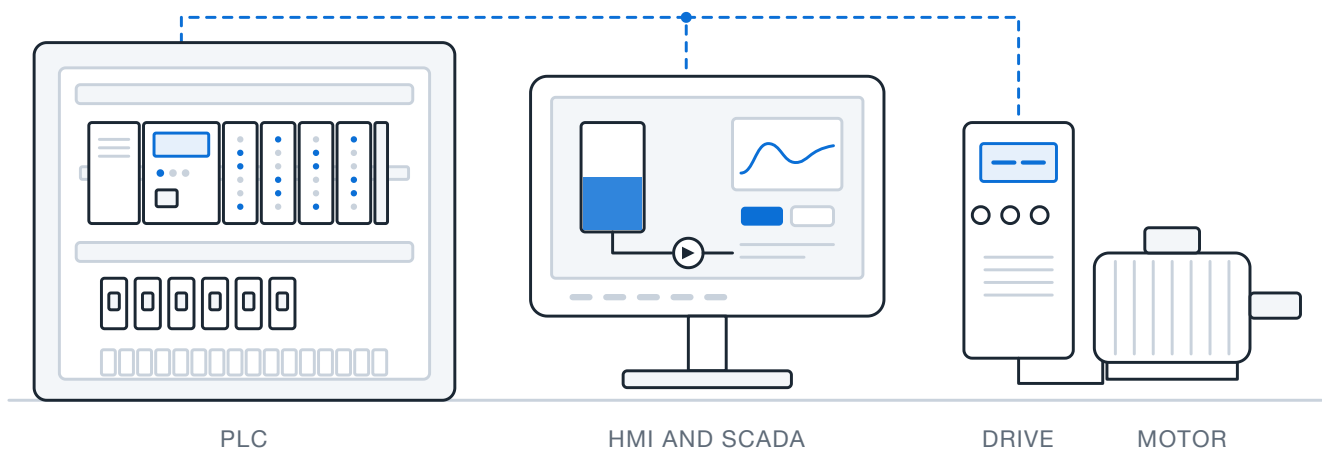


LIVE ONLINE PROGRAMME · ANYWHERE IN INDIA

EPGDIA syllabus

Executive Post Graduate Diploma in Industrial Automation

4 weeks of live online classes with a trainer, labs in simulators on your own computer, and guided self-study in the portal every evening with full lessons from our free courses built in. **Job-assured, conditions apply**; see “Job assurance” inside.



4 weeks 24 live online class days, Monday to Saturday	96 h live online with a trainer, 4 hours a day	154 h self-study: 75 modules and 125 full free-course lessons	22 PLC brands: Siemens and Delta in class, 20 more in self-study
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INSIDE

1 The programme at a glance

2 Your four weeks

3 The 24 live online class days

A Self-study: Basic engineering

B Self-study: PLC brands

C Self-study: HMI, SCADA and DCS

D Self-study: On-site skills

4 Tests and certificate

5 Career, fee and how to join

Two halves, taught together

IN LIVE ONLINE CLASSES · 96 H, WITH A TRAINER

SIEMENS



- ✓ **Siemens PLC with TIA Portal:** wiring, bit logic, timers, counters, data, program structure, analog and PID, SCL, PROFINET, drives and diagnostics
 - ✓ **Siemens HMI:** screens, alarms, trends, recipes, faceplates, WinCC Unified
 - ✓ **Siemens SCADA:** WinCC alarms, history, reports, user rights, OPC UA
 - ✓ **Delta PLC with ISPSOft:** instructions, analog, high-speed counting, Modbus and drive control
 - ✓ **Delta HMI with DIAScreen:** screens, alarms, trends, recipes
 - ✓ **Career:** CV, LinkedIn and job portals, technical and HR interview preparation, two mock interviews
-
- Virtual labs:** TIA Portal with S7-PLCSIM, WinCC Runtime simulation, ISPSOft simulation, DIAScreen simulation, LADX.
 - ✓ **You need:** A Windows laptop or desktop (8 GB RAM or more, 16 GB recommended, with about 60 GB free), a webcam and microphone, and a stable internet connection.

IN SELF-STUDY · ABOUT 154 H, IN THE PORTAL



- Illustrated notes** with worked problems and in-page checks
- Short videos** chosen for each topic
- 125 full lessons from our free courses**, built into 67 of the 75 modules: about 59 h more video, with their notes
- Interview questions** on that topic, with answers
- A 5-question quiz**; passing it (60%) completes the module

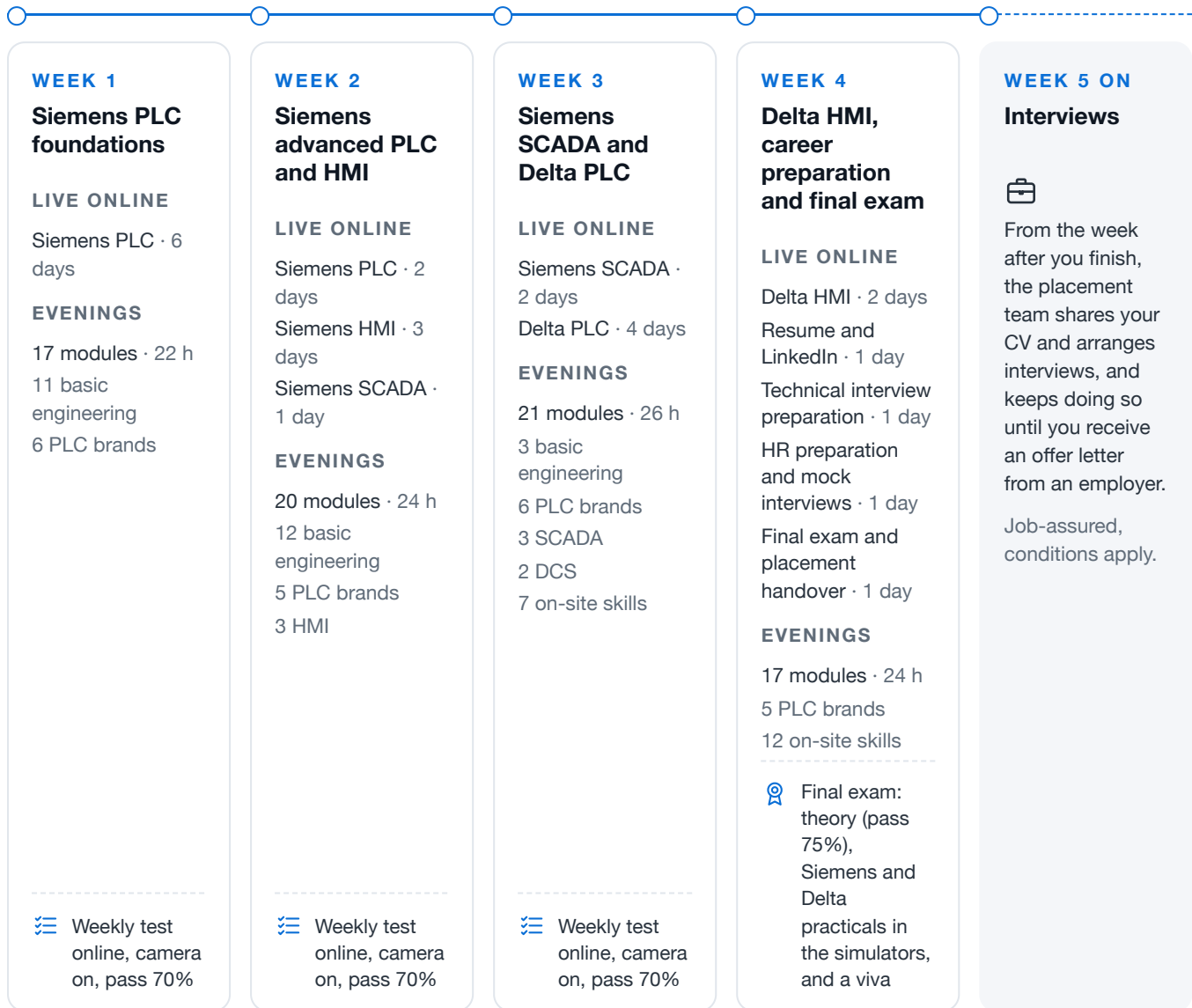
The self-study, part by part

PART	MODULES	STUDY TIME	WHEN	FREE LESSONS	THEIR VIDEO
A. Basic engineering	26	36 h	weeks 1–3	45	22 h
B. PLC brands	22	22 h	weeks 1–4	32	14 h
C. HMI, SCADA and DCS	8	8.3 h	weeks 2–3	17	7.2 h
D. On-site skills	19	29 h	weeks 3–4	31	16 h
All self-study	75	95 h	weeks 1–4	125	59 h

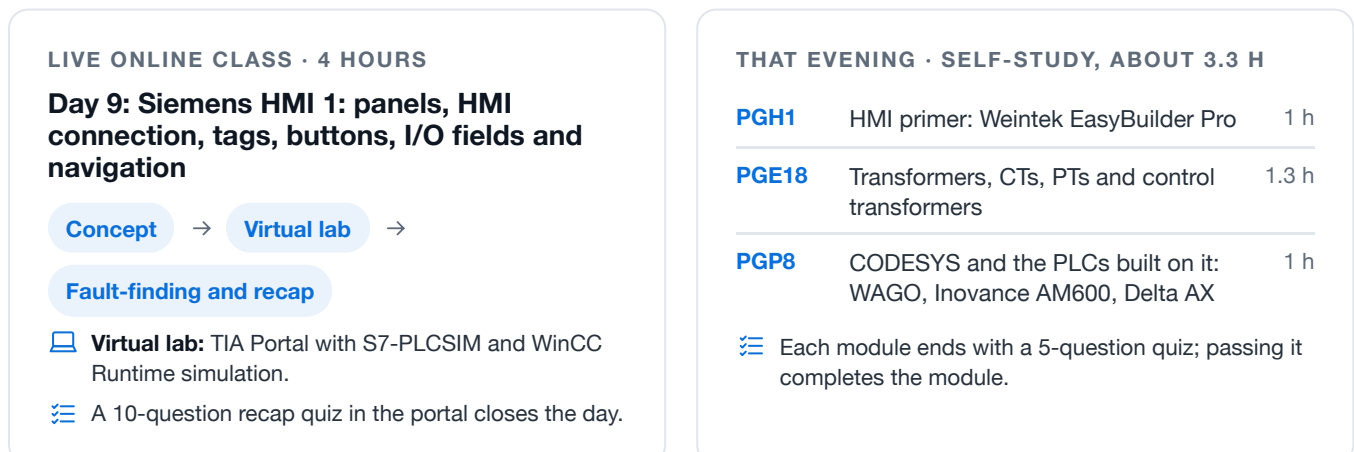
Study time is the EPGDIA module itself. The included free-course lessons add their video on top, not counting videos the module already has: about 154 hours of self-study in all.

Class by day, self-study by evening

Each week builds on the last and closes with a test. From the week after you finish, interviews begin.



A typical day



24 days, live and hands-on

Every day, live with a trainer: a short concept session, then lab work in the simulators on your own computer, then fault-finding and a recap. The modules listed under “That evening” are that day's self-study.

WEEK 1 · DAYS 1-6

Siemens PLC foundations

Siemens S7-1200/1500 with TIA Portal: hardware and wiring, bit logic, timers and counters, data and maths, program structure, analog and PID. Evenings: electrical and electronics basics, sensors, the automation pyramid, and six PLC brand primers.

 **Weekend before day 1:** **PGE1** Units, conversions and the physics of machines; **PGE2** DC and AC circuits; **PGE10** Automation overview: the pyramid, PLC, DCS, SCADA and HMI; **PGE11** Electrical safety, LOTO and conduct on site

DAY

1

EPG1 · Week 1 · 4 hours live online

Siemens PLC 1: hardware, wiring and your first TIA Portal project

SIEMENS

- Explain the automation pyramid, the parts of a PLC system and one scan cycle
- Tell S7-1200 (including G2), S7-1500 and ET 200SP apart and read a CPU's label
- Wire sinking 24 V DC inputs and the outputs of the S7-1200 trainer, and tell transistor outputs from relay outputs
- Create a TIA Portal V21 project for the exact CPU, set its IP address and download it

 **In the live class:** Day 1 uses no software, so TIA Portal's 21-day trial is not started yet.

 **Shown from the centre's lab on camera:** Wiring the 24 V supply, the buttons and the lamps to a real CPU, with the supply off and proved dead. Creating the first TIA Portal project, setting a real CPU's IP address and downloading to it over Ethernet.

 **That evening:** **PGE7** Electronics for PLC I/O · **PGE9** Industrial sensors

DAY

2

EPG2 · Week 1 · 4 hours live online

Siemens PLC 2: bit logic and the DOL starter

SIEMENS

- Program NO and NC contacts, coils, set and reset coils in LAD and read the same logic in FBD
- Explain why a normally-closed stop button is programmed with a normally-open contact
- Use P/N contacts, P_TRIG and R_TRIG to act once per press
- Build and test a DOL starter with stop, overload trip, latched trip lamp and guard interlock

 **Virtual lab (TIA Portal with S7-PLCSIM, LADX):** Build the seal-in first in LADX, with its virtual push buttons (the stop button set up as an NC device) and a motor output, and check that letting go of Start does not stop the motor.

 **Shown from the centre's lab on camera:** The contactor, the thermal overload relay and the motor on the centre's DOL bench, running your program logic.

