

Industrial Technology Educational Series

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Hands-on Workshops

Hands-on Workshops are offered throughout the year at our **Michigan**, **Ohio**, **Tennessee**, and **Florida** office locations. Get hands-on experience and professional instruction. We'll provide the demo hardware, a Siemens Field PG loaded with the latest programming software, food at lunchtime, and a knowledgeable instructor. You come prepared to learn and understand the latest technology.

In these hands-on workshops, you will:

- Gain practical experience operating industry-specific machinery and equipment under the guidance of
 experts.
- Work through real-world scenarios to optimize processes, and applying your knowledge to practical situations.
- Enhance your skill set through each of these workshops, improving your ability to tackle challenges and contribute effectively to your organization.

TRAINING & EVENTS

Browse a comprehensive list of all **Training + Events** currently scheduled by Electro-Matic and our partners.







AUTOMATION HANDS-ON WORKSHOPS



SIMATIC HMI Unified

Today's world changes rapidly and the best way to see it is with SIMATIC WinCC Unified. With the latest hardware, software, and web technologies, SIMATIC WinCC Unified offers unlimited visualization possibilities. In this workshop you will work with the award-winning WinCC Unified (TIA Portal) software and learn how a single engineering environment ensures maximum scalability with its choices of runtime environments. The new Unified Panels are not only stylish, but also extremely fast, flexible to use, and will allow you to implement your visualization solutions as you imagine them!

Participant Benefits:

- · Create reusable faceplates and scalable systems like never before
- Utilize the latest web and edge technologies
- · System diagnostics
- · Methods for backup and restore of HMI configurations

Merge Logix with TIA Portal

Merge Logix with TIA Portal to accelerate through the learning curve. This workshop is intended for intermediate or advanced Studio5000 programmers who would like to learn the similarities between the Rockwell Software Studio5000 programming environment, and the Siemens TIA Portal programming environment.

TIA Fundamentals

The workshop begins with "out of the box" hardware whereby the attendee starts from Step 1 and builds a completely integrated and operating system consisting of an S7-1200 PLC, S7-1500 PLC, SINAMICS G120 VFD, and Comfort Panel HMI, all networked together with PROFINET.

Participant Benefits:

- The TIA Portal layout, engineering software packages, and how to create a project
- Commission S7 hardware, including S7-1200 and S7-1500 PLCs with local and PROFINET remote I/O
- Details of the S7 PLC memory structure and how to create a program using recommended best practices
- · Integrate a SINAMICS general purpose drive, commission it, and control it via the PLC as a motion axis
- · Integrate an HMI and transfer data, error reporting, system diagnostics, and user messages from the PLCs
- How to leverage the integrated project management and commissioning support tools





Switch to SINAMICS: EtherNet/IP Connectivity

Control a SINAMICS drive with an AB Logix PLC in minutes. Learn how to easily integrate Siemens drives into Rockwell Automation control architectures. Whether it will be communicating with Logix controllers on EtherNet/IP or discontinued PLCs, like PLC-5 or SLC 500, on Remote I/O or DeviceNet, SINAMICS drives are up to the task. During this hands-on workshop, you will experience how to set up and control a SINAMICS drive with a Rockwell Automation Logix PLC and PanelView HMI using Studio 5000.

Participant Benefits:

- · Configure the drives through the intuitive IOP-2 operator panel
- · See how drive start-up can be reached through a wireless interface to smart phones or mobile devices
- · Set up and program a Logix PLC with easy to use EDS files and AOIs

SINAMICS G115D Drive/Motor System Solutions

The NEW SINAMICS G115D is more than just another drive. It is an optimally matched system solution consisting of a highly efficient geared motor and an innovative, low-profile drive, with an array of new features that differentiates itself from its predecessors. SINAMICS G115D provides innovative solutions for horizontal motion applications. It's been optimized exclusively for energy and cost-efficient applications such as conveyor belts, sorting systems, baggage and freight conveyor systems, warehouse and distribution logistics, mail sorting, and parcel distribution. This workshop will provide students with hands-on experience about the NEW SINAMICS G115D distributed drives, as well as give a system overview and market information regarding the targeted industries.

Participant Benefits:

- · Focused industries and applications
- · Product highlights and customer benefits
- · Competitive snapshot
- · TIA Portal hands-on labs
- Smart Access Module (SAM) hands-on labs





A New Way of Motion

You'll work live online with the TIA Portal – a single engineering framework for controllers, distributed I/O, HMI, drives, motion control, and motor management to provide unparalleled performance and results. This workshop is based on SIMATICS S7-1500 Technology Controllers and the SINAMICS S210 servo drives.

