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Turn knowledge into reliable power

Worldwide catalog
Editorial

In times of crisis, when budgets are limited and the efficiency of your installation is key, how can you leverage your performance?

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<tr>
<td>e-Learning:</td>
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<td>Learn what you need at your own pace</td>
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<td>Discover the 3D Digital training</td>
<td>23</td>
</tr>
<tr>
<td>A new and innovative learning method</td>
<td></td>
</tr>
</tbody>
</table>
Trainees from +90 countries

+20 training facilities in Electrical Distribution & Network on full-size equipment

+5,000 active e-Learning trainees registered

Schneider Electric Technical Institute
Worldwide training footprint
Dedicated training teams close to you

A complete range of courses with

4 different modes:
- distance learning: e-Learning modules
- face-to-face exchange: classroom sessions
- practical skills: hands-on training
- an innovative mode: 3D Digital training

+200 training programmes in Electrical Distribution & Network are available on:
- Safety & Risk Prevention
- Technical fundamentals
- Operation & Maintenance

and tailored courses
The right equipment + The right competencies = Operational excellence
Customer benefits
- Optimize your team’s competencies
- Enhance the performance of your electrical installations.

200 programmes
on Safety & Risk Prevention, Fundamentals, Operation & Maintenance

- Training on full-size equipment
- Dedicated training centers
- Experienced instructors, experts in technical & educational fields.

Our customers expect us to provide training that takes into account their environment, their specific characteristics and their regulations. It is a real challenge to strike a balance between theory, practical application and the right level of technical information to offer training that is adapted to day-to-day requirements. Schneider Electric uses its internationally renowned expertise in design, installation and maintenance, including training experience that has proven its worth for many years now.
Instant Return On Investment

The effectiveness of training is measured in terms of staff operational performance in their day-to-day work. The practical part of our training programmes is based on hands-on applications that enable participants to make immediate use of their newly acquired knowledge, know-how and skills when they return to their jobs. e-Learning solution is accessible online, anywhere in the world.

Expert instructors who make the difference

Schneider Electric instructors are all experienced in their expertise domains. In addition they know how to teach. Their expertise is completed with a solid experience in the field, allowing them to be in close contact with trainee concerns and expectations.

Training for each specific need

You may be in the public sector or industry, a novice or very experienced in electrical installations. You could be looking for training in electrical safety, installation design, or operation and maintenance. Whatever your situation, Schneider Electric Technical Institute has a training course to meet your needs among the 70 standard programmes listed in this global catalogue, or in the country catalogues.

Individuals can register for one or more courses, to participate in an open, blended training course, taught on our premises on set dates. These courses are modular, which means they are perfectly adaptable to your company’s own training programme. However, when a same company, or department, registers a group of people, we suggest you take a tailored course. This enables us to organize a customized programme taught either in our premises or yours (requiring that equipment be de-energized) on the date of your choice.

Schneider Electric Technical Institute also offers qualifying training as part of a Competency Management process (see pages 18 - 19).

Benefits of onsite training:

- Significant cost savings relative to staff accommodation and travel expenses.
- Staff can stay on-site instead of travelling.
- Training schedules can be adapted to fit your organization, e.g. scheduled downtime.
- Possibility of customizing the course to your installation, to meet your specific needs.

Customers testimonies

“Thanks to the equipment and simulation models, we were able to recreate our actual operating environment. I could test and use, and even make a mistake, safely! These are ideal ways to gain new competencies.”

“I compared the cost of the course with the costs induced by insufficient competences: failures, production down time, waste of time, impact on corporate image, etc. I needed no further convincing.”

“The course met my expectations. You will solve problems using the knowledge from the course. A direct consequence was the money savings. I would be happy to recommend Schneider Training Center to others as well as participating in other courses.”
Schneider Electric Technical Institute offers a suite of courses adapted to each single and specific need. Over 200 programmes are available on Safety & Risk Prevention, Technical fundamentals and Operation & Maintenance. Sessions can be either conducted in our dedicated training centers or on your own premises, based on different modes:

For distance learning

- **e-Learning modules**: Learn what you need, at your own pace. e-Learning is one great solution to train on a specific technical topic your remote teams located all around the globe and allow them to optimize their training time.

- **Schneider Electric has adopted the blended teaching approach, combining e-Learning programmes and face-to-face training to gain from the richness of their complementary benefits.**

For face-to-face exchange

- **Classroom sessions**: Benefit of the experienced knowledge of our trainers in technical fundamentals topics. From generic topics as electrical basis to design installation, including cybersecurity and power system protection.

- **Hands-on training**: Attend specialised workshops on full-size equipment delivered by our technical expert trainers.

  - These courses have a limited number of attendees to ensure them get the most out of the hands-on training and to practice.

  - This is perfectly suitable to learn as in your daily activity parameters, to apply easily what you’ve learned when you get back to work.

For practical skills

For an innovative mode

- **3D Digital training**: Discover a new training mode to learn differently thanks to the virtual reality immersive technology!

  - Discover the product like in reality, with additional benefits: enter inside, see the mechanism in action and see what you can’t never see in reality. Go deeper and improve your skills doing what you can’t do in reality!

  - Learn & enjoy!

Training programmes are available as per the catalog but can be customized on request. Please feel free to contact us for any specific requests.
Do you need to increase the competence level of your team?
Do you have a new product or solution to implement for which your team needs new skills?
Do you need a very specific and custom training path?

Our best-in-class training programme, Competency Management, is made for you. It covers such areas as safety, networks, Medium Voltage, Transformers or automation protection relays. This extremely in-depth programme is designed to train people to the highest skill level. It also serves to boost employees’ career development programmes, and contribute to improve their technical expertise.

How it works

It starts with an assessment of existing skills, to define company needs in term of competency profiles, to determine the trainees knowledge level and to scale the adaptation of the training modules. If there is a great difference in the basic knowledge of the trainees, training can be split into different levels.

Next, the training programme is prepared:
selection of the appropriate course materials, adaptation, if necessary, to the specific customer needs and even the creation of new course material to fit your company needs. Once contents and schedule are agreed, training can start. Generally, this will start with e-Learning modules to give a common core of fundamental knowledge.

Then the training continues with classrooms session and hands-on courses.
They can be conducted in our different training centers, depending on the equipment required for practical work and your wishes. The training also includes interspersed assessments to evaluate the participants’ progress and their achievement of objectives.

Part of the training path takes place at the customer’s site. This gives the trainees the opportunity to learn and practice on their own equipment and in their own working environment.

The Competency Management training ends with a final assessment.
This reflects the progress made by the participants and the achievement of the programme objectives.

The Competency Certificate will be delivered to the participant only after successful completion of the programme and the final assessment.
This document is not just an attendance certificate, but a real Competency Certificate that guarantees the trainee has acquired the skills required.
Teaching
Learning & Training
Application at customer’s site
To learn required skills.

Qualifying
Evaluation quiz
Knowledge validation
To check knowledge acquisition and deliver a competence certificate.

In a nutshell
We will design the ideal training path to fit your specific requirement, from among our large training offering, with adaptation training materials and with the creation of new dedicated courses. This blended training will join e-Learning, classrooms sessions, practical work and why not 3D Digital training. We offer you trainee knowledge acquisition with an assessment of your trainees’ knowledge level before, during and after the training.

Competency Management is the highest added value training!
Our e-Learning solution offers you a flexible distance course, perfectly suited to training your remote teams located all around the globe and allow them to optimize their training time. Our e-Learning programmes cover topics related to transmission, distribution and electrical risk prevention.

Programmes can be customized according to the needs and the schedule constraints of trainees. e-Learning offers a simple self-teaching solution in a matter of hours (4 to 5 hours) in a specific technical topic. To refresh your knowledge or to boost your competency, e-Learning is a great solution for responding effectively and instantly to each trainee’s expectations.

Learn what you need at your own pace

True challenges for managers …

> Build your programme according to the context, the strategy and the needs of your company.
> Define adapted learning paths for your team members.
> Allow trainees to go further with the tutoring option.
> Train remote teams located worldwide.
> Bring employees’ knowledge to a common basic level.

… Concrete benefits for e-Learners

Trainees who will benefit from the e-Learning programme can:

> Learn what they need, whenever they want, and at their own pace.
> Assess their knowledge (self-assessment).
> Customize the learning path and choose their contents according to the self-assessment results.
> Measure their improvement and get their certificate at completion of the course.
> Keep in touch with what happens on the field (e.g. pragmatic contents, feedbacks from the field).
> Have a permanent access to a referent tool: to deepen their skills, ask a question, solve a problem, etc.

Customer benefits:

- Eliminate geographical barriers
- Optimize training costs and resources
- Interactive contents: exercises, quizzes, animations, videos, etc.
- Self-learning and self-assessment: trainees chose what and when they learn according to their interests, their skills level, and the time they decide to learn
- Continuous access to knowledge
Multiple ways of adapting the learning mode to the learner’s objectives

- Stand-alone (without training sessions)
- As a classroom support (e-Learning module is used as training support)
- Blended with classroom sessions
- Blended with tutoring

They e-Learned with Schneider Electric

"It gave me a better understanding of smart grids and their technical impacts."

"The Electrical Distribution Fundamentals training course helped me in a number of ways, including structuring the knowledge I already had."

"Honestly, the test and training of the Electrical Risk Prevention programme are the best tools for my people to be sure they learn electrical safety rules. I like it."

Get an overview of our programmes with the videos

Access directly through:

Discover the 3D digital training
A new and innovative learning method

You want to:

> Better understand your equipment and the way they fit within the network.
> Know how to react in case of an unexpected event.

Digital training uses an innovative technology: the immersive virtual reality!
A new training approach for a better performance

Immersive 3D is a complementary learning mode. It does not replace practical operations during classroom sessions.

- Learners can test and discover the equipment at their own pace, manipulate, try operations and proceed by trial and error with the procedure.
- Many games are proposed to provide a better knowledge of the equipment.
- Events simulations are offered to make people understand the right way to operate.

Sensors to locate you, digital glasses to see in 3D dimensions, tracking system, and an air wand as a joystick to interact.

Discover your equipment and the way they fit within your network

Discover the product like in reality, with additional benefits: enter inside, see the mechanism in action, single line diagram and see what you can’t never see in reality.

Discover how to react and the steps to take in case of an unexpected event

If there is a shut-down in your power plant, will you be able to troubleshoot safely and on time?

Thanks to immersive Virtual Reality you can:

> make operations you could not make in reality
> simulate events (trouble shooting, emergency situation)
> perform practical operations as many times as you want, without any impact on your installation.
> Go deeper and improve your skills doing what you can’t do in reality!

Learn & enjoy!
When people work in electrical environments, they are obliged to have full knowledge of safety rules to apply them. This is vital not only for workers but also for the safety of employees supervised.

Learn how to comply with environmental regulations on SF₆ also to take care of our planet!
### Electrical safety

<table>
<thead>
<tr>
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<th>Code</th>
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</thead>
<tbody>
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<td>e-Learning Electrical Risk Prevention programme - Test assessment</td>
<td>S008AC</td>
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<td>Electrical Safety for non-electricians</td>
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<td>Electrical Safety for electricians working on Low Voltage equipment</td>
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<td>Electrical Safety for electricians working on Low, Medium and High Voltage equipment</td>
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### Safety in hazardous areas (ATEX)

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<tr>
<td>Safety in explosive atmospheres for managers and supervisors</td>
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### Environmental risk prevention

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<tr>
<td>SF₆ Gas Recovery Regulation EC 842-2006</td>
<td>M020TC</td>
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<tr>
<td>SF₆ Gas Recovery Regulation EC 842-2006 (for experienced personnel)</td>
<td>M021TC</td>
<td>35</td>
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</table>
Matching your training needs

Electrical safety: objective "zero accident"

There are four requirements for working safely in an electrical environment:
- Be qualified in Electrical Safety
- Know the electrical installation
- Wear appropriate Personal Protective Equipment (PPE)
- Have a regular practice of electrical work.

The first two can be acquired through training and the last two are mandatory to reach the "zero accident" objective.

According to statistics from Health & Safety organizations, 90% of accidents are due to behavioral issues. With this in mind, Schneider Electric Technical Institute has developed a training methodology based on practicing on actual scale equipment to develop behavioral responses close to real-life situations. Every three years, a refresher course is recommended.

To reinforce your zero accident policy, our international safety experts have designed a specific e-Learning programme to enable your teams to keep an optimum level of knowledge to prevent electrical risks: the e-Learning Electrical Risk Prevention programme.

It allows to ensure their technical level skill thanks to certification questions and make them improve their level if not appropriate thanks to training part.

This interactive solution is specifically designed for international perspectives:
It summarizes most of the common international rules that will enable your teams to be operational anywhere in the world, at all times.

Safety in hazardous areas (ATEX)
Explosive atmospheres are a major risk to employees in hazardous areas.
In order to preserve the health and safety of workers dealing with electrical equipment installed in these areas, companies should comply with three more obligations:
- Be qualified in ATEX
- Use ATEX certified equipment
- Have installations regularly audited and certified for this risk.

The first can be acquired through training, and the last two are, as well as for Electrical Safety, mandatory to reach the "zero accident" objective.