 **That evening:** **PGE5** Motor starters · **PGE6** Contactors, relays, interlocks and 24 V DC control power

DAY

3

EPG3 · Week 1 · 4 hours live online

SIEMENS

Siemens PLC 3: timers, counters and the star-delta starter

- Choose and configure TON, TOF, TP and TONR with correct time literals and instances
- Use CTU, CTD and CTUD, including QU, QD, R and LD
- Program a star-delta changeover with interlocks and a dead time, and set its OLR
- Draw the star-delta power circuit and control logic on paper

 **Virtual lab (TIA Portal with S7-PLCSIM, LADX):** The star-delta starter runs on S7-PLCSIM with KM1, KM2 and KM3 as three outputs.

 **Shown from the centre's lab on camera:** Star and delta contactors with their auxiliary interlocks, and the overload set at 0.58 x FLC, on the centre's bench.

 **That evening:** PGE3 Three-phase power and power factor · PGE4 Motors

DAY

4

EPG4 · Week 1 · 4 hours live online

SIEMENS

Siemens PLC 4: data types, addressing and maths

- Choose Bool, Int, DInt, Real, Time or String for a value and justify it
- Read %I, %Q, %M and DB addresses and find overlapping addresses
- Use MOVE, compare, ADD, SUB, MUL, DIV, MOD and CONVERT correctly
- Calculate totals and a reject percentage without truncation, overflow or division by zero

 **Virtual lab (TIA Portal with S7-PLCSIM):** The bottle line is all program: the global DB Line, the totals counted on rising edges, cartons and part carton with DIV and MOD, and the reject percentage behave the same on S7-PLCSIM as on a CPU.

 **That evening:** PGE8 Digital logic, number systems and PLC data types · PGP1 Siemens beyond TIA · PGP2 Allen-Bradley ControlLogix and CompactLogix with Studio 5000 Logix Designer

DAY

5

EPG5 · Week 1 · 4 hours live online

SIEMENS

Siemens PLC 5: program structure with OBs, FCs, FBs and DBs

- Say when OB1, OB100 and a cyclic interrupt OB30 run and what belongs in each
- Choose FC or FB, and instance or global DB, for a given job
- Write an FB with a clean interface and call it for three conveyors with separate instances
- Store a block in the project library as a versioned type and update it

 **Virtual lab (TIA Portal with S7-PLCSIM):** FB Motor and its three instances run on S7-PLCSIM.

 **That evening:** PGP3 Allen-Bradley Micro800 with CCW, and MicroLogix/SLC 500 with RSLogix 500 · PGP4 Mitsubishi FX, iQ-F and iQ-R with GX Works2 and GX Works3 · PGP5 Schneider Modicon M221 and M340/M580 with Machine Expert Basic and Control Expert · PGP6 Omron CP and CJ with CX-Programmer, NX and NJ with Sysmac Studio

DAY

6

EPG6 · Week 1 · 4 hours live online

SIEMENS

Siemens PLC 6: analog signals, scaling and PID_Compact

- Convert between mA or V, the raw value 0–27,648 and engineering units
- Scale an analog input with NORM_X and SCALE_X and raise alarms with a dead band
- Recognise over-range, wire-break and live-zero faults on 4–20 mA loops
- Configure, call, pretune and fine-tune PID_Compact in a cyclic interrupt OB

 **Virtual lab (TIA Portal with S7-PLCSIM):** The analog input is a number you type into the SIM table for the analog input word: 0 is 0 V, 27,648 is 10 V and 32,767 is over-range.

 **Shown from the centre's lab on camera:** A real 0-10 V potentiometer on the analog test rig, feeding the S7-1200's on-board analog input on the centre's bench.

 **Weekly test** online, camera on, pass 70%

Siemens advanced PLC and HMI

SCL and sequences, PROFINET, the G120 drive and diagnostics, then Siemens HMI from first screen to faceplates, and SCADA begins. Evenings: instrumentation, PID, transformers, protection, earthing and cables, networking, three HMI primers and five PLC brand primers.

 **Weekend:** **PGE12** Analog signals and scaling: 4–20 mA, 0–10 V and the S7 raw range; **PGE13** Instrumentation basics and pressure measurement; **PGE14** Temperature measurement: RTDs and thermocouples; **PGE16** Transmitters, loop power and HART

DAY

7

EPG7 · Week 2 · 4 hours live online

Siemens PLC 7: SCL and sequences as state machines

SIEMENS

- Write SCL assignments, IF/ELSIF, CASE and FOR statements that compile cleanly
- Design a sequence as numbered states with a single owner for each transition
- Call IEC timers correctly in SCL as multi-instances
- Test a sequence and its fault paths in PLCSIM, and say what PLCSIM Advanced adds

 **Virtual lab (TIA Portal with S7-PLCSIM):** This lab was written for PLCSIM in the first place: FB Mixer in SCL runs on S7-PLCSIM, with the start and reset buttons and the E-stop relay's healthy contact as SIM table inputs.

 **That evening:** **PGE15** Level and flow measurement · **PGE17** Control loops and PID tuning · **PGP7** ABB AC500 V3 and AC500-eCo with Automation Builder

DAY

8

EPG8 · Week 2 · 4 hours live online

Siemens PLC 8: PROFINET, SINAMICS G120 and diagnostics

SIEMENS

- Configure a G120 and a second S7-1200 (as an I-device) as PROFINET IO devices and assign their device names
- Run a G120 at set speeds from the PLC with standard telegram 1
- Read the diagnostic buffer and use watch, force, cross-reference, online/offline compare and the topology view
- Find and document planted faults with a method, not by guessing

 **Virtual lab (TIA Portal with S7-PLCSIM):** In TIA Portal you configure the same network as the centre: your S7-1200, a second S7-1200 as an I-device exchanging two bytes (Ack and Run_Lamp), and the SINAMICS G120 on standard telegram 1.

 **Shown from the centre's lab on camera:** Assigning PROFINET device names by MAC address to the real G120 and the second S7-1200. Commissioning the G120 in Startdrive and running its motor from your telegram. A diagnostic buffer and device diagnostics read from real hardware.

 **That evening:** **PGE22** Networking basics for automation · **PGE21** Encoders and high-speed counting · **PGE23** Test instruments

DAY

9

EPG9 · Week 2 · 4 hours live online

Siemens HMI 1: panels, HMI connection, tags, buttons, I/O fields and navigation

SIEMENS

- Choose a Siemens panel family (KTP Basic, Comfort, Unified Basic, Unified Comfort) and the WinCC edition that engineers it
- Add the centre's Siemens KTP Basic panel to a TIA Portal project and connect it to an S7-1200 over PROFINET
- Create HMI tags linked by name to PLC tags and choose their acquisition cycles
- Configure momentary, toggle and navigation buttons, I/O fields with limits and a symbolic I/O field
- Build and test a motor control screen against the PLC, and find a planted button fault

 **Virtual lab (TIA Portal with S7-PLCSIM, WinCC Runtime simulation):** A Siemens KTP Basic panel is added to your project with the same HMI connection as in class, and its screens run in WinCC's runtime simulation, started from TIA Portal, connected to the CPU running in S7-PLCSIM: a button on the simulated panel sets the bit in the simulated PLC.

 **Shown from the centre's lab on camera:** The same project on a real Siemens KTP Basic panel on the centre's bench.

 **That evening:** **PGH1** HMI primer · **PGE18** Transformers, CTs, PTs and control transformers · **PGP8** CODESYS and the PLCs built on it

DAY
10

EPG10 · Week 2 · 4 hours live online

Siemens HMI 2: alarms, alarm classes, trends, recipes and user management

SIEMENS

- Configure discrete alarms from the bits of a Word and read the real PLC bit behind each one
- Configure analog alarms on a scaled level with the right limits and classes
- Build an alarm view, a global alarm indicator and a trend view with a limit pen
- Create a recipe with elements and data records and transfer it to the PLC
- Protect a field with users, groups and an authorisation, and set a logoff time

 **Virtual lab (TIA Portal with S7-PLCSIM, WinCC Runtime simulation):** The alarm and trend page for tank T-101 runs in WinCC's runtime simulation against S7-PLCSIM.

 **That evening:** PGH2 HMI primer · PGE19 Protection devices and coordination · PGP9 Emerson (formerly GE) PACSystems RX3i with PAC Machine Edition

DAY
11

EPG11 · Week 2 · 4 hours live online

Siemens HMI 3: templates, faceplates, scripts, WinCC Unified and a full PLC + HMI project

SIEMENS

- Build a screen template with header, alarm indicator and navigation that every screen inherits
- Create faceplate types on PLC UDTs, release them and connect one instance per device
- Define a PLC-HMI interface data block with the right HMI access on each member
- Write a short VB script on a Comfort panel and explain how WinCC Unified differs (web runtime, JavaScript on the server)
- Build and test an integrated mixing tank project on PLCSIM with HMI runtime simulation

 **Virtual lab (TIA Portal with S7-PLCSIM, WinCC Runtime simulation):** This lab is done entirely in simulation at the centre too, so online it is the same: the mixing tank T-101 runs on S7-PLCSIM with its process simulated in OB30, and the TP700 Comfort screens, the template and the faceplates run in WinCC's runtime simulation.

 **That evening:** PGH3 HMI primer · PGE20 Earthing and cable sizing · PGP10 KEYENCE KV-8000 and KV Nano with KV STUDIO · PGP11 LS Electric XGB with XG5000

DAY
12

EPG12 · Week 2 · 4 hours live online

Siemens SCADA 1: SCADA vs HMI, the WinCC family, architecture, tags and process screens

SIEMENS

- Explain how a SCADA differs from an HMI panel and what keeps running when it fails
- Choose between WinCC V7/V8, WinCC Professional, WinCC Unified PC and WinCC Advanced for a job
- Describe a server and client architecture with its terminal bus and process bus
- Set up a PLC connection and tags with a naming convention, and count tags for licensing
- Build a level-1 overview screen of a three-area plant with navigation into each area

 **Virtual lab (TIA Portal with S7-PLCSIM, WinCC Runtime simulation):** The SCADA station is a WinCC Unified PC or WinCC Professional station in your TIA Portal project, run in runtime simulation against the three-area water plant program on S7-PLCSIM (shared in class).

 **Shown from the centre's lab on camera:** WinCC V8's tag management and a server with operator clients.

 **Weekly test** online, camera on, pass 70%

Siemens SCADA and Delta PLC

WinCC SCADA alarms, history, reports and OPC UA, then the Delta PLC with ISPSOft: instructions, analog, high-speed counting, Modbus and drive control. Evenings: protocols, drives, pneumatics and hydraulics, process plant, mechanical basics, DCS, three SCADA primers and six PLC brand primers.



Weekend: **PGX1** Industrial protocols: Modbus, PROFIBUS, PROFINET, EtherNet/IP, EtherCAT and more; **PGX2** OPC UA, MQTT, IIoT and OT security basics; **PGS1** SCADA primer: AVEVA InTouch HMI (Wonderware) 2023 R2; **PGE26** Mechanical basics: gears, belts, bearings, ball screws, conveyors and drawings

DAY

13

EPG13 · Week 3 · 4 hours live online

Siemens SCADA 2: alarm logging, tag logging, trends and shift reports

SIEMENS

- Configure alarm messages with classes and texts, and read their came in, went out and acknowledged states
- Judge an alarm system against ISA-18.2 rates and find bad actors with the hit list
- Set the acquisition cycle, logging cycle and processing of archived tags, and size the storage
- Build a trend that reads the archive
- Build a shift report and check its totals by hand



Virtual lab (TIA Portal with S7-PLCSIM, WinCC Runtime simulation): Alarm logging, tag logging, the trend control and the shift report are configured in your TIA Portal project and exercised in the SCADA runtime simulation against the plant program on S7-PLCSIM.



That evening: **PGS2** SCADA primer · **PGC1** DCS architecture and DCS versus PLC · **PGC2** DCS platforms in India, batch control and alarm management · **PGX7** Process plant and utilities

DAY

14

EPG14 · Week 3 · 4 hours live online

Siemens SCADA 3: user rights, OPC UA, redundancy and the three-area plant project

SIEMENS

- Set up users, groups and authorisations so each role can do only its job
- Secure an operator station so operators cannot leave the runtime
- Configure and browse an OPC UA server with certificates, a security mode and a named user
- Explain server, network, controller and power redundancy and calculate what it buys
- Complete and hand over a three-area plant SCADA connected to PLCSIM



Virtual lab (TIA Portal with S7-PLCSIM, WinCC Runtime simulation): Users, groups, the four roles and automatic logoff are configured and tested in your SCADA runtime simulation, as part of finishing the three-area plant project.



Shown from the centre's lab on camera: The OPC UA server on a real S7-1200 trainer, browsed with UaExpert. A redundant server pair and MRP ring.



That evening: **PGS3** SCADA primer · **PGX3** VFDs 1 · **PGP12** FATEK FBs and B1 with WinProLadder

DAY

15

EPG15 · Week 3 · 4 hours live online

Delta PLC 1: families, ISPSOft, wiring and a star-delta starter



- Pick the right Delta software (ISPSOft, DIADesigner, WPLSoft) for a given PLC model
- Wire PNP sensors and push buttons to a DVP input group and explain the S/S common
- Create, compile, download and monitor an ISPSOft project through COMMGR
- Program and test DOL and star-delta starters with interlocks and a changeover gap



Virtual lab (ISPSOft simulation, LADX): The program is written in ISPSOft for the trainer's DVP model (or the nearest model ISPSOft's simulator offers) and run in the simulator instead of a PLC: in online monitoring you switch X inputs on and off and watch the Y outputs and timers.



Shown from the centre's lab on camera: Wiring a PNP sensor and push buttons to a DVP input group, and 230 V contactor coils through interposing relays. COMMGR and the programming cable connecting ISPSOft to a real DVP.