Participant Benefits:

- Configure the drives, HMI, and motion controller with TIA Portal in simulation mode and with hardware demo equipment
- Program solutions from gearing to kinematic motion control with technology objects required to meet different safety levels
- · Utilize trace functionality to validate and troubleshoot motion logics

DOWNLOAD

Use EtherNet/IP to Connect Your SINAMICS Drive to Your Existing System









Safety Day

In this workshop we will discover different safety technologies.

Safety Relay Wiring Workshop

Take the mystery out of safety with our new Introduction to Safety Hands-On Workshop. Step through the Risk Assessment Process. Quantify risk using harmonized Safety of Machines standards EN 62061 SIL (Safety Integrity Level), and ISO 13849-1 PL (Performance Level). Explore typical safety circuits and understand the hardware required to meet different safety levels. Wire and test SIL 1, and 3 safety solutions using live table topdemos.

Learn to transition from a Safety Relay to a Safety Controller

This interactive, hands-on workshop includes a brief discussion about the benefits of safety integrated basic controllers and ease of transition from safety relays to safety PLC. We will provide you with the required guidance to simplify the process to move from safety relays to the innovative safety PLC so you will be confident and comfortable with your upcoming safety projects.

I/O Link

Are you looking for a new avenue to achieve consistent cost reduction, high plant availability, and transparency? Look no further! This offering is an open, standardized, and low-cost system for connecting actuators, sensors, and other field devices to the automation system. I/O Link provides systematic diagnostics and efficient handling of data at all levels. This seminar will discuss how I/O Link offers a more efficient way of controlling and monitoring motor starters and other common components inside of a control cabinet. It will also demonstrate how I/O Link offers a much more efficient approach that can be easily implemented regardless of whose automation system is specified.

Participant Benefits:

- · Hardware overview
- · Software overview
- Customer application examples
- Hands-on labs to show how easy it is to create/test configurations

SIMOCODE - ET200SP MF

Are you looking to improve your productivity by having improved control and visibility into your full voltage motor application? Such as for pumping, conveyors or ventilation? Discover easy solutions for complex motor management problems. The SIMOCODE Pro is a "Smart" Overload Relay that opens up solutions for countless low voltage, constant speed motor management applications. SIMOCODE pro supports multiple network protocols including PROFIBUS, PROFINET, MODBUS RTU and now EtherNet/IP.

During a half-day class you will be educated on the value of the SIMOCODE pro system and how it doesn't just protect your motor, but how it can provide protection for the process the motor is associated with.





Seminars

These seminars are quick 50-minute presentations intended to either introduce you to new technologies, or update you on changes in our industry. They can be conducted at anytime during the day from breakfast bites, to lunch, to afternoon snacks.

In these wide-range of seminar topics you will:

- Gain insights into the current trends shaping the industry today, including technological advancements, and market dynamics.
- Explore new technologies and innovations specific to our industry, enhancing your understanding of tools and methodologies that can improve efficiency.
- Learn from successful case studies and industry experts about proven strategies and best practices for
 optimizing processes, reducing costs, and increasing productivity.

SCHEDULE A SEMINAR

Contact your Account Manager or Contact Us to schedule



ELECTRO-MATIC.COM/TRAINING-EVENTS





What's New in Automation?

Learn what's new from Factory Automation. Ranging from TIA Portal to the latest CPU features. We'll cover a little from each of the Factory Automation families.



TIA Portal Overview

Understand how Siemens has created a "Portal" into your automation system. With this guided tour, learn how to build an integrated project to complete all the tasks in your automation system.



S7 PLC's

From a Basic controllers (S7-1200) up through Advanced controllers (S7-1500) including standard and fail-safe control. See how to take advantage of all automation tasks.



HMIs

From simple Keypad Panels, take advantage of the latest HTML5 based Unified Panels, learn how Siemens is making it easy to take advantage of all your automation tasks.



ET200 Distributed I/O

For distributed automation systems including; Multi-fieldbus architectures to support different vendor protocols, IP20 for in-cabinet, IP65 for cabinetless installation, and integrated safety modules.



DOWNLOAD

Quick Ship Siemens Components



ELECTRO-MATIC.COM





Scalance Networking Products

Rugged, Industrial Networking products for Automation and IT. Learn about products ranging from simple unmanaged switches, up through IT-style managed switches. Find how Siemens can help create a robust network infrastructure.



