





# The PMU Education Kit

Hands-on training, available at your fingertips.



This kit is a designed so that your staff can test code, create advanced frameworks, and gain more in-depth experience with the meters they use every day, without disrupting your facility's production environment.

time

This kit is also great for educational institutions specializing in power engineering and for individuals who need to demonstrate meter functionality.

Part number: PMUTRAINLAB9

#### Kit includes:

- Training Lab Station
  - ION9000
  - PM8000
  - PM5500
- Instruction Guide
- Workbook
- Travel Case

To order, contact your sales rep or visit pmutraining.com/educationKit.cfm

# **Power Management University**

### Where knowledge saves you money.

Whether you generate, transmit, distribute, or consume electricity, today's energy market is more complex than ever. Schneider Electric™ provides comprehensive solutions to develop a long-term energy action plan for your business. Understanding these solutions is key to improving energy performance. Allow our professional training staff and training options to lead you on your journey to optimize performance and maximize the return on your investment.

- What is Power Management University (PMU)?
- Why do you need to attend a PMU training course?
- What type of training does PMU offer?
- How can you attend PMU training?

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## Who is PMU?

### Who is Power Management University (PMU)?

PMU consists of a group of industry professionals with diverse backgrounds dedicated to providing the absolute "best-in-class" training experience for all attendees. PMU instructors have over 75 years of cumulative experience and carry qualifications such as:

- · Certified Energy Manager®
- Business Energy Professional
- · Professional Engineer
- · Pragmatic Marketing Certified
- OPC® Level 1 and 2 Certified
- LEED® Certification

### Why do you need to attend a PMU training course?

Attending a PMU-sponsored course will enable the attendees to more quickly utilize their Schneider Electric power monitoring system. This allows those attendees to see an increased ROI and ensures their facility will realize energy savings as quickly as possible.

### What type of training does PMU offer?

PMU offers a wide variety of targeted power monitoring solution courses, including standard and custom courses. PMU's commitment to ensuring attendees understand all the tools available to them with their new power monitoring system allows the attendees' employers to meet and, often, exceed their energy plan goals.

### How can you attend training?

PMU offers a variety of training mediums, including:

- Instructor-Led classroom training
- · On-site, instructor-led classroom training
- · Consulting (one-on-one) training
- · On-Demand Campus self-guided training
- · ETrainers Self-paced online learning modules

# Training Options for the Customer

### Factory training

Our training center in Franklin, TN offers a variety of courses that teach students how to utilize and get the most from their Schneider Electric power monitoring products. Each course focuses on different roles and needs, from the product and our instructors train to the "Why" more than the "What." Students develop proficiency through a variety of hands-on exercises and quality instruction. To learn more about our specific class offers, please go to the "Factory Training" section of this catalog.

In addition to the training, customers will be at the location where the products are designed, developed, and supported. Within this environment, face-time with people who can make a difference for you and your company is invaluable.



Go to the Factory Training section of this catalog to view the courses offered.

#### **PMUTV**

These videos are free and can be shared with anyone who can benefit from the information presented. They are designed to present information in an easy-to-understand, efficient manner.

Karl's Corner - Product-agnostic videos designed to teach the fundamentals and value of Power Monitoring.

Get Connected - Tips and tricks to help you make the most of your Power Monitoring Expert system.

**EcoStruxure Power -** Solve big picture problems by exploring case studies using the EcoStruxure Power system.

Dr. ION - Learn about Schneider Electric's offer for Utility Metering, including ION meters and software customization.



Visit www.pmutraining.com and select PMUTUBE from the top menu to see all of the videos we offer.

### Web education

#### **On-Demand Campus:**

On-Demand Campus is a paid subscription based offer that provides the customer with access to over 200 product how-to videos. PMU On-Demand Campus offers access to training anytime and anywhere with an internet connection.



Visit www.pmutraining.com/online/ ondemandhome.cfm to learn more about our On-Demand Campus.