That evening: **PGX5** Pneumatics · **PGP13** Messung, India's own PLC

DAY

16

EPG16 · Week 3 · 4 hours live online

Delta PLC 2: timers, counters, compare, move and special relays

- Choose a DVP timer number and preset for any delay and spot a wrong time base
- Count a batch with a preset from a register and reset it correctly
- Turn values into decisions with CMP, ZCP and comparison contacts
- Use M1000, M1002 and M1013 and place HMI setpoints in latched registers

Virtual lab (ISPSOft simulation): The traffic light and the conveyor sorting run in ISPSOft's simulator: the night-mode selector, the two sensors and the push buttons are X inputs you switch, and the six lamps are Y outputs you watch in online monitoring.

That evening: [PGX4](#) VFDs 2 · [PGX6](#) Hydraulics · [PGP14](#) Inovance Easy, H3U, H5U and AM600

DAY

17

EPG17 · Week 3 · 4 hours live online

Delta PLC 3: analog, high-speed counting, Modbus and drive control

- Read an analog channel with FROM and scale it to engineering units with integer maths
- Count an A/B encoder with C251 and convert counts to rpm
- Set a DVP's COM2 as a Modbus RTU master or slave and wire an RS-485 line correctly
- Run, stop and set the speed of a drive from a DVP's terminals, and explain how an MS300 is run with MODRW

Virtual lab (ISPSOft simulation): The analog scaling is written in ISPSOft and tested in its simulator by writing the analog value into the data register yourself, so the 4-20 mA scaling, the 5-50 Hz clamp and the broken-loop check are tried at exact values.

Shown from the centre's lab on camera: Two Delta PLCs exchanging data over RS-485 Modbus RTU on the centre's test rig. The G120 running from the Delta PLC's outputs and analog signal. High-speed counter C251 counting a real encoder on the test rig.

That evening: [PGE24](#) Calibration, control valves, P&ID tags and hazardous areas · [PGE25](#) Advanced control strategies · [PGP15](#) Panasonic FP0H, FP-XH and FP7 with FPWIN GR7 and FPWIN Pro7 · [PGP16](#) Beckhoff TwinCAT 3 · [PGP17](#) B&R X20 with Automation Studio

DAY

18

EPG18 · Week 3 · 4 hours live online

Delta PLC 4: subroutines, step ladder, troubleshooting and Siemens to Delta

- Structure a DVP program with FEND, CALL and SRET, using T184-T199 inside subroutines
- Write a machine sequence in step ladder (STL/RET) that restarts safely after a power cut
- Find a fault from the ERROR LED, D1004, D1137, D1012 and D1067 and the online view
- Translate S7-1200 addresses, timers, counters and system bits into DVP equivalents

Virtual lab (ISPSOft simulation): The filling station (CALL and SRET subroutines, and the step ladder or SFC) runs in ISPSOft's simulator: the bottle sensor, the E-stop's healthy contact on X3 and the reset button are inputs you switch, and the conveyor and solenoid valve SV1 are outputs.

Shown from the centre's lab on camera: The ERROR LED states and input and output faults on the centre's Delta trainer.

Weekly test online, camera on, pass 70%

Delta HMI, career preparation and final exam

Delta HMI with DIAScreen and a full Delta PLC + HMI + VFD project, then resume and LinkedIn, technical and HR interview preparation with mock interviews, and the final exam. Evenings: machine safety, robotics, electrical design, documentation, AI, troubleshooting, the interview self-test and five PLC brand primers.

 **Weekend:** **PGX8** Machine safety: risk assessment, PL and SIL, safety relays, E-stops and STO; **PGX9** Robotics 1: robot types, frames and the teach pendant; **PGX10** Robotics 2: PLC-robot handshake and cell safety

DAY

19

EPG19 · Week 4 · 4 hours live online

Delta HMI 1: DOP-100, DIAScreen, PLC link, screens and alarms



- Choose the software for any Delta panel: DIAScreen for DOP-100, DOPSoft 4.00 for old DOP-B projects
- Set up and prove communication between a DOP-100 and a DVP PLC
- Build screens with request buttons, limited numeric entries, displays and lamps
- Configure an alarm list driven by latched PLC alarm bits

 **Virtual lab (DIAScreen simulation, ISPSOFT simulation):** The operator screens for the filling station are built in DIAScreen for the Delta HMI (DOP-100 series) and run in its offline simulation, where buttons, numeric entries with limits and the alarm list work against the panel's own memory.

 **Shown from the centre's lab on camera:** The Delta HMI on the test rig talking to the Delta PLC, and a download to the real panel.

 **That evening:** **PGX11** Electrical design 1 · **PGP18** Honeywell ControlEdge PLC and HC900

DAY

20

EPG20 · Week 4 · 4 hours live online

Delta HMI 2: trends, recipes, navigation, user levels and the full project



- Trend a drive value read back by the PLC (the G120's actual speed) and explain which link updates it
- Build recipes that load into the PLC only while the line is idle
- Design a screen map and assign user levels to each action
- Commission a PLC + HMI + VFD system one link at a time and prove it with an acceptance test

 **Virtual lab (DIAScreen simulation, ISPSOFT simulation):** Trends, recipes, the screen map and the user levels are built in DIAScreen and tried in its offline simulation.

 **Shown from the centre's lab on camera:** The full Delta acceptance test on the centre's rig, and the trend file copied to a USB stick.

 **That evening:** **PGX12** Electrical design 2 · **PGX13** Industrial documentation 1

DAY

21

EPG21 · Week 4 · 4 hours live online

Resume and LinkedIn: the CV, the profiles and the application workflow



- Build a one-page automation CV in the Resume Builder that names platforms and puts skills and projects above education
- Write the Siemens mixing tank and Delta filling station projects as CV entries with platform, I/O count, own contribution and test evidence
- Map each line of a job advert to your own evidence and drop any claim you cannot defend
- Set up LinkedIn, Naukri and Indeed profiles that recruiters' keyword searches find
- Apply, log and follow up applications with Openings, Cover Letters and My Applications

 **In the live class:** No simulator today. The lab is the portal's Resume Builder, LinkedIn, Naukri and Indeed, on your own computer and phone.

 **That evening:** **PGX14** Industrial documentation 2 · **PGX15** AI for automation engineers 1 · **PGP19** Phoenix Contact PLCnext

DAY
22

EPG22 · Week 4 · 4 hours live online

Technical interview preparation: power, starters, signals, PLC and fault-finding



- Answer the most-asked electrical questions on protection, cables, motors and transformers with a reason and a number
- Draw a star-delta starter's power and control circuits from memory and explain the interlocks and the overload setting
- Explain sinking and sourcing, 4–20 mA, PID, VFD selection and PLC vs DCS vs SCADA in under a minute each
- Talk through a live fault on a Siemens or Delta rig with a safe, stepwise method
- Defend your own PGDIA projects and solve timed aptitude questions

Virtual lab (TIA Portal with S7-PLCSIM, ISPSoft simulation): Live debugging is done in simulation: the trainer shares a Siemens project and a Delta project, each with a fault planted, and you find it in S7-PLCSIM or ISPSoft's simulator, narrating your method aloud on the call, ten minutes each.

Shown from the centre's lab on camera: Fault-finding with a multimeter on the centre's Siemens and Delta rigs.

That evening: **PGX16** AI for automation engineers 2 · **PGX19** Interview self-test · **PGP20** Fuji Electric MICREX-SX SPH with SX-Programmer Expert (D300win)

DAY
23

EPG23 · Week 4 · 4 hours live online

HR preparation and mock interviews: introduction, HR round, recorded panels



- Deliver a 90-second self-introduction that names platforms and projects and ends with the role you want
- Answer the standard and the difficult HR questions (salary, relocation, shifts, service agreements, gaps) honestly and consistently with your CV
- Sit a recorded technical mock panel and a recorded HR mock as if they were real
- Read your own recording and written feedback and turn every weak area into a dated action
- Reach a signed placement-readiness checklist before interviews start

In the live class: No simulator today. The HR round, the introductions and the mock panels are held on the video call, in breakout rooms where the batch is large.

That evening: **PGX18** Reading datasheets and manuals · **PGX17** Troubleshooting method · **PGP21** WECON LX3V and LX5V · **PGP22** Unitronics Vision, Samba and UniStream

DAY
24

EPG24 · Week 4 · 4 hours live online

Final exam and placement handover



- Sit the PGT4 theory paper with a time plan: 50 questions in 75 minutes
- Complete the Siemens practical (wire, program and one HMI screen) and the Delta practical from written specs
- Explain and defend both PGDIA projects in a 10-minute viva
- State how the placement team arranges interviews and what your own duties are from Monday
- Complete and sign the placement handover sheet

The exam: EPGT4, the 50-question theory paper, is sat in the portal on your own computer with your camera on, under the trainer's unlock.



Basic engineering

The most self-study time goes here because the most interview questions come from here: protection devices, cables, motors, transformers and starters come up far more often than PLC theory.

26 modules

36 h of study

weeks 1–3



PGE1 · Week 1 · 1.3 h module + 1.1 h of free-course video

Units, conversions and the physics of machines



YOU WILL LEARN TO

- Convert pressure between bar, kPa, psi, kg/cm² and mmWC, and between gauge and absolute
- Calculate shaft torque from power and speed with $T = 9550 \times P \div n$, including through a gearbox
- Calculate cylinder force, hydrostatic pressure for level measurement and pipe flow from $Q = A \times v$
- Size a heater from mass, specific heat and temperature rise, and find its current

Topics · SI units · Pressure units: bar, kPa, psi, kg/cm², mmWC · Gauge versus absolute pressure · Temperature: °C, K, °F · kW and HP · Torque: $T = 9550 \times P \div n$, gearboxes · Pressure $P = F \div A$ and cylinder force · and 3 more

Includes the full lesson from our free course: Industrial Pneumatics and Hydraulics · Circuit Design Calculations (65 min of video)



PGE2 · Week 1 · 1.5 h module + 44 min of free-course video

DC and AC circuits



YOU WILL LEARN TO

- Apply Ohm's law, the power formulas and Kirchhoff's laws to control-panel circuits
- Explain how series and parallel wiring decide what a voltmeter reads during fault-finding
- Calculate reactance and impedance at 50 Hz and explain why an AC coil burns out on DC
- Relate RMS, peak and period for 230 V and 415 V supplies

Topics · Ohm's law and power · Conductor resistance and voltage drop · Series and parallel circuits · Kirchhoff's current and voltage laws · Inductive and capacitive reactance · Impedance and phase lag · RMS, peak and 50 Hz · and 1 more

Includes the full lesson from our free course: Electrical Fundamentals for Technicians · Resistance, Ohm's law, series and parallel circuits (44 min of video)



PGE3 · Week 1 · 1.5 h module + 49 min of free-course video

Three-phase power and power factor



YOU WILL LEARN TO

- State line and phase voltage and current relations in star and delta
- Calculate the current of a three-phase motor from kW, voltage, power factor and efficiency
- Explain kW, kVA and kVAR and why transformers are rated in kVA
- Size a capacitor bank in kVAR to correct power factor
- Explain phase sequence, how to reverse a motor and what single phasing does

Topics · Three-phase supply and R-Y-B marking · Phase sequence and motor direction · Single phasing · Star and delta line and phase values · $P = \sqrt{3} \times V \times I \times \cos \phi$ · kW, kVA, kVAR and the power triangle · and 2 more

Includes the full lessons from our free courses: Electrical Fundamentals for Technicians · Three-phase power and power factor (16 min of video); **Electrical Design Engineering** · Power Factor Correction (33 min of video)



PGE4 · Week 1 · 1.5 h module + 1 h of free-course video

Motors: induction, DC, servo and stepper



YOU WILL LEARN TO

- Explain how a rotating field drives a cage rotor, and calculate synchronous speed and slip
- Read a motor nameplate and decide the connection and starting method from it
- Compare cage and slip-ring motors and explain DC motor types and how to reverse them
- Choose between a servo and a stepper and calculate the pulses for a stepper axis

Topics · Rotating magnetic field · $N_s = 120 f \div P$ and slip · Starting current and torque · Nameplate: kW, V, connection, FLC, IE class, IP, duty · Cage versus slip-ring · DC motor types and reversing · and 2 more

Includes the full lessons from our free courses: **Servo Drives and Motion Control** · Servo Systems and Selection (14 min of video); **Energy Management and Energy Audit with ISO 50001** · Electric motors: efficiency classes, load estimation and replace or rewind decisions (47 min of video)



PGE5 · Week 1 · 2 h module + 1.1 h of free-course video

Motor starters: DOL, star-delta, reversing and soft starters



YOU WILL LEARN TO

- Draw the power and control circuit of a DOL starter and explain the hold-in contact
- Draw the power and control circuit of a star-delta starter with three contactors, a timer and both interlocks
- Set an overload relay correctly, including $0.58 \times \text{FLC}$ in the star-delta winding circuit
- Explain electrical and mechanical interlocks in a reversing starter
- Choose between DOL, star-delta, soft starter and VFD for a given load

Topics · Starter functions and no-volt protection · DOL power and control circuit · Star-delta: 3 contactors, timer, OLR at 58% · Star-delta changeover and dead time · Star and delta interlocks · and 3 more

Includes the full lesson from our free course: **Industrial Motor Control** · Reduced-Voltage Starting and Soft Starters (68 min of video)



PGE6 · Week 1 · 1.3 h module + 45 min of free-course video

Contactors, relays, interlocks and 24 V DC control power



YOU WILL LEARN TO

- Read contactor and relay terminal markings: A1-A2, 13-14, 21-22, 95-96
- Choose a contactor by its utilisation category: AC-1, AC-3 or AC-4
- Wire hold-in, interlock, permissive and sequence circuits
- Explain why interposing relays are used, and size a 24 V DC SMPS