Industrial ID

How do you identify a component? Barcoding, RFID, or RTLS? Understand the difference between knowing WHAT something is vs knowing WHERE something is, and how to track it through your system.



Industrial PCs & Industrial Flat Panel Monitors

Siemens can provide an Industrial PC or Industrial Flat Panel for any application. Whether it be for an Industrial Edge device or a 19" rack server. All IPCs undergo a 36-hour burn-in which translates into long term performance.



Machine Mount IP65 Products

How can we simplify startup and troubleshooting by eliminating electrical cabinets? Siemens IP65 products allow us to mount our PLC's, I/O, Drives, Power Supplies, Networking, HMI's & Motor Contactors on the machine connecting it together with a simple cabling system.



e/IP Companion Products

What if I don't want to replace my EtherNet/IP based controller but want to use first in class companion products? We'll look at everything from Power Supplies, Drives, HMIs, I/O, Industrial ID, cabling, networks and even how to communicate directly with an S7 PLC.



Siemens Support Tools (SIOS/TIA Selection Tool)

Using the latest configuration tool (TIA Selection Tool), understand how to build a BOM and get technical information easily from Siemens Industry Online Support (SIOS).







The SINAMICS Drives Family

SINAMICS sets itself apart through innovative future-proof drive technology based on integrated hardware and software platforms.

- A scalable and modular drive solution for every application
- · Extraordinary degree of flexibility and combinability
- Wide range of functions, power ratings, and voltages
- Simple connection to SIMATIC control systems and seamless integration in the automation landscape
- · Higher-level, standard Safety Integrated concept
- Standard engineering across all drives: standard operating control, identical selection and commissioning tools



General Purpose Drives

Reliable and easy-to-use drives for basic to advanced applications

- Power range covering from 0.5 800 HP
- · Integrated safety functions
- · Capable of line regeneration and flexible network connections
- Integrated brake chopper on all frame sizes
- · Basic positioner capability
- Standard or enclosed variants
- Wireless commissioning, startup, and diagnostic via Smart Access Module



High Performance Servo Drive & Motors

From simple positioning to advanced motion control solutions, Siemens' SINAMICS S series of drives continues to represent the global standard for innovation and dependability.

- S120 Modular Drive System and Cabinet Modules
- S150 Enclosed Regenerative Drive
- **\$210** Medium Complexity Drive
- \$200 Inexpensive Drive for Low Dynamic Applications
- SIMOTICS A comprehensive range of electric motors worldwide



STOBER Overview

STOBER manufactures planetary gearboxes, helical bevel gearboxes, motors, and rack and pinion systems for a variety of applications.







What's New in Industrial Controls for 2024

Keep up to date with the most recent Industrial Controls offerings from Siemens

- · 8WD46 I/O Link stack light
- 3VA MCCB 15 amp to 2000 amps
- · 3VA with Power Metering
- · 3LD3 and 3LD5 Disconnect
- · Enclosed Soft Starters and others



Determining Short Circuit Current Rating

Learn the basics of SCCR design for US Industrial Control Panels. This workshop first introduces attendees to the requirements according to US electrical standards followed by the step-by-step process used to determine the SCCR of an existing control panel. Attendees will then be shown several sample applications and the impact of the SCCR rating depending on components selected



I/O Link

I/O-Link is a point-to-point wiring system used to reduce intensive wiring for multiple inputs and outputs in a field connected I/O system. Siemens has now applied the principles of I/O Link to many devices which are traditionally mounted inside the main enclosure.

- Experience hands-on TIA Portal I/O Link setup of Motor Starters, Voltage and Current Monitors, and 3SU Pilot Devices including our RFID Selector Switch
- Understand how using I/O Link can eliminate and simplify I/O
 wiring, eliminate I/O Modules in your PLC or Remote I/O Rack,
 substantially reduce installed cost and labor as well as improve
 diagnostics and reduce downtime



Introduction to Safety

Take the mystery out of safety with our new Introduction to Safety Hands-on Workshop. Step through the Risk Assessment Process, quantify risk using harmonized Safety of Machines standards EN 62061 SIL (Safety Integrity Level), and ISO 13849-1 PL (Performance Level). Explore typical safety circuits and understand the hardware required to meet different safety levels. See real life examples using the 3SK2 Programmable Safety Relay.







SIMOCODE Motor Management

The SIMOCODE Pro is a "Smart" Overload Relay that opens up solutions for countless low voltage and constant speed motor management applications. SIMOCODE pro supports multiple network protocols including PROFIBUS, PROFINET, MODBUS RTU, and now EtherNet/IP.