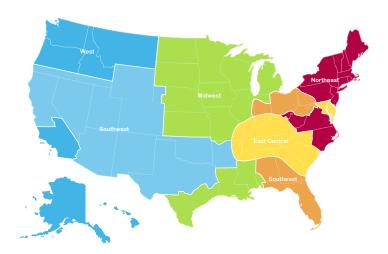
### On-site training

If you prefer a custom training agenda for multiple people focused on your system or you have a training budget without travel, then on-site training is your best solution. We offer flexible agendas that can separate training based on job function with the solution.

For example, one day we can focus on the operation of the software and how to extract and analyze data from the system. Another day, we can train meter techs or electricians on the meters and the communication installed at your site. Finally, we have agendas that specialize on system maintenance, customization, or special focused areas like Power Quality.

Our instructors will come to your site and either train you on vour own system, on our demo equipment we ship to your site, or both. We will tailor the agenda to be focused entirely on the equipment you have and the objectives you want.

Pricing is based on the number of days needed. For pricing, contact us at (615) 538-9868.



Contact your regional sales team for a formal quote:

Northeast Team: DPNE@se.com

· East Central Team: DPEC@se.com

· Southeast Team: DPSE@se.com

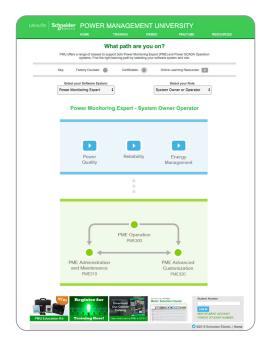
Midwest Team: DPMW@se.com

Southwest Team: DPSW@se.com

· West Team: DPWE@se.com

# **PMU Website**





The PMU Learning Path tool can help you plan your power monitoring training journey. www.pmutraining.com/learning-path

Be sure to visit our website to get the latest information on class schedules and course offerings.

From the website, one can:

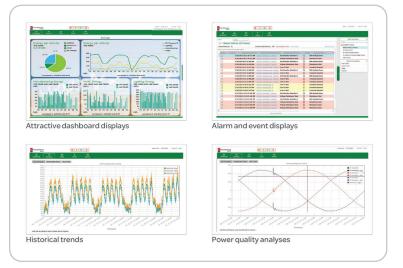
- · View course information
- · Determine your learning path
- · Check course schedules
- Register for classes
- · Access On-Demand Campus
- Find contact information
- · Access logistical information about our factory training center
- · Submit inquiries regarding custom Onsite or custom webinar training

... and much more.



### Factory Classes: EcoStruxure Power Monitoring Expert Software





### **EcoStruxure Power Monitoring Expert (PME) 9.x Operation Bundle**

Course Number: 3000PMUOPS300B

(includes a 12-month subscription to our On-Demand Campus)

#### Overview (four days):

This 4-day overview course focuses on the what, how, and why to use an EcoStruxure Power Monitoring Expert system. Students will be exposed to power monitoring fundamentals in order to set a baseline for class. Students will practice using PowerLogic and ION meter front panels to verify the configuration of devices that already exist in the system. In a hands-on lab environment, students will use the web applications offered in PME as they are featured in this class as the extraction and analysis of data is paramount.

Students will learn how to quickly extract and analyze data from their system using tools like the new Incident Alarm Viewer, Trends, Dashboards, Diagrams, and Reporter. Utilize the web User Manager tool to add local users to PME. The course then moves on with an overview of one of the engineering clients, Management Console, to ensure the attendees understand how to add, as well as remove devices, from the PME system. The course concludes with a roundrobin session to ensure that students "take away" one tangible item they will do when they get back to their location and their PME system.

#### Who should attend?:

Anyone who will be/is using PME or migrating from our SMS platform or ION platforms.