Topics · Contactor construction and terminal numbers · Utilisation categories AC-1, AC-3, AC-4, AC-15, DC-13 · Hold-in (latching) contacts · Electrical, permissive, trip and sequence interlocks · Interposing relays · 24 V DC SMPS sizing · and 2 more

Includes the full lesson from our free course: **Electrical Fundamentals for Technicians** · Relays, contactors and motors in brief (45 min of video)



PGE7 · Week 1 · 1.5 h module + 58 min of free-course video

Electronics for PLC I/O: diodes, transistors, sinking and sourcing



YOU WILL LEARN TO

- Explain how a diode works and fit a freewheel diode correctly across a DC coil
- Explain NPN and PNP transistors as switches
- Pair PNP and NPN sensors with sinking and sourcing PLC inputs, including the common connection
- Choose between relay and transistor outputs for a given load

Topics · Diodes, rectifiers, LEDs and Zeners · Freewheel diode across a DC coil · Transistor as a switch: NPN and PNP · Sinking and sourcing · PLC input common (1M) wiring · Optocouplers and IEC 61131-2 input types · and 1 more

Includes the full lessons from our free courses: **Siemens TIA Portal, Free Beginner Course** · Wiring Basics, Sinking, Sourcing and 24 V DC (notes; its videos are already in this module); **PLC and Electrical Troubleshooting for Maintenance Teams** · Digital outputs: when the PLC says ON but nothing moves (58 min of video)



PGE8 · Week 1 · 1.5 h module + 53 min of free-course video

Digital logic, number systems and PLC data types



YOU WILL LEARN TO

- Write truth tables for AND, OR, NOT, NAND, NOR and XOR and draw each as a ladder rung
- Convert a Boolean expression to ladder, using De Morgan's laws to simplify
- Convert between decimal, binary, hex and BCD, and use two's complement
- Choose INT, DINT or REAL for a value and fix Modbus word-order problems

Topics · Logic gates and truth tables · Universal gates: NAND and NOR · Boolean algebra and De Morgan's laws · Boolean expression to ladder · Binary, hex and BCD · Two's complement · INT, DINT, REAL, LREAL · and 1 more

Includes the full lessons from our free courses: **Omron PLC with CX-Programmer** · Bit Logic and Logic Gates (27 min of video); **CODESYS and IEC 61131-3 Programming** · Boolean Expressions to Ladder (26 min of video); **Allen-Bradley Studio 5000** · Data Types: BOOL, INT, DINT, REAL and Arrays (notes; its videos are already in this module)



PGE9 · Week 1 · 1.3 h module + 35 min of free-course video

Industrial sensors



YOU WILL LEARN TO

- Select a sensor type (limit, reed, inductive, capacitive, photoelectric, ultrasonic) for a detection task
- Apply rated sensing distance, correction factors and flush or non-flush mounting
- Wire 3-wire PNP and NPN and 2-wire sensors, and choose NO or NC for fail-safe signals
- Check a proximity sensor with a multimeter

Topics · Limit switches and positive opening · Reed and magnetic cylinder switches · Inductive sensors: Sn, flush and non-flush · Capacitive sensors · Photoelectric: through-beam, retro-reflective, diffuse · Ultrasonic sensors · and 2 more

Includes the full lessons from our free courses: **Industrial Instrumentation and Process Control** · Switches and Proximity Sensors (25 min of video); **Instrumentation for PLC Engineers** · The Other Half: Switches, Proximity Sensors and Encoders (10 min of video)



PGE10 · Week 1 · 1.5 h module + 55 min of free-course video

Automation overview: the pyramid, PLC, DCS, SCADA and HMI



YOU WILL LEARN TO

- Describe the layers of the automation pyramid and what sits in each, including the ISA-95 numbering
- Explain the roles of PLC, DCS, SCADA, HMI, MES and RTU and when each is used
- Name the parts of a PLC and choose between compact and modular hardware
- Explain the scan cycle, the watchdog, forcing and retentive memory
- Name the IEC 61131-3 languages and their Siemens equivalents

Topics · Automation pyramid and ISA-95 (IEC 62264) · PLC, DCS, SCADA, HMI, MES and RTU · PLC hardware: PSU, CPU, DI, DO, AI, AO · Compact versus modular, remote I/O · Scan cycle and process image · Watchdog and maximum cycle time · Forcing · and 2 more

Includes the full lessons from our free courses: **Siemens TIA Portal, Free Beginner Course** · Inside the PLC, Hardware and the Scan Cycle (8 min of video); **LS Electric XGB PLC with XG5000** · IEC 61131-3: Choosing the Language (22 min of video); **ICS Security Foundations** · The Systems You Are Protecting: DCS, PLC and SCADA (25 min of video)



PGE11 · Week 1 · 1 h module + 45 min of free-course video

Electrical safety, LOTO and conduct on site



YOU WILL LEARN TO

- Explain how electric shock and arc flash injure, and why personal-protection RCDs trip at 30 mA
- List the lockout-tagout steps and prove a circuit dead by live-dead-live testing
- Explain permits to work, JSA, the hierarchy of controls and the PPE for panel work
- Behave professionally and safely at a customer's site, including refusing to bypass an interlock

Topics · Shock: body current and its effects · Arc flash and incident energy · Lockout-tagout steps · Test before touch: live-dead-live · Permit to work · JSA and the hierarchy of controls · PPE for panel work · Housekeeping · and 1 more

Includes the full lessons from our free course: Electrical Safety · How electricity injures: shock, arc flash and arc blast (18 min of video) and Lockout and tagout: procedure, devices, group lockout and try-out (27 min of video)



PGE12 · Week 2 · 1 h module + 57 min of free-course video

Analog signals and scaling: 4–20 mA, 0–10 V and the S7 raw range



YOU WILL LEARN TO

- Explain why 4–20 mA is used in the field and what its live zero detects
- Convert between mA, Siemens raw counts (0–27648) and engineering units in both directions
- Calculate the resolution of an ADC from its number of bits
- Wire and earth a screened analog cable correctly

Topics · 4–20 mA vs 0–10 V · Live zero and wire-break detection · ADC bits and resolution · S7 raw range 0–27648, over- and under-range · Scaling formula, NORM_X and SCALE_X · Screened twisted pair, earthed at one end · Op-amps as a concept

Includes the full lessons from our free courses: Instrumentation for PLC Engineers · Into the PLC: Analog Cards, Raw Counts, NORM_X and SCALE_X (41 min of video); **Siemens TIA Portal, Free Beginner Course** · Analog Signals and Scaling, The Skill Employers Test (16 min of video)



PGE13 · Week 2 · 1.3 h module + 52 min of free-course video

Instrumentation basics and pressure measurement



YOU WILL LEARN TO

- Define range, span, accuracy, precision, hysteresis and turndown, and turn percentages into units
- Read a five-point calibration record and decide pass or fail
- Distinguish gauge, absolute and differential pressure and convert between them
- Choose between a pressure switch and a transmitter, and range a DP level transmitter

Topics · Range, span, LRV/URV, URL · Accuracy vs precision · Hysteresis and five-point calibration · Turndown · Gauge, absolute and differential pressure · Pressure switch vs transmitter · DP level and zero suppression · 3-valve manifold

Includes the full lesson from our free course: Industrial Instrumentation and Process Control · Pressure Measurement (52 min of video)



PGE14 · Week 2 · 1.3 h module + 28 min of free-course video

Temperature measurement: RTDs and thermocouples



YOU WILL LEARN TO

- Choose between an RTD and a thermocouple for a given duty
- Calculate Pt100 resistance and the error caused by 2-wire lead resistance
- Apply cold-junction compensation to a thermocouple reading
- Check an RTD with a multimeter and explain the compensating-cable rule

Topics · Pt100: 100 Ω at 0 °C, about 0.385 $\Omega/^\circ\text{C}$ (IEC 60751) · 2-, 3- and 4-wire RTD connection · Thermocouple types J, K, T, R, S, B · Seebeck effect and cold-junction compensation · Compensating and extension cable · and 2 more

Includes the full lessons from our free courses: Industrial Instrumentation and Process Control · Temperature Measurement (4 min of video); **Instrument Calibration, Loop Checks and Commissioning** · Temperature: RTD and thermocouple checks, dry blocks and cold-junction compensation (24 min of video)



PGE15 · Week 2 · 1.5 h module + 44 min of free-course video

Level and flow measurement



YOU WILL LEARN TO

- Compare DP, radar, ultrasonic and load-cell level measurement
- Explain the principle and main limit of orifice, magnetic, vortex, Coriolis and ultrasonic flowmeters
- Apply the square-root law of an orifice in both directions
- Select a level or flow instrument for a given fluid and duty

Topics · DP (hydrostatic) level · Radar and guided-wave radar · Ultrasonic level and the speed of sound · Load cells and weighing · Orifice plate and the square-root law · Magnetic, vortex, Coriolis and ultrasonic flowmeters · and 2 more

Includes the full lessons from our free courses: **Industrial Instrumentation and Process Control** · Level Measurement (10 min of video); **Control Valves and Flow Measurement** · Flow measurement principles: accuracy, turndown and selection (8 min of video) and Magnetic, vortex, ultrasonic, Coriolis and thermal: a selection table (26 min of video)



PGE16 · Week 2 · 1.3 h module + 45 min of free-course video

Transmitters, loop power and HART



YOU WILL LEARN TO

- Wire 2-wire, 3-wire and 4-wire transmitters to a PLC input and say which side powers the loop
- Calculate a loop's voltage budget and maximum loop resistance
- Interpret loop currents using NAMUR NE43 and write PLC fault limits
- Explain what HART adds and use it for a loop check

Topics · 2-, 3- and 4-wire transmitters · Loop power supply and loop budget · 250 Ω input resistor and 1–5 V · Why 4 mA · NAMUR NE43: 3.6 mA and 21 mA · HART: FSK at 1200/2200 Hz · Loop test, sensor trim and current trim

Includes the full lessons from our free courses: **Instrumentation for PLC Engineers** · The 4–20 mA Loop and How It Is Wired (19 min of video); **Industrial Instrumentation and Process Control** · HART, Fieldbus and Smart Transmitters (26 min of video)



PGE17 · Week 2 · 2 h module + 55 min of free-course video

Control loops and PID tuning



YOU WILL LEARN TO

- Describe open- and closed-loop control using PV, SP, error and MV
- Choose direct or reverse action and design on-off control with a dead band
- Explain what P, I and D each do, including offset and integral windup
- Tune a loop by trial or by Ziegler–Nichols, and set up PID_Compact correctly

Topics · Open vs closed loop · PV, SP, error, CV/MV · On-off control with a dead band · Direct and reverse action · P, I, D and offset · Integral windup and anti-windup · Ziegler–Nichols and manual tuning · and 1 more

Includes the full lessons from our free courses: **PID Control for PLC Engineers** · Tuning a Loop (26 min of video); **Siemens TIA Portal PID Compact and Analog Processing** · PID_Compact: Placing, Configuring and Running It (29 min of video)



PGE18 · Week 2 · 1.3 h module + 1.3 h of free-course video

Transformers, CTs, PTs and control transformers



YOU WILL LEARN TO

- Apply the EMF equation and the turns ratio to voltages, currents and turns
- Calculate transformer losses and efficiency at different loads
- Explain the Dyn11 vector group and why it is used for distribution
- Explain why a CT secondary must never be opened, and size a control transformer by VA

Topics · EMF equation $E = 4.44 f N \Phi_m$ · Turns ratio · kVA rating; core and copper losses · Efficiency and maximum efficiency · Vector groups and Dyn11 · CT and PT ratings and accuracy classes · Never open a CT secondary · and 1 more

Includes the full lesson from our free course: **Substation Design** · Instrument transformers, surge arresters and power transformers (76 min of video)



PGE19 · Week 2 · 1.5 h module + 35 min of free-course video

Protection devices and coordination



YOU WILL LEARN TO

- Say which protective device covers overload, short circuit and earth leakage
- Choose an MCB curve and check whether it trips instantly for a given fault
- Estimate prospective fault current and choose a breaking capacity
- Set an overload relay and explain Type 1 versus Type 2 coordination and SCCR

Topics · HRC fuses: gG, aM, aR · MCB B, C and D curves · MCCB settings, Icu and Ics · RCCB and RCBO, 30 mA · MPCB and overload relay, trip class · Type 1 vs Type 2 coordination · Breaking capacity and fault level · SCCR and selectivity

Includes the full lesson from our free course: Electrical Fundamentals for Technicians · Cables, fuses and circuit breakers (35 min of video)



PGE20 · Week 2 · 1.3 h module + 44 min of free-course video

Earthing and cable sizing



YOU WILL LEARN TO

- Describe TN-S, TN-C-S, TT and IT systems and where an RCD is essential
- Lay out panel earthing: PE bar, bonding and the instrument earth
- Size a power cable by current, derating, voltage drop and fault withstand
- Calculate voltage drop for single-phase and three-phase circuits

Topics · TN-S, TN-C-S, TT and IT · PE bar and instrument earth bar · Two earth connections on motors · Earth pits and IS 3043 · Cable ampacity and derating · Voltage drop · Short-circuit withstand $S \geq I_f/t \div k$ · and 2 more

Includes the full lesson from our free course: Electrical Fundamentals for Technicians · Earthing, earth faults and RCDs (44 min of video)



PGE21 · Week 2 · 1 h module + 1.1 h of free-course video

Encoders and high-speed counting



YOU WILL LEARN TO

- Explain incremental A/B/Z outputs, PPR and $\times 4$ decoding
- Choose between incremental, single-turn and multi-turn absolute encoders
- Calculate encoder frequency and configure an HSC instead of a normal input
- Convert encoder counts to millimetres and to speed