The Next Generation of MCCB Today with 3VA

Learn about the different 3VA molded case circuit breakers offerings for the UL market. The 3VA can be applied at a maximum of 600VAC and 1000VDC for industrial applications, infrastructure, or buildings. 3VA5 (thermal-magnetic trip unit), and 3VA6 (electronic trip unit) cover sizes 15amp to 2000amp for UL with power metering function



Soft Starters

Siemens added to the 3RW soft starter family by launching the new 3RW52 and 3RW55. This new generation of soft starters has been developed for a wide range of applications and is simple to select, install, and configure. These starters are ready for the Internet of Things (IoT), being easily integrated into most industrial communication networks. Communications via Profinet, MODBUS and EtherNet/IP, along with HMI panels, are available across the entire product range. This newly expanded family now includes three levels of starter sophistication: basic, general and high-performance—covering motor ratings of 1.5 to 1,700 HP.



Pilot Devices

The Siemens SIRIUS ACT pilot device system provides a new way to save both time and money for your industrial control panels. Each system consists of one interface module and is expandable with up to 20 terminal modules via a simple ribbon cable connection. This seminar will introduce you to the financial and installation benefits by using the SIRIUS ACT PN system.



Power Supplies

Learn about the Siemens power supply offering and the new PSU4200.

- · PSU8600 advanced Power Supply w/ EtherNet/IP, Profinet
- PSU6200 all-around Power Supply
- Selectivity Modules SEL1200/1400









Digital Thread Overview

A digital thread is a discrete, linked, traceable sequence of activities in the product or production life cycle, that is digitized and automated. Digital threads range widely in scope and provide means to navigate fast and flexibly through all systems of record. Some are executed completely in engineering. Others run only in manufacturing. Yet others span both engineering and manufacturing. Likewise, some focus exclusively on the product. Others on the plant. Some span both. And still others connect products in operation/service with key areas of product development.



Tecnomatix Process Simulate

Tecnomatix Process Simulate is the powerful software to allow companies to plan, simulate and validate human tasks, robotics processes and automation during the entire product development life cycle from concept, engineering and commissioning to production and continuous improvement using Siemens Tecnomatix Process Simulate. Learn more about the capabilities of Process Simulate in this seminar.



Tecnomatix Plant Simulation

Tecnomatix Plant Simulation can provide companies with a tool to model, simulate, visualize and analyze production systems and logistics processes. This tool optimizes material flow and resource utilization for all levels of your plant planning: from global facilities and local plants to specific production lines.



NX

NX software provides a complete solution for design, manufacturing and collaboration to enable faster innovation. The advanced and integrated capabilities, including CAD, CAM and additive manufacturing (AM), empower companies of all sizes to deliver next-generation products



MACHINUM

MACHINUM is our comprehensive software portfolio within Siemens Xcelerator to lift the productivity and sustainability of the part manufacturing industry. MACHINUM manages, analyzes, and optimizes machines and shopfloors – virtual and real.







Fortress Products Overview

In this session, we will go over the product ranges and services we offer. If you've never heard of Fortress, or only used us when specified, come along for an introduction!



Heavy Duty Interlocks & Networked products

amGardpro is a completely configurable safety interlock solution designed to meet the exact requirements of your application. Gate Interlocks, push button controls, and trapped key options can all be combined into a single unit that provide a cost-efficient solution. Network connectivity is made possible with proNet, the add-on module developed by Fortress that allows amGardpro to communicate with the main industrial network protocols: EtherNet/IP, PROFINET and EtherCAT.



Trapped Key Systems

Trapped key interlocking can be used to enforce complex safety sequences, particularly where multiple energy sources (e.g., electrical, pneumatic, hydraulic) are involved. In this session, we will learn more about the application of trapped key interlocking in a variety of industry scenarios.



Medium Duty Interlocks and Configured Stations

In this session, we will explore the Fortress medium duty interlocking solution, tGard, which is a compact metal bodied range of interlocks and electrical operator controls. tGard products come in a 40mm metal housing and are suitable for a variety of manufacturing and industrial automation applications.



ANSI B11 & Safety Services

Are you a safety professional looking for an informative course on safety standards? Whether you've worked with us before or not, sign up for this session to learn more about B11.





Electro-Matic Configured Solutions

Electro-Matic's configured solutions assist in streamlining processes, increasing efficiency and optimizing workflows across various industries. Learn how our wide range of products, and technical expertise can help achieve operational excellence, for all your automation and control system needs.



