Using this catalogue

This catalogue offers more than just an overview of Schneider Electric’s scheduled automation training courses and workshops; it also contains valuable information and suggestions on:

- Recommended learning paths
- Minimum prerequisite knowledge
- Objectives of each course
- Topics covered
- Intended audience
- Length of course

In addition, each of our courses and workshops are grouped into categories and include a training legend to provide a quick visual overview of the essential skills and knowledge targeted for each course including the type, structure, level and focus of each training course.

<table>
<thead>
<tr>
<th>Course type</th>
<th>Course focus</th>
<th>Course objective and focus. Larger arrows indicate primary focus, while smaller arrows indicate that some time will be spent exploring this aspect during the course</th>
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</table>

### Course type

- Indicates a required module of our PlantStruxure™ certification program that provides expertise across the breadth of Schneider Electric solutions
- Indicates a required module for our SCADA Certification program, recognising those with extensive advanced experience integrating Schneider Electric SCADA solutions

### Course structure and level

- Course structure broken down into percentage practical and theory
- Course complexity or competency level. We recommend that you undertake the necessary prerequisite courses prior to attending

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### Course focus

- Course focuses on Electrical Energy and Power concepts
- Course focuses on topics relevant to the building industry

### PlantStruxure™ (SoCollaborative)

- PlantStruxure™ is a collaborative system that allows industrial and infrastructure companies to meet their automation needs and at the same time deliver on growing energy management requirements

### MachineStruxure™ (SoMachine)

- MachineStruxure™ is a preferred architectural implementation that has been tested, validated and documented to provide flexibility and optimisation using a single software solution for four hardware control platforms

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**Course Locations, General Terms and Conditions for Training, Course Booking Form**
Schneider Electric and Education

Together, we build a future for young people

Our background in the industrial and commercial sectors and our close collaboration with the educational world (teachers, students, school boards, school inspectors) show our willingness to share a global vision of techniques and technologies in the rapidly evolving world of electricity with technical, secondary and higher education.

Our social responsibility

We are committed to advancing the successful integration and training of young people. These actions are undertaken in many countries in which Schneider Electric is present and then relayed throughout the world, principally through its foundation.

Training solutions

Schneider Electric’s training solutions are continually evolving to ensure that they consistently deliver outstanding results. To make it easier for you, our automation training curriculum is now aligned to the PlantStruxure™ topography, with courses covering software and visualisation, control, networks and communications and safety and system tools.

Automation Training Services

Today, automation expertise is usually gained over years of experience on the job, with a significant time lag from hire date to useful productivity. However, acquiring the necessary technical skills through training ensures self-sufficiency; with many flow-on benefits, including: reduced downtime, increased safety and productivity and improved bottom line.

Improving and educating our future workforce is everyone’s responsibility. At Schneider Electric, we are committed to providing you with comprehensive knowledge of our products through high quality, interactive education that can immediately be applied in your workplace or institution.

Schneider Electric’s instructor-led courses are designed to empower your engineering and technical workforce with new skills. Automation Training courses and programs provide hands-on experience, leaving students feeling confident enough to design and configure their own systems and applications using Schneider Electric products and solutions.

Schneider Electric’s educational methodology has been proven effective through thousands of hours of instruction. Feedback received from customers confirms our success and drives continuous development of our training curriculum. With a team of qualified in-house product trainers in each state, backed up by technical and solution specialists with domain knowledge expertise, Schneider Electric’s educational program delivers the training solutions required in your business.

Our training services include online, standard in-class and customised training sessions. Schneider Electric courses are designed to teach fundamental, theoretical and practical knowledge about our products, systems and the application of technology. There is a strong emphasis on increasing your productivity and helping you better manage your lifecycle costs, enabling you to maintain your competitive advantage.

We offer a broad curriculum that can be tailored to meet your specific requirements. This allows us to adapt training according to your existing projects and create manuals specific to your needs. Whether it’s alignment with your shift requirements, expansion projects or legacy migration strategies, Schneider Electric has the educational services you require.

For more information on Automation Training courses or schedules call 1300 369 233 or visit: www.schneider-electric.com.au/training
Schneider Electric Australia offers a suite of Educational Services designed for end users, engineers, system integrators, equipment manufacturers, panel builders and educational establishments. Our courses and programs provide you with hands-on experience, leaving you feeling confident enough to design and configure your own systems and applications using Schneider Electric products and solutions.

Instructor-led Training
Schneider Electric’s Educational Services provides multi-level courses for end users, engineers and system integrators. All authorised courses have a limited number of attendees to ensure participating students get the most out of each course and access to an experienced Instructor. Each student is allocated with a PC which is pre-configured with relevant applications and other software needed throughout the course.

Workshops
We also offer a number of specialised workshops delivered by our technical and solution specialists. These workshops can be delivered at one of our local offices or on-site. Due to the specialist nature of these workshops they are available on request.

Custom On-site Training
Our Schneider Electric Certified Instructors can deliver any of our listed courses on-site at your facility. In addition, we also offer Site Specific Courses where you can include modules relevant to your organisation from any of our existing training courses. For certification purposes, an exam invigilation service can also be provided on-site. You should discuss your requirements with your local Educational Services Manager and see how this might best be accomplished.

Self-Paced Training
The SCADA curriculum of instructor-led courses is also available as Self-Paced Education Kits. This means you can study the material in your own time and at your own pace. These kits include all the materials you would receive if you attended an instructor-led course. The manuals are easy to follow and include exercises throughout to ensure you become familiar with the practical application of SCADA solutions.

Online Training
Our online education modules are designed to provide students with the entry level fundamentals required for our broader industrial automation topics. These free modules act as both a primer for further instructor-led In-Class Training Courses, as well as developing knowledge and expertise for anyone involved in the lifecycle support of Schneider Electric’s automation and control equipment.

Academic Program
The Academic Program is designed to enable universities, technical colleges and tertiary training centers the ability to get the most out of their software investment. This is achieved by providing students and faculties with access to the industrial automation software and courseware for a nominal fee. This program provides support for the registered faculty, which is a 12 hours a day, 5 days a week technical support service. Significant benefits for the institution, the instructor and the student makes this program exceptional value.

Educational Equipment
To support our Academic Program, we offer a complete catalogue of Schneider Electric Educational Equipment. For more information or to obtain a copy of the Educational Equipment catalogue visit www.schneider-electric.com.au/training or contact your local office on 1300 369 233.

Training Partners
Delivering on our promise to make energy safe, reliable, efficient, productive and green, Schneider Electric leverage training partners to provide your staff with experiential workshops that support our automation training curriculum. Training partners include FSE Global, Hirschmann and the University of Sydney School of Chemical and Biomolecular Engineering and W.A. Cromarty & Co.
Certified Training Programs

It can be difficult to compare the skills of one person to another, particularly when hiring new staff. Whilst university degrees indicate what an applicant is capable of, it does not measure an applicant’s skills with regards to designing and implementing industrial automation.

Schneider Electric’s certification programs address this issue. Much like any educational environment, participants in our certification programs will attend classes, study, sit exams and progressively earn recognition in key components of industrial automation.

We currently offer two types of certification:

- **SCADA certification**
  Provides a structured framework ensuring engineers have extensive experience integrating Schneider Electric SCADA solutions using CitectSCADA or Vijeo Citect.

- **PlantStruxure™ certification**
  Certifies technical experts in a wide range of subjects covering the breadth of our PlantStruxure offer; including networking and architecture, PLC and SCADA platforms, as well as Schneider Electric engineering tools.

### SCADA Certification Program

The SCADA certification program distinguishes and recognises engineers who have demonstrated their advanced expertise in the integration of Schneider Electric’s SCADA software solutions.

At the heart of the CEP are the SCE (SCADA Certified Engineer) exams, which provide a means of testing experienced systems engineers. They encompass tests for both CitectSCADA/Vijeo Citect knowledge as well as a range of related topics, such as PLC communications, Microsoft® Windows OS and networking.

The CitectSCADA Certified Professional (CSCP) and Vijeo Citect Certified Professional (VCSP) qualifications are introductory certifications which can be achieved as the first stage of the full CEP qualification. The CSCP will be awarded to those CEP candidates who achieve a pass on the current version configuration exam.

To obtain certification, students must pass the exam for each of the corresponding modules of the SCADA Certified Engineer Program (CEP):

- Module 1: Configuration
- Module 2: Cicode
- Module 3: Architecture and Redundancy
- Module 4: Customisation and Design
- Module 5: Diagnostics and Troubleshooting

The SCADA certification program is open to all customers, end users and partners.

### PlantStruxure™ Certification Program

The PlantStruxure CEP (Certified Engineer Program) distinguishes and recognises engineers skilled in the integration of Schneider Electric technology based automation projects.

With the certification, Schneider Electric acknowledges to the market that the PlantStruxure Certified Engineer masters the Schneider Electric system offer/ technology. The engineer should therefore be capable, to implement a given solution/application in the best possible way using Schneider Electric technology. Currently, the PlantStruxure™ Certified Engineer Program is available only to employees of active Schneider Electric Alliance partners.

The PlantStruxure certification is issued to engineers who have successfully demonstrated their expertise by passing an exam for each of the four key modules:

- Module 1: Schneider Electric Architectures and Networking
- Module 2: Unity Pro and PAC Platforms
- Module 3: Vijeo Citect - SCADA Platform
- Module 4: Engineering Tools

Modules 1 through 3 are mandatory and passing grades on each module are required to be eligible for certification. Module 4 contains two sub modules - one for UAG and one for sg². A passing grade on only one of these two modules is sufficient to be eligible for certification.

A candidate can choose to take either one or both of these. No additional credit is given to candidates passing both sub modules.

The PlantStruxure CEP is exclusively accessible to Schneider Electric Alliance partners.
Ampla Performance
Two-day Instructor-led Course

Course Description
The Ampla Performance training program introduces new Ampla users to the basic concepts and methods involved in configuring and using Ampla Studio and Production Analyst to model performance.

An additional one-day case study is optional.

Duration
Two-day instructor-led course, with lunch provided.

Audience
- IT Admin and Business System Engineers who use Ampla

Precursors
- It is essential that students are familiar with Microsoft® Windows operating systems

Ampla Performance Course Outline

Day 1 of 2
The first day introduces participants to the framework of Ampla and covers the following topics:
- Design Specifications
- Managing Projects
- Hierarchies
- Security
- Reporting Points
- Production Module

Day 2 of 2
On the second day, participants configure a performance solution for the case study introduced on day one. This entails the following topics:
- Downtime Module
- Metrics Module
- Production Analyst
- Web Client

Part number: SAUTR1208

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com
Ampla Advanced Configuration
Two-day Instructor-led Course

Course Description
The Ampla Advanced Configuration training program introduces "heavy-duty" Ampla users (those responsible for configuration, integration and troubleshooting, for example) to the most important configuration tasks they are likely to need in their day-to-day work. Each topic is discussed in the context of practical scenarios, with hands-on examples built in wherever this is feasible.

