

## LOGIX TRAINING

### SPRING 2021

March 8  
Basic Logix

March 9  
Basic Logix  
Troubleshooting

March 10  
Intermediate Logix

March 11  
Intermediate Logix  
Troubleshooting

March 12  
Advanced Logix

March 15  
PID Logix

### DETAILS

Baymont Inn  
8282 Pfeiffer Farms Drive  
Byron Center, MI 49315

9:00am - 4:30pm

Lunch provided

### Instructor-Led, Hands-On Training

- Flexible Training Offering – only choose the days you want
- Scalable Training Offering – classes cover various skill levels
- Individual Training – students will be provided with individual lab stations
- Limited Seating – maximum 8 stations/students per each day of training

### About the Training:

The training classes cover the topics listed in the training matrix shown on page 2. For the best learning experience, we recommend taking training classes in a sequence as they build on one another. Having prior knowledge or skills may allow you to take advanced classes without taking the lower-level classes.

The troubleshooting classes use the lab work from the corresponding training class to teach the relevant troubleshooting skills. For the best learning experience, we recommend taking the corresponding training class before the troubleshooting class.

### About the Instructor:

Roy Radziszewski is an automation and networks instructor. He teaches courses covering various types of Allen Bradley™ AC variable frequency drives, small and medium range PLCs, PanelView graphic terminals, and Networks (including Stratix switches).

During Roy's career he has started-up, serviced and designed control systems, and has deployed thousands of drives for all types of industrial manufacturing applications.

Roy holds an electrical engineering degree from The Milwaukee School of Engineering and an MBA from the University of Houston. In addition, he holds programming certificates (C, C#, Android, and real-time embedded systems) from the University of Washington and University of California, Irvine. Roy is currently working on his CCNA Certification through Cisco.

## REGISTRATION INFORMATION:

Cost: \$1,095 per student / per day

Register at: [keinc.info/KCT-S21](http://keinc.info/KCT-S21)



Visit [kendallelectric.com/training](http://kendallelectric.com/training) to view all training offered by Kendall Electric.



# Logix Training Matrix

|  | Basic<br>"Getting Started"<br>(1-Day) | Intermediate<br>(1-Day) | Advanced<br>(1-Day) | PID<br>(1-Day) | Trouble-<br>Shooting<br>(1-Day Each) |
|--|---------------------------------------|-------------------------|---------------------|----------------|--------------------------------------|
| Overview of the Logix family   | ✓                                     |                         |                     |                |                                      |
| Overview of Studio 5000 Logix Designer software                                    | ✓                                     |                         |                     |                |                                      |
| Overview of Rockwell product compatibility website                                 | ✓                                     |                         |                     |                |                                      |
| How to upgrade (flash) logix controller firmware                                   | ✓                                     |                         |                     |                |                                      |
| Launching software and establishing connectivity                                   | ✓                                     |                         |                     |                |                                      |
| Navigating Studio 5000 software features   | ✓                                     |                         |                     |                |                                      |
| Basic logic programming  | ✓                                     |                         |                     |                |                                      |
| Adding local and controller tags   | ✓                                     |                         |                     |                |                                      |
| Adding rungs to the main routine   | ✓                                     |                         |                     |                |                                      |
| Adding instructions to rungs   | ✓                                     |                         |                     |                |                                      |
| Editing rungs in program and run modes   | ✓                                     |                         |                     |                |                                      |
| Online/off-line editing  | ✓                                     |                         |                     |                |                                      |
| Uploading/downloading and running a ladder logic program                           | ✓                                     |                         |                     |                |                                      |
| Forcing inputs and outputs   | ✓                                     |                         |                     |                |                                      |
| Ethernet static and dynamic IP address setup                                       |                                       | ✓                       |                     |                |                                      |
| Ethernet remote I/O adapter setup and operation                                    |                                       | ✓                       |                     |                |                                      |
| Digital point I/O setup and operation  |                                       | ✓                       |                     |                |                                      |
| Analog point I/O setup and operation   |                                       | ✓                       |                     |                |                                      |
| AOI (add on instruction) identification and evaluation                             |                                       | ✓                       |                     |                |                                      |
| Very high speed counter setup and operation  |                                       | ✓                       |                     |                |                                      |
| Creating and operating periodic and event tasks                                    |                                       | ✓                       |                     |                |                                      |
| Understanding the difference between global and local tags                         |                                       | ✓                       |                     |                |                                      |
| User-defined data types creation and functionality                                 |                                       |                         | ✓                   |                |                                      |
| Creating custom AOI (add on instructions)  |                                       |                         | ✓                   |                |                                      |
| Writing function block diagram routines  |                                       |                         | ✓                   |                |                                      |
| Writing structured text routines   |                                       |                         | ✓                   |                |                                      |
| Calling routines via the JSR instruction   |                                       |                         | ✓                   |                |                                      |
| ASCII module setup and operations  |                                       |                         | ✓                   |                |                                      |
| Messaging (produced and consumed)  |                                       |                         | ✓                   |                |                                      |
| Ethernet DLR (device level ring) setup and operation                               |                                       |                         | ✓                   |                |                                      |
| Trending   |                                       |                         | ✓                   |                |                                      |
| Discuss PID theoretical operation  |                                       |                         |                     | ✓              |                                      |
| In-depth discussion on the PIDE instruction functionality                          |                                       |                         |                     | ✓              |                                      |
| Writing function block diagrams using PIDE instruction                             |                                       |                         |                     | ✓              |                                      |
| Writing complete functioning PID applications using personal PLC workstation       |                                       |                         |                     | ✓              |                                      |
| Discuss over damped, critically damped, and under damped performance               |                                       |                         |                     | ✓              |                                      |
| Testing PIDE applications using PLC demo workstation                               |                                       |                         |                     | ✓              |                                      |
| Manual tuning proportional, integral, and differential parameters                  |                                       |                         |                     | ✓              |                                      |
| Auto tuning proportional, integral, and differential parameters                    |                                       |                         |                     | ✓              |                                      |
| Testing PID performance when adding external disturbances to the system            |                                       |                         |                     | ✓              |                                      |
| Basic troubleshooting (requires 1-day basic or equivalent knowledge)               |                                       |                         |                     |                | ✓                                    |
| Intermediate troubleshooting (requires 1-day intermediate or equivalent knowledge) |                                       |                         |                     |                | ✓                                    |
| Advanced troubleshooting (requires 1-day advanced or equivalent knowledge)         |                                       |                         |                     |                | ✓                                    |
| PID troubleshooting (requires 1-day PID or equivalent knowledge)                   |                                       |                         |                     |                | ✓                                    |