Topics · Incremental A/B/Z · PPR and $\times 1/\times 2/\times 4$ decoding · HTL push-pull, TTL line driver, open collector · Absolute single-turn and multi-turn · Gray code and SSI · HSC vs normal input; input filter time · Counts per mm and rpm

Includes the full lesson from our free course: Allen-Bradley Micro800 with Connected Components Workbench · High-Speed Counter and Encoders (66 min of video)



PGE22 · Week 2 · 1.3 h module + 47 min of free-course video

Networking basics for automation



YOU WILL LEARN TO

- Explain IP address, subnet mask, gateway and MAC address
- Plan an IP addressing scheme for a machine network
- Compare switches and routers, and star, line and ring topologies
- Diagnose a duplicate IP address and wire an RS-485 bus correctly

Topics · IP address, subnet mask, gateway, MAC · Subnets: /24 and /25 · PROFINET device names · Managed vs unmanaged switch; router · Star, line and ring with MRP · Duplicate IP diagnosis: ping, arp -a, Accessible devices · and 1 more

Includes the full lessons from our free course: Industrial Communication · Networks, the OSI Model, Ethernet, IP and Subnets (17 min of video) and Serial: RS-232, RS-485 and Modbus (30 min of video)



PGE23 · Week 2 · 1 h module + 1.2 h of free-course video

Test instruments: multimeter, clamp, megger, earth tester and calibrator



YOU WILL LEARN TO

- Prove a circuit dead with the live-dead-live sequence and choose a meter by CAT rating
- Measure the current in a 4–20 mA loop by three methods
- Carry out and interpret an insulation resistance test
- Use an earth tester and a loop calibrator in source, simulate and measure modes

Topics · Live-dead-live · CAT II, III and IV (IEC 61010) · Multimeter: V, mA, Ω , continuity · Measuring mA in a loop · Clamp meter and true RMS · Insulation tester: test voltages and minimum IR · Earth tester: fall of potential at 62% · and 2 more

Includes the full lesson from our free course: Electrical Fundamentals for Technicians · The multimeter: volts, amps, ohms, continuity and CAT ratings (69 min of video)



PGE24 · Week 3 · 1.5 h module + 51 min of free-course video

Calibration, control valves, P&ID tags and hazardous areas



YOU WILL LEARN TO

- Carry out and record a five-point as-found and as-left calibration and calculate the error as a percentage of span
- Explain the parts of a control valve, the jobs of the positioner and I/P converter, and choose fail-open or fail-closed
- Read ISA-5.1 tag letters, bubbles and signal lines on a P&ID
- Explain hazardous Zones 0, 1 and 2, gas groups, temperature classes, and Ex d versus Ex i

Topics · As-found, as-left, five-point up and down · Error as % of span; tolerance; traceability to NPL and NABL labs · Control valve body, actuator, positioner, I/P · Fail-open and fail-closed selection · Cv and Kv sizing basics · and 4 more

Includes the full lessons from our free courses: Instrument Calibration, Loop Checks and Commissioning · Calibration vocabulary: range, span, accuracy, uncertainty and TUR (12 min of video); **Hazardous Areas** · Explosive atmospheres: the fire triangle, gas groups and temperature classes (39 min of video)



PGE25 · Week 3 · 45 min module + 35 min of free-course video

Advanced control strategies: cascade, ratio, feedforward and split range



YOU WILL LEARN TO

- Explain cascade control and identify the master and slave loops on a P&ID
- Calculate a ratio setpoint and explain how feedforward is combined with feedback
- Describe split-range control and how the two valve positioners are calibrated
- Estimate process gain, dead time and time constant from a bump test

Topics · Cascade: master, slave, remote setpoint · Tuning order and bumpless transfer · Ratio control and the wild flow · Feedforward plus feedback · Split range: 4-12 mA and 12-20 mA · How each strategy looks on a P&ID · and 1 more

Includes the full lessons from our free course: PID Control for PLC Engineers · PID versus Other Methods, and Applications (21 min of video) and Modelling the Process (14 min of video)



PGE26 · Week 3 · 2 h module + 1 h of free-course video

Mechanical basics: gears, belts, bearings, ball screws, conveyors and drawings



YOU WILL LEARN TO

- Calculate output speed and torque through gearboxes and belt drives
- Identify bearing and coupling types and read a bearing designation such as 6205
- Convert motor speed to linear speed through a ball screw and work out encoder resolution
- Explain conveyor start and stop order and the protection switches on a belt conveyor
- Read first-angle views, an ISO fit such as H7/g6 and a GD&T feature control frame

Topics · Gear ratio, speed and torque; $T = 9550 \times \text{kW} / \text{rpm}$ · Spur, helical, bevel, worm and planetary gears · V-belts, timing belts, chains · Couplings and alignment · Bearing types and designations; lubrication · and 5 more

Includes the full lessons from our free courses: Servo Drives and Motion Control · Conversion Constants and Mechanics (32 min of video); **GD&T to ASME Y14.5** · Why GD&T: the limits of plus and minus, Rule #1, ASME and ISO (29 min of video)



SELF-STUDY · PART B

PLC brands

22 primers cover 20 more brands and the older Siemens PLCs still running in Indian plants. Each follows the same five pages, so brands are easy to compare: the families and software, a first project, how it differs from Siemens, a worked translation exercise, and the interview questions for that brand.

22 modules

22 h of study

weeks 1–4

SIEMENS

PGP1 · Week 1 · 1 h module + 51 min of free-course video

Siemens beyond TIA: S7-300/400 in STEP 7 Classic, LOGO! 8 and S7-200 SMART



YOU WILL LEARN TO

- Name the tool that programs an S7-300/400, a LOGO! 8 and an S7-200 SMART, and which of them TIA Portal can open
- Work out the default address of any module in an S7-300 rack from its slot
- Translate a simple S7-1200 rung into S7-200 SMART and LOGO! form
- Read basic STL and S5 timers in an old S7-300 program

Topics · S7-300 lifecycle: no new orders since 1 Oct 2025, spares to about 2033 · SIMATIC Manager, HW Config, symbol table, NetPro · Slot addressing: 4 bytes per digital slot, 16 per analog slot from 256 · S5 timers and S5TIME resolution · and 3 more

Includes the full lessons from our free courses: **Siemens S7-300 with STEP 7** · Meet the S7-300 and SIMATIC Manager (20 min of video) and Reading STL: Statement List Basics (14 min of video); **Siemens Small Controllers** · S7-200 SMART: Project, Contacts, Set/Reset (17 min of video)



PGP2 · Week 1 · 1 h module + 1.1 h of free-course video

Allen-Bradley ControlLogix and CompactLogix with Studio 5000 Logix Designer



YOU WILL LEARN TO

- Explain how a tag-based Logix controller differs from an address-based Siemens PLC
- Read a module I/O tag such as Local:1:I.Data.0 and name each part
- Set up a first Logix Designer project from controller selection to download
- Translate a seal-in and timer rung from TIA ladder into XIC/XIO/OTE/TON
- Describe tasks, programs, routines and Add-On Instructions

Topics · ControlLogix 5580 and CompactLogix 5380/5480 · Studio 5000 Logix Designer v38 (paid); firmware revision must match · Controller-scoped and program-scoped tags · Module tags: Local:1:I.Data.0, Local:1:I.Pt00.Data · and 4 more

Includes the full lessons from our free course: **Allen-Bradley Studio 5000** · Connecting Over Ethernet, Uploading and Downloading (24 min of video) and Timers: TON, TOF and RTO (40 min of video)



PGP3 · Week 1 · 1 h module + 39 min of free-course video

Allen-Bradley Micro800 with CCW, and MicroLogix/SLC 500 with RSLogix 500



YOU WILL LEARN TO

- Tell a Micro800 (CCW, variables) from a MicroLogix or SLC 500 (RSLogix 500, data files)
- Read RSLogix 500 addresses such as I:0/0, B3:1/4, N7:12 and T4:0/DN
- Calculate a timer delay from preset and time base
- Translate a TIA rung into both RSLogix 500 and Micro800 form

Topics · Micro810/820/830/850/870 and free CCW Standard with simulator · MicroLogix 1100 discontinued; 1400 and SLC 500 in late life · Default data files O0, I1, S2, B3, T4, C5, R6, N7, F8 · Slot 0 on MicroLogix vs SLC 500 · and 3 more

Includes the full lessons from our free courses: **Allen-Bradley Micro800 with Connected Components Workbench** · Micro800, CCW and the Simulator (21 min of video); **Allen-Bradley RSLogix 500 and MicroLogix** · File-based Addressing: I, O, B3, N7, T4, C5 and Friends (18 min of video)



PGP4 · Week 1 · 1 h module + 54 min of free-course video

Mitsubishi FX, iQ-F and iQ-R with GX Works2 and GX Works3



YOU WILL LEARN TO

- Count X and Y addresses in octal on FX/iQ-F and in hexadecimal on Q/iQ-R
- Set up a first GX Works3 project from series selection to Write to PLC
- Translate a TIA rung into FX mnemonics (LD, OR, ANI, OUT, OUT T K)
- State the FX3 discontinuation position and the FX5 successors
- Recognise the same addressing on Delta DVP, Wecon LX3V and Inovance H3U

Topics · iQ-F (FX5S, FX5UJ, FX5U), iQ-R, Q and L series · FX3 discontinued except FX3S; FX3G last orders 29 May 2026 · GX Works2 vs GX Works3; Convert (F4); simulator · X/Y octal on FX, hexadecimal on iQ-R · M, D, T, C, SM/SD and M8000/M8002 · and 2 more

Includes the full lessons from our free courses: **Mitsubishi GX Works3** · GX Works3 and the iQ Platform (12 min of video) and Working Environment, Communication and PLC Setup (27 min of video); **Mitsubishi FX with GX Works2** · The FX Family and GX Works2 (15 min of video)



PGP5 · Week 1 · 1 h module + 56 min of free-course video

Schneider Modicon M221 and M340/M580 with Machine Expert Basic and Control Expert



YOU WILL LEARN TO

- Choose the right Schneider tool for M221, M241/M251/M262 and M340/M580
- Read M221 addresses as module and channel (%I0.9, %I1.0) and M340 addresses as rack, slot, channel
- Translate a TIA rung into M221 ladder with %TM timers and operation blocks
- Explain why %MW and %M are separate objects on Schneider PLCs

Topics · M221, M241/M251/M262, M340, M580; Twido, Premium, Quantum superseded · Machine Expert Basic V1.3 free with simulator; Machine Expert 42-day trial; Control Expert paid · %I, %Q, %M, %MW, %KW, %S, %SW · and 4 more

Includes the full lessons from our free courses: **Schneider Modicon PLC with EcoStruxure Machine Expert Basic** · Schneider PLCs and Machine Expert Basic (19 min of video) and Counters, Comparisons and Operation Blocks (15 min of video); **Schneider EcoStruxure Control Expert (Unity Pro) with Modicon M340 and M580** · Control Expert: Install, Licence, Simulator (22 min of video)



PGP6 · Week 1 · 1 h module + 35 min of free-course video

Omron CP and CJ with CX-Programmer, NX and NJ with Sysmac Studio



YOU WILL LEARN TO

- Read Omron CIO word.bit addresses and map Siemens inputs onto a CP1L
- Set up a first project in CX-Programmer and in Sysmac Studio
- Use TIM, CNT and MOV(021) correctly, including the # and & constant prefixes
- Explain why NJ/NX controllers use variables only and run motion over EtherCAT

Topics · CP2E, CP1L/CP1H, CJ2; NX1P, NX102, NJ · CP1E discontinued (Mar 2022) → CP2E; CP1L-L/J final orders Mar 2027 · CX-One 30-day trial; Sysmac Studio 30-day trial · CIO 0.00 inputs, 100.00 outputs; W, H, D · and 3 more

Includes the full lessons from our free courses: **Omron PLC with CX-Programmer** · First Project and the Simulator (6 min of video) and Data Types, Addressing and Operating Modes (18 min of video); **Omron Sysmac Studio** · The Sysmac Platform and Studio Tour (11 min of video)



PGP7 · Week 2 · 1 h module + 58 min of free-course video

ABB AC500 V3 and AC500-eCo with Automation Builder



YOU WILL LEARN TO

- Describe the AC500 range (V3, eCo V3, AC500-S, AC500-XC) and the Automation Builder editions
- Lay out an AC500 station: couplers left of the CPU, I/O right
- Set up a first Automation Builder project and map I/O channels to variables
- Translate a TIA rung into AC500 V3 structured text with a TON instance

Topics · AC500 V3, eCo V3, AC500-S, AC500-XC; V2 in the field · Automation Builder 2.8/2.9; Basic edition free · CODESYS inside: Login, online change, Start · I/O Mapping and %IX/%QX addresses · TON and CTU instances; ET and Q · and 2 more

Includes the full lessons from our free course: ABB AC500 PLC with Automation Builder · First Project and Commissioning (36 min of video) and Counters and Retentive Data (22 min of video)



PGP8 · Week 2 · 1 h module + 1.1 h of free-course video

CODESYS and the PLCs built on it: WAGO, Inovance AM600, Delta AX



YOU WILL LEARN TO

- Explain what CODESYS is and how vendors build their PLC tools on it
- Install device descriptions and run a first project in simulation or on a soft PLC
- Write PLC_PRG logic with TON and CTU instances in structured text
- Match CODESYS brands to their tools (Automation Builder, InoProShop, DIADesigner-AX, Machine Expert)

Topics · CODESYS V3.5 free; runtimes licensed per device · Device descriptions, packages, Device Repository · PROGRAM, FUNCTION_BLOCK, FUNCTION; GVL; tasks · Simulation and CODESYS Control Win demo mode · Login, online change, Start · and 2 more

Includes the full lessons from our free course: CODESYS and IEC 61131-3 Programming · CODESYS: What It Is and the First Project (18 min of video) and Functions versus Function Blocks (50 min of video)