Duration
Two-day instructor-led course, with lunch provided.

Audience
- Experienced Ampla users
- Ampla Configurers
- Ampla Integrators

Precursors
- Students must have attended the Ampla Performance (SAUTR1208) course
- It is essential that students are familiar with Microsoft® Windows operating systems

Ampla Advanced Configuration Course Outline

Day 1 of 2
The first day introduces participants to Ampla configuration concepts and techniques relating to ISA95 modelling standards. Specific topics covered on this day include:
- Models
- Templates
- Master Data Synchronisation

Day 2 of 2
The second day introduces participants to the following advanced configuration techniques:
- Web Services
- Reporting Stores Procedure
- Code Items
- Diagnostics

Cicode Programming
Two-day Instructor-led Course

Course Description
Learn basic programming techniques using the Cicode programming language in this hands-on interactive course. The course is aimed at users who have had no programming experience. It is also useful for experienced users who wish to become familiar with Cicode.

Duration
Two-day instructor-led course, with lunch provided.

Audience
- Programmers and non-programmers who want to become familiar with the Cicode language
- CitectSCADA/ Vijeo Citect System Integrators and Designers
- Technical users who develop and maintain their installed CitectSCADA or Vijeo Citect and control systems

Precursors
- Students must be familiar with Microsoft® Windows operating systems
- It is also recommended that students attend the CitectSCADA/ Vijeo Citect Configuration (SAUTR1201) course prior to attending this course, or have a good working knowledge of CitectSCADA/ Vijeo Citect
- A general understanding of PLC communication is recommended

Cicode Programming Course Outline

Day 1 of 2
Day One provides an introduction to Cicode and demonstrates how Cicode may be used:
- Introduction to Cicode
- Variable operators used in Cicode
- The Cicode Editor
- Writing simple functions
- Converting and formatting Cicode variables
- Include files

Day 2 of 2
Day Two introduces further Cicode programming techniques:
- Structure programming techniques
- Conditional executors
- Return functions
- Arrays
- Debugging

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Email: training.courses@au.schneider-electric.com

Part number: SAUTR1203

Part number: SAUTR1209
CitectFacilities Configuration
Three-day Instructor-led Course (On Demand)

Course Description
Gain insight into CitectFacilities project design and become familiar with configuration
 techniques. This interactive course includes practice with plant control, data collection,
 trending and reporting.

Duration
Three-day (on demand) instructor-led course, with lunch provided.

Audience
• Those wanting an introduction to CitectFacilities
• First time CitectFacilities users, including facility managers and
  facility maintenance staff
• Technical users who maintain and improve CitectFacilities
  installations and control systems
• Building or site managers who want more than a basic
  understanding of CitectFacilities
• CitectFacilities system integrators and designers

Precursors
• It is essential that students are familiar with Microsoft® Windows operating systems
• Experience in PLC control system design and/or programming desirable

CitectFacilities Configuration Course Outline

Day 1 of 3
Day One involves introduction to the various components of
CitectFacilities, project design, communications and graphics:
• Introduction to CitectFacilities
• Citect explorer
• Citect graphics builder
• Cicode editor
• Managing projects
• Communications
• Graphics

Day 2 of 3
Day Two implements various areas of the project design, including
controls and alarms:
• Commands and controls
• Genies and super genies
• Popup pages
• Devices
• Events
• Accumulators
• Alarms

Day 3 of 3
Day Three continues with the project design elements of CitectFacilities
and introduces methods of reporting and monitoring the system:
• Trends
• Process Analyst
• Navigation
• Reports
• Security

CitectHistorian/ Vijeo Historian Configuration
Three-day Instructor-led Course

Course Description
CitectHistorian/ Vijeo Historian takes information gathered from your SCADA system and
makes it available for display in industry standard applications. This course is designed for
engineers who wish to configure and maintain a Historian project and managers who wish to
analyse the data in the client tools.

Duration
Three-day instructor-led course, with lunch provided.

Audience
• People who want detailed knowledge on how to set up and use
  CitectHistorian/ Vijeo Historian
• Managers who require knowledge of how to use CitectHistorian/
  Vijeo Historian client tools to access data
• CitectSCADA/ Vijeo Citect System Integrators and Designers

Precursors
• Solid experience in both Microsoft® Windows operating system
  and CitectSCADA/ Vijeo Citect is required

CitectHistorian/ Vijeo Historian Course Outline

Day 1 of 3
Day One provides an introduction to CitectHistorian/ Vijeo Historian and
its various components including:
• Data sources
• Historian at a glance
• Historian status
• Publish information
• Backfill manager

Day 2 of 3
Day Two extends on the topics of
day one and focuses on:
• Project management
• Tasks
• Events
• Excel client
• Web client

Day 3 of 3
Day Three extends the techniques studied in the first two days to
include reporting:
• Integrity checker
• Historian interpolation
• Process Analyst
• Reports deployment manager
• Energy reports
• Case study

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Email:    training.courses@au.schneider-electric.com

Part number:  SAUTR1211
Part number:  SAUTR1207
CitectSCADA/ Vijeo Citect Configuration
Three-day Instructor-led Course

Course Description
Gain insight into CitectSCADA/ Vijeo Citect project design and become familiar with configuration techniques. This interactive course includes practice with plant control, data collection, trending and reporting.

Duration
Three-day instructor-led course, with lunch provided.

Audience
- Those who want to become familiar with CitectSCADA/ Vijeo Citect project development techniques
- CitectSCADA/ Vijeo Citect users, including engineering staff, maintenance staff and plant supervisors
- Technical users who maintain and improve their installed CitectSCADA/ Vijeo Citect and control systems
- Managers who want more than a basic understanding of CitectSCADA/ Vijeo Citect
- CitectSCADA/ Vijeo Citect System Integrators and Designers

Precursors
- It is essential that students are familiar with Microsoft® Windows operating systems
- Experience in PLC control system design and/or programming is desirable

CitectSCADA/ Vijeo Citect Configuration Course Outline

Day 1 of 3
Day One involves introduction to the various components of CitectSCADA/ Vijeo Citect, project design, communications and graphics:
- Citect configuration environment
- Managing projects
- Tab style projects
- Include projects
- Setting up communications
- Graphics

Day 2 of 3
Day Two implements various areas of the CitectSCADA/ Vijeo Citect project design, including controls and alarms:
- Operator input
- Genies and popup pages
- Events
- Alarms

Day 3 of 3
Day Three continues with the project design elements of CitectSCADA/ Vijeo Citect and introduces methods of reporting and monitoring the system:
- Trends via the Process Analyst
- Page management
- Reports
- Accumulators
- Security

CitectSCADA/ Vijeo Citect Customisation and Design
Two-day Instructor-led Course

Course Description
This interactive course will give you insight into the principles behind customising CitectSCADA/ Vijeo Citect using custom templates, genies and popup pages. You will be using different programming environments, including Cicode and VBA. In addition, you will learn about exchanging data between CitectSCADA/ Vijeo Citect and other applications such as Microsoft® Access and Excel.

Duration
Three-day instructor-led course, with lunch provided.

Audience
- Advanced Programmers
- CitectSCADA/ Vijeo Citect System Integrators and Designers

Precursors
- Students must be familiar with Microsoft® Windows operating systems
- Students should also have attended the CitectSCADA/ Vijeo Citect Configuration course and either a Cicode Programming or CitectSCADA/ Vijeo Citect Architecture and Redundancy course or have at least six months experience in CitectSCADA/ Vijeo Citect design and programming

CitectSCADA/ Vijeo Citect Customisation and Design Course Outline

Day 1 of 2
Day One focuses on the details of creating customised pages in your CitectSCADA/ Vijeo Citect project:
- Custom templates
- Complex genies
- Genie forms
- Smart popup pages

Day 2 of 2
Day Two extends the material from Day One to improve the operation and management of graphics pages and incorporates some of the most commonly used advanced features including connecting to other applications:
- Cicode Forms
- CitectSCADA and ODBC
- ActiveX integration

Part number: SAUTR1201

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com

Part number: SAUTR1214

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com
CitectSCADA/ Vijeo Citect Upgrade

One-day Instructor-led Course (On Demand)

Course Description
Receive an update on CitectSCADA/ Vijeo Citect project design and configuration techniques, including how to implement an upgrade and view the latest product features.

Duration
One-day (on demand) instructor-led course, with lunch provided.

Audience
- Those who need to know about new product features in the latest version of CitectSCADA/ Vijeo Citect
- CitectSCADA/ Vijeo Citect System Integrators and Designers
- Technical users of existing CitectSCADA/ Vijeo Citect systems

Precursors
- Students must be familiar with Microsoft® Windows operating systems
- At least two years experience in CitectSCADA/ Vijeo Citect design is required
- This course is primarily intended for persons with strong experience in CitectSCADA V6.x

CitectSCADA Upgrade Course Outline
This course initially looks at how to install the latest versions of CitectSCADA/ Vijeo Citect and considers any issues with upgrading projects. Most of the time is then spent investigating the features of the new version and how to make best use of them:

- How to prepare for an upgrade
- System requirements
- How to upgrade the project
- Installing multiple versions of CitectSCADA/ Vijeo Citect
- Templates
- Graphics Enhancements
- Tag Extensions
- Server-Side Online Changes

MDT AutoSave Administrator Training

Two-day On Demand Workshop

Course Description
The AutoSave application is a change management system to which automates processes and procedures for real time modifications of both hardware device such as Programmable Process Controllers (PLCs) and software applications such as Vijeo Citect SCADA. The MDT AutoSave Administration workshop provides students with practical experience when implementing the AutoSave tool, including installation, configuration and application.

Duration
Two-day workshop, with lunch provided.

Audience
- This programs is aimed at both system administrators and engineers responsible for the lifecycle support and management of AutoSave implementation

Precursors
- Essential that attendee have a sound working knowledge of Microsoft® XP operating system.
- It’s is also desirable to have familiar knowledge of Microsoft® Windows server environments (Windows 2003 or Windows 2008); PLCs and SCADA devices

MDT AutoSave Administrator Training Course Outline

Day 1 of 2
Day One covers general configuration and installation procedures, including:

- MDT AutoSave overview
- MS Server Environment
- Overview of MS Server environments and available architectures
- Overview of IIS and SQL Server
- MS licensing requirements for AutoSave
- Installation, process and procedures
- Installation of application, server and client.
- Configurations of server and client
- Security/ Access
  - Developing access to the system. Adding and configuring users and levels and access.
  - Setting up system architecture ( folders/containers)

Day 2 of 2
Day Two Device extends the topics covered in Day One to include:

- Devices and Wires
  - Installation and Configuration of Devices
  - Devices and Wires implementation and application
  - Plug-In implementation and application
  - Universal Plug-in
  - Unity (PLC) Plug-in
  - Vijeo Citect Plug-in

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com
**PowerLogic SCADA**

Three-day On Demand Workshop

**Course Description**

PowerLogic SCADA software delivers a reliable, flexible and high performance monitoring and control solution designed to reduce outages and increase power efficiency. This course is designed to demonstrate how to implement PowerLogic SCADA in your power-critical enterprise to maximise the benefit from high performance power monitoring and control, reduced power outages and increased overall productivity.