All training courses proposed in this Safety section are based on the instructors’ and trainees’ experiences as well as real-life studies.
Trainees can acquire and increase their awareness of the correct behavioral attitude to adopt to minimize risks.

Environmental risk prevention
New environmental regulations are being implemented in an increasing number of countries, especially about SF₆ handling.
We developed new courses to help you to comply with them.

We are ground-breakers in this field, in line with our ethical motto which is to be a green energy management leader!

Let's take care of our planet!
Objectives
Refresh knowledge on the fundamentals of electrical risk.
Learn a minimum number of common international rules concerning electrical risk prevention.
Go through a quick and efficient self-assessment on these topics.

Course topics
- Module 1: Learn about electrical risk
- Module 2: Learn how to prevent electrical risk
- Module 3: Comply with safety procedures (to lock out - tag out)
  - Self-assessment
  - Various interactive learning activities
  - Summaries
  - Assessments are readily available but can be customized to your needs, upon request
  - Easy user navigation

Audience
- All persons and companies working in an environment with electrical risks
- Managers whose teams work in such environments
- Health & Safety Managers

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local authorization and qualification required to work on an electrical system</td>
<td>S001AC</td>
<td>F002TC</td>
</tr>
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<td></td>
<td></td>
<td>F003TC</td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Most of the common international rules are dealt with in this training
- Up-to-date contents according to current active regulations
- Designed by international safety experts
- Training accessible 24/7

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Assess your knowledge about the basics of electrical safety.

Course topics
- Know and understand electrical risks
- Risk prevention
  - Wearing of protective equipment
  - Hazardous situations
  - Use of appropriate tools
- Securing electrical structures
  - Lockout/tagout
  - Release of lockout/tagout
- 40 multiple choice questions
  (choice between kill or no kill questions)

Please be careful: this test doesn’t substitute a legal national certification.

Audience
- All persons and companies working in an environment with electrical risks
- Managers whose teams work in such environments
- Health and Safety Managers

Duration
0.5 day
100% Theoretical

Price
Contact us

Dates & Place
Anytime, anywhere as long as you have internet access

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Most of the common international rules are dealt with in this training
- For the management: Possibility to track each tested people and optional learning following tools
  (test validity management, trainees follow-up, managers alerts)
- Up-to-date content according to current active regulations
- Designed by international safety experts
- Training accessible 24/7

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course
Objectives
Acquire a basic knowledge of working with electricity, so that the trainees are aware of the dangers that they may encounter in an electrical environment. Act and react according to the working environment.

Course topics
- Electricity and its benefits, use and dangers
- How do we protect ourselves against potential danger?
- Examples of accidents that have happened and how they could have been avoided
- The safety rules for electrical work
- Participant evaluation for certification

Audience
- Non-electricity specialist who has basic access to electricity sites

Duration
2 days
80% Theoretical
20% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
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</thead>
<tbody>
<tr>
<td>No technical background required</td>
<td><img src="image" alt="F001AC" /></td>
<td><img src="image" alt="S001AC" /></td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Half a day dedicated to practical work
- Participants will receive a certificate showing the electrical safety level they have achieved

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course
Objectives
Work safely when carrying out Low Voltage electrical work such as installation and measurement.

Course topics
- Electricity and its benefits, use and dangers
- How do we protect ourselves against potential danger?
- Working with Low Voltage electrical safety: general instructions
- Practical simulation of potential dangers/accidents
- Testing Low Voltage electricity
- Participant evaluation for certification

Audience
- Workers who have a direct involvement in Low Voltage electrical work

Duration
3 days
70% Theoretical
30% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic knowledge of electricity and</td>
<td>F002TC</td>
<td>S001AC</td>
</tr>
<tr>
<td>LV electrical experience</td>
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</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- A day dedicated to practical work
- Role-play exercises demonstrating the importance of safe conduct
- Participants will receive a certificate showing the electrical safety level achieved

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
F003TC
Electrical Safety for electricians working on Low, Medium and High Voltage equipment

Objectives
Evaluate the danger of electricity. Execute some specific operations on Low Voltage & High Voltage installations in safe conditions.

Course topics
- Electricity and its benefits, use and dangers
- How do we protect ourselves against the potential danger?
- General instructions for working with Low, Medium and High Voltage electrical safety
- Practical simulation of potential dangers/accidents
- Testing electricity Low and Medium Voltage
- Participant evaluation for certification

Audience
- Electrical staff working in Low and High Voltage (non-managerial electrician and/or work supervisor and/or lockout supervisor and/or operation supervisor)

Duration
4 days
60% Theoretical
40% Practical

Learning Path
Prerequisites | Training | Next Step
Basic knowledge in electricity and LV, MV and HV electrical experience | F003TC | [S001AC]

Price
Contact us

Dates & Place
Contact us

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- During the training session, interactivity between a small group of trainees allows the seamless evaluation of the trainees’ progression
- A day and a half dedicated to practical work
- Participants will receive a certificate showing the electrical safety level achieved

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
Objectives
Gain or increase knowledge required for the design, achievement and maintenance of electrical and mechanical installations (equipment) in (ATEX) potentially Explosive Atmospheres, according to the required standards.

Ensure that equipment repair does not downgrade its safety level.
Provide traceability of repairs.

Course topics
- The Explosive Atmosphere (ATEX) approach
- Generalities on Explosive Atmospheres (ATEX), Gas and Dust
- The mechanism of an explosion
- Comparison between different applicable standards (IECEx, CENELEC, NEC500 and 505)
- Exploding risk area Classification (Gas and Dust)
- The different types of protection for electrical ATEX equipment (d, m, ia, ib, etc.)
- The different types of protection for mechanical ATEX equipment (d, c, k, etc.)
- Equipment marking
- Incidences for use and maintenance
- Intervention in ATEX Hazardous Areas
- Initial Assessment by questionnaire
- Exercises (marking plate of the equipment reading, appropriateness (suitability) of the equipment, initial Assessment by questionnaire)

Audience
- Persons supervising installation, operation or maintenance on a hazardous area installation concerned by the risks of Explosive Atmosphere (ATEX), under supervision

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Theoretical training and exercises with an INERIS* certified instructor
- Exchange of experience and acquiring the right behavior
- Evaluation by questionnaire, and Competence certificate issued by INERIS

* INERIS: French National Institute for Industrial and Environmental Risk

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on:  http://www.schneider-electric.com/training and search by typing the title of the course
Objectives
Gain or increase knowledge required for the design, achievement and maintenance of electrical and mechanical installations (equipment) in (ATEX) potentially Explosive Atmospheres, according to the required standards.
Ensure the ATEX safety welcoming at site.
Ensure that equipment repair does not downgrade its safety level.
Make all operators aware of their responsibilities.
Supervise workers in an explosive atmosphere, and ensure the traceability of repairs.
Issue the permit to work in an explosive atmosphere.

Course topics
- The Explosive Atmosphere (ATEX) approach
- Generalities on Explosive Atmospheres (ATEX), Gas and Dust
- The mechanism of an explosion
- Comparison between different applicable standards (IECEX, CENELEC, NEC500 and 505)
- Exploding risk area Classification (Gas and Dust)
- Risk analysis according to area and equipment
- The different types of protection for electrical ATEX equipment (d, m, ia, ib, etc.)
- The different types of protection for mechanical ATEX equipment (d, c, k, etc.)
- The rules applicable to gas (G) and dust (D) ATEX equipment
- The rules for design, achievement, and maintenance of installations in Explosive Atmospheres
- The marking of the equipment
- Incidences for use and maintenance
- The intervention in ATEX Hazardous Areas
- Worker health and safety protection from explosive atmosphere hazards
- Exercises (calculation of intrinsic loop, appropriateness (suitability) of the equipment, area classification analysis, marking plate of the equipment reading)
- Initial Assessment by questionnaire

Audience
- Person technically responsible for an installation in an explosive area (ATEX)
  - Engineer
  - Project and design manager
  - Supervisor responsible for workers in an explosive area

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Theoretical training and exercises with an INERIS* certified instructor
- Exchange of experience and acquiring the right behavior
- Practical test performed in the INERIS laboratories (60 km north of Paris) with several explosion tests in gas, dust, and electrostatic conditions
- Evaluation by questionnaire, and competence certificate issued by INERIS

* INERIS: French National Institute for Industrial and Environmental Risk

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
Objectives
Know the general characteristics of SF₆ gas.
Control its environmental impact, emissions and the greenhouse effect.
Use the SF₆ gas in total safety.
Carry out the best practices related to the use of SF₆ according to the equipment involved. Understand the functions of equipment used for the recovery, control and measurement of SF₆ gas.

Course topics
- Theoretical part
  - Environment and SF₆ – Regulation EC 842-2006
  - Sulfur hexafluoride
  - Electric components and SF₆
  - Various qualities of SF₆
  - SF₆ design of electrical equipment
  - Storage and transportation of SF₆ – Legal constraints
  - Products of decomposition and neutralization
  - Monitoring of gas
- Practical part
  - Preparation of practical session on SF₆ recovery
  - Practical work on SF₆ recovery and use of suitable PPE in a contaminated environment
- Assessment and certification
  - Theoretical assessment – Individual multiple choice questionnaire
  - Practical work on SF₆ recovery (individual exam)
  - Control and measurement of gas to be recovered
  - Practice of SF₆ recovery using a recovery device
  - Practice of SF₆ recovery and decomposition products

Note: A version of this course applied to the Non-European Regulation CEI/TR 62271-303 is also available. Please refer to course M023TC.

Audience
- Personnel who recover SF₆ gas inside Erection & Commissioning

Learning Path
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<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic or no practical knowledge of SF₆ handling, especially in the recovery and use of suitable PPE</td>
<td>M020TC</td>
<td>All courses related to SF₆ (MV &amp; HV equipment)</td>
</tr>
</tbody>
</table>

Duration
2 days
50% Theoretical
30% Practical
20% Assessment

Price
Contact us

Dates & Place
Contact us

Customer Benefits
- Exchanges with an experienced instructor
- Each trainee will work on real equipment
- Certification EC 842-2006
- Course limited to 8 trainees for the training to be most effective and to ensure optimum safety on the shopfloor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
M021TC

SF₆ Gas Recovery Regulation EC 842-2006
(for experienced personnel)

Objectives
Know the general characteristics of SF₆ gas.
Control its environmental impact, emissions and the greenhouse effect.
Use SF₆ gas in total safety.
Carry out the best practices related to the use of SF₆ according to the equipment involved. Understand the functions of equipment used for the recovery, control and measurement of SF₆ gas.

Course topics
- Theoretical part
  - Environment and SF₆ – Regulation EC 842-2006
  - Sulfur hexafluoride
  - Electric components and SF₆
  - Various qualities of SF₆
  - SF₆ design of electrical equipment
  - Storage and transportation of SF₆ – Legal constraints
  - Products of decomposition and neutralization
  - Monitoring of gas and the environment
- Practical part
  - Preparation of practical session on SF₆ recovery
  - Practical work on SF₆ recovery and use of suitable PPE in a contaminated environment
- Assessment and certification
  - Theoretical assessment – Individual multiple choice questionnaire
  - Practical work on SF₆ recovery (individual exam)
  - Control and measurement of gas to be recovered
  - Practice of SF₆ recovery using a recovery device
  - Practice of SF₆ recovery and decomposition products

Note: A version of this course applied to the Non-European Regulation IEC/TR 62271-303 is also available. Please refer to course M023TC.

Audience
- Personnel who recover SF₆ gas

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Each trainee will work on real equipment
- Certification EC 842-2006
- Course limited to 8 trainees for the training to be most effective and to ensure optimum safety on the shop floor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
To optimize your electrical installation you can limit production outages, improve power quality and better manage disturbances that could lead to defaults. In order to achieve this, a good knowledge of electrical network is needed, from electrical basics to design installation, as well as cyber-security and power system protection.
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<td>APPS – Industry and Oil &amp; Gas Power System Protection</td>
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<tr>
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<tr>
<td>APPS – Industry and Oil &amp; Gas Power System Protection</td>
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<tr>
<td>Cyber Security in Electrical Substations</td>
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</tbody>
</table>
Matching your training needs

To meet your installation needs (new installations, under modifications and/or extensions, etc.), Schneider Electric Technical Institute proposes training courses that cover:

- **Different installation types and architectures**
- **Installations equipped with, or without, Schneider Electric products**
- **Your specific installation.**

Schneider Electric has adopted the blended teaching approach, combining e-Learning programmes and face-to-face training. This very effective training method provides the technical expertise to the trainee progressively. **Below is our suggested sequence:**

1. **e-Learning modules:**
   As the first step, in the discovery phase. This training method allows trainees to acquire the fundamentals and useful information at their own pace.

2. **Theoretical courses:**
   To benefit from the experience and knowledge of our instructors in fundamental technical topics. From generic topics as electricity basics to design installation, as well as cyber-security and power system protection. Courses are designed to bring trainees to advanced stage of knowledge that will allow them to go beyond installation and Substation expertise and to acquire a global view on network operations.

3. **Operation & Maintenance Courses:**
   To go further by gaining in practice. These practical works are set out in detail in the next chapter.

Whatever course curriculum is chosen, the trainees’ awareness will be raised to normal and fault conditions of network and installation operation.