PGP9 · Week 2 · 1 h module

Emerson (formerly GE) PACSystems RX3i with PAC Machine Edition

YOU WILL LEARN TO

- Read PACSystems reference addresses (%I00001, %Q00001, %R00001, %AI00001) and convert Siemens addresses to them
- Set up a first PAC Machine Edition project from target to Download and Start
- Allocate %R registers for timers and counters without overlap
- Explain hot-standby redundancy and where RX3i is used

Topics · RX3i, RX7i; Series 90-30 and 90-70 discontinued · PAC Machine Edition 11 (formerly Proficy Machine Edition up to 9.5), paid · Reference tables count from 1 · %I, %Q, %M, %T, %R, %AI, %AQ, %S · TMR, ONDTR, UPCTR use three %R words · and 2 more



PGP10 · Week 2 · 1 h module + 57 min of free-course video

KEYENCE KV-8000 and KV Nano with KV STUDIO



YOU WILL LEARN TO

- Read KEYENCE channel-and-bit relay addresses (R000, R015, R100) and map Siemens I/O onto them
- Set up a first KV STUDIO project with the Unit Editor, simulator and monitor mode
- Choose TMR, TMH or TMS and the preset for a given delay
- Explain what the KV-8000 operation recorder is for

Topics · KV-X, KV-8000, KV-7000, KV Nano · KV STUDIO (KV-H1G-DL) obtained from KEYENCE; built-in simulator · R, MR, LR, CR, DM, T, C · Channel.bit: R015 then R100 · TMR 100 ms, TMH 10 ms, TMS 1 ms · # decimal constants: MOV #100 DM20 · and 1 more

Includes the full lessons from our free course: KEYENCE KV Series PLC with KV STUDIO · KV Series and KV STUDIO (18 min of video) and Transfer, Monitoring and Debugging (39 min of video)



PGP11 · Week 2 · 1 h module + 1.3 h of free-course video

LS Electric XGB with XG5000: XGK device addressing and XGI IEC style



YOU WILL LEARN TO

- Tell an XGK-type CPU (XBC, XBM) from an IEC-type CPU (XEC, XEM) and choose correctly at New Project
- Read XGK device addresses with hexadecimal bits (P000A, P001F) and IEC addresses (%IX0.0.10)
- Set up a first XG5000 project, including parameters and the simulator
- Compare bit numbering across Siemens, Mitsubishi, Omron, KEYENCE and LS

Topics · XGT family: XGB (XBC/XEC, XBM/XEM), XGK, XGI, XGR · XG5000 free with built-in simulator · XGK devices P, M, K, L, F, T, C, D · Hex bit digit: P0009, P000A ... P000F, P0010 · IEC style %IX base.slot.bit and named variables · and 2 more

Includes the full lessons from our free course: LS Electric XGB PLC with XG5000 · LS Electric, XGB and XG5000 (20 min of video) and Ladder Programming and Simulation (57 min of video)

FATEK

PGP12 · Week 3 · 1 h module + 1.1 h of free-course video

FATEK FBs and B1 with WinProLadder: the low-cost compact PLC



YOU WILL LEARN TO

- Name the FATEK families (FBs MA/MC/MN, B1, B1z) and say what WinProLadder costs and includes
- Translate Siemens %I/%Q addresses to FATEK's decimal X and Y numbers
- Choose a timer number and preset for a given delay from FATEK's default time bases
- Describe the WinProLadder project steps from new project to download against TIA Portal

Topics · FBs MA, MC and MN; B1 and B1z · WinProLadder: free, built-in simulator · X and Y in decimal (X8 exists) · M, S, T, C, R and D devices · Timer base set by timer number · Station number and port settings · Upload before you edit

Includes the full lessons from our free course: FATEK PLC with WinProLadder · FATEK and WinProLadder (12 min of video) and Addressing, Memory, Contacts, Coils and Latching (56 min of video)

Messung

PGP13 · Week 3 · 1 h module

Messung, India's own PLC: XMPRO-10, NX-ERA and NX-ERA Xpress

YOU WILL LEARN TO

- Describe Messung's place in Indian automation and its current controller line-up
- Explain what must be confirmed with Messung (tool, version, licence) before touching one of its PLCs
- Write a seal-in rung and a TON in Structured Text the way a CODESYS-style tool expects
- Answer the interview question 'you find an old PLC with no backup: what do you do?'

Topics · First indigenous Indian PLC, 1981 · Mitsubishi Electric and the Messung Group, 2011-2012 · Altus partnership since 2017 · XMPRO-10, NX-ERA, NX-ERA Xpress · Likely CODESYS-style engineering (to confirm) · and 2 more

INOVANCE

PGP14 · Week 3 · 1 h module + 49 min of free-course video

Inovance Easy, H3U, H5U and AM600: PLC, servo and drive from one maker



YOU WILL LEARN TO

- Tell which Inovance PLCs use AutoShop (FX-style) and which use InoProShop (CODESYS-based)
- Convert Siemens addresses to H3U octal X and Y addresses
- Write an FX-style timer with the right K preset for a given delay
- Explain why lift, crane and plastics OEMs buy PLC, servo and VFD from one supplier

Topics · Easy, H3U, H5U, AM600; GL20 remote I/O · AutoShop vs InoProShop · Licence status unverified · H3U: FX-style X/Y octal, M, D, T, C · AM600: IEC variables and tasks · EtherCAT servos and PLCopen MC_ blocks · and 1 more

Includes the full lessons from our free courses: CODESYS and IEC 61131-3 Programming · CODESYS: What It Is and the First Project (24 min of video); **Mitsubishi FX with GX Works2** · Devices: X, Y, M, D, T, C and the Special Relays (25 min of video)

Panasonic FP0H, FP-XH and FP7 with FPCWIN GR7 and FPCWIN Pro7**YOU WILL LEARN TO**

- Read Panasonic X, Y and R addresses whose last digit is hex, and DT registers
- Choose the timer instruction (TMX, TMY, TMR, TML) and preset for a given delay
- Explain the difference between FPCWIN GR7 and FPCWIN Pro7, including the Pro7 free-version limit
- Name the replacement for a discontinued FP-X and what to check when swapping

Topics · FP0H, FP-XH, FP7; FP-X discontinued (LTB 30 Sept 2021) · FPCWIN GR7 and FPCWIN Pro7 (free up to 10,000 steps) · X0-XF then X10: hex last digit · R internal relays, DT data registers · TMX 0.1 s, TMY 1 s, TMR 0.01 s, TML 0.001 s · and 2 more

Beckhoff TwinCAT 3: PC-based control, EtherCAT and linked variables**YOU WILL LEARN TO**

- Explain XAE and XAR and how to run TwinCAT 3 on a laptop with the 7-day trial licence
- Declare I/O variables with AT %I* and AT %Q* and describe how they are linked to EtherCAT terminals
- Compare TwinCAT's fixed-cycle tasks, Activate Configuration and Login with TIA Portal's OB1 and Download
- Explain in one minute why EtherCAT is fast

Topics · PC-based control: CX and industrial PCs · XAE (engineering, free) and XAR (runtime, licensed) · 7-day renewable trial licence · AT %I* / AT %Q* and links in the I/O tree · EK1100, EL1008, EL2008, EL3064 · PlcTask, fixed 10 ms cycle · and 2 more

Includes the full lessons from our free course: Beckhoff TwinCAT 3 PLC Programming · Beckhoff, TwinCAT and EtherCAT (13 min of video) and Tasks, Programs and Hello World (65 min of video)

B&R X20 with Automation Studio: mapp, POWERLINK and imported machines**YOU WILL LEARN TO**

- Describe the Logical, Configuration and Physical Views of Automation Studio
- Map a process variable to an X20 I/O channel and place a program in a task class
- Explain what mapp Technology, POWERLINK and ArSim are
- Translate a short Siemens program into the B&R project structure

Topics · B&R, part of ABB since 2017 · X20, Automation PC, Power Panel, ACOPOS · Automation Studio 6; 4.12 for some older CPUs · Evaluation licence; ArSim simulation · Process variables and I/O mapping · Task classes (Cyclic #1 ...) · and 2 more

Honeywell ControlEdge PLC and HC900: process PLCs for boilers and distilleries**YOU WILL LEARN TO**

- Describe ControlEdge PLC (ControlEdge Builder) and ControlEdge HC900 (HC900 Designer) and where each is used
- Convert between 4-20 mA and engineering units for an HC900 analog input
- Sketch an HC900 worksheet for a temperature loop with a high alarm
- Explain how these controllers connect to Experion and why safety trips need a certified function

Topics · ControlEdge PLC on the ControlEdge 900 platform · ControlEdge HC900; SIL2 version for burner management · ControlEdge Builder: all five IEC languages · HC900 Designer: function-block worksheets, edits in RUN · and 4 more

Phoenix Contact PLCnext: an open Linux PLC with IEC, C++ and C#**YOU WILL LEARN TO**

- Name the AXC F 1152, 2152 and 3152 and state what PLCnext Engineer costs
- Declare IN and OUT ports and connect them to I/O and other programs in the Data List
- Explain why a program must be instantiated in a task to run
- State the first security steps when commissioning an open, Linux-based PLC

Topics · AXC F 1152, 2152, 3152 and Axioline F I/O · PLCnext Engineer: basic version free · Real-time Linux, C++, C#, MATLAB Simulink · IN and OUT ports, Global Data Space · Data List connections · Program instances in tasks · and 2 more



PGP20 · Week 4 · 1 h module

Fuji Electric MICREX-SX SPH with SX-Programmer Expert (D300win)

YOU WILL LEARN TO

- Read a MICREX-SX direct address such as %IX1.0.3 (station, word, bit)
- Convert a Siemens byte.bit input on a 16-point module to its MICREX-SX address
- Describe the D300win project steps, including the system definition and the simulator
- Explain why Fuji PLCs usually arrive alongside Fuji drives and HMIs

Topics · MICREX-SX SPH series; SPH2200 · SX bus and E-SX bus · SX-Programmer Expert (D300win) and its simulator · IEC 61131-3 languages · %IX station.word.bit addressing · System definition and station numbers · and 1 more

WECON

PGP21 · Week 4 · 1 h module + 1.1 h of free-course video

WECON LX3V and LX5V: the low-cost FX-compatible PLC



YOU WILL LEARN TO

- Convert Siemens byte.bit addresses to WECON octal X and Y
- Write FX-style instructions (LD, AND, OUT, SET, RST, PLS, MOV, DMOV) for a short Siemens rung
- Set timer presets in K units for 100 ms timers
- List what to check when replacing a Mitsubishi FX with a WECON

Topics · LX3V and LX5V · WECON PLC Editor: free · X and Y in octal; no X8 or X9 · M, S, T, C, D devices · OUT T0 K50 = 5 s on a 100 ms timer · MOV vs DMOV and register pairs · FX look-alikes: WECON, Inovance H3U, Delta DVP

Includes the full lessons from our free course: Mitsubishi FX with GX Works2 · Devices: X, Y, M, D, T, C and the Special Relays (23 min of video) and Timers: 100 ms, 10 ms, 1 ms and Retentive (41 min of video)

Unitronics

PGP22 · Week 4 · 1 h module

Unitronics Vision, Samba and UniStream: PLC and HMI in one unit

YOU WILL LEARN TO

- Match each Unitronics family to its free software (UniLogic, VisiLogic, U90 Ladder)
- Map Siemens data (bits, 16-bit, 32-bit, real) to VisiLogic operands (MB, MI, ML, MF)
- Describe a VisiLogic project in which ladder and HMI screens share operands
- Explain the 2023 Unitronics attacks and the security habit they teach

Topics · UniStream (Built-in, Modular), Vision, Samba, Jazz and M91 · UniLogic, VisiLogic, U90 Ladder: all free · PLC and HMI in one unit · Operands I, O, MB, MI, ML, MF, SB, SI, T, C · No memory overlap between operand types · and 2 more



HMI, SCADA and DCS

In class you build Siemens and Delta HMIs and Siemens WinCC SCADA. These primers add the other panels and SCADA systems that come up most in Indian jobs, and the DCS platforms of India's process plants.

8 modules

8.3 h of study

weeks 2–3

HMI platforms · 3 modules, week 2

Each translated from what you already know in WinCC.