**Duration**

Three-day workshop, with lunch provided.

**Audience**

- Those who want to become familiar with PowerLogic SCADA project development techniques
- PowerLogic SCADA users, including engineering staff, maintenance staff and plant supervisors
- Technical users who maintain and improve their installed PowerLogic SCADA and control systems
- PowerLogic SCADA System Integrators and Designers

**Precursors**

- CitectSCADA/ Vijeo Citect Configuration course
- Basic working knowledge of power control installations
- Understanding of Power Management devices

**PowerLogic SCADA Course Outline**

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<td>Day Two extends the material from day one to include:</td>
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**Vijeo Designer Software (HMI)**

An introduction to Human Machine Interface

One-day Instructor-led Course

**Course Description**

This course will provide an overview of the Vijeo Designer software and introduce the various components and operations available to you. We will discuss installation, configuration and implementation of HMI process alarms and data logging.

Participants are required to bring their own laptop to the training. A trial version of the Vijeo Designer software will be provided.

**Duration**

One-day Instructor-led training course with lunch provided.

**Audience**

- This course is intended for trades personnel, technicians and engineers who require a working knowledge of the Vijeo Designer programming environment, HMI range and connectivity

**Precursors**

- General understanding of Programmable Logic Controller (PLC) terminology and good PC knowledge are desirable but not necessary

**Vijeo Designer Software: Introduction to HMI Course Outline**

Whether machine manufacturer, operator or user, Vijeo Designer makes things easy for you at all stages of your HMI application life cycles. Learn how to build a complete project:

- HMI and PLC connectivity
- Vijeo Designer application development
- Install, run and navigate Vijeo Designer component
- Offline testing using the simulator
- Managing HMI remotely
- Trending and logging data
- Understand hardware capability
- Build an application starting with basic and simple features; progressing to more advanced levels
- Setup, connect and download the project using Ethernet or USB cable
- Setup basic trending and data logging

**Part number:** SAUTR14200

**Easy ways to register**

Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com

**Part number:** SAUTR14101

**Easy ways to register**

Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com
**Web Designer and ETG3000 Gateway Services**

**Course Description**
Configuration, web and HMI functions and services using Web Designer, this software tool enables you to configure web pages and web services embedded within the FactoryCast HMI and Gateway modules.

**Duration**
One-day workshop, with lunch provided.

**Audience**
This workshop is designed for maintenance and design engineers and OEMs, setting up remote access to PLC and end devices, using embedded web services.

**Precursors**
- General knowledge of PLC and web terminologies
- Knowledge of Schneider Electric industrial automation protocols and Ethernet services

**Web Designer Course Outline**
This course is designed to assist students in becoming proficient with Web Designer. Topics include:
- Discuss the features of the ETG3xxx Product line
- Overview of different possible architectures available using ETG3xxx products
- Transparent gateway, remote programming/setup for maintenance of devices application
- Embedded Web server, Remote Diagnostics, monitoring and control of Ethernet and serial devices
- Data acquisition and data processing using ETG3xxx
- Graphic monitoring and user Web pages using ETG3xxx
- Local data logging and remote database connectivity
- Calculation using arithmetic and logic scripting
- Unity Application browser via HMI Factory Cast module
- Alarming and Reporting via email

**Part number:** SAUTR1402

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**Vijeo Designer Software (HMI) Advanced Human Machine Interface**

**Course Description**
This progressive course will further develop your understanding of the Vijeo Designer software and introduce the various components and operations available to you. We will discuss advanced topics including scripting, data logging and resources.

**Duration**
One-day workshop with lunch provided.

**Audience**
This course is intended for engineers and technicians who require an in-depth knowledge of the Vijeo Designer programming environment, particularly in the areas of advanced functions (such as scripting, data logging and resources).

**Precursors**
- Vijeo Designer Software (HMI): Introduction to Human Machine Interface course (SAUTR1401)
- A good understanding of PLC terminology and PC knowledge

**Vijeo Designer Software: Advanced HMI Course Outline**
Whether machine manufacturer, operator or user, Vijeo Designer makes things easy for you at all stages of your HMI application lifecycles. Learn the concepts and implementation of:
- Scripting
- Advanced communications
- Exporting and importing data for re-use
- Using resources
- Advanced security
- Trending and data logging
- Generation of data with office tools
- Intelligent Data Service data gathering

**Part number:** SAUTR1405

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**Easy ways to register**
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- **Email:** training.courses@au.schneider-electric.com
Networks and Communication Courses

CitectSCADA/ Vijeo Citect Architecture and Redundancy
Two-day Instructor-led Course

Course Description
This newly updated course replaces CitectSCADA/ Vijeo Citect Networking. Gain advanced networking skills and knowledge, including how CitectSCADA/ Vijeo Citect uses a network, redundancy and distributed servers. Learn more about connecting to CitectSCADA/ Vijeo Citect remotely through the Web Client.

Duration
Two-day instructor-led course, with lunch provided.

Audience
- Network administrators who need to understand how CitectSCADA/ Vijeo Citect is configured on their network
- CitectSCADA/ Vijeo Citect System Integrators and Designers
- Technical users who maintain and improve their installed CitectSCADA/ Vijeo Citect and control systems

Precursors
- Students must be familiar with Microsoft® Windows operating systems
- It is also recommended that students have attended a CitectSCADA/ Vijeo Citect Configuration (SAUTR1201) course or have at least six months experience in CitectSCADA/ Vijeo Citect design

CitectSCADA/ Vijeo Citect Architecture & Redundancy Course Outline

Day 1 of 2
Day One focuses on the details of networking in CitectSCADA/ Vijeo Citect and the implementation of a fully networked and redundant system:
- Clustering
- Distributed processing
- Runtime system management
- Online changes
- Configuring a global display client

Day 2 of 2
Day Two incorporates some of the most commonly used advanced features of CitectSCADA/ Vijeo Citect, including remote communications:
- CitectSCADA/ Vijeo Citect redundancy
- Web Client
- System security

Part number: SAUTR1109

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com
CitectSCADA/ Vijeo Citect Diagnostics and Troubleshooting
One-day Instructor-led Course

Course Description
New in 2011, the Diagnostics and Troubleshooting course provides engineers with the skills and knowledge to help monitor the performance and health of their SCADA system, troubleshoot subtle problems both within a project and the interconnection between networked computers.

Duration
One-day Instructor-led course, with lunch provided.

Audience
- Engineers who are responsible for the design and maintenance of a SCADA network
- Network administrators who need to understand how SCADA is configured on their network
- CitectSCADA/ Vijeo Citect System Integrators and Designers
- Technical users who maintain and troubleshoot installed SCADA and control systems

Precursors
- Students must be familiar with Microsoft® Windows Operating Systems
- This advanced course assumes students have attended SCADA Configuration (SAUTR1201) and Architecture and Redundancy (SAUTR1109)

CitectSCADA/ Vijeo Citect Diagnostics and Troubleshooting Outline

Our SCADA software has been designed with flexibility in mind and our customers successfully use their SCADA software to handle large amounts of data, tags, alarms, reports, etc. This new course investigates the methods and tools available to system designers to help monitor the performance and health of their SCADA system:

- Cicode and the Citect Kernel
- Network management and the Kernel
- Publish subscribe model of communications
- System performance management
- Tag extensions
- System profile tools
- Communication analysis

High Availability Ethernet Networking and Redundancy
Three-day On Demand Workshop

Course Description
The objective of this course is to provide students with a working knowledge of industrial networking both in theory and implementation. At the end of this course, students will have an understanding of the range of ConneXium/ Hirschmann/ Ethernet based communication, network architecture structures, network redundancy, high availability and implementation options associated with automation control systems.

Duration
Three-day on demand workshop, with lunch provided.

Audience
- This course is aimed at engineering and technical staff involved in supporting modern Ethernet based industrial control systems

Precursors
- Students should be Competency with industrial automation concepts
- Understanding of PLC and PAC control systems concepts
- Familiar with basic networking terminology and Microsoft® Windows

High Availability Ethernet Networking and Redundancy Course Outline

Day 1 of 3
Day One introduces students to industrial networking concepts including:
- Defining industry terms
- Ethernet historical view
- Ethernet theory
- Topologies, OSI-layers, IP Addressing, TCP/IP properties, IP address and sub-netting, packets, VLANs, SNMP
- Multicasting
- Redundancy
- Port Mirroring
- Introduction to industrial communication protocols
- True Colour

Day 2 of 3
Day Two focuses on network building blocks and industrial application architectures:
- Introduction to Transceivers, Switches and Routers
- ConneXium/ Hirschmann switches/software
- Network architecture, options, design and implementation
- Networking architecture for PAC/PLC and Windows based client/server structure
- Industrial control network redundancy

Day 3 of 3
Day Three extends the concepts introduced earlier by tying the blocks together and diagnosing network problems:
- Introduction to network security - issues
- Media selection criteria
- Cabling overview
- Types, application, termination
- Troubleshooting principles and tools
### Industrial Communication

**Three-day On Demand Workshop**

**Course Description**
The objective of this course is to provide students with an understanding of the key communication fieldbuses and networks in the industrial market; including: Modbus, Profinet, CANopen, Ethernet TCP/IP (CIP/Modbus), FDT/DTM.

This course can be combined with Advantys STB Distributed I/O (SAUTR1404) to create a four-day course.

**Duration**
Three-day on demand workshop with lunch provided.

**Audience**
- Knowledge of industrial communication principles
- Ability to configure a PLC using Unity Pro

**Precursors**
- Knowledge of industrial communication principles
- Ability to configure a PLC using Unity Pro

#### Industrial Communication Course Outline

<table>
<thead>
<tr>
<th>Day 1 of 3</th>
<th>Day 2 of 3</th>
<th>Day 3 of 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Day One introduces principles of industrial communications including:</strong></td>
<td><strong>Day Two extends the material from day one to include:</strong></td>
<td><strong>Day Three continues to extend the concepts covered in the previous days by including:</strong></td>
</tr>
<tr>
<td>- What is communication</td>
<td>- Ethernet Modbus TCP/IP</td>
<td>- Modbus</td>
</tr>
<tr>
<td>- Mandatory communication items</td>
<td>- Basic Ethernet principles</td>
<td>- Protocols</td>
</tr>
<tr>
<td>- Industrial communication</td>
<td>- Networking with Windows</td>
<td>- IP address classes</td>
</tr>
<tr>
<td>- The OSI model</td>
<td>- Troubleshooting TCP/IP</td>
<td>- Network design</td>
</tr>
<tr>
<td>- Change and positioning of networks</td>
<td>- Ethernet Modbus TCP configuration with Unity Pro</td>
<td>- Device troubleshooting</td>
</tr>
<tr>
<td>- Topologies</td>
<td>- FDT/DTM</td>
<td>- Fieldbus discovery</td>
</tr>
<tr>
<td>- Layers</td>
<td>- I/O scanning with Unity Pro</td>
<td>- Device Profibus parameters</td>
</tr>
<tr>
<td>- Modbus</td>
<td>- CANopen configuration with Unity Pro</td>
<td>- Online diagnostics</td>
</tr>
<tr>
<td>- Programming communication with Unity PLCs</td>
<td>- BMXNOM0200 configuration</td>
<td>- DUP1 acyclic requests</td>
</tr>
</tbody>
</table>

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### Introduction to Instrumentation and Process Control (HART)

**Three-day On Demand Workshop**

**Course Description**
This practical instrumentation course will provide attendees with a basic background and the role of instrumentation in maintaining a stable and controlled process. The course is designed to provide maximum hands-on in order to provide attendees with practical experience in areas of instrument calibration, signal interpretation and control loop tuning.

