting PLC system problems and modifying Systems Parameters and Code using Programming Software.

Class Duration: 2 days

Prerequisites: Course № 1.1

### **Courses:**

- **SLC™/MicroLogix and RSLogix 500™ (№ T1.2-500)**
- **PLC 5® and RSLogix 5™ (№ T1.2-5)**
- **CompactLogix® and RSLogix 5000 (№ T1.2-M)**
- **ControlLogix® and RSLogix 5000 (№ T1.2-5K)**
- **GuardLogix™ and RSLogix 5000 (№ T1.2-G)**

### **1.3 System Design and Programming**

This course covers system design basics including Control Hardware Selection and Configuration, Network Selection and Configuration and Ladder Logic programming and documentation techniques, including creating User Defined Instructions and User Defined Data types in Logix Platforms.

Class Duration: 4 days

Prerequisite: *Nº T1.1* and *Nº T1.2*

#### ***Courses:***

- **SLC™/MicroLogix and RSLogix 500™** (*Nº T1.3-500*)
- **PLC 5® and RSLogix 5™** (*Nº T1.3-5*)
- **CompactLogix® and RSLogix 5000** (*Nº T1.3-M*)
- **ControlLogix® and RSLogix 5000** (*Nº T1.3-5K*)
- **GuardLogix™ and RSLogix 5000** (*Nº T1.3-G*)

### **1.4 Programming in Function Block Language**

This course covers Programming using RSLogix 5000 FBD editor to design edit and test Function Block programs including User Defined Instruction Blocks.

Class Duration: 2 days

Prerequisites: *Nº T1.3*

#### ***Courses:***

- **CompactLogix® and RSLogix 5000** (*Nº T1.4-M*)
- **ControlLogix® and RSLogix 5000** (*Nº T1.4-5K*)
- **GuardLogix™ and RSLogix 5000** (*Nº T1.4-G*)

## 2 HMI and EOI

### 2.1 **Wonderware InTouch Basic**

This course covers using Application Manager, WindowMaker, and WindowViewer to locate/modify/test existing programs and to create new programs; importing Tags/Objects/Screens; creating Smart Symbols; and communicating with PLCs.

Class Duration: 4 days

Prerequisites: *Nº TI.1*

**Course: Wonderware InTouch Basic (Nº T2.1)**

### 2.2 **AB Standard PanelView Basic**

This course covers using PanelBuilder32 Software to upload/edit/download existing programs; creating new programs and configuring communications; and restoring from EEPROM/Compact Flash.

Class Duration: 2 days

Prerequisites: *Nº TI.1*

**Course: AB Standard PanelView Basic (Nº T2.2)**

### 2.3 **AB PanelView Plus Basic**

This course covers using FactoryTalk View ME (formerly know as RSView ME) to download and configure basic applications; configuring communications on PanelView Plus terminals using RSLinx Enterprise; and restoring from Compact Flash.

Class Duration: 2 days

Prerequisites: *Nº TI.1*

**Course: AB PanelView Plus Basic (Nº T2.3)**

## **2.4 RSVIEW 32 Basic**

This course uses RSVIEW 32 to upload, modify, and download applications. Also covered is creating new applications and configuring RSLinx Classic.

Class Duration: 4 days

Prerequisites: *Nô T1.1*

**Course: RSVIEW 32 Basic (Nô T2.4)**

## **2.5 FactoryTalk View SE Basic**

This course uses FactoryTalk View SE (formerly RSVIEW SE) to upload, modify, and download applications. Also covered is creating new applications and configuring RSLinx Enterprise.

Class Duration: 4 days

Prerequisites: *Nô T1.1*

**Course: FactoryTalk View SE Basic (Nô T2.5)**

## 3 Network Basics and Troubleshooting

These network courses teach students the basics behind network operations and connections; troubleshooting using indicator lights, comm. module data displays, data registers and RSNetworkx (where applicable). These classes can be modified slightly to accommodate the exact equipment on your networks.

### 3.1 RSLinx

This class introduces students to Driver configuration, Browsing networks using the tree structure, setting up OPC links and using RSLinx as a troubleshooting tool.

Class Duration: 1 day

Prerequisites: *Nº T1.1*

**Course: RSLinx (*Nº T3.1*)**

### 3.2 DeviceNet

Particular emphasis is given to design requirements and troubleshooting of media, power supplies, and Topology. RSNetworkx for DeviceNet is used to configure the devices and troubleshoot the network.

Class Duration: 2 days

Prerequisite: *Nº T1.1* and *Nº T3.1*

**Course: DeviceNet (*Nº T3.2*)**

### 3.3 ControlNet

This class is designed for people that need to maintain and troubleshoot a ControlNet network. Topics include topology and media requirements, and troubleshooting the network with RSNetworkx for ControlNet.