We are convinced that after our course, trainees will be better equipped to analyze situations and determine the appropriate solutions.
Objectives
Understand electrical distribution system operation.
Review of the basics of electrical engineering.
Know the main electrical distribution devices and their roles.

Course topics
- Electrical system
  - Generation
  - Transmission
  - Distribution
- Electrical Distribution equipment
  - Primary and secondary distribution equipment
  - Circuit-breakers
  - Measuring instruments
  - Power Transformers
  - Protective relays

Audience
- All people interested in the Energy sector

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Global view of the grid and different equipment
- Train newcomers, improve and homogenize team members’ knowledge
- Share technical issues and references within multi-disciplinary or multi-site teams
- Explanatory animated sequences, interactive exercises, fact sheets
- Self-assess knowledge acquisition through quizzes during the learning process
- Training accessible 24/7

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
K001AC
Electricity: Learning the basics

Objectives
Know how to calculate and measure current, voltage and power, understand basic electrical diagrams and hazards of electrical current.

Course topics
Create a simple electrical circuit and learn the principles of electricity, measuring instruments, equipment and switching devices in electrical installations.
- Discover electricity based on simple rules
  - Approach to the subject
  - Ohm’s Law
  - Power concepts
  - DC and AC current
  - Principles of electromagnetism
- Learn how to use simple measuring instruments
  - Use of multimeter as voltmeter, ammeter, ohmmeter
- Description of the structure and components of electrical circuits
  - Generators
  - Loads
  - Conductors
  - Switching devices (circuit-breakers, fuses, switches, contactors, etc.)
  - Symbols used in circuit diagrams
- Know the hazards of electrical current and how to protect against them
  - Earth electrode
  - Protection circuit
  - Study of insulation faults
  - Earth leakage protection
- Case study
  - Residential electrical installation

Audience
- Operators and technicians who start learning electricity basics

Duration
4 days
60% Theoretical
40% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>You have no knowledge of electricity</td>
<td>K001AC</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- 40% of training time dedicated to practical work

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
**Objectives**

Know high power Medium Voltage & Low Voltage Switchgear and functions in electrical installations.

**Course topics**

- Main principles, from generation to delivery of electrical power
  - Standards applicable to electrical equipment and installations
  - Architectures used in medium and low voltage
- Roles and functions of Medium Voltage and Low Voltage Switchgear
- Technology and electrical characteristics of Medium Voltage Switchgear
  - Breaking and isolation techniques
  - Compartmentation and continuity of service (internal arc)
  - Withdrawable primary distribution equipment
  - Fixed secondary distribution products
- Protection chain
  - Measurement sensors
  - Protective relays
  - Medium Voltage fuses
- Technology and electrical characteristics of Low Voltage Switchgear
  - Classification of enclosures
  - Power circuit-breakers
  - Control and protection Switchgear
  - Capacitors
- Transformers and Substations
  - Transformer technology
  - Typology of distribution and consumer Substations
  - Substation equipment
  - Metering
- Protection of persons and equipment
  - Initiation to earthing systems
  - Protective equipment
- Application equipment: fixed or withdrawable Medium Voltage cubicles, Transformers, high power Low Voltage circuit-breakers, Low Voltage switchboards

**Audience**

Anyone who needs basic knowledge of Switchgear and how it is used

**Learning Path**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know some of the basics of electrical engineering</td>
<td>K002AC</td>
<td></td>
</tr>
</tbody>
</table>

**Customer Benefits**

- Possibility of doing this training course on your own site and at your own convenience
- Practical learning on technical documentation and hands-on learning on equipment in real installation environment
- Exchanges with an experienced instructor

**How to register to a session?**

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?  
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
**Objectives**
Understand the operation and implementation of Medium Voltage networks.

**Course topics**
Understand the components included in Medium Voltage networks. Discover the different types of architecture. Learn how to use technical documentation on equipment and do basic calculations for simple installations.
- General
  - Standards
  - Transmission and distribution networks
  - Voltage classification
  - Electrical characteristics
- Network architectures
  - Network components
  - Types of architecture
  - Different types of network
- Switchgear functions
  - Disconnector
  - Switch
  - Contactor
  - Circuit-breaker
- Different types of sensors
  - Current sensors
  - Voltage sensors
- Principles of different Medium Voltage protection functions
  - Current-based
  - Time-based
  - Logical
  - Directional
- Medium Voltage equipment
  - Cubicles
  - Transformers
  - Protection devices
  - Fuses
  - Study of instruction manuals

**Audience**
- Operators and technicians who start to operate and implement on Medium Voltage equipment

**Learning Path**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
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</tr>
</thead>
<tbody>
<tr>
<td>K001AC</td>
<td>You are familiar with the basics of electricity</td>
<td>M030AC</td>
</tr>
</tbody>
</table>

**Customer Benefits**
- Possibility of doing this training course on your own site and at your own convenience
- Practical learning on technical documentation and hands-on learning on equipment in real installation environment
- Exchanges with an experienced instructor

**How to register to a session?**
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives

Design a Medium Voltage electrical installation.
Estimate the value of short circuit currents.
Select the appropriate switchgear.
Select the appropriate electrical ductwork.

Course topics

- Stages in the design of an installation
  - Installation standards
  - List of equipment used, power balance selection of power supplies: normal, substitute emergency
  - Selection of neutral point connection
- Characteristics of current-using equipment
  - Motors
- Characteristics of various power sources
  - Definitions of the switchgear, symbols
  - Distribution networks, Transformers, generator set
- Estimation of short circuit currents
  - Three-phase short-circuit at one point on the network
  - Two-phase short-circuit
- Selection of switchgear
  - Isolator switch, load break switch, contactors fuses, circuit-breakers
- Selection of wiring systems
  - Steady state operating conditions, transient operating conditions
- Industrial networks
  - Connection to the grid, compensation for reactive energy
  - Structures, neutral point connection, earthing faults
- Protection systems, selectivity: current, time delay and logic relays
- Protection of power Transformers
- Case study

Audience

- Engineers and technicians involved in the design, study, modification, maintenance and operation of Medium Voltage industrial installations

Customer Benefits

- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Customize the solutions for troubleshooting (malfunctioning and/or fault mode) and modifications or extensions

How to register to a session?

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
**Objectives**

Understand the key principles of protection in High Voltage and EHV transmission networks.

APPS "Analysis and Protection of Power Systems Course" is designed for Engineers who wish to reinforce their experience in protection and control automation & application. APPS course is a theoretical, manufacturer product neutral training programme that covers the principles of power systems protection and control.

**Course topics**

- Analysis of Balanced & Unbalanced Faults
- Application of overcurrent & ground fault protection
- Line Distance Protection
- Line Differential Protection
- Auto-reclosing & Synchro-check automatism
- Current Transformer Requirement for Protection
- System Grounding

**Audience**

- Maintenance and commissioning engineers, especially those involved in protection relays
- Protection Engineers, protection design engineers
- Project managers

**Learning Path**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
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</thead>
<tbody>
<tr>
<td>Knowledge and understanding of power networks, electrotechnical and mathematical basics (technician or engineer level)</td>
<td>APP014</td>
<td>APP015</td>
</tr>
</tbody>
</table>

**Customer Benefits**

- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Make electric power systems safer, smarter, less complex and more reliable
- Sustain the success of your business by enhancing employee technical efficiency
- Reinforce your expert knowledge
- Handle system operation effectively in all critical situations
- Specify own protection schemes in accordance with power system constraints

**How to register to a session?**

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?

Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course
Objectives

Understand the key principles of protection in High Voltage and EHV transmission networks.

APPS "Analysis and Protection of Power Systems Course" is designed for Engineers who wish to reinforce their experience in protection and control automation & application. APPS course is a theoretical, manufacturer product neutral training programme that covers the principles of power systems protection and control.

Course topics

- Transformer Protection
- Busbar protection
- Circuit-Breaker Fail Logic
- Generator Protection
- System Stability issues & Wide area Monitoring
- Integrated Protection & Control and their advantages
- Substation Automation using IEC 61850 & benefits

Audience

- Maintenance and commissioning engineers, especially those involved in protection relays
- Protection Engineers, protection design engineers
- Project managers

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
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<td>APP015</td>
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</tbody>
</table>

Knowledge and understanding of power networks, electrotechnical and mathematical basics (technician or engineer level)

Customer Benefits

- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Make electric power systems safer, smarter, less complex and more reliable
- Sustain the success of your business by enhancing employee technical efficiency
- Reinforce customer your knowledge
- Handle system operation effectively in all critical situations
- Specify own protection schemes in accordance with power system constraints

How to register to a session?

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language? Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
**APP016**

**APPS – Industry and Oil & Gas Power System Protection – Part 1**

**Objectives**

Gain more experience in the theory of protection application for Industrial Medium Voltage Network with additional tutorials on fault calculation, relay settings and communication facilities.

APPS "Analysis and Protection of Power Systems Course" is designed for Engineers who wish to reinforce their experience in protection and control automation & application. APPS course is a theoretical, manufacturer product neutral training programme that covers the principles of power systems protection and control.

**Course topics**

- Analysis of Balanced & Unbalanced Faults
- System Grounding
- Application of overcurrent & ground fault protection
- Protection coordination rules
- Motor Protection
- Transformer protection
- Busbar Protection
- Feeder Protection
- Generator Protection

**Audience**

- Maintenance and commissioning engineers, especially those involved in protection relays
- Protection Engineers, protection design engineers
- Project managers

**Customer Benefits**

- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Make electric power systems safer, smarter, less complex and more reliable
- Sustain the success of your business by enhancing employee technical efficiency
- Reinforce customer your knowledge
- Handle system operation effectively in all critical situations
- Specify own protection schemes in accordance with power system constraints

**How to register to a session?**

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?

Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
APP017
APPS – Industry and Oil & Gas Power System Protection – Part 2

Objectives
Gain more experience in the theory of protection application for Industrial Medium Voltage Network with additional tutorials on fault calculation, relay settings and communication facilities.

APPS "Analysis and Protection of Power Systems Course" is designed for Engineers who wish to reinforce their experience in protection and control automation & application. APPS course is a theoretical, manufacturer product neutral training programme that covers the principles of power systems protection and control.

Course topics
- Fault Analysis
- Voltage and frequency protection
- Current Transformer requirements for protection
- System stability issues
- Fast Load shedding
- Substation Automation using IEC 61850 & benefits

Audience
- Maintenance and commissioning engineers, especially those involved in protection relays
- Protection Engineers, protection design engineers
- Project managers

Duration
5 days
100% Theoretical

Price
Contact us

Dates & Place
Contact us

Learning Path

<table>
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<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>APP016 Knowledge and understanding of power networks, electrotechnical and mathematical basics (technician or engineer level)</td>
<td>APP017</td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Make electric power systems safer, smarter, less complex and more reliable
- Sustain the success of your business by enhancing employee technical efficiency
- Reinforce customer your knowledge
- Handle system operation effectively in all critical situations
- Specify own protection schemes in accordance with power system constraints

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
Objectives
Get the general overview of IEC 61850 standard.
Understand the application of IEC 61850 protocol to electrical Substations.
Get the basic knowledge to understand and use IEC 61850 standard.
Write a IEC 61850 specification for a project.

Course topics
- IEC 61850 standard Introduction (history, objectives)
- Data modeling: From Physical Devices to Data Attributes
- IEC 61850 language for configuration
- Communication models and services
- Abstract Services mapping
- IEC 61850 related documentation: certificates, PICS, MICS, etc.
- IEC 61850 engineering files

Audience
- Maintenance and commissioning engineers
- Protection Engineers, protection design engineers
- Project managers

Learning Path
<table>
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<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
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</thead>
<tbody>
<tr>
<td>Knowledge and understanding of power networks, electrotechnical, Substation communication</td>
<td>DCS003</td>
<td>DCS004</td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course
DCS004
IEC 61850 Protocol Level 2 – How to Implement IEC 61850 standard

Objectives
Use and deploy concepts studied in DCS003 course.
Specify IEC 61850 aspects of a system using Substation Engineering Tool.
Be autonomous in IEC 61850 files creation.
Create IEC 61850 based configurations.
Commission and maintain an IEC 61850 project.

Course topics
- Introduction
- Modeling: Data architecture
- ACSI Services: DataSet Model, Report Model, Control Model, etc.
- IEC 61850 Documentation: Standard Chapters, PICS, TICS, MICS
- Top-Down and Bottom Design
- Practical exercise: Application to a complete IEC 61850 project
  (Protection functions IEC 61850 set-up, Station Bus network simulation and supervision)

Audience
- Maintenance and commissioning engineers
- Protection Engineers, protection design engineers
- Project managers

Duration
5 days
50% Theoretical
50% Practice

Price
Contact us

Dates & Place
Contact us

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
GEE010
Cyber Security in Electrical Substations

Objectives
Get along Cyber Security concepts.
Identify Cyber Security risks on Substation scales.
Raise awareness about Cyber Security state of mind.
Get an updated picture of Cyber Security current challenges.
Know how to protect a Substation from cyber attacks.