**Duration**
Three-day on demand workshop, with lunch provided.

**Audience**
- This course is intended for technicians, electricians and electrical, mechanical and process engineers involved in plant maintenance

**Precursors**
- It is essential that students are familiar with Microsoft® Windows operating systems

#### Introduction to Instrumentation and Process Control Course Outline

<table>
<thead>
<tr>
<th>Day 1 of 3</th>
<th>Day 2 of 3</th>
<th>Day 3 of 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Day One introduces process control concepts, instrumentation and theory, including:</strong></td>
<td><strong>Day Two builds on the concepts covered in Day One, including:</strong></td>
<td><strong>Day Three continues to extend the concepts introduced on Days One and Two, including:</strong></td>
</tr>
<tr>
<td>- Speed Drives and Valves</td>
<td>- Understanding P, PI and PID control. The effect of using gain, integral and derivative time on the control output</td>
<td>- Understanding and designing instrumentation architectures based on the HART communication protocol</td>
</tr>
<tr>
<td>- Overview of signal conditioning</td>
<td>- Overview of signal conditioning</td>
<td>- Implementing HART-based field devices with our host system interface</td>
</tr>
<tr>
<td>- Calibration of measuring elements and a control element (Valve + I/P)</td>
<td>- Control elements - Variable Speed Drives and Valves</td>
<td>- Connecting to HART data and information sitting in a HART enabled device</td>
</tr>
<tr>
<td>- Tuning methods</td>
<td>- Process control overview, general terminology and types of control</td>
<td>- Introduction to asset management tools and calibration techniques</td>
</tr>
</tbody>
</table>

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### Easy ways to register

**Web:** www.schneider-electric.com.au/training
**Email:** training.courses@au.schneider-electric.com
Application of Custom Libraries
One-day On Demand Workshop

Course Description
This course is aimed at developing an understanding of validated process and control libraries available across existing engineering and visualisation products. This workshop objective is to provide practical experience in the configuration, implementation and recommended application use of process and device libraries.

Duration
One-day workshop, with lunch provided.

Audience
- This course is aimed at engineers who design, configure and install Modicon based process control solutions
- Attendees are expected to have a good knowledge of Citect SCADA/ Vijeo Citect and Unity Pro engineering systems
- Students must be familiar with Microsoft® Windows operating systems

Precursors
- Attendees are expected to have a good knowledge of Citect SCADA/ Vijeo Citect and Unity Pro engineering systems
- Students must be familiar with Microsoft® Windows operating systems

Application of Custom Libraries Course Outline
This one day workshop is customised to meet your individual requirements. The course is structured to include a combination of the following platforms and associated libraries:
- Unity Pro
  - Fuzzy control library
  - Flow control library
  - HVAC library
  - Predictive control library
  - TeSys library
  - Unity Pro/ UAG/ SoCollaborative v1.0/ Vijeo Citect
  - Enhance process library
  - Device and process library

Part number: SAUTR1303

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com
DNP3 and Telemetry Fundamentals with M340 RTU
One-day On Demand Workshop

Course Description
Designed to provide the fundamentals of the DNP3 protocol and show how to properly configure and implement DNP3 with M340 Remote Terminal Unit module such as master/client and slave/server, polling and report by exception and event management with time stamping.

Duration
One-day workshop, with lunch provided.

Audience
- This workshop is optimised to suit project, design, commissioning or maintenance engineers, or anyone who needs to implement DNP3 protocol with M340 RTU

Precursors
- You will need a background in the basics of general automation programming and engineering principles
- Basic understanding of PLC or RTU
- Basic understanding of TCP and Serial connectivity

DNP3 and Telemetry Fundamentals with M340 RTU Course Outline
This course introduces DNP3 including:
- M340 RTU offer presentation
- DNP3 Overview, characteristics, features and capabilities
- DNP3 Message and communication structure analysis
- Unsolicited Responses, report by exception concept and polling options
- DNP3 structure for DNP3 over TCP
- M340 RTU module and Unity Configuration
- Protocol configuration via Web pages
- M340 RTU and SCADA Communication

Machine Safety Essentials
Two-day Instructor-led Course (On Demand)

Course Description
The objective of this course is to explore and explain the benefits, requirements and obligations surrounding Plant and Machinery Safety. The workshop includes a combination of class room instruction followed by hands-on experience with tutorials and examples. Real life scenarios will be used in classroom discussion and debate, students are encouraged to bring documentation that can be used and shared with the class.

Duration
Two-day instructor-led course, with lunch provided.

Audience
- This course is designed to suit Systems Integrators, OEMs or anyone who needs to design, implement or maintain safety in and around Plant and Machinery

Precursors
- Students should complete the online “Fundamentals of Safety” course and have at least six months experience with safety control systems and understand general automation programming and engineering principles
- Additionally, students are expected to have familiarised themselves with the National Standard for Plant 2001

Machine Safety Essentials Course Outline
Day 1 of 2
Day One provides an overview safety fundamentals, then covers the following topics:
- Lifecycle Risk management for Plant and Machine (AS/NZS 4360:2004 Risk management)
- National OHS Strategy 2002-2012 (Safe Design)
- Principles of Safe Design
- The definition of “Reasonably Practicable”
- Reliability vs. Probability
- Safety System Principles - Hierarchy of Control
- Introducing Functional (ISO13849-1) and Qualitative (AS4024) Machine Safety Standards
- Safety Integrity Levels, Categories and Performance Levels. Selecting the appropriate method for your installation

Day 2 of 2
Day Two focuses on the practical use of the relevant standards pertaining to Plant and Machinery in Australia, including:
- Detailed comparison of AS4024 and ISO13849-1
- Measuring compliance against each standard
- True to life examples of managing, assessing and achieving compliance of a typical automated control system
- Prepared scenario allowing students to assess, design and validate a safety system, while applying legal and regulatory framework, reasonably practicable concepts, hierarchy of control and standards
- SISTEMA Workshop – Guided examples of how to use software evaluation tool for functional safety on machines
Quantum SIL3 Safety Implementation
Two-day On Demand Workshop

Course Description
The objective of this workshop is to be able to implement a functional safety application using the TUV function blocks and certified Quantum SIL3 hardware.

Participants are required to bring their own laptop, with Unity Pro already installed to the training.

Duration
Custom two-day on demand workshop, with lunch provided.

Audience
- This course is intended for end-users or system integrator project technical teams responsible for implementing Quantum SIL3 projects.

Precursors
- You should have a working knowledge of Unity
- Knowledge of Safety Norms is a plus but not mandatory
- Students should have attended Unity Pro Programming Course (SAUTR1002/3) and High Availability Ethernet Networking and Redundancy (SAUTR1103)

Quantum SIL3 Safety Implementation Course Outline

Day 1 of 2
Day One provides an introduction to functional safety including:

- Safety CPU Project and Architectures
- Hands on labs including:
  - Starting a project,
  - Maintenance mode
  - Safety mode
  - Application protection
  - Communication with UMA

Day 2 of 2
Day two extends the fundamentals covered on Day One to include:

- Safety I/O modules
- Hands on labs including:
  - High-availability blocks
  - Quantum Safety Hot Stand-by System
  - Hands-on Labs (S_ISBY_SWAP)

Solutions
- Fundamentals
- Intermediate
- Advanced

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com

Safety PLC Programming (Preventa XPS-MF)
Three-day Instructor-led Course (On Demand)

Course Description
This course provides students with an understanding of the difference between a normal and a Safety PLC (both Hardware and Software) and be able to create a simple application under XPSMFWIN. Learn how to allocate XPS resources to projects and configure safety related functions; set up, connect and download projects via Safe Ethernet; diagnose and troubleshoot the online XPS PLC.

Duration
Three-day instructor-led course, with lunch provided.

Audience
- Project and Design Engineers who design, write, commission and document Safety PLC user application programs

Precursors
- Good understanding of PLCs and industrial automation concepts.
- Knowledge of Safety Norms and considerations is a plus but not mandatory
- Competency in the Microsoft® Windows environments
- Students should have completed High Availability Ethernet Networking and Redundancy (SAUTR1103) and Machine Safety Essentials (SAUTR1011)

Safety PLC Programming (Preventa XPS-MF) Course Outline

Day 1 of 3
Day One focuses on the fundamentals of PLCs including terminology and programming:

- Introduction to functional safety
- IEC Terms
- Programming Principles and Terminology
- The XPSMF Safety PLC Family

Day 2 of 3
Day Two extends the material from Day One to include XPSMF Software implementation:

- Safety Inputs and Outputs cards
- Safe and Non Safe Communications
- Understand security and consistency checks
- Usage of function blocks
- Line monitoring function

Day 3 of 3
Day Three incorporates the skills learned into the programming and documentation of safety projects:

- Analog inputs management
- Safe Ethernet communication:
  - Remote I/O
  - PLC to PLC
- Modbus TCP/IP communication

Solutions
- Fundamentals
- Intermediate
- Advanced

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com
sg² Object Library and Configuration
Two-day On Demand Workshop

Course Description
This workshop will teach engineers how to quickly build integrated control system elements using our sg² tool to generate Unity Pro and Vijeo Citect projects. sg² includes a comprehensive library of pre-tested and validated objects for process control functions, Schneider Electric devices, integrated diagnostics, access control and traceability. It also provides automatic tag synchronisation between Unity Pro and Vijeo Citect.

Duration
Two-day workshop, with lunch provided.

Audience
• This workshop is intended for design engineers and system integrators, seeking to deploy Schneider Electric’s preferred implementation strategy for increased productivity; using our device library and system tool to deliver a pre-validated architecture

Precursors
• Previous experience with our system applications tools: Unity Pro, Vijeo Citect and OFS
• As well as general knowledge of Schneider Electric’s intelligent devices and communications protocols: Ethernet (Modbus TCP), CANopen and Modbus

Unity Application Generator (UAG) Software
Three-day On Demand Workshop

Course Description
This course covers how to design, build and maintain an automation control system (PLC and SCADA) using the related Unity Application Generator (UAG) software tools. Using reusable objects and automatic application generation, UAG can save up to 30% engineering time. UAG is a functional system development tool used by process engineers and system integrators and has been designed to comply with GAMP and S-88 standards.