#### **Prerequisites:**

- Basic computer skills and experience with Microsoft Windows
- · Basic metering terminology

- Understand basic power fundamentals and terminology
- · Verify the configuration of meters in a PME system
- Analyze historical loads and consumption using Diagrams
- Manage events and alarms in new Incident Alarm Viewer web tool
- Setup local users with the User Manager web tool
- Analyze power quality and waveform data in the new Waveform viewer
- Create, manage, and automate reports with Web Reporter
- · Create and manage Trends in Trends web tool
- · Create and manage Dashboard web tool



### Factory Classes: EcoStruxure Power Monitoring Expert Software

### **EcoStruxure Power Monitoring Expert (PME) 9.x** Administration and Maintenance

Class Number: 3000PMUADMIN310

#### Overview (four days):

This training curriculum focuses on teaching students to manage and maintain their Power Monitoring Expert (PME) systems to best meet their needs. Students will learn how to design PME systems and install the software. Once the software is installed, the students will proceed to build up their systems by adding meters, adding user accounts, configuring meter hierarchies, and building custom graphics screens. The course will also cover integrating PME with 3rd party hardware, as well as database management, system maintenance and backup, and disaster recovery.

#### Who should attend?:

This course is designed for anyone responsible for administering, maintaining, and/or supporting a PME system, such as system administrators (and possibly IT Admins), as well as advanced PME users.

#### **Prerequisites:**

- · A basic familiarity with using PME
- A reasonable understanding of Microsoft Windows operating systems
- · A basic working knowledge of power and energy will be helpful

- Understand and utilize system specifications to design a PME system
- · Install the PME software
- · Explore new cyber security features for user management
- Add meters and other hardware devices to the PME system
- Configure Logical Devices and Hierarchies to simplify data aggregation
- · Design and build custom graphics screens
- Incorporate 3rd party devices into the PME software
- · Understand database structures and modify or adjust default database maintenance tasks





### Factory Classes: EcoStruxure Power Monitoring Expert Software

### **EcoStruxure Power Monitoring Expert (PME) 9.x Advanced Programming**

Course Number: 3000PMUPROG320

#### Overview (three days):

This advanced programming course focuses on system and device level customization using the Designer interface in PME software. Students will learn the architecture of the ION meter along with using the Designer interface to examine the default frameworks. Students will be guided through a series of lab activities to create custom applications for equipment monitoring, alarming, and logging. Students will learn to program the Virtual ION Processor (VIP) for special applications such as data aggregation and event driven reporting.

Students will then have the opportunity to create a custom virtual meter framework by aggregating multiple meters in the VIP, and displaying the real-time and historical information from that newly created meter in the Vista application. Students will learn the differences between the default meter templates and firmware versions that can be pushed to devices and be able to describe each. At the end of the course, students will have created frameworks for integrating the several types of WAGES devices available, program frameworks that will perform process and control applications, and implement more advanced power quality functionality within ION meters.

#### Who should attend?:

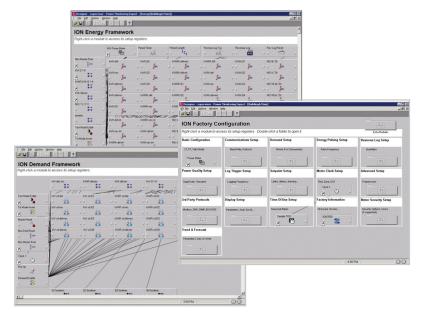
This course is designed for anyone who works with an PME system and has reasonable knowledge of the default functions of ION meters and PME software. This course may be appropriate for meter/ instrumentation technicians, system engineers, and system integrators who need to learn how to get the most out of their PME software and associated meters.