Weintek

PGH1 · Week 2 · 1 h module + 1.3 h of free-course video

HMI primer: Weintek EasyBuilder Pro



YOU WILL LEARN TO

- Name EasyBuilder Pro's device list, drivers, local addresses (LB, LW, RW) and window types, and say what each does
- Plan a first Weintek project step by step and translate each step from WinCC
- Map a PLC's addresses to Weintek objects, keeping request bits, feedback and screen-only data apart
- Answer the common interview questions on Weintek panels, including 'PLC no response'

Topics · EasyBuilder Pro V6.10.01: free download, offline and online simulation (cMT X online: 1 hour per run) · Device list and drivers: Delta DVP, Mitsubishi FX5U, Siemens S7-1200/1500, Modbus TCP/IP · and 6 more

Includes the full lessons from our free course: Weintek HMI with EasyBuilder Pro · Install, First Project, Download and Upload (22 min of video) and Objects, Graphics, Libraries and Templates (57 min of video)



PGH2 · Week 2 · 1 h module + 48 min of free-course video

HMI primer: Rockwell FactoryTalk View ME and FactoryTalk Optix



YOU WILL LEARN TO

- Explain the FactoryTalk Linx shortcut and its Design (Local) and Runtime (Target) tabs
- Write direct references for controller-scope, UDT-member and program-scope Logix tags
- Describe the .med, .mer and .apa files and the firmware-version rule for a .mer
- Compare View ME and FactoryTalk Optix, including their licences, with WinCC

Topics · View ME: paid; PanelView Plus 7, ME Station · Optix Studio Standard free, Pro 90-day trial; OptixPanel and PCs; NetLogic in C# · FactoryTalk Linx shortcuts: Design (Local) and Runtime (Target) · and 5 more

Includes the full lessons from our free courses: HMI Design and Programming · FactoryTalk View: Install, Tour, Activation, First ME Application (42 min of video); **FactoryTalk Optix HMI and Edge** · Studio Interface, Communication and the First Screen (6 min of video)



Pro-face

PGH3 · Week 2 · 1 h module + 1.1 h of free-course video

HMI primer: Mitsubishi GT Designer3 (GOT2000) and Pro-face GP-Pro EX



YOU WILL LEARN TO

- Set up a GT Designer3 project: GOT type, connected device and screen switching device
- Address Mitsubishi devices on a GOT correctly, including octal X and Y on an FX5
- Test screens and ladder together with GT Simulator3 and GX Simulator3
- Map the same machine to a Pro-face GP-Pro EX panel and explain what carries over

Topics · GT Works3 (paid), GT Designer3, GOT2000: GT27, GT25, GT23, GT21 · GT Simulator3 with GX Simulator3 · Connected device, PLC devices X, Y, M, D; FX5 octal numbering · GOT internal devices GB and GD · and 4 more

Includes the full lessons from our free courses: Mitsubishi GX Works3 · GOT2000 Screens with GT Designer3: Switches, Lamps, Transfer and Alarms (24 min of video); **Pro-face HMI with GP-Pro EX** · Pro-face, GP-Pro EX and the Hardware (12 min of video) and Switches, Keypads and Animation (28 min of video)

SCADA platforms · 3 modules, week 3

The SCADA systems that come up most in Indian postings.

AVEVA

PGS1 · Week 3 · 1 h module + 51 min of free-course video

SCADA primer: AVEVA InTouch HMI (Wonderware) 2023 R2



YOU WILL LEARN TO

- Describe Application Manager, WindowMaker, WindowViewer and the tagname dictionary
- Trace an I/O tag through its access name (node, application, topic) and item to the PLC
- Scale a raw PLC value with Min and Max Raw and EU, and size a small application against the 64-tag free mode
- Fault-find a frozen value from the server outwards and answer common InTouch interview questions

Topics · InTouch 2023 R2: WindowMaker needs no licence from Patch 01; 64 tags or fewer run free · Standalone InTouch versus InTouch inside System Platform · Tagname dictionary: memory, I/O and indirect tags; Min and Max EU and Raw · and 5 more

Includes the full lessons from our free course: Wonderware InTouch SCADA · Installing InTouch and Finding Your Way Around (17 min of video) and The Tag Database (34 min of video)

Ignition

PGS2 · Week 3 · 1 h module + 42 min of free-course video

SCADA primer: Ignition by Inductive Automation



YOU WILL LEARN TO

- Explain the gateway and Designer architecture and how Ignition is licensed and trialled
- Plan a first Ignition project: device connection, OPC tags, UDTs, a Perspective view, an alarm and history
- Choose between Vision and Perspective and translate WinCC terms into Ignition terms
- Size a transaction group's storage and answer common Ignition interview questions

Topics · Ignition 8.1 and 8.3: gateway, Designer, Designer Launcher · Trial in resettable 2-hour periods; Maker Edition free, non-commercial; licensed per gateway by module · and 6 more

Includes the full lessons from our free course: Ignition SCADA by Inductive Automation · What Ignition Is (21 min of video) and Tags (21 min of video)

Rockwell Automation

PGS3 · Week 3 · 1 h module + 1.2 h of free-course video

SCADA primer: FactoryTalk View SE and the wider SCADA landscape



YOU WILL LEARN TO

- Describe FactoryTalk View SE's Directory, HMI server, data server, alarm servers and clients
- Choose between local station, network station and network distributed applications
- Fault-find 'displays open, values missing' by following the data path
- Place iFIX, AVEVA Plant SCADA, WinCC OA and SIRIUS SCADA, and India's grid-SCADA indigenisation push, in the market

Topics · FactoryTalk View SE: paid server and client licences · FactoryTalk Directory, HMI server, data server (FactoryTalk Linx), Alarms and Events · Local station, network station, network distributed · and 5 more

Includes the full lessons from our free courses: FactoryTalk View Site Edition SCADA · Installation, Applications and Clients (22 min of video) and Controllers, Tags and Communications (43 min of video); **Citect SCADA and AVEVA Plant SCADA** · Install and First Project (4 min of video)

DCS · 2 modules, week 3

How a DCS differs from a PLC, and the platforms of refineries, power and process plants.



PGC1 · Week 3 · 1 h module + 27 min of free-course video

DCS architecture and DCS versus PLC



YOU WILL LEARN TO

- Draw a DCS architecture with controllers, I/O, redundant network, operator and engineering stations and historian
- Explain the modes of a PID block and the signals of a DCS motor block
- Compare DCS, PLC and SCADA by purpose and engineering model
- Explain redundancy, 1oo2 and 2oo3 voting, and why the SIS is kept separate

Topics · Controllers, I/O, control network, OWS, EWS, servers · One engineering database · Function blocks: PID, motor, valve · PID modes MAN, AUTO, CAS · Permissives, interlocks, run feedback, fail to start · and 3 more

Includes the full lesson from our free course: Emerson DeltaV DCS · What a DCS Is and How DeltaV Is Built (27 min of video)



PGC2 · Week 3 · 1.3 h module + 49 min of free-course video

DCS platforms in India, batch control and alarm management



YOU WILL LEARN TO

- Name the controller, operator station and engineering tools of six DCS platforms used in India
- Explain the ISA-88 physical and procedural models and the types of recipe
- Apply the ISA-18.2 alarm-rate benchmarks and describe the alarm management lifecycle
- Describe the features of a high-performance HMI

Topics · Yokogawa CENTUM VP: FCS, HIS, ENG · Honeywell Experion PKS and PlantCruise: C300, Control Builder · Emerson DeltaV: modules, CHARMS · ABB System 800xA: AC 800M · Siemens PCS 7 and PCS neo: AS 410, CFC, SFC · and 5 more

Includes the full lessons from our free courses: Yokogawa CENTUM VP DCS · Yokogawa DCS and CENTUM VP Architecture (27 min of video); **Honeywell Experion PKS DCS** · Experion PKS, the C300 and I/O (22 min of video)



SELF-STUDY · PART D

On-site skills

Protocols, drives, pneumatics and hydraulics, process plant, machine safety, robots, electrical design, documents and AI: what an automation engineer handles in the first year on site, ending with the interview self-test.

19 modules

29 h of study

weeks 3–4



PGX1 · Week 3 · 1.5 h module + 58 min of free-course video

Industrial protocols: Modbus, PROFIBUS, PROFINET, EtherNet/IP, EtherCAT and more



YOU WILL LEARN TO

- Convert a register number from a device manual (for example 40101) into the Modbus function code, start address and quantity a master must send
- Explain the differences between Modbus RTU, ASCII and TCP, and between PROFIBUS DP, PROFIBUS PA and PROFINET
- Say where EtherNet/IP, EtherCAT, CANopen, AS-i and IO-Link are used and how many devices each supports
- Estimate the poll time of a Modbus RTU line and list the first checks for a network fault

Topics · Network levels and the HMS Networks 2025 estimate of market shares · Modbus RTU, ASCII and TCP frames · Function codes 01, 02, 03, 04, 05, 06, 15, 16 · Register map 0x/1x/3x/4x and the 40001 offset · and 4 more

Includes the full lessons from our free course: Industrial Communication · Modbus RTU and TCP in Depth (19 min of video) and Industrial Ethernet: PROFINET, EtherNet/IP and Network Design (39 min of video)



PGX2 · Week 3 · 1 h module + 1.1 h of free-course video

OPC UA, MQTT, IIoT and OT security basics



YOU WILL LEARN TO

- Explain OPC DA versus OPC UA and how a client reads a PLC through an OPC UA server
- Describe an MQTT broker, topics, wildcards and QoS, and the roles of an edge device and a historian
- Place plant devices on the Purdue model and explain why PLCs must not sit on the office LAN
- Summarise IEC 62443 in a paragraph and apply five security habits on site

Topics · OPC Classic (DA, HDA, A&E) and OPC UA (IEC 62541) · OPC UA security, certificates and port 4840 · MQTT broker, topics, + and # wildcards, QoS, retained messages, last will · Sparkplug B · Edge devices and process historians · and 3 more

Includes the full lessons from our free courses: **AI for Industrial Automation** · Getting data out: OPC UA, MQTT and the unified namespace (45 min of video); **ICS Security Foundations** · The Purdue Model and Why OT Is Not IT (19 min of video)



PGX3 · Week 3 · 1.5 h module + 1.1 h of free-course video

VFDs 1: how a drive works and how to select one



YOU WILL LEARN TO

- Draw the rectifier, DC bus and IGBT inverter of a VFD and state the DC bus voltage on a 415 V supply
- Explain PWM and the V/f law, including boost at low speed and field weakening above 50 Hz
- Select a drive from the motor's full-load current and the duty (normal or heavy)
- Explain why six-pulse drives create harmonics and how reactors, multi-pulse rectifiers and active front ends reduce them

Topics · Synchronous speed $n = 120 f / p$ and slip · Rectifier, DC bus (about 560 V on 415 V) and IGBT inverter · PWM and carrier frequency · V/f control, boost and field weakening · Selection by FLA; normal versus heavy duty · and 3 more

Includes the full lessons from our free courses: **Variable Frequency Drives** · What a VFD Is and Which One to Buy (14 min of video); **Power Quality and Harmonics** · Sources of harmonics: drives, rectifiers, UPS, IT and LED loads, inverters (53 min of video)



PGX4 · Week 3 · 1.5 h module + 42 min of free-course video

VFDs 2: commissioning, braking, vector control and safe torque off



YOU WILL LEARN TO

- Commission a drive in the correct order, from nameplate entry to an uncoupled test run
- Set command and reference sources, ramps, limits and preset speeds, and calculate ramp times
- Choose between V/f, sensorless vector and closed-loop vector control, and between static and rotating autotune
- Select a braking method, estimate braking energy, and explain what STO does and does not do
- Diagnose the common drive fault families and compare servo and stepper motors

Topics · Commissioning order and the never-megger-through-a-drive rule · Command source versus reference source · Ramps, minimum and maximum frequency, current limit, motor overload · Preset speeds by binary inputs · and 5 more

Includes the full lessons from our free course: **Variable Frequency Drives** · Keypad and Basic Parameters (28 min of video) and Safety Functions, Fault Reset, Password and Reset (14 min of video)



PGX5 · Week 3 · 2 h module + 42 min of free-course video

Pneumatics: air supply, valves, cylinders and a PLC-controlled sequence



YOU WILL LEARN TO

- Trace compressed air from compressor to cylinder and explain the jobs of the aftercooler, dryer and FRL
- Read ISO 1219 valve symbols and choose between 3/2, 5/2 and 5/3 valves, monostable or bistable
- Calculate cylinder force and free air consumption
- Write the A+ B+ B- A- sequence as PLC steps using reed-switch feedback

Topics · Compressor, aftercooler, receiver, dryer, FRL · Gauge and absolute pressure · ISO 1219 symbols and ISO 5599 port numbers · 3/2, 5/2, 5/3 valves; monostable and bistable · Meter-out flow control; shuttle and dual-pressure valves · and 3 more

Includes the full lesson from our free course: **Industrial Pneumatics and Hydraulics** · Advanced Pneumatic Circuits and Sequencing (42 min of video)



PGX6 · Week 3 · 1 h module + 1.3 h of free-course video

Hydraulics: power unit, valves, cylinder force and speed, and safety



YOU WILL LEARN TO

- Name the parts of a hydraulic power unit and explain what sets system pressure
- Choose 4/3 valve centre types and load-holding valves for a job
- Calculate cylinder force, speed and pump power for both strokes
- List the stored-energy hazards and the PLC permissives and trips of a hydraulic system

Topics · Reservoir, pump, relief valve, filters, cooler, accumulator · Pump makes flow; load makes pressure · 4/3 valve centres: closed, tandem, float · Check, pilot-operated check and counterbalance valves · and 4 more

Includes the full lessons from our free course: Industrial Pneumatics and Hydraulics · Fluid Power Basics: Pneumatics versus Hydraulics (11 min of video) and Circuit Design Calculations (65 min of video)



PGX7 · Week 3 · 2 h module + 1.1 h of free-course video

Process plant and utilities: pumps, compressors, boilers, AHUs and water treatment



YOU WILL LEARN TO

- Compare centrifugal and positive-displacement pumps and calculate NPSH available
- Write start permissives and trips for a pump, including dry-run protection and standby changeover
- Explain three-element drum level control, boiler feed pump interlocks and the deaerator
- Describe an AHU start sequence and the instruments that protect an RO and DM water plant

Topics · Centrifugal versus positive-displacement pumps · NPSH and cavitation · Pump permissives, trips and dry-run protection · Duty and standby changeover · Compressors: reciprocating, screw, centrifugal; anti-surge · and 5 more

Includes the full lesson from our free course: Water and Wastewater Treatment Plant Automation · Pump stations: wet wells, set points and duty, standby and alternation (68 min of video)



PGX8 · Week 4 · 2 h module + 34 min of free-course video

Machine safety: risk assessment, PL and SIL, safety relays, E-stops and STO



YOU WILL LEARN TO

- Apply the ISO 12100 three-step method and find a PLr from S, F and P on the ISO 13849-1 risk graph
- Explain categories B to 4 and how PL a-e lines up with SIL 1-3
- Draw a dual-channel E-stop into a safety relay with a contactor feedback loop and explain each part
- Calculate a light-curtain safety distance and name stop categories 0, 1 and 2
- Explain what STO does and why it is not isolation