From Power Distribution Panels, to HMI assemblies, robotic solutions, machine guarding, safety, and much more, we can help improve on accuracy, enhanced productivity, and cost savings.

PANEL DESIGN?

Let us Help Make it Better.



PRODUCTS.ELECTRO-MATIC.COM/PDP



Electro-Matic Connectivity Solutions

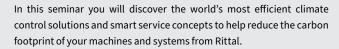
Industrial cables and connectors play a crucial role in the seamless operation of manufacturing processes. They serve as the lifeline for transmitting power, signals, and data across machinery and equipment in industrial settings, facilitating the integration of different devices within a complex industrial network.



Electro-Matic has a long history of supplying interconnect solutions to the Industrial Automation market. Learn about our variety of products for making Electrical Power, Signal Control, Data Communications connections and more.

Protecting Your Investment with Rittal Climate Control

Extreme temperatures and humidity levels can adversely impact machinery, to accelerated wear, corrosion, and decreased efficiency. Implementing a robust climate control system helps mitigate these risks by maintaining a stable environment, reducing the likelihood of malfunctions and costly downtime.











LED Signs from Electro-Matic Visual

LED Displays are versatile solutions for indoor and outdoor applications, widely used in corporate offices, retail, schools, municipalities, command centers, and more.



Participant Benefits:

- · Benefits of LED Signage
- Basic LED Signage terminology: pixel pitch, viewing distance, applications, and installation
- · Understanding differences between indoor vs outdoor
- · General overview of LED Scoreboards
- Examples of the ease of Software and Hardware programming



Industrial & ANDON LED Signs from Electro-Matic Visual

Industrial LED Displays play a crucial role in manufacturing and industrial settings. These robust displays are designed to offer durability and reliability in demanding conditions.

Participant Benefits:

- How displays optimize operational plant efficiency and profitability
- Basic terminology including pixel pitch, metrics, viewing distance, application, and installation
- · System integration with existing automation infrastructure
- Real-time monitoring advantages for your manufacturing process

LED Lighting From Electro-Matic Visual

LED Lighting has improved the way we illuminate our spaces. The versatility allows for a wide range of indoor and outdoor applications from offices, commercial spaces to industrial, and more.



Participant Benefits:

- The latest advances in LED technologies, and their strengths and weaknesses
- To read LED, driver, controls data sheets, and to specify SSL system components
- · Testing methods and metrics used in LEDs and LED systems
- Explore LED Lighting technology by building sample light fixtures
- Match application requirements with available technologies





Stationary Industrial Scanner Benefits from Datalogic

Stationary industrial scanners are used in a wide variety of industries, including EV. These scanners allow innovative companies to improve their accuracy, and add a high level of traceability to their toughest components and manufacturing environments. Varied label and marking types require flexible scanning solutions that have a wide range of capabilities.



ODATALOGIC

Participant Benefits:

- Better, more accurate scanning Blue light technology designed for markings on EV components
- Correction for quality inconsistencies Powerful processing and image storage
- Heavy-duty design for industrial conditions, w/ IP65 and IP67 ratings
- Versatile scanning High-quality scanning reads all sizes and label types
- High-power, fast processing The Matrix family of fixed scanners processes multiple DPM codes and labels at once

Leuze - For all your Safety Applications Worldwide

Global industry is in a constant state of flux, including complex demands on safety systems designed to protect people and equipment. With a comprehensive portfolio to satisfy all safety requirements, learn everything Leuze has to offer in this seminar.

- Safety products: Offering effective personnel protection devices in accordance with international safety standards.
- Safety Services: Each phase of the machine life cycle places specific requirements on machine safety. Our services offer tailored support for manufacturers, integrators and operating companies for their respective required measures.
- Safety Solutions: The increasing automation of processes are growing demands on safety. Classic safety concepts such as muting are pushed to their limits, e.g. at transfer stations and material locks. Innovative safety solutions offer gapless safety, efficient material flow and high availability of your system.



Leuze







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8 REASONS TO SHOP OUR WEBSTORE



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In-stock inventory eligible for same-day shipping



COMPANY-SPECIFIC PRICING

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ADVANCED SEARCH OPTIONS

Filter products to quickly find what you're looking for



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Build Wish Lists for sharing and creating orders



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Regular business hours need not apply



COMPLETE ORDER HISTORY

View all of your company orders—web store or not



USER ACCOUNT MANAGEMENT

Create accounts for your company with buyer and non-buyer roles



PRODUCT COMPARISONS

Compare products for compatibility and benefits



EASY REGISTRATION AT ELECTRO-MATIC.STORE/SIGNUP

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