Participants are required to bring their own laptop with at least 16GB of spare hard disk capacity as this training is conducted using virtual PCs.

Duration
Three-day course, with lunch provided.

Audience
• This course is intended for project/design engineers who design, configure and install Modicon Quantum or Premium hardware and who write, commission and document Unity Pro user application programs

Precursors
• Be familiar with Unity/ Concept or IEC-61131-3
• Be familiar with Vijeo Citect or SCADA development

sg² Object Library and Configuration Course Outline

Day 1 of 2
Day One provides an introduction to the sg² tool, including:
• Navigating the easy to use configuration interfaces to implement pre-tested and validated object libraries
• Process library
• Smart devices library
• Automatically synchronise Unity Pro and Vijeo Citect databases
• Communication and device objects

Day 2 of 2
Building on the fundamentals introduced on Day One, the second day focuses on:
• Process Control and Regulation
• Sequential Control
• Rich Object Features:
  ▪ Operation modes
  ▪ Bypass and rearm with individual manual interlock and/or alarm conditions
  ▪ Simulation
  ▪ Alarms (HH, H, L, LL, Trip, etc)
  ▪ Independent access control (role dependant)
  ▪ Event logging and traceability of system operation

Unity Application Generator (UAG) Course Outline

Day 1 of 3
Day One provides an introduction to the UAG system approach, including:
• System setup
• Customising UAG to enforce site standards
• System requirements
• Physical model
• Topological model
• Generating HMI

Day 2 of 3
Building on the fundamentals introduced on Day One, the second day focuses on:
• Vijeo Citect configuration
• Fieldbus
• PLC channels
• PLC-PLC communication
• Net Partner
• Generation
• DFB Unity Pro
• DFB Concept
• Structured data

Day 3 of 3
Day Three ties up the information presented in the first two days and applies the techniques to a specific project. Topics include:
• SCoD Editor
• Vijeo Citect graphics design
• Workflow to build an application
• Case study

Part number: SAUTR1302
Part number: SAUTR1301
Control Courses

Advantys STB Distributed I/O
One-day On Demand Workshop

Course Description
The objective of this course is to gain the knowledge and become expert with Advantys STB distributed I/O, learn the technical features and possibilities of an Advantys STB solution.

This course may be combined with Industrial Communication (SAUTR1102) to create a four-day workshop.

Duration
One-day workshop, with lunch provided.

Audience
▪ Product Application Engineers and Technical Service Engineers maintaining Advantys on-site
▪ Technical support engineer level 1 in automation field supporting Advantys STB and PLC

Precursors
▪ Good knowledge of the Advantys STB offer
▪ Good knowledge of configuring I/O scanning on a Schneider Electric PLC with Ethernet TCP/IP

Advantys STB Distributed I/O Course Outline
This course is designed to assist students in becoming proficient with Advantys STB Distributed I/O. Topics covered include:

▪ STB as a complete product integration solution
▪ Discover the entire range of the different modules and extensions
▪ Configuration and debugging a complete island on Ethernet TCP/IP network
▪ Importing and exporting variables from Advantys to Unity Pro
▪ Connecting TeSys U in Advantys island
▪ Assembly Rules and Restrictions
▪ CANopen Extension and enhanced products
▪ Run-Time Parameters and PKW
▪ Diagnostics and Feedback
▪ Reflex Actions

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com

Part number: SAUTR1404
Altivar 61/71 Controller Inside Card
Two-day On Demand Workshop

Course Description
The objective of this course is to explain and show how an Altivar Controller Inside based solution can benefit your application. Multiple sets of demonstration equipment are provided to ensure everyone gets to maximise hands on time.

Participants are required to bring their own laptop, preferably with serial ports to the training.

Duration
Two-day workshop, with lunch provided.

Audience
- This course is designed to suit Systems Integrators, OEMs or anyone who needs to implement advanced command and control of one or more VSDs for an application

Precursors
- It is also recommended that students have attended the Practical Aspects to Motor Control and Drives (SAUTR1009) course or have at least six months experience with VSDs

Part number: SAUTR1403

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com

Practical Aspects to Motor Control and Drives
Two-day Instructor-led Course

Course Description
This course introduces maintenance personnel to a greater understanding of motor theory and motor control concepts through soft starters and Variable Speed Drives (VSDs). It provides instruction in the basic operation of PowerSuite software in relation to ATV48 soft starters and ATV61/71 VSDs.

An optional one day custom course can be added to cover industrial communication cards. New in 2011 this course can also be delivered on ATV32 or ATS22 and combined with a one day optional extra for IMCC (TesysT/U SoMove).

Duration
Two-day instructor-led course, with lunch provided.

Audience
- Engineering and Maintenance personnel
- This course is a precursor for all students wishing to enrol in the Altivar 61/71 Controller Inside (CI) course (SAUTR1403)

Precursors
- Some PC and Microsoft® Windows experience desirable
- Good understanding of electrical and electronic concepts

Part number: SAUTR1009

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com

Day 1 of 2
Day 1 introduces the key components of Motor Controls and Drives, including:
- Understanding asynchronous motor design
- Starting techniques such as direct on line (DOL), soft starters and VSDs
- Basic loads with constant or variable torque
- Complex loads such as quadratic torque, hyperbolic torque or lifts and crane stationery torque
- Soft starter fundamentals
- VSD fundamentals
- Using the keypads on ATS48 and ATV61/71
- V/F motor control

Day 2 of 2
Day Two builds on the fundamentals of Day One and extends them to include:
- Flux vector motor control
- VSD applications and control strategies
- Installation and configuration of encoders
- EMC and harmonic basics
- EMC and harmonic mitigation techniques
- Motor braking techniques and configuration
- Using PowerSuite to program, store and retrieve configurations
- Installing and commissioning ATS48 and ATV61/71 controllers
- Basic system fault finding

Altivar 61/71 Controller Inside Course Outline
Day 1 of 2
Day One involves provides an overview of the Altivar Controller Inside card and ATV61/71, including:
- Introduction to the main features of the Altivar Controller Inside
- ATV61/71 on CANopen
- CoDeSys PS1131 Programming environment
- Standard architectures for the Controller Inside card and ATV61/71
- Implement applications in Controller Inside equipped ATV61/71s
- Command and control of a network of ATV61/71 on a CANopen network
- Practical exercises and examples to reinforce learning

Day 2 of 2
Day Two extends the concepts covered in Day One by adapting the software to suite your requirements, including:
- Implementing non standard functions
- Advanced applications using a number of CANopen networked ATV61/71s
- Understanding and using the CoDeSys programming environment
- In depth exploration of ATV Features such as channel management, data exchange, internal communication and profile management
SoMachine Configuration
Three-day On Demand Workshop

Course Description
This course instructs the student on the configuration, programming and operation of the SoMachine target platforms including M238, M258, IMC & XBT-GC. The SoMachine software package is used for program development. This is a hands-on technical training with many supporting exercises. Basic programming of the XBTGC HMI is also covered. This course assumes prior Vijeo Designer experience and does not focus on Vijeo Designer screen development.

Duration
Three-day workshop, with lunch provided.

Audience
- This course is intended for OEM engineers and technicians who are responsible for programming and configuring control and automation equipment

Precursors
- Students should have knowledge of PLC programming.
- Students should attend Industrial Communication (SAUTR1102) workshop prior to attending SoMachine Configuration
- SoMachine e-learning is strongly recommended

SoMachine Configuration Course Outline

Day 1 of 3
Day One provides an introduction to key concepts including:
- Introduction to SoMachine
- Product hardware overview
- New project creation
- Task basics
- POU program creation
- CoDeSys introduction
- Gateway configuration
- PLC simulator
- Variable declaration and data types, IEC 61131-3 languages

Day 2 of 3
Day Two further develops the fundamentals in Day One. Topics include:
- SoMachine visualisations
- CoDeSys operators and libraries
- Embedded I/O and I/O mapping
- Event driven tasks, online editing and Boot application
- Debugging tools, Trace editor and breakpoints

Day 3 of 3
Day Three introduces more advanced topics, including:
- Creation and integration for external devices
- HSC, Frequency generator configuration and operation
- Simple motion using PRO and CANopen
- PLCopen function block operation
- XBTGC project creation, SoMachine PLC to XBTGT project creation

Unity Pro Configuration
Two-day Instructor-led Course (On Demand)

Course Description
This course is designed to introduce the student to the fundamentals of the Unity programming package through a combination of lessons and hands-on exercises. Upon completion of this course students will be ready to start creating PLC applications using the Unity Pro Programming package. It provides an outline of the purpose of the PLC Simulator, Processor hardware platforms that are supported by Unity Pro and various communication protocols which Unity Pro employs.

Duration
Two-day instructor-led, with lunch provided.

Audience
- This course is designed to suit anyone that needs to develop their Unity Pro software skills

Precursors
- It is essential that students be familiar with Microsoft® Windows operating systems
- Students attending this course should have a fundamental understanding of PLCs and PLC programming. This course does not explain basic concepts but concentrates on using the Unity Pro programming tool

Unity Pro Configuration Course Outline

Day 1 of 2
Day One provides an overview Unity Pro, including:
- Software overview
- User creation and security
- PLC Configuration (Online)
- Variables and Variable Data types
- Unity Program structure (Sections and execution)
- Function Block Diagram and Function Library management
- Ladder Diagram and Structured Text

Day 2 of 2
Day Two extends the concepts covered in Day One including:
- Sequential Function Chart programming (SFC)
- Simulation and animation
- Derived Function Blocks (DFB)
- Derived Data Types
- Operator Screens

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com
Unity Pro Maintenance
with Quantum/ Premium/ M340
Three-day Instructor-led Course

Course Description
This course aims to provide participants with the knowledge to successfully maintain plant and systems controlled by Quantum/ Premium/ M340 PLCs which use Unity Pro programming software. All five IEC programming languages: Sequential Function Chart (SFC), Function Block Diagram (FBD), Ladder Diagram (LD), Structured Text (ST) and Instruction List (IL) are covered. Using Derived Function Blocks (DFB) and Derived Data Types (DDT) are also included. Peer-to-peer communications, along with I/O Scanning and global data base are also covered, as are basic troubleshooting procedures.

Duration
Three-day instructor-led course, with lunch provided.