Course topics
- Introduction: Cyber Security definition and concepts
- Status of Cyber Security related standards
- Risk assessment introduction
- Organizational concept of Cyber Security
- Process requirements concept of Cyber Security
- Technical solutions to make and keep a system cyber secure

Audience
- Application engineers
- Maintenance administrator
- Substation design architects
- Operation engineers
- Project managers

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge and understanding of power networks, Substation communication</td>
<td>GEE010</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course
When it comes to equipment operation and maintenance, theoretical study is necessary but not sufficient to optimize personnel responsiveness. In-depth product knowledge is vital to ensure the Power service continuity. What makes a real difference is the experience site personnel can gain through practice, over the years, and through training.
### Electrical Distribution equipment

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<td>VA/VKA/VXA Vacuum circuit-breakers up to 36 kV</td>
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Matching your training needs

In operation and maintenance, theory is needed, practice is essential!

It is clear that no operation or maintenance can be achieved without a minimum of electricity product study. A theoretical approach will allow your teams to acquire the right competencies quicker. Practical training will provide in weeks what field experience can bring you in years.

The world’s highest performing networks, Substations or products rely on the highest performing people. The more efficiently they manage and understand data, the quicker the fault consequences are minimized.

Schneider Electric Technical Institute offers training courses with the right blend of theory and practice:

- Participants must first follow an e-Learning programme to understand the fundamentals of the electrical energy distribution and to free up time to complete as much practical cases as possible during classroom sessions.
- During the theoretical part of each courses, participants make an in-depth study of products and/or solutions. This step is crucial to understand the electrical and the mechanical constraints encountered in the equipment’s lifespan.
- During the practical part, participants can put into practice their knowledge on real-size equipment through hands-on work exercises. This ensures that trainees carry out the exact and correct operation. It is the best way to enhance the practical memory of employees.

Our training courses cover a large range of equipment:

- **Electrical Distribution equipment:**
  - *Operational* issues such as safe operating conditions, correct interlocking, equipment monitoring, fault simulations, fault diagnosis and troubleshooting.
  - *Maintenance* issues such as maintenance plan (e.g., scheduled/condition maintenance), maintenance procedures (e.g., regular/repair operations) and testing procedures before return to normal operation.

- **Protection and Substations controls:**
  A comprehensive understanding of protection principles when setting parameters, analyzing disturbance data and managing failures. The courses allow participants to reinforce the protection schemes and the digital control system for Substations. These will definitely help your staff improve their responsiveness when faced with unexpected incidents.

Your equipment at the heart of our training offering

Thanks to the modular design of our training courses, each course can be fully adapted to your own specific electrical equipment (product specification, maintenance procedures, etc.) to create and deliver customized teaching material that will optimize the competence of your personnel.

These courses have a limited number of attendees to ensure that they get the most out of the hands-on training and practice. Workshops are conducted on full-size equipment delivered by our technical expert instructors. This enables them to learn in their daily activity environment, and enables them to easily apply what they’ve learned when they get back to work.
Low Voltage equipment: Operate and maintain equipment solutions

Objectives
Operate and maintain Low Voltage circuit-breakers more efficiently.

Course topics
Operate Low Voltage circuit-breakers.  
Carry out level II maintenance operations, AFNOR standard.  
Set and configure the various types of trip units.  
- Reminder of the characteristics and functions of Low Voltage circuit-breakers  
  - Understand all the data written on a circuit-breaker (rating plates, trip unit and machine)  
  - Consequences of harmonics on the installation  
- Understand the principles of circuit-breaker cut-off  
  - The various technologies  
- Know the ranges of Low Voltage circuit-breakers, their characteristics and performance  
  - Multi 9/Acti 9 range  
  - Compact NS/NSX/C/CM  
  - Masterpact M/NT/NW  
- Know how to set and configure trip units  
  - Read and analyze tripping curves  
  - Setting of TM thermal-magnetic trip units  
  - Setting and configuring of ST and STR control units  
  - Setting and configuring of Micrologic control units  
- Practical exercises  
  - Carry out the main replacement and adaptation operations – Level II AFNOR  
    - Operations, maintenance, replacement and adaptation on the circuit-breakers of the various ranges  
    - Plugging/unplugging operations  
    - Adaptation of electrical auxiliary units: MN, MX, XF, electric control, auxiliary contacts, etc.

Audience
- People who work with the operation and maintenance of an Low Voltage electrical installation

Duration
4 days  
70% Theoretical  
30% Practical

Price
Contact us

Dates & Place
Contact us

Customer Benefits
- Possibility to do this training course on your own site and at your own convenience  
- Exchanges with an experienced trainer  
- Trainees will gain physical understanding of equipment in an actual installation environment

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?  
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
Objectives

Identify the different components of Medium Voltage/Low Voltage consumer Substations.

Know the operating and maintenance principles for Medium Voltage cubicles, Medium Voltage/Low Voltage Transformers, Low Voltage switchboards, etc.

Course topics

- Substation architecture according to standards
  - Areas of application (public/private boundary, metering, etc.)
  - Applicable legislation
  - Types of distribution (radial, loop, double shunt)
- Medium Voltage switchboard components
  - Types and characteristics of Medium Voltage disconnector, switch, circuit-breaker, cubicles, etc.
  - Operation and maintenance
- Medium Voltage/Low Voltage Transformers
  - Types (ERT, dry) and characteristics (voltage, coupling)
  - Protective devices (DGPT2)
  - Preventive maintenance operation
- Low Voltage switchboard components
  - Power switchgear (switches, circuit-breakers)
  - Review of earthing systems
  - Switchboard maintenance operation
- Substation accessories
  - Auxiliary voltage
  - Operating and extinction equipment
  - Indication
- Hands-on work on our installations
  - Review of accreditation concepts and example of lockout/tagout
  - Procedure
  - Reading, interpreting and performing interlocking
  - Replacing Medium Voltage fuses
  - Changing Transformer voltage taps
  - Handling cubicles
  - Lockout/tagout sequences
- Application equipment: fixed or withdrawable Medium Voltage cubicles, Transformers, high power Low Voltage circuit-breakers, Low Voltage switchboards

Audience

- Electricians in charge of level 1 maintenance of Medium Voltage/ Low Voltage Substation equipment

Customer Benefits

- Possibility to do this training course on your own site and at your own convenience
- Practical learning on technical documentation and hands-on learning on equipment in real installation environment
- Exchanges with an experienced instructor

How to register to a session?

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?

Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
M001TC
WS Gas Insulated Switchgear up to 36 kV – Operation & Maintenance

Objectives
Understand the function of the WS circuit-breaker and the mechanism.
Operate the switchgear.
Apply the maintenance procedures.
Apply the safety rules.

Course topics
● Theoretical part
  ○ General development of Medium Voltage switchgears
  ○ Principal rated values
  ○ Design concept
  ○ Operation panel
  ○ Drive and interlock unit
  ○ Interrogation interlock
  ○ Gas compartments
  ○ Gas line concept
  ○ Encapsulation of all live parts
  ○ Bus bar system
  ○ Vacuum circuit-breaker
  ○ Arc quenching in vacuum
  ○ Contact material
  ○ Three-position disconnector
  ○ Voltage and current Transformer
  ○ Dimension and weights
  ○ Voltage and gas indication devices
  ○ Sulphur hexafluoride SF₆
● Practical part
  ○ Visiting of the VCB and WS production line
  ○ Principle arrangement and function of VCB driving mechanism in switchgear type WS
  ○ Mechanism ON / Mechanism OFF
  ○ Charging, coupling and switching shaft
  ○ Principle arrangement of Vacuum Interrupter
  ○ Maintenance according operating instructions

Audience
● Technicians involved in the operation and maintenance of Medium Voltages Substations installations

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Customer Benefits
● Possibility to do this training course on your own site and at your own convenience
● Exchanges with an experienced trainer
● Real hands-on work on electrical equipment
● Practice in operating of the switchgear type WS
● Immediate practice of the theoretical knowledge acquired

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Understand the function of the WI circuit-breaker and the mechanism.
Operate switchgear.
Apply maintenance procedures.
Apply safety rules.

Course topics
- Theoretical part
  - General development of Medium Voltage switchgears
  - Principal rated values
  - Design concept
  - Operation panel
  - Drive and interlock unit
  - Interrogation interlock
  - Gas compartments
  - Encapsulation of all live parts
  - Bus bar system
  - Vacuum circuit-breaker
  - Arc quenching in vacuum
  - Contact material
  - Three-position disconnector
  - Voltage and current Transformer
  - Dimension and weights
  - Voltage and gas indication devices
  - Sulfur hexafluoride SF₆
- Practical part
  - Principle arrangement and function of VCB driving mechanism in switchgear type WI
  - Mechanism ON / Mechanism OFF
  - Charging, coupling and switching shaft
  - Principle arrangement of Vacuum Interrupter
  - Maintenance according operating instructions

Audience
- Technicians involved in the operation and maintenance of Medium Voltage Substations installations

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Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Practice in operating of the switchgear type WI
- Immediate practice of the theoretical knowledge acquired

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Understand the function of the GMA circuit-breaker and the mechanism.
Operate switchgear.
Apply maintenance procedures.
Apply safety rules.

Course topics
- Theoretical part
  - General development of Medium Voltage switchgears
  - Principal rated values
  - Design concept
  - Operation panel
  - Drive and interlock unit
  - Interrogation interlock
  - Gas compartments
  - Encapsulation of all live parts
  - Bus bar system
  - Vacuum circuit-breaker
  - Arc quenching in vacuum
  - Contact material
  - Voltage and current Transformer
  - Dimension and weights
  - Voltage and gas indication devices
  - Sulfur hexafluoride SF₆
- Practical part
  - Principle arrangement and function of VCB driving mechanism
    in switchgear type GMA
  - Mechanism ON / Mechanism OFF
  - Principle arrangement of Vacuum Interrupter
  - Maintenance according operating instructions

Audience
- Technicians involved in the operation and maintenance of Medium Voltage Substations installations

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Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Practice in operating of the switchgear type GMA
- Immediate practice of the theoretical knowledge acquired

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
Objectives
Understand the function of the GMAe circuit-breaker and the mechanism.
Operate switchgear.
Apply maintenance procedures.
Apply safety rules.

Course topics
- Theoretical part
  - General development of Medium Voltage switchgears
  - Principal rated values
  - Design concept
  - Operation panel
  - Drive and interlock unit
  - Interrogation interlock
  - Gas compartments
  - Encapsulation of all live parts
  - Bus bar system
  - Vacuum circuit-breaker
  - Arc quenching in vacuum
  - Contact material
  - Voltage and current Transformer
  - Dimension and weights
  - Voltage and gas indication devices
  - Sulfur hexafluoride SF\(_6\)
- Practical part
  - Principle arrangement and function of VCB driving mechanism in switchgear type GMAe
  - Mechanism ON / Mechanism OFF
  - Principle arrangement of Vacuum Interrupter
  - Maintenance according operating instructions

Audience
- Technicians involved in the operation and maintenance of Medium Voltage Substations installations

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Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Practice in operating of the switchgear type GMAe
- Immediate practice of the theoretical knowledge acquired

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
Objectives
Understand the function of GHA circuit-breaker and the mechanism
Operate the switchgear
Apply the maintenance procedures and the safety rules

Course topics
- Theoretical part
  - Presentation of the company
  - Fields of application
  - General development of medium voltage switchgears
  - Principal rated values
  - Design concept
  - Operation panel
  - Drive and interlock unit
  - Interrogation interlock
  - Gas compartments
  - Encapsulation of all live parts
  - Bus bar connections B-link
  - Vacuum circuit-breaker
  - Arc quenching in vacuum
  - Contact material
  - Voltage and current Transformer
  - Dimension and weights
  - Voltage and gas indication devices
  - Sulphur hexafluoride SF₆
- Practical part
  - Visiting of the VCB and GHA production line
  - Principle arrangement and function of driving mechanism of VCB in switchgear type GHA
  - Mechanism ON
  - Mechanism OFF
  - Charging mechanism
  - Principle arrangement of Vacuum Interrupter
  - Maintenance according operating instruction

Audience
- Technicians involved in the operation and maintenance of installations of medium voltage Substations.

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Practice in operating of the switchgear type GHA
- Immediate practice of the theoretical knowledge acquired
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course
Objectives
Understand the function of the FBX and the mechanism.
Operate RMU.
Apply safety rules.

Course topics
- Theoretical part
  - General development of Medium Voltage switchgears
  - Principal rated values
  - Design concept
  - Operation panel
  - Interrogation interlock
  - Gas compartments
  - Encapsulation of all live parts
  - Bus bar system
  - Switch disconnector
  - Vacuum circuit-breaker (M030AC)
  - Arc quenching in vacuum
  - Contact material
  - Fuse (T1) / Protection Relays (M030AC)
  - Voltage and current Transformer
  - Dimension and weights
  - Gas indication devices
  - Sulfur hexafluoride SF$_6$
- Practical part
  - Principle arrangement and function of driving mechanism in RMU type FBX
  - Mechanism SF
  - Mechanism SFU
  - Principle arrangement of Vacuum Interrupter
  - Trouble-shooting

Audience
- Technicians involved in the operation and maintenance of Medium Voltage Substations installations

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</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Practice in operating of the switchgear type FBX
- Immediate practice of the theoretical knowledge acquired

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Understand the function of the HVX circuit-breaker and the mechanism. Operate circuit-breaker. Apply maintenance procedures. Apply safety rules.