Class Duration: 1 day

Prerequisite: *Nº T1.1-5K* or *Nº T1.1-M* and *Nº T3.1*

**Course: ControlNet (*Nº T3.3*)**



### **3.4 Ethernet**

This class uses simple techniques and software tools to set up a local network and troubleshoot an existing network. Topics covered include Topology and Components, TCP/IP setup in Windows and IP commands for troubleshooting.

Class Duration: 1 day

Prerequisite: *Nº T1.1* and *Nº T3.1*

**Course: Ethernet** (*Nº T3.4*)

### **3.5 DH+**

This class discusses set-up and troubleshooting of DH+ networks for HMI and Peer-to-Peer communications. Communications between ControlLogix and SLC/PLC systems and between Logix Gateways is also discussed.

Class Duration: 2 days

Prerequisite: *Nº T1.1*

**Course: DH+** (*Nº T3.5*)

### **3.6 Remote I/O**

This class discusses remote I/O hardware setup and software configuration, along with troubleshooting using indicators and PLC register information. We will also demystify the ubiquitous Block Transfer.

Class Duration: 2 days

Prerequisite: *Nº T1.1*

**Courses:**

- **SLC™/MicroLogix and RSLogix 500™** (*Nº T3.6-500*)
- **PLC 5® and RSLogix 5™** (*Nº T3.6-5*)
- **ControlLogix® and RSLogix 5000** (*Nº T3.6-5K*)

### **3.7 Modbus**

Since Modbus is universally used, this class will be customized for your equipment and needs. Contact Helix for specific information.

**Course: Modbus** (*Nº T3.7*)

## 4 Drives Diagnostics

This class is for maintenance and other technical staff to learn set-up and troubleshooting on drives connected to PLCs through I/O or Networks. Emphasis is given to recognizing common problems, troubleshooting fault codes, and using diagnostic displays and software.

Class Duration: 1 day

Prerequisites: Basic Motor Knowledge and Basic Microsoft Windows Functions

### *Courses:*

- **AB 1336 I/O Control (№ T4.1)**
- **AB 1336 on DeviceNet (№ T4.2)**
- **AB 1336 on ControlNet (№ T4.3)**
- **AB 1336 on EtherNet/IP (№ T4.4)**
- **AB 1336 on Prosoft Technology Interfaces (№ T4.5)**
- **AB PowerFlex I/O Controlled (№ T4.6)**
- **AB PowerFlex on DeviceNet (№ T4.7)**
- **AB PowerFlex on ControlNet (№ T4.8)**
- **AB PowerFlex on EtherNet/IP (№ T4.9)**
- **AB PowerFlex & Prosoft Technology Interfaces (№ T4.10)**

## 5 Allen-Bradley IntelliCENTER MCC

### 5.1 IntelliCENTER Troubleshooting

This course uses RSLinx, RSNetwork for DeviceNet and IntelliCENTER software to troubleshoot problems in the MCC on AB Drives, E3 and E3 plus, and the 825 MV overload.

Class Duration: 1 day

Prerequisites: Basic Motor Knowledge and Basic Microsoft Windows Functions

**Course: IntelliCENTER Troubleshooting (№ T5.1)**

### 5.2 IntelliCENTER Commissioning

This course covers all the issues with setting up the DeviceNet devices in the MCC. Topics covered include changing defaults for better uptime performance and quicker recovery.

Class Duration: 1 day

Prerequisites: Basic Motor Knowledge and Basic Microsoft Windows Functions, and № T3.2.

**Course: IntelliCENTER Commissioning (№ T5.2)**

### 5.3 Your IntelliCENTER

This is a Customized course based on your IntelliCENTER lineups and your Maintenance requirements. Tell us what your issues & goals are and we will develop the class for your people with your MCCs.

Class Duration: Varies according to customer requirements

Prerequisites: Basic Motor Knowledge and Basic Microsoft Windows Functions

**Course: Your IntelliCENTER (№ T5.3)**

## 6 Customized Training

Helix Offers customized training on any of the above systems and others. Our engineers and project managers are experienced on most PLC systems, HMIs, and Variable Speed Drives. We also have experience with Allen-Bradley Legacy PLCs, HMIs and Drives.

We also offer employee technical knowledge evaluations on Controls Systems Hardware and Software.

All classes listed are Student Classes. Instructor Classes on these topics are available for companies that want their staff to conduct this training.

Since all classes are customized pricing is based on your training requirements.

Please contact me for a FREE training consultation.

We look forward to serving you.

Drew Marshall  
Training Division Manager  
[drew.marshall@helixsystems.us](mailto:drew.marshall@helixsystems.us)  
205.243.3192