Audience
• Electrical Maintenance Personnel
• Also suitable for programming engineers

Precursors
• Basic understanding of Programmable Logic Controllers
• Competency in using Microsoft® Windows

Unity Pro Maintenance Course Outline

Day 1 of 3
Day One focuses on PLC hardware and an introduction to Unity Pro:
• Setting up and wiring Quantum/ Premium/ M340 PLC hardware
• Introduction to basic Unity Pro procedures and to the Unity Pro PLC Simulator
• Project Settings and the Project Browser

Day 2 of 3
Day Two extends the material from Day One to include:
• Data Editor and Animation Tables
• Animating, editing and saving programs
• Searching and replacing objects
• Programming using Sequential Function Charts (SFC) language
• PLC Configuration screens
• PLC communications
• Connecting Unity Pro to PLCs using various media
• Download and upload projects
• Online diagnostics and troubleshooting

Day 3 of 3
Day Three combines the skills acquired during Days One and Two and includes:
• Function Block Diagram (FBD) scanning
• Using Derived Function Blocks (DFB) and Derived Data Types (DDT)
• IEC Ladder Diagram (LD) programming
• Introduction to Structured Text (ST) and Instruction List (IL) programming
• Archiving and Exporting Unity Pro Projects

Unity Pro Programming
(including hardware)
Four-day Instructor-led Course

Course Description
This course aims to provide participants with the knowledge to successfully design, configure, install, connect, program, commission and document Quantum/ Premium/ M340 PLC projects using Unity Pro programming software. The implications of IEC61131 are covered, as are all five IEC programming languages: Sequential Function Chart (SFC), Function Block Diagram (FBD), Ladder Diagram (LD), Structured Text (ST) and Instruction List (IL). Creating and using Derived Function Blocks (DFB) and Derived Data Types (DDT) are fully covered. Peer-to-peer communications, along with I/O Scanning and global data base are also included.

Duration
Four-day instructor-led course, with lunch provided.

Audience
• Project/ design/ programming engineers
• Electrical maintenance personnel

Precursors
• A sound understanding of PLCs is required
• Competency in using Microsoft® Windows

Unity Pro Programming (including hardware) Course Outline

Day 1 of 4
Day One focuses on PLC hardware and an introduction to Unity Pro:
• Quantum, Premium & M340 hardware
• Overview of the IEC61131 standard
• Introduction to Unity Pro procedures
• The Unity Pro PLC Simulator

Day 2 of 4
Day Two extends the material from Day One to include:
• The Data Editor and Animation Tables
• The Project Browser, and Settings
• Editing and saving Projects
• Searching and replacing objects
• Sequential Function Chart (SFC)

Day 3 of 4
Day Three continues to extend the material by including:
• Hardware and Comms configuration
• Downloading and uploading Projects
• OS Loader and Unity Loader
• Online diagnostics and troubleshooting

Day 4 of 4
Day Four combines the skills acquired during Days One to Three and includes:
• Function Block Diagram (FBD)
• Derived Function Blocks (DFB)
• Ladder Diagram (LD)
• Textual languages
• Archiving, exporting and printing

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com
Part number: SAUTR1003
Unity Pro Programming (Software only)
Three-day Instructor-led Course

Course Description
This course aims to provide participants with the knowledge to successfully design, configure, install, connect, program, commission and document Quantum/ Premium/ M340 PLC projects using Unity Pro programming software. The implications of IEC61131 are covered, as are all five IEC programming languages: Sequential Function Chart (SFC), Function Block Diagram (FBD), Ladder Diagram (LD), Structured Text (ST) and Instruction List (IL). Creating and using Derived Function Blocks (DFB) and Derived Data Types (DDT) are fully covered. Peer-to-peer communications, along with I/O Scanning and global data base are also included.

Duration
Three-day instructor-led course, with lunch provided.

Audience
- Project/ design/ programming engineers
- Electrical maintenance personnel

Precursors
- A sound understanding of PLCs is required
- Competency in using Microsoft® Windows

Unity Pro Programming (Software only) Course Outline

Day 1 of 3
Day One focuses on PLC hardware and an introduction to Unity Pro:
- Planning and design
- Security editor
- Toolbars - option settings
- Configuration
- Variables and data editor
- Derived Data Types (DDT)

Day 2 of 3
Day Two extends the material from Day One to include configuration:
- OS Loader
- Create, download, animate
- Search and replace
- Sequential function chart (SFC)

Day 3 of 3
Day Three continues to extend the material with alternate configuration options:
- Function block diagram (FBD)
- Derived function blocks (DFB)
- Ladder Diagram (LD)
- Text languages
- Operator screens

Part number: SAUTR1002

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com
Altivar 61/71 Controller Inside Card

Two-day On Demand Workshop

Course Description
The objective of this course is to explain and show how an Altivar Controller Inside based solution can benefit your application. Multiple sets of demonstration equipment are provided to ensure everyone gets to maximise hands on time.

Participants are required to bring their own laptop, preferably with serial ports to the training.

Duration
Two-day workshop, with lunch provided.

Audience
- This course is designed to suit Systems Integrators, OEMs or anyone who needs to implement advanced command and control of one or more VSDs for an application

Precursors
- You will need a background in the basics of general automation programming and VSD basics
- It is also recommended that students have attended the Practical Aspects to Motor Control and Drives (SAUTR1009) course or have at least six months experience with VSDs

Part number: SAUTR1403

Easy ways to register
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Email: training.courses@au.schneider-electric.com

Low End Control (LEC) Configuration - Twido and Zelio

Three-day On Demand Workshop

Course Description
This workshop is designed to provide the student with hands-on experience with the Schneider Electric Twido and Zelio Series System Platforms. It covers system hardware, system configuration and programming of both platforms, as well as Project and System Debug and Diagnostics. Programming techniques range from Basic Programming Functions through the most Advanced Programming Functions available on both Platforms.

Duration
Three-day workshop, with lunch provided.

Audience
- This workshop is intended for non-advanced users of PLCs, which may include trades personnel, electricians, technicians and plant engineers who require a working knowledge of PLCs

Precursors
- Students attending this course should have a fundamental understanding of electromechanical controls, basic relay ladder diagrams and basic PC application operation

Part number: SAUTR1407

Easy ways to register
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Email: training.courses@au.schneider-electric.com

Altivar 61/71 Controller Inside Course Outline

Day 1 of 2
Day One involves provides an overview of the Altivar Controller Inside card and ATV61/71, including:
- Introduction to the main features of the Altivar Controller Inside
- ATV61/71 on CANopen
- CoDeSys PS1131 Programming environment
- Standard architectures for the Controller Inside card and ATV61/71
- Implement applications in Controller Inside equipped ATV61/71s
- Command and control of a network of ATV61/71 on a CANopen network
- Practical exercises and examples to reinforce learning

Day 2 of 2
Day Two extends the concepts covered in Day One by adapting the software to suite your requirements. Including:
- Implementing non standard functions
- Advanced applications using a number of CANopen networked ATV61/71s
- Understanding and using the CoDeSys programming environment
- In depth exploration of ATV Features such as channel management, data exchange, internal communication and profile management

Low End Control (LEC) Configuration Course Outline

Day 1 of 3
Day One provides an overview of the basic operation of PLCs, including:
- Relevant PLC theory and terminology
- Various working components of a PLC system
- How PLCs operate
- PLC system design principles
- Twido Controller Range

Day 2 of 3
Day Two extends the concepts covered in Day One, including:
- How and where to apply PLC technology TwidoSoft
- Hardware Configuration
- Data types
- Memory Layout
- Creation of programs in both Ladder and List languages
- Operation Modes
- Remote I/Os
- Peer Controllers and AS-Interface

Day 3 of 3
Day Three addresses programming and troubleshooting concepts including:
- Application adjustment and debugging
- Diagnostics and troubleshooting
- Introduction to communication principles
- Twido communications
- Using the Zelio module
- Zelio Soft
- FBG programming
**Machine Safety Essentials**

*Two-day Instructor-led Course (On Demand)*

**Course Description**
The objective of this course is to explore and explain the benefits, requirements and obligations surrounding Plant and Machinery Safety. The workshop includes a combination of class room instruction followed by hands-on experience with tutorials and examples. Real life scenarios will be used in classroom discussion and debate, students are encouraged to bring documentation that can be used and shared with the class.

**Duration**
Two-day instructor-led course, with lunch provided.

**Audience**
- This course is designed to suit Systems Integrators, OEMs or anyone who needs to design, implement or maintain safety in and around Plant and Machinery
- Students should complete the online “Fundamentals of Safety” course and have at least six months experience with safety control systems and understand general automation programming and engineering principles
- Additionally, students are expected to have familiarised themselves with the National Standard for Plant 2001

**Precursors**
- Students should complete the online “Fundamentals of Safety” course and have at least six months experience with safety control systems and understand general automation programming and engineering principles
- Additionally, students are expected to have familiarised themselves with the National Standard for Plant 2001

**Machine Safety Essentials Course Outline**

**Day 1 of 2**
Day One provides an overview safety fundamentals, then covers the following topics:
- Lifecycle Risk management for Plant and Machine (AS/NZS 4360:2004 Risk management)
- National OHS Strategy 2002-2012 (Safe Design)
- Principles of Safe Design
- The definition of “Reasonably Practicable”
- Reliability vs. Probability
- Safety System Principles - Hierarchy of Control
- Introducing Functional (ISO13849-1) and Qualitative (AS4022-6) Machine Safety Standards
- Safety Integrity Levels, Categories and Performance Levels. Selecting the appropriate method for your installation

**Day 2 of 2**
Day Two focuses on the practical use of the relevant standards pertaining to Plant and Machinery in Australia, including:
- Detailed comparison of AS4024 and ISO13849-1
- Measuring compliance against each standard
- True to life examples of managing, assessing and achieving compliance of a typical automated control system
- Prepared scenario allowing students to assess, design and validate a safety system, while applying legal and regulatory framework, reasonably practicable concepts, hierarchy of control and standards
- SISTEMA Workshop – Guided examples of how to use software evaluation tool for functional safety on machines

**Practical Aspects to Motor Control and Drives**

*Two-day Instructor-led Course*

**Course Description**
This course introduces maintenance personnel to a greater understanding of motor theory and motor control concepts through soft starters and Variable Speed Drives (VSDs). It provides instruction in the basic operation of PowerSuite software in relation to ATV48 soft starters and ATV61/71 VSDs.

An optional one day custom course can be added to cover industrial communication cards. New in 2011 this course can also be delivered on ATV32 or ATS22 and combined with a one day optional extra for IMCC (TesysT/U SoMove).