Course topics
- Theoretical part
  - General development of Medium Voltage switching devices
  - Principal rated values
  - Design concept
  - Operation
  - Drive and interlock unit
  - Vacuum bottles
  - Arc quenching in vacuum
  - Contact material
  - Dimension and weights
- Practical part
  - Principle arrangement and function of VCB driving mechanism
  - Mechanism ON / Mechanism OFF
  - Charging mechanism
  - Principle arrangement of Vacuum Interrupter
  - Maintenance according operating instructions

Audience
- Technicians involved in the operation and maintenance of Medium Voltage switching devices

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</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Practice in operating of the Vacuum Circuit-Breaker type HVX
- Immediate practice of the theoretical knowledge acquired

How to register to a session?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Understand the function of the VA/VAH/VXA circuit-breakers and the mechanism.
Operate the circuit-breakers.
Apply the maintenance procedures.
Apply the safety rules.

Course topics
- Theoretical part
  - General development of Medium Voltage switching devices
  - Principal rated values
  - Design concept
  - Operation
  - Drive and interlock unit
  - Vacuum bottles
  - Arc quenching in vacuum
  - Contact material
  - Dimension and weights
- Practical part
  - Principle arrangement and function of VCB driving mechanism
  - Mechanism ON / Mechanism OFF
  - Charging mechanism
  - Principle arrangement of Vacuum Interrupter
  - Maintenance according operating instructions

Audience
- Technicians involved in the operation and maintenance of Medium Voltages switching devices

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</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced trainer
- Real hands-on work on electrical equipment
- Practice in operating of the Vacuum Circuit-Breaker type VA
- Immediate practice of the theoretical knowledge acquired

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
Objectives
Implement Medium Voltage/Low Voltage installation operating procedures and related lockouts.

Course topics
- Substation architecture according to standards
  o Areas of application (public/private boundary, metering, etc.)
- Electrical system architectures
  o Types of architecture
  o Normal / backup
  o Coupling
- Industrial installation operating risks
- Function of medium voltage switchgear
  o Circuit-breakers, switches, disconnectors, contactors
  o SF6 gas breaking technology
  o Single-line application diagrams
- Power Transformers
  o Characteristics: power, coupling, vector shift
  o Tap ranges / on-load tap changers
  o Protection / monitoring systems
- Low voltage installations
  o Main switchboard
  o Switchgear functions and characteristics
- Continuity of low voltage service
  o Replacement sources: UPSs, generator sets, DC generators
- Maintenance
  o Concept and maintenance plan
- Exercises
  o Interpretation of an existing operating procedure.
- Hands-on exercises, presentation and operation of electrical equipment
  o Main low voltage switchboard with fixed and withdrawable circuit-breaker
  o Medium voltage cubicles (switch, circuit-breaker, fuse protection)
  o Transformer (DGPT2, cable glands, etc.)
- Medium voltage cables

Audience
- Persons who participate in operating Medium Voltage and Low Voltage electrical installations

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know some of the basics of electrical engineering and medium voltage</td>
<td></td>
<td>M010TC</td>
</tr>
</tbody>
</table>

Customer Benefits
- Practical learning on technical documentation and hands-on learning on equipment in real installation environment
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Master and optimize the use of your equipment

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
**Objectives**
Operate and maintain your installed base of Fluokit M24+/M24 fixed secondary distribution products.

**Course topics**
- Review of electrical safety during operating and maintenance operations
- Transient phenomena on closing and opening of switchgear
- Electric arc
  - Origin, extinction in SF₆ gas
  - Chemical composition, physical properties, electrical properties
  - Decomposition products
- Types of cubicles
  - Functions, operating diagrams
  - Mechanical locking facilities
  - Switching operations, operating safety mechanisms
- C410/430/440(M) mechanisms, BLR(M) operating mechanisms and FP circuit-breakers
  - Presentation, operation, switching
  - Level II servicing (Exelec / AFNOR): frequency and operating procedures
- General precautions for equipment servicing
  - Tightening, corrosion, greasing, general servicing
  - Verification of SF₆, refilling

**Audience**
- Personnel who participate in operating or servicing Fluokit M24+/M24 products

**Learning Path**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know some of the basics of electrical engineering and medium voltage</td>
<td>M011TC</td>
<td></td>
</tr>
</tbody>
</table>

**Customer Benefits**
- Practical learning on technical documentation and hands-on learning on equipment in real installation environment
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Master and optimize the use of your equipment

**How to register to a session?**
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
# Objectives
Understand the function of each mechanism.  
Operate switchgear.  
Apply maintenance procedures.

## Course topics
- **PIX cell**  
  - Description, operation, installation, connecting to the busbar  
  - Tightening torques  
  - Installation of the moving parts (FPX circuit-breaker)  
  - Tests  
- **SF₆ gas**  
  - Chemical composition, physical properties, electrical properties  
  - By-products of decomposition  
  - Breaking of the arc in SF₆ gas  
- **FPX circuit-breaker**  
  - Interruption chamber  
  - Procedures for adjusting pressure on receipt of the circuit-breaker  
  - Verifications  
  - Switching operations, maintenance  
- **BRH control mechanism**  
  - Description, operation  
  - O-C-O sequence: tensioning, closing, tripping  
  - Switching operations  
  - Maintenance: 3-year or 6-year service interval, verification, lubrication, replacement of auxiliaries, adjustments, tests  
- **Low Voltage module**  
  - Function, commissioning, operation  
- Practical work on cells, circuit-breakers and associated control mechanisms

## Audience
- Technicians involved in the operation and maintenance of installations handling voltages between 1 kV and 50 kV

## Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>S004AC</td>
<td>Basic knowledge in electricity and mechanics</td>
<td>M014TC</td>
</tr>
</tbody>
</table>

## Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience  
- Exchanges with an experienced instructor  
- Real hands-on work on electrical equipment  
- Master and optimize the use of your equipment  
- Optimize the qualification and the responsiveness of your staff  
- Limit production stoppages  
- Acquire the “know how” and correct conduct

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**How to register to a session?**

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?

**Go on:** [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Operate and maintain your installed based of withdrawable PIX primary distribution equipment with vacuum breaking.

Course topics
- Review of electrical safety during operating and maintenance operations
- Transient phenomena on closing and opening of switchgear
- Electrical arc
  - Origin, extinction in vacuum
  - Physical properties, electrical properties
- Types of cubicles
  - Functions, operating diagrams
  - General characteristics
  - Mechanical locking facilities
  - Switching operations, operating safety mechanisms
- FH2-01/FK2-01 operating mechanisms and HVX circuit-breakers
  - Presentation, operation, switching
  - Breaking technology (vacuum arc enclosure)
  - Extraction and positioning of moving part (HVX)
  - Level II servicing (Excelec / AFNOR): frequency and operating procedures
- General precautions for equipment servicing
  - Tightening, corrosion, greasing, general servicing
- Hands-on work on cubicles

Audience
- Persons who participate in operating or servicing PIX products

Duration
2 days
40% Theoretical
60% Practical

Price
Contact us

Dates & Place
Contact us

Customer Benefits
- Practical learning on technical documentation and hands-on learning on equipment in real installation environment
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Master and optimize the use of your equipment

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
Objectives
Operation, Design and Function, Inspection and Repair of minor failures. Participants will acquire knowledge of the application, operation and function of the gas-isolated switchgears RM6. Practical activities for operation, maintenance and troubleshooting are taught under expert guidance and performed independently. The characteristics and environmentally handling of SF₆ Gas are shown.

Course topics
- Design and function of gas-isolated switchgears and components
- Design features of the switchgear, gas-filled compartments and bushings
- Design and function of the drive mechanism
- Construction of the High Voltage terminal
- Information and exercises for installation, operation, testing and troubleshooting Environmentally handling with SF₆-Gas; physically and chemical characteristics
- Maintenance
- Safety instructions and procedures
- Overview of the necessary tests and analysis of test and measurement results

Audience
- Operation engineers, Maintenance engineers

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Practice in operating of the switchgear
- Immediate practice of the theoretical knowledge acquired

> How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
### Objectives
Operate and maintain your installed based of SM6 and RM6 secondary distribution products.

### Course topics
- Review of electrical safety during operating and maintenance operations
- Regulations regarding SF₆
- Transient phenomena on closing and opening of switchgear
- Electric arc
  - Origin, extinction in SF₆
  - Physical properties, electrical properties
- Presentation of product range
  - Functions, installation and operating diagrams
  - Mechanical locking facilities
  - Switching operations, operating safety
- RI operating mechanism, LF1 and SF1 circuit-breakers
  - Presentation, operation, switching
  - Level II servicing (Excelec / AFNOR): frequency and operating procedures
- General precautions for equipment servicing
  - Tightening, corrosion, greasing, general servicing
  - Motor mechanism
- Hands-on work on cubicles

### Audience
- Personnel who participate in operating or servicing SM6 and RM6 products

### Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know some of the basics of electrical engineering</td>
<td></td>
<td>M018TC</td>
</tr>
<tr>
<td>and medium voltage</td>
<td></td>
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</tr>
</tbody>
</table>

### Customer Benefits
- Practical learning on technical documentation and hands-on learning on equipment in real installation environment
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Master and optimize the use of your equipment

**How to register to a session?**

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?

Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Conduct preventive and corrective maintenance installation on outdoor switchgear Ringmaster.

Course topics
- Introduction
- Define the main variants and ratings
- Architecture and main components
- Interruption system
- Gas pressure indication
- Endurance characteristics
- Overview of protection system
- Mechanism operation
- Cable testing facility
- Circuit-breaker reset
- Protection reset
- Visual checks

Audience
- Operation engineers, Maintenance engineers

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>K002AC</td>
<td></td>
<td>M025TC</td>
</tr>
<tr>
<td>Getting to know MV and LV switchgear</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Practice in operating of the switchgear
- Immediate practice of the theoretical knowledge acquired

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course
M026TC
GenieEvo Switchgear – Operation & Maintenance

Objectives
Perform preventive and corrective maintenance installation on GenieEvo Switchgear.

Course topics
- Introduction
- Define the main variants and ratings
- Architecture and main components
- Evolis vacuum circuit-breaker
- Controlled air disconnector
- Voltage Transformer
- Endurance characteristics
- Circuit-breaker mechanism operation
- Cable testing facility
- Voltage Transformer compartment
- Protection reset
- Visual checks

Audience
- Operation engineers, Maintenance engineers

Duration
1 day
50% Theoretical
50% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path
<table>
<thead>
<tr>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Practice in operating of the switchgear
- Immediate practice of the theoretical knowledge acquired

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
M029TC
MCset 1 2 3 Switchgear – Use, Installation & Maintenance

Objectives
Perform preventive and corrective maintenance installation on switchgear MCset 1 2 3.

Course topics
- Basic and essential knowledge
  - Medium Voltage approach
  - Range presentation
  - Standard
- Detailed technical points
  - Technical leaflets
  - Special technical points
  - Application on demo units

Audience
- Operation engineers, Maintenance engineers

Duration
2 days
50% Theoretical
50% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>K002AC</td>
<td></td>
<td>M029TC</td>
</tr>
</tbody>
</table>

Getting to know MV and LV switchgear

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Practice in operating of the switchgear
- Immediate practice of the theoretical knowledge acquired

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Increase efficiency to install and maintain Medium Voltage Transformers according to countries rules and standards.

Course topics
- How to choose a Transformer, description and operation
  - Technologies: Oil immersed, Dry type
  - Dielectric liquids
  - Accessories
  - PCB regulations
  - Standards
- Know how to install
  - Installation constraints
  - Substation area
  - Connection
  - Commissioning
  - Electrical measurements
  - Protection
- Know how to maintain
  - Operation, maintenance
  - Usual check-lists
  - Mounting accessories
  - Protection setting
  - Guidance for diagnostic
  - Recommendation for Oil-immersed Transformer
  - Recommendations for Cast resin Transformers
- Factory tours, if feasible

Audience
- Maintenance staff

Duration
3 days
60% Theoretical
40% Practical

Price
Contact us

Dates & Place
Contact us

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
**MICOM002**

MiCOM Px20 and Px40 – Master Class

**Objectives**

Give a comprehensive overview of selected MiCOM Px20 and Px40 relays. Give detail insight into the MiCOM support software, MiCOM S1 Studio.

**Course topics**

- Presentation of MiCOM Px20 and Px40 protection relays ranges and functions
- Setting creation and upload/download
- Event extraction and interrogation
- Disturbance record extraction and interrogation
- Programmable Scheme Logic creation and upload/download
- Measurement monitoring
- Menu text editing

**Audience**

- All MiCOM Px20 and Px40 users
- Technicians, operators and engineers from application or control departments
- Project managers

**Learning Path**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>MICOM002</td>
<td></td>
</tr>
</tbody>
</table>

**Customer Benefits**

- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- A comprehensive insight into the product’s application in the field, its setting and methods of remote interrogation
- Includes in-depth training in the MiCOM relay setting software MiCOM S1 Studio

**How to register to a session?**

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language? Go on: http://www.schneider-electric.com/training and search by typing the title of the course
**Objectives**

Give a comprehensive overview of selected MiCOM Px30 relays. Give detail insight into the MiCOM support software, MiCOM S1 Studio. Detail the relay construction, application, programming and communication.