#### **Prerequisites:**

- Working knowledge of PME software, especially experience using Vista
- Working knowledge of the default capabilities of ION meters
- · General computer skills and basic working experience with Microsoft Windows
- Completion of a PME Fundamentals, Operation, or Overview course is recommended

- Describe ION architecture and ION module properties
- Examine configuration of meters installed in a PME system
- Understand the procedure to backup and restore a meter template
- Construct programs to perform custom calculations
- Describe how Designer and Vista work together
- · Build programs for logging and alarming
- · Construct programs for Advanced WAGES metering
- Build programs to read Modbus registers from one device to an ION meter
- Program applications to monitor processes and control functions
- Understand the ION Reference document and how to use it
- Learn best practices for programming in Designer





# Other Software Courses

### Power Quality - Identification, Causation and Mitigation

Course Number: 3000PMUPQ350

#### Overview (three days):

This course begins with a focus toward power quality theory that will lead to the identification, causation and mitigation of PQ issues in a facility. You will first gain an understanding of power systems, then move on to PQ basics. The terminology and theories will be covered to lay the ground work for the application of those theories, for PQ event identification within a facility.

Once those have been discussed, the third day will focus on the mitigation of the issues discovered and discussed prior. The instructor will utilize various training methodologies to communicate the PQ topics. A best practices list will be developed as well.

#### Who should attend?:

Anyone responsible for the power monitoring system in a facility from an engineering and analysis or reliability and uptime standpoint.

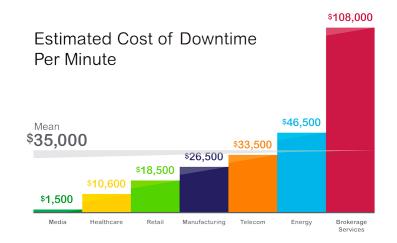
# **Power Factor** Harmonic Component

#### **Prerequisites:**

- Basic computer skills and experience with Microsoft Windows
- · Basic metering terminology
- Experience with PME or other Power Monitoring software
- Electrical Engineering background or power system experience
- Watch PQ videos on Karl's Corner pmutraining.com/pmutv.cfm?tvc\_id=1

- Understand power systems "The Big Picture"
- Understand PQ basics
- Diagnose where PQ problems originate from
- Understand commonly used PQ terminology
- Understand current PQ standards
- View waveforms that represent PQ issues and understand and practice the process for analyzing such waveforms (local facility software can be used if PQ capability in software is available)
- Understand how PQ and reliability are connected
- Understand and explain about harmonics; what they are; where they come from; and the impact they have on equipment
- · View harmonics and understand the thought process for analyzing such charts (local facility software can be used if harmonic capability in software is available)
- Understand and explain PQ fundamentals; how it works in specific equipment (VFDs, lighting, motors, process control equip, standby power generators, telecom, transformers, etc.)
- Understand and explain methods of mitigating power and PQ issues. Poor PF, harmonics, Flicker and voltage regulation.





# Other Software Courses

### **Hardware Installation and Troubleshooting**

Course Number: 3000PMUHW300

#### Overview (four days):

This 4-day course focuses on installation and setup of PowerLogic and ION metering. Participants will identify and resolve meter setup issues, CT and PT wiring issues, and meter communication network issues. Participants will examine the capabilities of specific PowerLogic and ION meters and learn how to select the correct meter for different metering points in a facility.

Participants will explore the features of PowerLogic communication gateways and practice setup and configuration. The ION Setup Utility will be used to display real-time data tables for the purpose of verifying that meter CTs and PTs are correctly wired to the meters. The ION Setup Utility will also be used to setup logging and event detection for each meter in the system. Participants will also create and manage a basic system in EcoStruxure Power Monitoring Expert. This course provides an introduction to installing and setting up a metering system utilizing PowerLogic and ION hardware.

#### Who should attend?:

Anyone who will be designing, installing, configuring, troubleshooting or maintaining PowerLogic and ION metering and communication devices.

#### **Prerequisites:**

- Basic computer skills and experience with Microsoft Windows
- · Working knowledge and understanding of electrical terminology, concepts and calculations, including an understanding of the relationships among current, voltage, power and power factor in three-phase circuits.