**Duration**
Two-day instructor-led course, with lunch provided.

**Audience**
- Engineering and Maintenance personnel
- This course is a precursor for all students wishing to enrol in the Altivar 61/71 Controller Inside (CI) course (SAUR1403)

**Precursors**
- Some PC and Microsoft® Windows experience desirable
- Good understanding of electrical and electronic concepts

**Practical Aspects to Motor Control and Drives Course Outline**

**Day 1 of 2**
Day One introduces the key components of Motor Controls and Drives, including:
- Understanding asynchronous motor design
- Starting techniques such as direct on line (DOL), soft starters and VSDs
- Basic loads with constant or variable torque
- Complex loads such as quadratic torque, hyperbolic torque or lifts and crane stationery torque
- Soft starter fundamentals
- VSD fundamentals
- Using the keypads on ATS48 and ATV61/71 controllers
- V/F motor control

**Day 2 of 2**
Day Two builds on the fundamentals of Day One and extends them to include:
- Flux vector motor control
- VSD applications and control strategies
- Installation and configuration of encoders
- EMC and Harmonic basics
- EMC and harmonic mitigation techniques
- Motor braking techniques and configuration
- Using PowerSuite to program, store and retrieve configurations
- Installing and commissioning ATS48 and ATV61/71 controllers
- Basic system taut finding
Safety PLC Programming (Preventa XPS-MF)

Three-day Instructor-led Course (On Demand)

Course Description
This course provides students with an understanding of the difference between a normal and a Safety PLC (both Hardware and Software) and be able to create a simple application under XPSMFWIN. Learn how to allocate XPS resources to projects and configure safety related functions; set up, connect and download projects via Safe Ethernet; diagnose and troubleshoot the online XPS PLC.

Duration
Three-day instructor-led course, with lunch provided.

Audience
- Project and Design Engineers who design, write, commission and document Safety PLC user application programs

Precursors
- Good understanding of PLCs and industrial automation concepts.
- Knowledge of Safety Norms and considerations is a plus but not mandatory
- Competency in the Microsoft® Windows environments
- Students should have completed High Availability Ethernet Networking and Redundancy (SAUTR1103) and Machine Safety Essentials (SAUTR1011)

SoMachine Configuration

Three-day On Demand Workshop

Course Description
This course instructs the student on the configuration, programming and operation of the SoMachine target platforms including M238, M258, IMC & XBT-GC. The SoMachine software package is used for program development. This is a hands-on technical training with many supporting exercises. Basic programming of the XBTGC HMI is also covered. This course assumes prior Vijeo Designer experience and does not focus on Vijeo Designer screen development.

Duration
Three-day workshop, with lunch provided.

Audience
- This course is intended for OEM engineers and technicians who are responsible for programming and configuring control and automation equipment

Precursors
- Students should have knowledge of PLC programming.
- Students should attend Industrial Communication (SAUTR1102) workshop prior to attending SoMachine Configuration
- SoMachine e-learning is strongly recommended

Safety PLC Programming (Preventa XPS-MF) Course Outline

Day 1 of 3
Day One focuses on the fundamentals of PLCs including terminology and programming:
- Introduction to functional safety
- IEC Terms
- Programming Principles and Terminology
- The XPSMF Safety PLC Family
- Safety Inputs and Outputs cards
- Safety and Non Safe Communications
- Understand security and consistency checks
- Usage of function blocks
- Line monitoring function

Day 2 of 3
Day Two extends the material from Day One to include XPSMF Software implementation:
- Analog inputs management
- Safe Ethernet communication:
- Remote I/O
- PLC to PLC
- Modbus TCP/IP communication

Day 3 of 3
Day Three incorporates the skills learned into the programming and documentation of safety projects:
- Introduction to SoMachine
- Product hardware overview
- New project creation
- Task basics
- PLC program creation
- CoDeSys introduction
- Gateway configuration
- PLC simulator
- Variable declaration and data types, IEC 61131-3 languages

SoMachine Configuration Course Outline

Day 1 of 3
Day One provides an introduction to key concepts including:
- Introduction to SoMachine
- Product hardware overview
- New project creation
- Task basics
- PLC program creation
- CoDeSys introduction
- Gateway configuration
- PLC simulator
- Variable declaration and data types, IEC 61131-3 languages

Day 2 of 3
Day Two further develops the fundamentals in Day One. Topics include:
- SoMachine visualisations
- CoDeSys operators and libraries
- Embedded I/O and I/O mapping
- Event driven tasks, online editing and Boot application
- Debugging tools, Trace editor and breakpoints

Day 3 of 3
Day Three introduces more advanced topics, including:
- Creation and integration for external devices
- HSC, Frequency generator configuration and operation
- Simple motion using PRO and CANopen
- PLCopen function block operation
- XBTGC project creation, SoMachine PLC to XBTGT project creation

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**Vijeo Designer Software (HMI)**

**An introduction to Human Machine Interface**

One-day Instructor-led Course

**Course Description**
This course will provide an overview of the Vijeo Designer software and introduce the various components and operations available to you. We will discuss installation, configuration and implementation of HMI process alarms and data logging.

Participants are required to bring their own laptop to the training. A trial version of the Vijeo Designer software will be provided.

**Duration**
One-day instructor-led training course with lunch provided.

**Audience**
- This course is intended for trades personnel, technicians and engineers who require a working knowledge of the Vijeo Designer programming environment, HMI range and connectivity.

**Precursors**
- General understanding of Programmable Logic Controller (PLC) terminology and good PC knowledge are desirable but not necessary.

**Vijeo Designer Software: Introduction to HMI Course Outline**

Whether machine manufacturer, operator or user, Vijeo Designer makes things easy for you at all stages of your HMI application life cycles. Learn how to build a complete project:

- HMI and PLC connectivity
- Vijeo Designer application development
- Install, run and navigate Vijeo Designer component
- Offline testing using the simulator
- Managing HMI remotely
- Trending and logging data
- Understand hardware capability
- Build an application starting with basic and simple features; progressing to more advanced levels
- Setup, connect and download the project using Ethernet or USB cable
- Setup basic trending and data logging

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**Vijeo Designer Software (HMI)**

**Advanced Human Machine Interface**

One-day On Demand Workshop

**Course Description**
This progressive course will further develop your understanding of the Vijeo Designer software and introduce the various components and operations available to you. We will discuss advanced topics including scripting, data logging and resources.

Participants are required to bring their own laptop to the training. A trial version of Vijeo Designer software will be provided.

**Duration**
One-day workshop with lunch provided.

**Audience**
- This course is intended for engineers and technicians who require an in-depth knowledge of the Vijeo Designer programming environment, particularly in the areas of advanced functions (such as scripting, data logging and resources).

**Precursors**
- Vijeo Designer Software (HMI): Introduction to Human Machine Interface course (SAUTR1401)
- A good understanding of PLC terminology and PC knowledge.

**Vijeo Designer Software: Advanced HMI Course Outline**

Whether machine manufacturer, operator or user, Vijeo Designer makes things easy for you at all stages of your HMI application lifecycles. Learn the concepts and implementation of:

- Scripting
- Advanced communications
- Exporting and importing data for re-use
- Using resources
- Advanced security
- Trending and data logging
- Generation of data with office tools
- Intelligent Data Service data gathering

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**Part number:** SAUTR1401

**Part number:** SAUTR1405

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Web Designer and ETG3000 Gateway Services
One-day On Demand Workshop

Course Description
Configuration, web and HMI functions and services using Web Designer, this software tool enables you to configure web pages and web services embedded within the FactoryCast HMI and Gateway modules.

Duration
One-day workshop, with lunch provided.

Audience
- This workshop is designed for maintenance and design engineers and OEMs, setting up remote access to PLC and end devices, using embedded web services

Precursors
- General knowledge of PLC and web terminologies
- Knowledge of Schneider Electric industrial automation protocols and Ethernet services

Web Designer Course Outline
This course is designed to assist students in becoming proficient with Web Designer. Topics include:
- Discuss the features of the ETG3xxx Product line
- Overview of different possible architectures available using ETG3xxx products
- Transparent gateway, remote programming/setup for maintenance of devices application
- Embedded Web server Remote Diagnostics, monitoring and control of Ethernet and serial devices
- Data acquisition and data processing using ETG3xxx
- Graphic monitoring and user Web pages using ETG3xxx
- Local data logging and remote database connectivity
- Calculation using arithmetic and logic scripting
- Unity Application browser via HMI Factory Cast module
- Alarming and Reporting via email

Part number: SAUTR1402

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com
984 Ladder Logic for Modicon Quantum PLCs

One-day On Demand Workshop

Course Description
The course covers the basic principles of PLCs including the major components of a PLC system, identifying the PLC I/O map, troubleshooting and maintaining the Modicon Quantum Automation Controller and associated hardware, configuring a PLC. Students will also program basic 984 ladder logic functions, transfer and save applications on PC and utilise the system diagnostics for maintenance and fault finding.

Duration
One-day workshop, with lunch provided.

Audience
• Maintenance Skill Trades personnel who need to support the production environment equipped with Modicon Quantum PLCs.

Precursors
• Attendees should have a basic understanding of industrial controls, or completed Introduction to Industrial Automation (online)
• Competency in using Microsoft® Windows
• Programming experience with the 984 ladder logic instruction set and other software packages such as Modsoft, ProWORX® Plus/NXT, would be helpful

984 Ladder Logic for Quantum Course Outline

This one day course focuses on 984 Ladder Logic for the Modicon Quantum series of PLCs and includes:
• Principles of programmable control
• Overview of PLC hardware
• Configuring of applications
• PLC system theory
• Ladder Programming language and methodology
• Practical examples and applications
• PLC troubleshooting techniques
• Overview of Modicon networking

All four of the following programming software packages are available to be used with this class.
• Unity 984LL (2011)
• ProWORX® 32
• Modsoft
• Concept 984LL

Note: (IEC Languages will NOT be covered in this class)

Concept Maintenance (with Quantum/ Momentum PLC Hardware)

Three-day Instructor-led Course (On Demand)

Course Description
This course aims to provide participants with the knowledge to successfully maintain plant and systems controlled by Quantum/ Momentum PLCs which use Concept programming software. All five IEC programming languages: Sequential Function Chart (SFC), Function Block Diagram (FBD), Ladder Diagram (LD), Structured Text (ST) and Instruction List (IL) are covered. Using Derived Function Blocks (DFB) and Derived Data Types (DDT) are also included. Peer-to-peer communications, along with I/O Scanning and global data base are also covered, as are basic troubleshooting procedures.

Duration
Three-day (on demand) instructor-led course, with lunch provided.

Audience
• Electrical maintenance personnel
• Programming engineers

Precursors
• Basic understanding of PLCs is required
• Competency in using Microsoft® Windows

Concept Maintenance Course Outline

Day 1 of 3
Day One focuses on PLC hardware and an introduction to Concept:
• Setting up and wiring Quantum/ Momentum PLC hardware
• Introduction to basic Concept procedures and to the Concept PLC Simulators
• The Project Browser and Preferences

Day 2 of 3
Day Two extends the material from Day One to include:
• Variables Editor and Reference Data Editor (RDE) templates
• Animating, editing and saving programs
• Searching and replacing objects
• PLC communication overview

Day 3 of 3
Day Three combines the skills acquired during Days One and Two and includes:
• Function Block Diagram (FBD) scanning
• Using Derived Function Blocks (DFB) and Derived Data Types (DDT)
• IEC Ladder Diagram (LD) programming
• Introduction to Structured Text (ST) and to Instruction List (IL) programming
• Archiving and exporting Concept projects

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com

Part number: SAUTR1012
**Concept Programming (with Quantum/ Momentum PLC Hardware)**

Four-day Instructor-led Course (On Demand)

**Course Description**
This course aims to provide participants with the knowledge to successfully design, configure, install, connect, program, commission and document Quantum/ Momentum PLC projects. The implications of IEC61131 are covered, as are all five IEC programming languages: Sequential Function Chart (SFC), Function Block Diagram (FBD), Ladder Diagram (LD), Structured Text (ST) and Instruction List (IL). The course also includes creating and using Derived Function Blocks (DFB) and Derived Data Types (DDT); plus peer-to-peer communications, along with I/O scanning and global data base.