**Course topics**

- Presentation of MiCOM Px30 protection relays ranges and functions
- Setting creation and upload/download
- Event extraction and interrogation
- Disturbance record extraction and interrogation
- Programmable Scheme Logic creation and upload/download
- Measurement monitoring
- Menu text editing

**Audience**

- All MiCOM Px30 users
- Technicians, operators and engineers from application or control departments
- Project managers

**Learning Path**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Customer Benefits**

- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- A comprehensive insight into the product’s application in the field, its setting and methods of remote interrogation
- Includes in-depth training in the MiCOM relay setting software MiCOM S1 Studio

**How to register to a session?**

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?

Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives

Implement, use and commission Sepam 20, 40 and 80. Know each Sepam Serie in detail.

Course topics

- Sepam offer presentation
- Installation module presentation
- Understand Sepam control logic
- Use parameter setting software SFT2841
- Customize the control logic with equation editor
- Understand and use Sepam HMI
- Logipam introduction
- Configure and test Sepam 20, 40 and 80 from case study

Audience

- Product application engineers
- Service or Technical support Protection team
- Protection engineers

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>SEP01</td>
<td>SEP02 SEP05</td>
</tr>
</tbody>
</table>

Customer Benefits

- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Get used to Sepam protection range
- Be able to select and implement Sepam in your application
- Optimize your automation application and related cost

How to register to a session?

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
MICOM006
Railway Protection

Objectives
Learn the principles and application of railway protection.

Course topics
- Requirements for stream and tension converter for protection applications
- Basics of overcurrent applications
- Basic Transformer-differential protection for feeder lines
- Basic distance protection facilities for overhead line arrangement
- Operating draft and operating programmes
- Overcurrent protection mechanisms MiCOM P138
- Transformer protection facilities MiCOM P638
- Overhead line protection facilities MiCOM P436/P438
- Practical exercise with test facilities as well as settings about PC/notebook
- Exercises for the case evaluation with operating programmes

Audience
- Engineers involved in the protection of railway electricity
- Technicians, operators and engineers from application or control departments
- Project managers

Duration
3 days
30% Theoretical
70% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic principle of power system protection</td>
<td><a href="#">MICOM006</a></td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Participants will have a thorough knowledge of maintaining their protection system
- Participants will increase their fault finding and troubleshooting abilities for the protection system, thus reducing plant shut-down

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
MICOM120
Overcurrent and Feeder Protection – MiCOM P12x and P14x

Objectives
Operate and maintain MiCOM P12x and P14x overcurrent and protection relay.

Course topics
- Reminder of overcurrent and feeder protection application
- MiCOM P12x/P14x functionalities
- Products characteristic
  - Relay HMI: front panel, LEDs, push-buttons, navigation through front panel
  - Alarms and acknowledgement
  - MiCOM S1 Studio software
  - Parameter file creation upload and download
  - Programmable Scheme Logic creation, upload and download
  - Disturbance, fault, event records
  - Detailed presentation of MiCOM P12x/P14x functions
  - Product connection
  - Test with current injection
  - MiCOM P12x/P14x hardware
  - Maintenance
  - Hands-on

Audience
- Electrical engineers
- Operators
- Maintenance engineers
- Protection design engineers

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good knowledge of Electrical Substations, overcurrent and feeder protection principles</td>
<td>MiCOM120</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Participant can test various functions of MiCOM P12x/P14x

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
Objectives
Operate and maintain MiCOM P13x feeder protection relay.

Course topics
- Reminder of feeder protection application
- MiCOM P13x functionalities
- Products characteristic
  - Relay HMI: front panel, LEDs, push-buttons, navigation through front panel
  - Alarms and acknowledgement
  - MiCOM S1 Studio software
  - Parameter file creation upload and download
  - Programmable Scheme Logic creation, upload and download
  - Disturbance, fault, event records
  - Detailed presentation of MiCOM P13x functions
  - Product connection
  - Test with current injection
  - MiCOM P13x hardware
  - Maintenance
  - Hands-on

Audience
- Electrical engineers
- Operators
- Maintenance engineers
- Protection design engineers

Duration
3 days
30% Theoretical
70% Practical

Price
Contact us

Dates & Place
Contact us

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Participant can test various functions of MiCOM P13x

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
VAMP03
Feeder Protection – VAMP protection relays

Objectives
Set a feeder protection scheme with VAMP protections relays and generate faults to test this solution.

Course topics
● Protection functions available in feeder mode
● Active blocking of protection stages using another stages, digital inputs or logic
● Event and fault information tracking from the protection stage and entire relay related event buffers
● Configuration of single line mimic
● Primary object interlocking method
● Auto-recloser configuration and operations
● Overview of the model of the feeder protection system
● Protection of neutral isolated Medium Voltage network, resonant earthed Medium Voltage network, resistive earthed Medium Voltage network, low impedance earthed Medium Voltage network
● Local operation with the feeder terminal
● Settings of the feeder protection
● Testing of non directed short circuit protection
● Testing of the directional earth fault protection
● Testing of broken wire protection
● Disturbance recording

Audience
● Field engineers
● Maintenance technicians
● Substation operators
● Who are interested to understand the feeder protection principles, setting guide and testing

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic understanding of Power Networks</td>
<td>VAMP03</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits

● Possibility of doing this training course on your own site and at your own convenience
● Through practical training, and hardware simulators of a power distribution system, the trainee will be able to set a feeder protection scheme and generate faults to test his solution
● Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
MICOM121
Motor Protection – MiCOM P22x and P24x

Objectives
Operate and maintain MiCOM P22x and P24x motor protection relay.

Course topics
- Reminder of motor protection application
- MiCOM P22x/P24x functionalities
- Products characteristic
  - Relay HMI: front panel, LEDs, push-buttons, navigation through front panel
  - Alarms and acknowledgement
  - MiCOM S1 Studio software
  - Parameter file creation upload and download
  - Programmable Scheme Logic creation, upload and download
  - Disturbance, fault, event records
  - Detailed presentation of MiCOM P22x/P24x functions
  - Product connection
  - Test with current injection
  - MiCOM P22x/P24x hardware
  - Maintenance
  - Hands-on

Audience
- Electrical engineers
- Operators
- Maintenance engineers
- Protection design engineers

Duration
2 days
30% Theoretical
70% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good knowledge of Electrical Substations and motor protection principles</td>
<td>&gt;</td>
<td>MICOM121</td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Participant can test various functions of MiCOM P22x/P24x

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
VAMP07
Motor Protection – VAMP protection relay

Objectives
Set a generator protection scheme with VAMP protections relays and generate faults to test this solution.

Course topics
- Characteristics of asynchronous motors
- Calculation of setting values using the motor name plate values
- Overcurrent protection, High-set over-current
- Current unbalance protection
- Stall protection
- Thermal overload protection including cyclic overload
- Temperature measurement
- Earth fault protection
- Undercurrent protection
- Disturbance recorder file analyzing methods
- Auto-reclosing operations
- Disturbance recording
- Setting and configuration of VAMP 40 for motor protection application
- Testing the motor
- Earth fault test
- Loading conditions, unbalance
- Measurement and recording overview of the model of the feeder protection system
- Measurements and disturbance recording

Audience
- Field engineers
- Maintenance technicians
- Substation operators
- Who are interested to understand the fault dynamics and test the efficiency of the protection relays at predefined fault

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td>VAMP07</td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Through practical training, and hardware simulators of a three phase motor testing system, the trainee will be able to set a protection scheme and generate faults to test his solution
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Operate and maintain MiCOM P34x generator protection relay.

Course topics
- Reminder of generator protection application
- MiCOM P34x functionalities
- Products characteristic
  - Relay HMI: front panel, LEDs, push-buttons, navigation through front panel
  - Alarms and acknowledgement
  - MiCOM S1 Studio software
  - Parameter file creation upload and download
  - Programmable Scheme Logic creation, upload and download
  - Disturbance, fault, event records
  - Detailed presentation of MiCOM P34x functions
  - Product connection
  - Test with current injection
  - MiCOM P34x hardware
  - Maintenance
  - Hands-on

Audience
- Electrical engineers
- Operators
- Maintenance engineers
- Protection design engineers

Duration
3 days
30% Theoretical
70% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good knowledge of Electrical Substations and generator protection principles</td>
<td></td>
<td>MICOM122</td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Participant can test various functions of MiCOM P34x

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
VAMP05
Generator Protection – VAMP protection relay

Objectives
Set a generator protection scheme with VAMP protections relays and generate faults to test this solution.

Course topics
- System overview
- Protection of Generator at Grid Connection
- Stator earthing methods
- Over-Current protection
- Reverse Power protection
- Loss of Excitation Protection
- Stator winding fault protection
- Stator inter-turn fault protection
- Stator earth fault protection
- Over-voltage protection
- Under/over frequency protection
- Under-balance protection
- Unbalance protection
- Disturbance recording

Audience
- Field engineers
- Maintenance technicians
- Power plant operators
- Who are interested to understand the fault dynamics in a generator and how VAMP protection relays protect machines

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>VAMP05</td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Through practical training, and simulators of a power plant, the trainee will be able to set a protection scheme and generate faults to test his solution. He/she can also test the efficiency of the protection relay at different fault situation, which could be impossible to test in a real situation
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Operate and maintain MiCOM P44x distance protection relay.

Course topics
- Reminder of distance protection application
- MiCOM P44x functionalities
- Products characteristic
  - Relay HMI: front panel, LEDs, push-buttons, navigation through front panel
  - Alarms and acknowledgement
  - MiCOM S1 Studio software
  - Parameter file creation upload and download
  - Programmable Scheme Logic creation, upload and download
  - Disturbance, fault, event records
  - Detailed presentation of MiCOM P44x functions
  - Product connection
  - Test with current injection
  - MiCOM P44x hardware
  - Maintenance
  - Hands-on

Audience
- Electrical engineers
- Operators
- Maintenance engineers
- Protection design engineers

Duration
3 to 5 days
30% Theoretical
70% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good knowledge of Electrical Substations and distance protection principles</td>
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</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Participant can test various functions of MiCOM P44x

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
Objectives
Operate and maintain MiCOM P43x distance protection relay.

Course topics
- Reminder of distance protection application
- MiCOM P43x functionalities
- Products characteristic
  - Relay HMI: front panel, LEDs, push-buttons, navigation through front panel
  - Alarms and acknowledgement
  - MiCOM S1 Studio software
  - Parameter file creation upload and download
  - Programmable Scheme Logic creation, upload and download
  - Disturbance, fault, event records
  - Detailed presentation of MiCOM P43x functions
  - Product connection
  - Test with current injection
  - MiCOM P43x hardware
  - Maintenance
  - Hands-on

Audience
- Electrical engineers
- Operators
- Maintenance engineers
- Protection design engineers

Duration
3 to 5 days
30% Theoretical
70% Practical

Price
Contact us

Dates & Place
Contact us

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Participant can test various functions of MiCOM P43x

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
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<tbody>
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<td>Good knowledge of Electrical Substations and distance protection principles</td>
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</table>

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Operate and maintain MiCOM P436 and P438 railway distance protection relay.

Course topics
- Reminder of the specific characteristic of railway protection applications
- MiCOM P436 and P438 functionalities
- Products characteristic
  - Relay HMI: front panel, LEDs, push-buttons, navigation through front panel
  - Alarms and acknowledgement
  - MiCOM S1 Studio software
  - Parameter file creation upload and download
  - Programmable Scheme Logic creation, upload and download
  - Disturbance, fault, event records
  - Test with current injection
  - MiCOM P436 and P438 hardware
  - Maintenance
  - Hands-on

Audience
- Electrical engineers
- Operators
- Maintenance engineers
- Protection design engineers

Duration
3 to 5 days
30% Theoretical
70% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
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<tbody>
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Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Operate and maintain MiCOM P52x and P54x line differential protection relay.

Course topics
- Reminder of line differential protection application
- MiCOM P52x and P54x functionalities
- Products characteristic
  - Relay HMI: front panel, LEDs, push-buttons, navigation through front panel
  - Alarms and acknowledgement
  - MiCOM S1 Studio software
  - Parameter file creation upload and download
  - Programmable Scheme Logic creation, upload and download
  - Disturbance, fault, event records
  - Detailed presentation of MiCOM P52x and P54x functions
  - Product connection
  - Test with current injection
  - MiCOM P52x and P54x hardware
  - Maintenance
  - Hands-on

Audience
- Electrical engineers
- Operators
- Maintenance engineers
- Protection design engineers

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
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</thead>
<tbody>
<tr>
<td>Good knowledge of Electrical Substations</td>
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<td>MiCOM124</td>
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<tr>
<td>and differential protection principles</td>
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</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Participant can test various functions of MiCOM P52x and P54x

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Operate and maintain MiCOM P92x voltage and frequency protection relay.