Topics · Solenoids, brakes and stack-light colours · ISO 12100 risk assessment and the three-step method · ISO 13849-1 risk graph, PL a-e, categories B-4 · IEC 62061 SIL and the PL-SIL bands · Safety relays and dual-channel E-stop wiring · and 4 more

Includes the full lesson from our free course: Allen-Bradley GuardLogix Safety and CompactLogix 5380 · Machinery Safety, Safebook 5 and Safety Relays (34 min of video)



PGX9 · Week 4 · 1.3 h module + 1.1 h of free-course video

Robotics 1: robot types, frames and the teach pendant



YOU WILL LEARN TO

- Match articulated, SCARA, delta, gantry and cobot robots to the jobs they suit
- Read payload, reach and repeatability on a datasheet and choose a robot for a cell
- Explain world, user and tool frames and the TCP
- Teach a pick-and-place with joint and linear moves, FINE and blended points

Topics · Articulated, SCARA, delta, gantry, cobot · Payload, reach, repeatability vs accuracy · FANUC, ABB, KUKA, Yaskawa, UR and their languages · World, user and tool frames; TCP · Teach pendant, T1 and the enabling switch · and 3 more

Includes the full lessons from our free courses: FANUC Robot Programming with the Teach Pendant and ROBOGUIDE · The FANUC Robot System and the Teach Pendant (44 min of video); **Yaskawa Motoman Robot Programming** · Jobs, Motion Types and Interpolation (23 min of video)



PGX10 · Week 4 · 1 h module + 51 min of free-course video

Robotics 2: PLC-robot handshake and cell safety



YOU WILL LEARN TO

- List the handshake signals between a PLC and a robot and say which side owns each
- Draw the handshake timing: program number, strobe, echo, start, busy, done
- Choose between hardwired I/O and fieldbus, and keep safety signals on safe channels
- Describe robot cell safeguards and the four collaborative operation methods

Topics · PLC as cell master · Program number, strobe, echo, start, busy, done, fault · Watchdog timers and zone signals · Hardwired I/O vs PROFINET and EtherNet/IP · PROFIsafe, CIP Safety for safety signals · and 3 more

Includes the full lessons from our free courses: KUKA Robot Programming with KUKA.Sim, smartPAD and WorkVisual · External Start from a PLC (41 min of video); Universal Robots Cobot Programming with PolyScope · Safety Configuration (10 min of video)



PGX11 · Week 4 · 2 h module + 34 min of free-course video

Electrical design 1: drawing sets, feeder sizing and the BOM



YOU WILL LEARN TO

- Name the sheets of an electrical drawing set and what each one answers
- Read IEC 81346 reference designations and device letters, and follow wire numbers
- Size the MPCB, contactor and cable for a 15 kW DOL motor feeder
- Size a 24 V DC SMPS and write a bill of materials

Topics · SLD, power, control and PLC I/O sheets · Terminal plan, GA and layout · IEC 81346: =, +, - and -Q, -K, -F, -M · Wire numbering and IEC 60204-1 colours · FLA from kW, pf and efficiency · MPCB, AC-3 contactor, OLR settings · and 3 more

Includes the full lesson from our free course: PLC and Electrical Troubleshooting for Maintenance Teams · Reading drawings and I/O lists in the field (34 min of video)



PGX12 · Week 4 · 2 h module + 45 min of free-course video

Electrical design 2: building the panel



YOU WILL LEARN TO

- Explain IEC 61439 design and routine verification and the ratings on a panel nameplate
- Describe forms of separation 1 to 4 and read IP codes
- Calculate panel heat load and size a filter fan or cooling unit
- Lay out a panel with power and signal segregation and size a busbar roughly
- Say what AutoCAD Electrical and EPLAN do: macros, automatic numbering and reports

Topics · IEC 61439 verification · Forms of separation 1-4 · IP ratings (IEC 60529) · Heat load: $k \times A \times \Delta T$, fan and AC sizing · Power and signal segregation, screening · Busbars and short-time withstand · AutoCAD Electrical basics · and 1 more

Includes the full lessons from our free course: Electrical Control Panel Design, Building and Testing · What a Control Panel Is (17 min of video) and Cooling, FAT and Design Data (28 min of video)



PGX13 · Week 4 · 2 h module + 47 min of free-course video

Industrial documentation 1: from URS to as-built



YOU WILL LEARN TO

- Place URS, FDS, design specs, FAT, SAT, commissioning, as-built and MOC on the project lifecycle
- Write a control narrative with setpoints, modes and failure behaviour
- Build an I/O list from a small P&ID and size the I/O cards with spares
- Read and use an instrument index, cable schedule, loop diagram, alarm list and cause-and-effect matrix

Topics · URS, FDS and design specifications · V-model: FAT and SAT · As-built and MOC · Control narrative · I/O list from a P&ID · Instrument index and cable schedule · Loop diagram · Alarm list (ISA-18.2) · Cause-and-effect matrix

Includes the full lesson from our free course: P&ID Reading and Instrumentation Design Documents · Instrument index and I/O list, with the DCS, SIS and fire and gas split (47 min of video)



PGX14 · Week 4 · 1.5 h module + 46 min of free-course video

Industrial documentation 2: FAT, SAT, loop checks and commissioning



YOU WILL LEARN TO

- Explain what FAT and SAT test, where, and against which document
- Write test protocol steps with expected results, including a five-point analog check
- Carry out and record a loop check, and diagnose a wrongly configured analog channel
- Record an IR test safely and classify punch-list items
- Distinguish cold and hot commissioning and list the handover dossier

Topics · FAT vs SAT · Test protocols and sign-off · Five-point analog check · Loop check procedure · IR test record · Punch list categories A, B, C · Cold vs hot commissioning · Handover dossier

Includes the full lessons from our free courses: **Instrument Calibration, Loop Checks and Commissioning** · Hot loop check, pre-commissioning and handover records (26 min of video); **Electrical and Instrumentation QA/QC Inspection** · Document control, punch lists and the handover dossier (20 min of video)



PGX15 · Week 4 · 1 h module + 1 h of free-course video

AI for automation engineers 1: AI assistants for PLC code and documents



YOU WILL LEARN TO

- Say what AI assistants are good for in automation work and what they must not be used for
- Write a prompt for a PLC function block that reads like a specification
- Review AI-generated Structured Text against its specification and find the faults
- Apply the four rules: simulate first, protect confidential material, review every line, keep safety review human

Topics · LLMs for ST/SCL drafts, comments, FDS text · Vendor copilots (Siemens Industrial Copilot) · Prompting with a specification · Reviewing generated code: scan order, missing rules · Test cases from the specification · and 2 more

Includes the full lesson from our free course: **AI for PLC Programming** · Generating SCL for TIA Portal with ChatGPT or Claude, then importing and compiling (60 min of video)



PGX16 · Week 4 · 1.5 h module + 56 min of free-course video

AI for automation engineers 2: plant data, predictive maintenance and vision



YOU WILL LEARN TO

- Read PLC tags into Python over OPC UA (asyncua) and Modbus TCP (pymodbus)
- Handle Modbus register offsets and scaling correctly
- Choose condition-monitoring signals and set baseline-based anomaly thresholds
- Describe a machine vision station for presence, OCR and defects, with a tracked reject

Topics · OPC UA vs Modbus TCP · asyncua and pymodbus code · Register offsets and scaling · pandas resample and rolling baseline · Vibration, current, temperature signals · ISO 10816-3 zones · Mean + 3σ thresholds and persistence · and 2 more

Includes the full lessons from our free courses: **Industrial Data with Python** · Modbus TCP from Python (47 min of video); **Machine Vision and Quality Inspection** · The anatomy of an inspection station (9 min of video)



PGX17 · Week 4 · 1.5 h module + 39 min of free-course video

Troubleshooting method: half-split, diagnostics, RCA and maintenance



YOU WILL LEARN TO

- Find a fault along a signal path with the half-split method
- Use online monitoring, cross-reference and the diagnostic buffer, and force only safely
- Carry out a why-why and 4M root cause analysis
- Compare breakdown, preventive and predictive maintenance and calculate MTBF, MTTR and availability
- Tell a troubleshooting story in STAR form

Topics · Field device to terminal to card to program · Half-split method · Online monitoring and cross-reference · Forcing safely · Diagnostic buffer · Why-why and 4M fishbone · Breakdown, preventive, predictive maintenance · and 3 more

Includes the full lessons from our free course: PLC and Electrical Troubleshooting for Maintenance Teams · The fault-finding method: from symptom to cause (22 min of video) and Fault reports, root cause and stopping repeat faults (17 min of video)



PGX18 · Week 4 · 45 min module + 43 min of free-course video

Reading datasheets and manuals



YOU WILL LEARN TO

- Extract ratings, conditions, I/O, safety and approvals from a drive datasheet
- Apply temperature, switching-frequency and altitude derating to a rating
- Find the right manual and the right page in it quickly

Topics · Ratings vs conditions · Mock drive datasheet · Parameter lists · Certifications: CE, UL, ATEX/IECEX, SIL/PL · Derating curves · Altitude derating · Types of manual · Searching a long manual

Includes the full lesson from our free course: P&ID Reading and Instrumentation Design Documents · Instrument datasheets: ISA 20 and IEC 60534 style forms (43 min of video)



PGX19 · Week 4 · 2 h module + 35 min of free-course video

Interview self-test: the most-asked questions, with model answers



YOU WILL LEARN TO

- Answer about 60 of the most frequently asked fresher automation questions aloud, each in under 30 seconds
- Calculate three-phase power, a star-delta overload setting and a 4–20 mA reading without notes
- Explain star-delta starting, protection devices and PLC vs DCS vs SCADA with a reason, not just a definition
- Handle the common follow-up questions that come after a standard answer
- Give ten HR answers that are honest and consistent with your CV

Topics · Power and protection: MCB, MCCB, ACB, trip curves, HRC fuse, RCCB, breaking capacity · Cables and earthing · Motors and starters: DOL, star-delta, overload at $0.58 \times \text{FLC}$ · Transformers, CTs and PTs · and 6 more

Includes the full lessons from our free courses: PLC and Electrical Troubleshooting for Maintenance Teams · Control circuits: contactors, overloads and interlocks (24 min of video); **Instrumentation for PLC Engineers** · The Other Half: Switches, Proximity Sensors and Encoders (11 min of video)

How you are assessed

WHAT	WHEN	FORMAT	PASS
 Recap quiz	After each classroom day	10 questions, 15 minutes, in the portal	60%
 Module quiz	Each self-study module	5 questions, 10 minutes; passing completes the module	60%
 Weekly test	Saturdays of weeks 1 to 3, online, camera on	20 questions from the whole week, 40 minutes, unlocked by your trainer; up to 2 attempts	70%
 Final theory	Last Saturday, online, camera on	50 questions from all 4 weeks, 75 minutes	75%
 Practicals and viva	Last Saturday, online, camera on	A Siemens task and a Delta task from a written specification, in the simulators; a short viva on your own two projects	Trainer sign-off

CERTIFICATE



EDWartens EPGDIA Course Certificate

Awarded when you pass the final exam, with your grade (Distinction 85%+, Merit 75–84%, Pass 70–74%) and online verification.

EPGDIA is an EDWartens course and its certificate is an EDWartens credential. It is not a university degree, and it is not a UGC- or AICTE-recognised qualification or a vendor certification.

From class to interviews

CAREER PREPARATION, IN CLASS

- ✓ Your automation CV, built and checked in the portal's Resume Builder
- ✓ LinkedIn, Naukri and Indeed profiles that recruiters' searches find
- ✓ Technical interview preparation on the questions employers ask most
- ✓ HR preparation and two recorded mock interviews with written feedback
- ✓ Two projects to talk through: a Siemens mixing tank with HMI and SCADA, and a Delta filling station with HMI, built in the simulators

JOB ASSURANCE

Job-assured, conditions apply

EPGDIA is a job-assured programme, conditions apply. From the week after you finish, the placement team shares your CV and arranges interviews, and keeps doing so until you receive an offer letter from an employer. To stay eligible you attend at least 90% of the live online class days, pass the final exam, complete the self-study modules, attend every interview arranged for you, and apply to at least five jobs a week. The job assurance is this placement support; it is not a refund. The full terms are published at edwartens.co.in/epgdia-terms.

WHO CAN JOIN



Graduates and diploma holders in electrical, electronics, instrumentation, mechanical or mechatronics engineering, and B.Sc graduates in related subjects, including final-year students and working professionals. You need a computer that can run the course software and a reliable internet connection. Admission follows a counselling session.

FEE

₹24,000 including GST

MARKET PRICE

₹59,000

EPGDIA FEE

₹24,000

including GST

YOU SAVE

₹35,000

59% below the market price

Market price is the published fee, including GST, of the comparable online programme: NIELIT Calicut, Executive PG Program in Industrial Automation System Design (IA100), 24 weeks online, ₹59,000 (₹50,000 + GST, 2025 prospectus). Checked 13 October 2026. It is not a price EDWartens has charged for EPGDIA.

Payment and refunds. Paid in full before the course starts; there are no instalments. If you withdraw before the course starts, the fee is refunded in full. Once the course has started, it is not refundable. Read the full terms:

edwartens.co.in/epgdia-terms

HOW TO JOIN

Three steps

1

Talk to admissions

Call or WhatsApp us for a counselling session, by phone or at our centre.

2

Set up your computer

Check it against "What you need" and install the course software before day 1.

3

Enrol

Ask for the next batch date, read the terms at edwartens.co.in/epgdia-terms and pay in full to enrol.



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