**Duration**
Four-day (on demand) instructor-led course, with lunch provided.

**Audience**
- Project/ design/ programming engineers
- Electrical maintenance personnel

**Precursors**
- A sound understanding of PLCs is required
- Competency in using Microsoft® Windows

**Concept Programming Course Outline**

**Day 1 of 4**
Day One focuses on PLC hardware and an introduction to Concept including:
- Selection, layout, installation, wiring and configuring Quantum and Momentum PLC hardware
- Overview of the IEC61131 standard
- Introduction to basic Concept procedures and the Concept PLC Simulators

**Day 2 of 4**
Day Two extends the material from Day One to include:
- The Variables Editor, Reference Data Editor templates and the Project Browser.
- Animation editing and saving programs.
- Searching and replacing objects.
- Programming using the Sequential Function Chart (SFC) language

**Day 3 of 4**
Day Three continues to extend the material by including:
- Configuring digital and analogue I/O racks, Ethernet, peer-to-peer communications, I/O scanning and the global data base
- Using media to connect Concept to selected PLCs
- Download and upload Concept projects
- Update PLC modules with Concept’s ExecLoader
- Online diagnostics and troubleshooting

**Day 4 of 4**
Day Four incorporates further basic and advanced functions, including:
- Function Block Diagram (FBD) scanning
- Derived Function Blocks (DFB) and Macros
- Creating and using Derived Data Types (DDT)
- IEC Ladder Diagram (LD) and non-IEC 984 Ladder Logic programming
- Introduction to Structured Text (ST) and Instruction List (IL) programming
- Printing, archiving and exporting projects

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**PL7 Pro Programming and Maintenance**

Three-day Instructor-led Course (On Demand)

**Course Description**
This course aims to provide participants with the knowledge to successfully set up and operate TSX37 Micro and TSX57 Premium PLC hardware. The four programming languages Grafcet G7, Ladder Diagram (LD), Structured Text (ST) and Instruction List (IL) are covered, as are Standard Function Blocks (SFB), Derived Function Blocks (DFB) and Operate blocks. Communications using various methods are demonstrated. Various PL7 Pro troubleshooting techniques are also included.

**Duration**
Three-day (on demand) instructor-led course, with lunch provided.

**Audience**
- Electrical engineers
- Electrical maintenance personnel

**Precursors**
- Basic understanding of PLCs is required
- Competency in using Microsoft® Windows

**PL7 Pro Programming and Maintenance Course Outline**

**Day 1 of 3**
Day One focuses on PLC hardware and an introduction to PL7 Pro:
- Overview of TSX37 Micro and TSX57 Premium hardware
- The PL7 Pro I/O address numbering system
- Overview of the use of PL7 Pro’s Project Browser
- Introduction to basic PL7 Pro procedures
- Downloading the PL7 Pro application to the PLC and running it

**Day 2 of 3**
Day Two extends the material from Day One to include:
- Setting up PL7 Pro and the Access Security Manager
- Application Browser
- Programming using the G7 Grafcet language
- Programming comparison and operate blocks
- Configuring digital and analogue I/O racks, Ethernet, peer-to-peer communications and I/O scanning
- Connecting PL7 Pro to Micro/ Premium PLCs via various media
- Download and upload projects
- Online diagnostics and troubleshooting

**Day 3 of 3**
Day Three combines the skills acquired during Days One and Two and includes:
- Introduction to Structured Text (ST) and to Instruction List (IL) programming
- Setting up and programming communications
- Creating and using Derived Function Blocks (DFB)
- An overview of the PL7 Pro Operating System (OS) Loader
- Application-specific modules
- An overview of PRODYNE Run-Time Screens
- PL7 Pro Documentation

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**Easy ways to register**
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PowerLogic SCADA
Three-day On Demand Workshop

Course Description
PowerLogic SCADA software delivers a reliable, flexible and high performance monitoring and control solution designed to reduce outages and increase power efficiency. This course is designed to demonstrate how to implement PowerLogic SCADA in your power critical enterprise to maximise the benefit from high performance power monitoring and control, reduced power outages and increased overall productivity.

Duration
Three-day workshop, with lunch provided.

Audience
▪ Those who want to become familiar with PowerLogic SCADA project development techniques
▪ PowerLogic SCADA users, including engineering staff, maintenance staff and plant supervisors
▪ Technical users who maintain and improve their installed PowerLogic SCADA and control systems
▪ PowerLogic SCADA System Integrators and Designers

Precursors
▪ CitectSCADA/ Vijeo Citect Configuration course (SAUTR1201)
▪ Basic working knowledge of power control installations
▪ Understanding of Power Management devices

PowerLogic SCADA Course Outline

Day 1 of 3
Day One introduces PowerLogic SCADA including:
▪ Preparing for a PowerLogic SCADA installation
▪ System requirements
▪ Architecture and security
▪ Project Design
▪ Restoring and backing up projects
▪ Assigning and controlling user privileges
▪ Adding the cluster, network address and servers
▪ Adding, editing or deleting a project

Day 2 of 3
Day Two extends the material from day one to include:
▪ Configuration tools
▪ Profile editor
▪ Creating a new device and profile
▪ Profile wizard
▪ Runtime design and environment
▪ Using Genies and Super Genies

Day 3 of 3
Day Three continues to extend the concepts covered in the previous days by including:
▪ Configuration tools
▪ Adding third party devices
▪ Adding multiple devices
▪ Runtime design and environment
▪ Alarms and events
▪ Waveform to alarm linkage
▪ Special Waveform tags
▪ Project colour change tool
▪ Connect to power devices
▪ Process Analyst and Trends

Easy ways to register
Web: www.schneider-electric.com.au/training
Email: training.courses@au.schneider-electric.com

Part number: SAUTR4200
**Course Description**
The objective of this course is to provide the skills to install the relay base unit and operation modules. Students will be able to navigate and set the relay from the front face and through the software; learn the difference between 10I/Is and TMS setting mode. Program the relay using equation editor and troubleshoot and diagnose relay for internal and external faults.

**Duration**
Two-day workshop, with lunch provided.

**Audience**
- This course is intended for those responsible for setting, commissioning and operating electrical installations with Sepam Protection Relays

**Precursors**
- A good working knowledge of protection principles
- Basic understanding of electrical networks and switchgear

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**Sepam Configuration: Series 20, 40 and 80 Course Outline**

**Day 1 of 2**
Day One provides an overview of Sepam series 20, 40 and 80, including:

- Installation of:
  - Base unit
  - Additional modules
  - CT connections
  - PT connections communication
  - User Machine Interface (UMI):
    - Basic, advanced and mimic

**Day 2 of 2**
Day Two extends the concepts covered in Day One by adding configuration software, including:

- SFT2841 setting and configuration software:
  - Offline and online mode measurements
  - Selected protection functions
  - Equation editor
  - Maintenance

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**Sepam 80 Customisation Course Outline**
This training course looks at customising Sepam 80 using Logipam control logic. Topics include:

- Creating and operating Logipam programs
- Program resources
- Variables
- Objects
- Simulator
- Testing and debugging
- Links between
  - SFT2885 and SFT2841
- Parameters and matrix
  - Linking Logipam program into the Sepam relay

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**Easy ways to register**
Web: www.schneider-electric.com.au/training
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Further information

Course Locations

All of our courses, unless otherwise indicated, commence at 8.45am with registrations, for a 9.00am start. Our classes finish at 5.00pm with breaks for lunch plus morning and afternoon refreshments. Should you have any special dietary requirements please advise at the time of booking.

New South Wales - Head Office
Trainer: David Mackay
78 Waterloo Road
North Ryde NSW 2113  +61 2 9125 8474

New South Wales - Newcastle
Contact: Brad Hosken
76 Munibung Road
Cardiff NSW 2285  +61 2 4941 1211

Queensland - Tradecoast
Contact: Derrin Drew
80 Schneider Road
Eagle Farm, QLD 4009  +61 7 3635 7841

South Australia - Gepps Cross
Contact: Andy Deakin
33-37 Port Wakefield Road,
Gepps Cross, SA 5094  +61 8 8161 0300

Tasmania - Launceston
Contact: W.A. Cromarty & Co
79 Howick Street
Launceston, TAS 7250  +61 3 6344 9110

Victoria - Mount Waverley
Trainers: Glen Brown and John Keys
87 Ricketts Road
Mt Waverley, VIC 3149  +61 3 9558 9876

Western Australia - Balcatta
Trainer: Doug Connell
26 Gibberd Road
Balcatta WA 6021  +61 8 9344 2727

Regional Locations
Our regional locations are carefully selected to meet demand. Contact us for more information on 1300 369 233 or training.courses@au.schneider-electric.com.
General Terms and Conditions for Training

Applications for enrolment
Registration, together with payment, should be made 10 working days prior to the course commencement date via online at www.schneider-electric.com.au/training or via the methods specified on the Course Enrolment Form.
Confirmation of acceptance will be made 10 working days prior to the course commencement date by email, fax or mail.
Waiting list - If a class is full, you will be placed on the waiting list or offered a later course. In any event, you will be kept notified of your status.

Tuition Fee
Course fees are payable in advance. A cheque, credit card or purchase order made out to Schneider Electric for the full amount of tuition must accompany the enrolment application.
The supplying of all course writing materials, all relevant technical reference materials, lunches, refreshments, and the use of training equipment are included in the tuition fee.
All course fees are inclusive of GST. Prices are shown in Australian dollars and are subject to change without notice. Provisional reservations without payment are subject to cancellation ten working days prior to the course commencement date in order to accommodate those on the waiting list.

Requests for cancellation of a confirmed registration, or transferring to another course, must be made in writing and acknowledged by Schneider Electric. Full refund of course fees will be given for cancellations received up to 10 working days prior to course commencement. The full course fee will be charged for cancellations received within 10 working days prior to course commencement.
Suitably qualified replacements are welcome, provided they register prior to commencement on the first day of the course.

Endorsement and public statements
You must not directly or indirectly represent that you are endorsed, certified, sponsored, approved or affiliated with Schneider Electric in any way as a result of attending any training provided by Schneider Electric.

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Course Booking Form
To book one of Schneider Electric’s Automation Training courses simply complete this form and send a scanned copy to training.courses@au.schneider-electric.com.

Alternatively, visit www.schneider-electric.com.au/training and complete the booking request form online.

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- VISA
- Diners
- AMEX

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Comments