Course topics
- Reminder of voltage and frequency protection application
- MiCOM P92x functionalities
- Products characteristic
  - Relay HMI: front panel, LEDs, push-buttons, navigation through front panel
  - Alarms and acknowledgement
  - MiCOM S1 Studio software
  - Parameter file creation upload and download
  - Programmable Scheme Logic creation/upload and download
  - Disturbance, fault, event records
  - Detailed presentation of MiCOM P92x functions
- Product connection
- Test with current injection
- MiCOM P92x hardware
- Maintenance
- Hands-on

Audience
- Electrical engineers
- Operators
- Maintenance engineers
- Protection design engineers

Duration
1 to 3 days
30% Theoretical
70% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good knowledge of Electrical Substations, voltage and frequency protection principles</td>
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<td>MiCOM125</td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Participant can test various functions of MiCOM P92x

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Operate and maintain MiCOM P63x/P64x differential Transformer protection relay.

Course topics
- Reminder of Transformer protection application
- MiCOM P63x/P64x functionalities
- Products characteristic
  - Relay HMI: front panel, LEDs, push-buttons, navigation through front panel
  - Alarms and acknowledgement
  - MiCOM S1 Studio software
  - Parameter file creation, upload, and download
  - Programmable Scheme Logic creation, upload, and download
  - Disturbance, fault, event records
  - Detailed presentation of MiCOM P63x/P64x functions
- Product connection
- Test with current injection
- MiCOM P63x/P64x hardware
- Maintenance
- Hands-on

Audience
- Electrical engineers
- Operators
- Maintenance engineers
- Protection design engineers

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good knowledge of Electrical Substations and power Transformer protection principles</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Participant can test various functions of MiCOM P63x/P64x

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Set a Transformer protection scheme with VAMP protections relays and generate faults to test this solution with a hardware simulator of a real power Transformer.

Course topics
- Differential protection operation principle
- Connections and vector group of the Transformer
- Settings of the differential protection
- Measurements
- Differential current and biasing current
- Second harmonic blocking
- Disturbance recording
- Overview of the model of the power Transformer
- Differential protection operation principle
- Connections and vector group of the Transformer
- Settings of the differential protection
- Measurements and calibrations
- Definition of the operating characteristics
- Differential current and biasing current
- Transformer internal faults and their generation
- Testing against internal faults
- Second harmonic blocking
- Disturbance recording

Audience
- Field engineers
- Maintenance technicians
- Substation operators
- Who are interested to understand the fault dynamics in and test the efficiency of VAMP protection relay

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td>VAMP09</td>
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</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Through practical training, and hardware simulators of a power Transformer, the trainee will be able to set a protection scheme and generate faults to test his solution. He/she can also test the efficiency of the protection relay at different fault situation, which could be impossible to test in a real situation
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
Objectives
Operate and maintain MiCOM P74x and MiCOM P746 busbar protection relay.

Course topics
- Overview of busbar protection application
- MiCOM P740 and P746 functionalities
- IO Box MiCOM P849
- MiCOM P740 distributed architecture: system architecture, presentation of the different modules, communication between modules
- MiCOM P746 centralized architecture
- Topology: principles, examples, configuration, virtual feeder
- Module HMI: front panel, LEDs, push-buttons, navigation through front panel
- Alarms & acknowledgement
- MiCOM S1 Studio software, Dynamic Synoptic (MiCOM P740) and P746 Remote HMI (MiCOM P746)
- Parameter file creation, upload and download
- PSL file creation, upload and download
- Disturbance, fault, event records
- Test with current injection
- MiCOM P740 and P746 hardware
- Maintenance facilities
- Hands-on

Audience
- Electrical engineers
- Operators
- Maintenance engineers
- Protection design engineers

Duration
5 days
50% Theoretical
50% Practical

Price
Contact us

Dates & Place
Contact us

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Real hands-on work on electrical equipment
- Participant can test various functions of MiCOM P740 and P746

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
Objectives
Know the advanced features of Sepam 80.
Use and Implement advanced functions of Sepam 80.
Use advanced control logic.
Create a complete control logic with Logipam software.
Create and customize the mimic editor.

Course topics
- Understand advanced HMI
- Use advanced functions of SFT2841
- Understand and use the advanced control logic (Automatic Transfer Scheme)
- Practical example and exercises
  - Customize the control logic (SFT2885)
  - Customize the mimic (Mimic Editor)
  - Customization using Equation Editor
  - Practice with Mimic Editor and Logipam, tested with Sepam 80

Audience
- Product application engineers
- Service or Technical support Protection team
- Protection engineers

Duration
3 days
30% Theoretical
70% Practical

Price
Contact us

Dates & Place
Contact us

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Get used to Sepam protection range
- Optimize your automation application and related cost
- Get a deep understanding of Sepam 80 and related software

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
Objectives
Get used to the configuration and the commissioning of IEC 61850 for Sepam range.
Understand IEC 61850 protocol.

Course topics
- Ethernet TCP/IP overview
- Discover IEC 61850 protocol
- IEC 61850 level 1 solutions
- IEC 61850 level 2 solutions (GOOSE)
- Ethernet architectures recommendations
- Customize SCL files
- Control operation with IEC 61850

Audience
- Communication engineers
- Product application engineers
- Service or Technical support Protection team
- System integrators

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Take full advantage of IEC 61850 communication protocol which is a standard for industry

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
Objectives
Know the advanced features of Sepam 60.
Use and Implement Sepam 60.
Use control logic.
Create a complete control logic with Logipam software.
Create and customize the mimic editor.

Course topics
- Use advanced functions of SFT2841
- Customize the control logic (SFT2885)
- Practical example and exercises
- Practice with the Logipam software and tested with a Sepam 60

Audience
- Product application engineers
- Service or Technical support Protection team
- Protection engineers

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
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</thead>
<tbody>
<tr>
<td>SEP01</td>
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<td>SEP05</td>
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</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Get a deep understanding of Sepam 60 and related software
- Optimize your automation application and related cost

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
DCS020
Configuration of IEC 61850 communication on MiCOM Px30 and Px40 series

Objectives
Setup IEC 61850 parameters on MiCOM Px30 Px40 series.
Use IED Configurator from MiCOM S1 Studio.

Course topics
- Basic knowledge of IEC 61850 focusing on protection engineering & field engineers needs
- Service, modeling, network architectures, configuration files, time synchronization, Goose and reports, control
- Hands-on
  - IED Configurator use
  - SCL file management
  - Protection relay identification and basic parameters
  - Time synchronization management
  - Protection relay data model through the documentation
  - Data Set creation
  - Report Control Block use
  - Goose configuration
  - Control configuration

Audience
- Technicians
- Design engineers
- Protection engineers
- Commissioning engineers

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
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</thead>
<tbody>
<tr>
<td>MiCOM002</td>
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<td>MiCOM004</td>
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</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor
- Take full advantage of IEC 61850 communication protocol which is a standard for industry

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course
VAMP01
VAMP Protection relays – Communication

Objectives
Understand benefits of different communication protocols used in utility and industrial installations, and get basic knowledge of the protocols in VAMP protection relays.

Course topics
- Protection functions available in feeder mode
- Historical view to communication protocols
- Communication protocols requirements to industrial and utility systems
- Communication protocols used in industrial applications
- Communication protocols used in utility applications
- Tools used for protocol performance evaluation
- Communication gateway requirements for different protocols

Audience
- Field engineers
- Maintenance technicians
- Substation operators
- Protection system designers
- Who are interested to focus on basics of the protocols used in protection relays

Learning Path

<table>
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<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>VAMP01</td>
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</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Through practical training, and hardware simulators, the trainees will learn how to use VAMPSET Configuration Software features
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
**Objectives**

Introduce new user to the HMI of the protection relay series Vamp 50, Vamp 200, Vamp 300 series.

**Course topics**

- Description of VAMP front panel and its structure
- The use of the LCD and keys
- Reading the alarm indicators
- Menu structure and description
- Navigation in the menu
- Configuration and settings
- Calibration and event reading

**Audience**

- Field engineers
- Maintenance technicians
- Substation operators
- Who are interested to focus on the core protection functionality of the relay by mastering quickly the operation of the VAMP devices

**Learning Path**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
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<tbody>
<tr>
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</table>

**Customer Benefits**

- Possibility of doing this training course on your own site and at your own convenience
- Through practical training, and hardware simulators, the trainees will learn how to use VAMP relays features
- Exchanges with an experienced instructor

**How to register to a session?**

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?

Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Introduce new user to VAMPSET configuration software for VAMP protection relays.

Course topics
- Getting started
- Communication Settings
- Language support
- Programme settings
- Relay configuration window
- Relay setting Groups
- Disturbance Record Evaluator
- Navigation in the menu
- Configuration and settings
- Event reading
- Creation of project structure in VAMPSET
- Configuration example
  - Relay addressing, scaling CT & VT, selection of protection stages, object and mimic configuration, output matrix determination, testing object control

Audience
- Field engineers
- Maintenance technicians
- Substation operators
- Who are interested to focus on the core protection functionality of the relay by mastering quickly the operation of the VAMP devices

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
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<tbody>
<tr>
<td>VAMPO6</td>
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</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Through practical training, and hardware simulators, the trainees will learn how to use VAMPSET Configuration Software features
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Understand and use the compact RTU MiCOM C264. Understand how the new compact RTU allows decentralized control and monitoring.

Course topics
- Functionalities of Compact RTU
- MiCOM C264: field area / Functionalities / Architecture
- RTU: hardware and software architecture
- Human Machine Interface
- Configuration Tools
- Maintenance: 1st level / error messages
- Hands-on

Audience
- Technicians and engineers from design or control departments
- Project managers
- Operation / maintenance engineers

Customer Benefits
- Real hands-on on electrical equipment
- Gives operation and maintenance teams autonomy in their daily jobs
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
Objectives

Give an overview of the architecture and the task setting with the digital control system environment. Understand what a digital Control System is. Have a good understanding of PACiS solution, as well as on the functional capabilities, operation and maintenance point of view.

Course topics

- Introduction to Digital Control system (DCS)
- Global overview of DCS: architecture, communication principles, IEDs, bay computers, gateways, operator Interface
- Introduction to IEC 61850 communication standard
- DCS specification principles
- Architecture examples
- PACiS architecture, elements, communication principles, operation principles
- PACiS tools
- MiCOM C264 bay computer
- PACiS Operator Interface, alarm, control, security
- PACiS maintenance Tools and process
- Hands-on

Audience

- Technicians and engineers from design or control departments
- Project managers
- Operation / maintenance engineers and Managers

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Substation: Basic knowledge</td>
<td>&gt;</td>
<td>DCS007</td>
</tr>
</tbody>
</table>

Customer Benefits

- Real hands-on on electrical equipment
- Brings key knowledge on digital control systems
- Gives the necessary knowledge to understand the corresponding advantages and application, applied on PACiS
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?

Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Learn the basics of PACiS.
Provide an overview of PACiS architecture and components focusing on PACiS Operator Interface and how to operate the system.

Course topics
- PACiS architecture, elements, communication principles, operation principles
- PACiS Operator Interface, screen views, alarm, log, control, command, security
- Hands-on at PACiS Operator Interface
- MiCOM C264 bay computer
- Hands-on with MiCOM C264
- Maintenance level 1

Audience
- Operators, electrical staff of PACiS system

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td>DCS008</td>
</tr>
</tbody>
</table>

Duration
3 days
30% Theoretical
70% Practical

Price
Contact us

Dates & Place
Contact us

Customer Benefits
- Real hands-on on electrical equipment
- Brings key knowledge on digital control systems
- Participants will be able to operate the PACiS system
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
Objectives
Learn how to use PACiS.
Get an overview of various subjects allowing participants to understand the PACiS Integrated solution.
Learn how to operate, define the subsets and carry out maintenance on the system.

Course topics
- Introduction to the Digital Control System
- Field area/ functionalities/ architecture
- PACiS Operator Interface: Human Machine Interface / Alarm monitoring / Control / Security
- C264 bay computer: functionalities / Hardware overview / Maintenance troubleshooting & commissioning
- Database of the system / Process configuration / Configuration editor / Database management
- PACiS gateway for Scada communication
- Hands-on

Audience
- Technicians and engineers from design or control departments,
- Project managers
- Operation / maintenance technicians

Duration
5 days
50% Theoretical
50% Practical

Price
Contact us

Dates & Place
Contact us

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic knowledge of Electrical Substation and good knowledge of Windows</td>
<td>DCS009</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Real hands-on on electrical equipment
- Provides the knowledge necessary to understand the advantages and application of the PACiS digital control system
- Gives operation and maintenance teams autonomy in their daily job
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives

Know how to use EcoSUI, operate and monitor processes.

Course topics

- Functionalities (Monitoring, remote control & events recorder)
- Eco-SUI HMI overview and use
- Focus on Operator interface
  - Single line diagrams presentation and use
  - System view
  - Commands
  - Faulty equipments diagnostic (system view & events)
  - Alarm management
  - Users management (number and kind of profiles)

Audience

- Final user Operation engineer using EcoSUI
- Engineer willing to discover EcoSUI

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basics of Control Command</td>
<td><a href="#">DCS010</a></td>
<td>&gt;</td>
</tr>
</tbody>
</table>

Customer Benefits

- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?

Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Get an overview of ArcGIS + ArcFM. Discover Responder.