- Understand basic power fundamentals and terminology
- Determine the capabilities of specific PowerLogic and ION metering devices
- Use the PowerLogic and ION meter front panels
- Use the ION Setup Utility to troubleshoot CT and PT wiring issues
- Use the ION Setup Utility to modify and save meter configurations
- Explain how to correctly mount and wire PowerLogic and ION meters
- Upgrade the firmware of PowerLogic meters and ION meters
- Troubleshoot meter wiring and communication issues
- Configure PowerLogic gateways for device communications
- Add PowerLogic and ION meters into a EcoStruxure system
- Create a simple power monitoring system in EcoStruxure PME
- · Generate a Vista diagram and create basic Vista objects



# Other Software Courses

### SMSTrainer (self-paced)

Course Number: 3000PMUSMST301

#### Overview (54 modules):

This online course provides a comprehensive overview of the capabilities of a PowerLogic Power Monitoring system using System Manager Software (SMS4.x). The course is designed to look at a system that is already commissioned and logging data. Within this course, students will learn the benefits to monitoring power and how to extract real time or historical data from their SMS4.x system.



#### Who should attend?:

Anyone who is currently using SMS4.x to manage their facility's energy usage.

#### **Prerequisites:**

- Basic Computer Skills
- Understanding of basic metering terminology
- Understanding of basic power quality terminology

#### Students will be able to:

- Select and differentiate between the different products of the different components of a PowerLogic Power Monitoring system
- Extract data from a PowerLogic power monitoring system using programs within the system
- Develop cost reduction strategies with the information you extract from the system
- Audit their existing system to determine system design and device configurations
- Make changes to an existing system like add a device using SMS Setup Utility

### **EEMTrainer** (self-paced)

Course Number: 3000PMUEEMT301

#### Overview (77 modules):

This online course focuses on how to use an EEM system effectively. Students will learn how to configure trends, view historical data, and create reports. This course provides a comprehensive overview of the capabilities of an EEM system and the practical skills to use it successfully.



#### Who should attend?

Anyone who will be or is already using EEM.

#### **Prerequisites:**

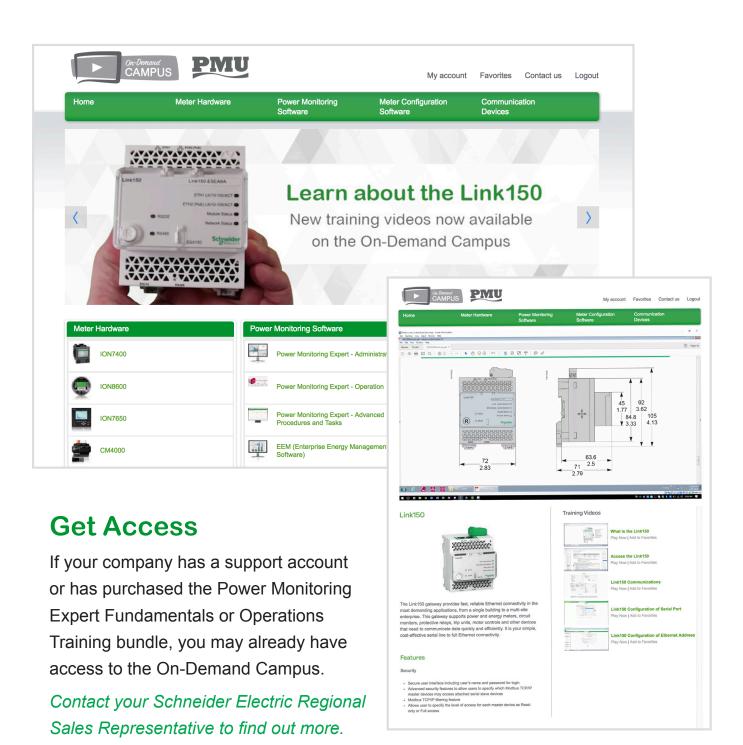
- Basic Computer Skills
- Understanding of basic metering terminology
- Understanding of basic power quality terminology

- Explain key features of EEM System
- Create trend analyses and data manipulation using EEM software
- · Run and understand reports
- · Create models for systems
- Create and share dashboards
- Create external web links for their dashboards
- · Manually enter data using manual data entry interface
- Create data quality templates and reports with administrative tool
- · Learn the concept of hierarchies and where they are used



### **Training On-Demand**

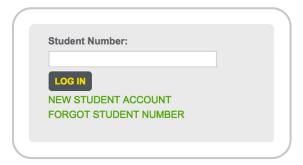
The PMU On-Demand Campus contains a wealth of training videos, demonstrations and simulations. New content is added on a regular basis.



