

## PLC Wiring & Troubleshooting for Maintenance

### SCHEDULE

August 24 - 27, 2021  
MUSKEGON, MI

October 19 - 22, 2021  
FORT WAYNE, IN

October 26 - 29, 2021  
FORT WAYNE, IN

November 9 - 12, 2021  
MONTGOMERY, AL

November 16 - 19, 2021  
TUSCALOOSA, AL

December 7 - 10, 2021  
GRAND RAPIDS, MI

February 1 - 4, 2022  
FORT WAYNE, IN

February 15 - 18, 2022  
SAGINAW, MI

March 8 - 11, 2022  
PORTAGE, MI

### DETAILS

Tuesday - Friday  
8:00am - 4:30pm

Lunch provided

### Instructor Led, Hands-on Training

At the completion of this training, the employee will be able to “talk through” and troubleshoot the PLC’s ladder logic using the Logix5000 software in order to locate a “real” faulty input or output device, replace it, and get the process back up and running. **It’s all about troubleshooting!**

Each participant will wire the actual input and output (I/O) field devices to the PLC. **The participants actually wire their own PLC Trainer!**

### Topics Covered:

- Ethernet communications set up using RSLinx
- Demonstrate the BootP utility using an “out of the box” controller to set the IP address and the configuration in RSLinx
- Ethernet/IP driver – explain “RSWho views” and RSLinx configuration
- Toggling and Forcing Real and Simulated inputs and outputs
- Timers (TON, TOF, RTO, RTF), Counters (CTU, CTD), One-Shot (ONS)
- Compare blocks (EQU, NEQ, LES, GRT, LEQ, GEQ, LIM), First-Scan (S:FS)
- Math blocks (ADD, SUB, MUL, DIV, CPT), Set Bit Zero/Negative (S:Z, S:N)
- Jump (JMP), Jump to Subroutine (JSR), Master Control Reset (MCR)
- One/two Dimension arrays, Fill File (FLL), Copy File (COP), Average File (AVE)
- Bit-Shift Right/Left (BSR, BSL), First-In-First-Out (FIFO) Load/Unload (FLL, FFU)
- Last-In-First-Out (LIFO) Load/Unload (LFL, LFU), Masked Move (MVM)
- Sequencer Output (SQO) using the Array, Mask, and Output Tables
- Indirect Addressing, Add-On Instructions (AOI)

**NOTE:** Numerous **hands-on** labs utilizing troubleshooting skills are included.

## REGISTRATION INFORMATION:

Cost: \$1,895      Register at: [keinc.info/plc](http://keinc.info/plc)



Visit [KENDALLELECTRIC.COM/TRAINING](http://KENDALLELECTRIC.COM/TRAINING)  
to view all training offered by Kendall Electric.

# KENDALL CONNECTED TRAINING

## PLC WIRING & TROUBLESHOOTING FOR MAINTENANCE

### UPCOMING CLASSES

CLASS DATES	LOCATION	VENUE	ADDRESS
August 24 - 27, 2021	Muskegon, MI	Holiday Inn Grand Haven-Spring Lake	940 W. Savidge Street, Spring Lake, MI 49456
October 19 - 22, 2021	Fort Wayne, IN	Kendall Electric	4621 Executive Blvd., Fort Wayne, IN 46808
October 26 - 29, 2021	Fort Wayne, IN	Kendall Electric	4621 Executive Blvd., Fort Wayne, IN 46808
November 9 - 12, 2021	Montgomery, AL	Kendall Electric	6064 Perimeter Pkwy., Montgomery, AL 36116
November 16 - 19, 2021	Tuscaloosa, AL	Kendall Electric	1323 Whigham Place, Tuscaloosa, AL 35405
December 7 - 10, 2021	Grand Rapids, MI	Kendall Electric	832 Scribner NW, Grand Rapids, MI 49504
February 1 - 4, 2022	Fort Wayne, IN	Kendall Electric	4621 Executive Blvd., Fort Wayne, IN 46808
February 15 - 18, 2022	Saginaw, MI	Kendall Electric	5420 Davis Road, Saginaw, MI 48604
March 8 - 11, 2022	Portage, MI	Kendall Electric	5101 South Sprinkle Road, Portage, MI 49002

### INSTRUCTOR: Bob Draime

Bob provides electrical training for the customers of Electrical Distributors and for employees of all types of industries. His extensive experience in conducting electrical training has enabled him to recognize the special needs of countless companies and their employees.

He began providing electrical training at Dunwoody Industrial Institute while employed as an Electrical Engineer for Northern States Power (XCEL Energy) in Minneapolis, Minnesota. He then served as an Electrical Engineer for United Technologies. Later he spent several years as a college Professor, which provided him with extensive knowledge of how to clearly and effectively teach technical material.

Bob earned Electrical Engineering degrees from Michigan Technological University and the University of Tennessee.

### COST AND ORDERING INFORMATION

- Register at: [keinc.info/plc](http://keinc.info/plc)
- 4-Day Seminar, Tuesday - Friday
- 8:00am - 4:30pm, lunch provided
- Cost: \$1,895 per student
- All training materials are provided in class
- Course ID # 3752291

#### *On-site training is also available!*

For more information, contact your Kendall Electric Account Manager or email our training coordinators at [training@kendallelectric.com](mailto:training@kendallelectric.com).



VISIT [KENDALLELECTRIC.COM/TRAINING](http://KENDALLELECTRIC.COM/TRAINING) TO VIEW THE COMPLETE TRAINING AND EVENT CALENDAR, ROCKWELL AUTOMATION TRAINING COURSES, AND REGISTER TO RECEIVE OUR QUARTERLY NEWSLETTER.