Course topics
- Introduction to GIS and data management
- Explore concepts SIG / Presentation and query data / Spatial data
- Editing tables and georeferenced data / Presentation thereof / Equipment library management / Editing a library / Catalog Management / Editing Tools / Editing spatial data using ArcFM
- Presentation of data / Changing preloaded data
- Layers and symbology maps / Templates / Client connection to electrical network / Drawing tools (Tracing) / Types and Tools
- Basis of Responder

Audience
- Users who require a basic knowledge of ArcGIS tool or intend to use tools that require ArcGIS software as a basis (e.g. based on ArcFM applications)

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td>DCS011</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
DCS012
Distribution Management System – Overview

Objectives
Understand DMS/Scada systems.
Get an overview of the system set installed by DMS and OASyS DNA.

Course topics
- SCADA / DMS Systems / Global System Functionality
- Description of Hardware and Software Architecture
- Global and Detailed functionality of SCADA OASyS
- Global and Detailed functionality of DMS
- Product Description
- Database Real Time Structure
- Operation machines / Description of Supported Functions
- Historical / Description of Historical Database
- Tasks and Operations
- Installation / Configuration / Operation / Maintenance and Administration

Audience
- Users who want an overview of all aspects of the system set installed by DMS and OASyS DNA

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td></td>
<td>DCS012</td>
</tr>
</tbody>
</table>

Customer Benefits
- Operation and Administration in DMS
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Know the overall system functionality SCADA / DMS System. Know Dynamic Mimic Diagram and OASyS DNA.

Course topics
- Description of Hardware and Software Architecture
- Database Real Time / Duality / State of Services
- Historical / Description of Historical Data Base
- DMS Operating Environment
- DMD - User Interface
- Elements of Network Diagram
- Navigation Options in DMD / Operation modes / Dispatching
- Graphic Operator Interface / Operation modes / Case Studies / Daily Activities
- State of breaker element / Measures / Basic and Advanced Network Functions
- Operating Environment SCADA
- Navigation between Graphics
- Lists of Signals / Operations on lists / Communication: PLC’s, connections
- Alarms and Events / Reports / Curves

Audience
- Users who are responsible for the operation and control system monitored by DMS with DNA OASyS

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td></td>
<td>[DCS013]</td>
</tr>
</tbody>
</table>
Objectives
Know the overall system functionality SCADA / DMS System.
Know Dynamic Mimic Diagram.
Know Network Builder.

Course topics
- Functionality / Storage Architecture
- Starting and Stopping the System / Supervision
- DMD: Dynamic Mimic Diagram
- Operation Interface / Joint Scheme and Detailed View / Details of Network Elements
- Breaker elements states / Basic and Advanced Network Functions
- Symbol Editor (SE)
- Configuration symbols / Graphics Editor
- Builder Network (DNB / Builder)
- Elements catalog / Type Curves / Bays and other elements
- Configuring Acquisition and Control Elements / Electrical and Graphic Design Network
- Management Options(DNO): Parameterizing Functions / Visible attributes / Appearance

Audience
- Users who are responsible for the operation and control system monitored by OASyS and who have to configure DMS functions

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td>DCS014</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Operation and Administration in DMS
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Know Metso DNA system, EAS and Basic logic blocks.

Course topics
- Metso DNA system
- Processors. E/S Cards and power cards
- Communications
- Architectures
- Metso engineering tool EAS
- Scheduling E/S wired
- Real-time signal Monitoring
- Forcing logic signals. Interlocks
- Basic logic blocks
- Alarm levels. Missed field readings
- Search by cross-reference signal

Audience
- Users who are responsible for the maintenance and administration the system supervised by Metso DNA system at user level

Duration
4 days
100% Theoretical

Price
Contact us

Dates & Place
Contact us

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td>&gt; DCS015</td>
<td>&gt;</td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of maintenance and administration in Metso DNA
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
**Objectives**

- Know the overall system functionality SCADA / DMS System.
- Know Dynamic Mimic Diagram.
- Know Network Builder.

**Course topics**

- Structure Desk of DNAuse
- Control panel
- Working with screens. Navigation
- Alarms and Events
- Data Presentation / Equipment and processes states
- PID Controller
- Valves / Measures
- Engines / Actuators
- Sequences
- Trends window

**Audience**

- Users who are responsible for the operation and control of system overseen by Metso DNA

**Learning Path**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td></td>
<td>DCS016</td>
</tr>
</tbody>
</table>

**Customer Benefits**

- Possibility of operation in Metso DNA
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

**How to register to a session?**

Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?

Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Use Fbcad.
Understand DNAuseEditor.
Use Debugging tools.
Use Engineering tools.

Course topics
- Metso DNA environment
- DNAexplorer / Function Explorer
- Automation language / Function blocks / Application examples
- Functionalities Fbcad
- Programming E / S wired, control loops, motors and valves
- Alarms and graphics editing process / Monitoring real-time signals
- Forcing logic signals / Interlocks / Basic logic blocks / Sequence analysis
- Alarm levels / Missed field readings / Search by cross-reference signal
- Functionalities / DNAuseEditor: Basic programming functionalities and dynamic elements
- Debugging Tools: Diagnostics tools / Debugger / Function-test
- Historical database (Metso IA)
- Enable signals / Monitoring the size of the DB
- Implementation and backup recovery of historic data

Audience
- Users who are responsible of developing new applications in Metso DNA

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td>DCS017</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of maintenance & administration as well as developing new applications in Metso DNA
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
Objectives
Have an overall idea of OASyS.
Have initial notions about security and multiple OASyS configurations.
Introduce OASyS database structure.

Course topics
- Overview of a SCADA
- Description of OASyS services
- Initial notions about security
- OASyS configuration
- Topologies
- Hardware and Software Architectures
- Configuration examples
- Alarms and Events
- Brief introduction to OASyS database structure

Audience
- Users who want to acquire a first approach to OASyS DNA

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td>DCS018</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- First approach to OASyS DNA
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Have an overall idea of OASyS.
Operate Environment and Navigation between Graphics.
Communications.
Control over field devices.

Course topics
- System description and services
- Topology
- Operating Environment and Navigation between Graphics
- Lists of Signals and Operations on them
- Communications: Remote and Connections
- Alarms and Events
- Operations on Points
- Control Signals
- Reports
- Curves: Historical and Real Time

Audience
- Users who are responsible for the operation and control of system overseen by OASyS DNA

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td>[DCS019]</td>
<td>&gt;</td>
</tr>
</tbody>
</table>

Customer Benefits
- Operational environment in OASyS DNA
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Know OASyS DNA Software architecture.
Access Layer database and Virtual layer.
Application Programming on OASyS DNA.
Know ODBC & OASyS APIs.

Course topics
- OASyS DNA Software architecture
- Access Layer database, Virtual layer
- Basic and Network Infrastructure
- Security, Active Directory
- Middleware
- Distributed OASyS DNA
- Process functionality / Start and Stop Processes / Communication Processes
- Inclusion of new OASyS processes
- Application Programming on OASyS DNA / Sample Application
- ODBC: basis, examples and practices
- OASyS APIs: basis, examples and practices

Audience
- Users who are responsible for developing new applications on OASyS DNA, based on obtaining information from the real-time and historical database

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td><a href="#">DCS021</a></td>
<td><a href="#">DCS021</a></td>
</tr>
</tbody>
</table>

Customer Benefits
- Developing new applications in OASyS DNA
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course
Objectives
Design of the Graphical User Interface.
Know eXtended Editor.
Get Distribution processes.
Know eXtended Editor Overview of XE environment.

Course topics
- Design of the Graphical User Interface
- Getting to ezXOS environment, the graphical database and distribution processes
- eXtended Editor
- Generic Objects and Controls
- .NET Controls
- VB.NET Basic Programming
- Tips and Tricks

Audience
- Users who are responsible for the development and customization of project drawings in environment of SCADA OASyS DNA

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td></td>
<td>DCS022</td>
</tr>
</tbody>
</table>

Customer Benefits
- Graphics development within OASyS DNA using eXtended Editor
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Design of the Graphical User Interface.
Know eXtended Editor.
Get Distribution processes.
Know eXtended Editor Overview of XE environment.

Course topics
- Description of OASyS services
- Network Management Console (NMC) / Monitoring and Status Icons
- Permissions and Authorizations
- Services, Systems and Machines
- Data Acquisition and Communications
- Real Time Database (RTDB) / Table structure / Backups
- ACE routines (calculation engine)
- Historical Database / Recovery, Access and queries
- Archive

Audience
- Users who are responsible for the maintenance and administration supervised by OASyS DNA system

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td>DCS023</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Administration and maintenance of OASyS DNA
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Know Standard basis.
Know SCL Tool.
Know Bin Controller 61850.

Course topics
- Content Standard. Fundamental concepts and data model
- SCL language. Introduction and file types
- Configuration file "CID.xml" (Configure IED Description)
- Description and file structure
- Configuration file "SCD" (Substation Configuration Description)
- Description and file structure, configuration
- Bin Controller IEC 61850
- Importing files needed
  - Configuration as 'Server', 'Goose' or 'Client'
  - Other configuration parameters
- Setting coordinate CoreDB

Audience
- Users who are responsible for the configuration and equipment maintenance Saietel communicating under this standard

Customer Benefits
- Knowledge of the standard
- Configuration of the database using IEC 61850
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course
Objectives
Configure hardware and software.
Configure Database.
Generate configuration files.
Introduce to Isagraf (Logic Programme).

Course topics
- Introduction to Remote Systems / Architecture of such systems
- Modules Saitel 2000 DP
- Functional Description and Hardware / Hardware and Software Configuration
- Diagnosis and Treatment of Abnormalities / Indicators
- Configuration Database / Terminal operations
- Signal generation and modification of existing
- Generating configuration files / Loading and monitoring of BD
- Introduction to IsaGraf (Logic Programme)
- Project Management Logic / Introduction to programmes: consultation and analysis / FBD language
- Connection to the system CPU / Maintenance and monitoring of the project

Audience
- Users who are responsible for the maintenance of the system monitored by Saitel DP or DR

Learning Path
<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows operating system at user level</td>
<td>DCS025</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Maintenance and monitoring of the project
- Configuration of the database
- Introduction to logics
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Know how to use, install and perform a maintenance on Easergy range equipments.

Course topics
- **Introduction**
  - Easergy range presentation and Technical reminder about earthing systems and communication
- **Easergy T200I serie 3**
  - Installation
  - Commissioning
  - Operation
  - Maintenance
- **Easergy T2000 P**
  - Installation
  - Commissioning
- **Easergy L500 supervisor**
  - Installation
  - Easergy L500 configurator
  - Easergy L500 supervisor
- **Easergy G200 & Flite 116SA**
- **Flair 200C & Flair 5xx**
  - Functionality description
  - Software Configuration

Audience
- All people interested in the Energy sector

**Learning Path**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of electrical networks &amp; knowledge in communication</td>
<td>EASERO2</td>
<td></td>
</tr>
</tbody>
</table>

Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
iRIO01
iRIO / XFLOW – Basics

Objectives
Know how to install on-site iRIO / Xflow products and how to perform a maintenance on it.

Course topics
- Introduction
  - Equipment installation and maintenance
  - Schneider Electric Telecontrol
  - Presentation of iRIO hardware
  - Installation
- Software Xflow
  - Presentation of functionalities
  - On-site implementation & maintenance
  - RTU programmation
  - Kervisu presentation

Audience
- People interested in Easermtry range and how to use it

Dates & Place
Contact us

Learning Path

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Training</th>
<th>Next Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of sensors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4-20 mA, Pt 1000, etc.)</td>
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Customer Benefits
- Possibility of doing this training course on your own site and at your own convenience
- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: http://www.schneider-electric.com/training and search by typing the title of the course.
Objectives
Know how to programme the equipment and dedicated operation.

Course topics
- Possible content – to be adapted to participants requirements
- Calculation formulae, time schedules, automated control systems: advanced course, synoptic
- Inter-site Links
- MODBUS networking and supervision of RTUs
- Advanced maintenance functions
- Xflow table structures
- Presentation of hardware and software developments
- Communication protocols (Modbus, jbus, etc.)

Audience
- People knowing Xflow software and looking for more advanced knowledge

Learning Path

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Customer Benefits
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How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Know how to use and configure Kerwin software.

Course topics
- Software installation, getting started, initial configuration
- Configuring communication with RTUs
- Configuring W@de X series
- History and measurement files
- Creating graphics, synoptic, workgroups and site groups
- Configuring task scheduler, call procedures, charts
- Operation from Kerwin, from Kerweb

Audience
- People willing to know how to use and configure Kerwin software

Duration
3 days
100% Theoretical

Price
Contact us

Dates & Place
Contact us

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Customer Benefits
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- Exchanges with an experienced instructor

How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
Go on: [http://www.schneider-electric.com/training](http://www.schneider-electric.com/training) and search by typing the title of the course.
Objectives
Know how to commission and perform a maintenance on W310 products.

Course topics
- Presentation of Schneider Electric Telecontrol
- Presentation of W310
- On-site installation and implementation
- Presentation and use of Kervisu
- General presentation of W310 software and available possibilities
- Operation from Kerwin
- Level 1 maintenance operations: diagnostic tools and on-site methods of analysis

Audience
- Engineers commissioning and performing maintenance on W310 product

Learning Path

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Customer Benefits
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How to register to a session?
Be directly in contact with your nearest training center? Find more trainings? Find it in your own language?
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