# Register for a Class

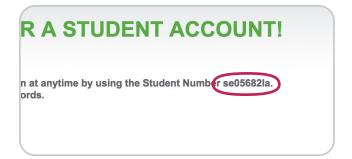
Register online by visiting: www.pmutraining.com.

### 1. Log In Using Your Student ID



Log in with your existing Student Number or create a new student account and log in.

If you have forgotten your Student Number, you can retrieve it by clicking on "FORGOT STUDENT NUMBER" and providing your email address.



Note for New Users: When you create a new account, your Student Number will appear on the confirmation page after you submit your Student Account Profile information. It is also sent to the email address you have provided.

Be sure to note your uniquely assigned user ID.

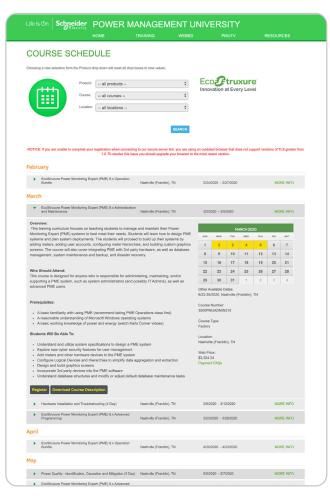
### 2. Search for and Select a Class



Click on "Register for Training" link or select "Courses > Training Schedule" from the top menu.

From the "Course Schedule" page, you can:

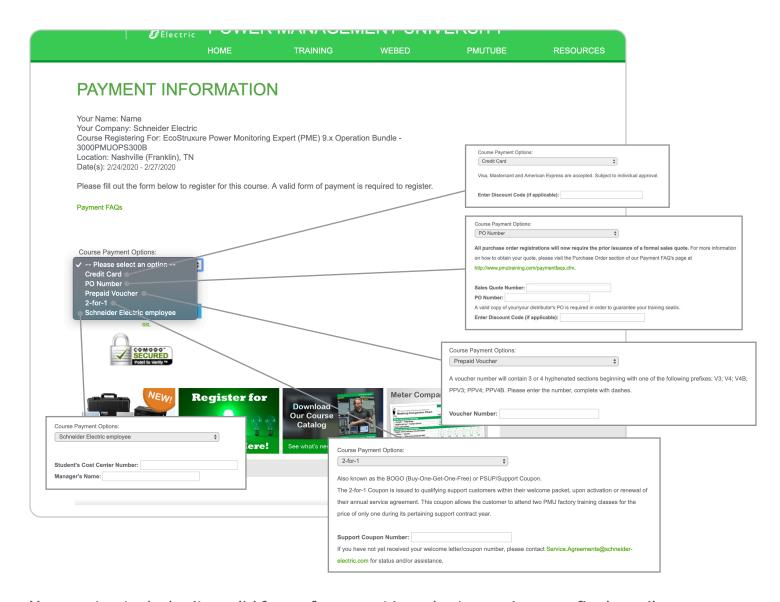
- View a list of scheduled courses
- · Easily find dates for classes you are interested in
- · Find course catalog numbers and pricing
- · Download course descriptions with agendas
- Find specific course hours
- · See logistics information
- · Read information on payment options



# Register for a Class

### 3. Submit Payment Information

Select your payment type and enter your payment information:



You must enter/submit a valid form of payment in order to receive your final email confirmation, which guarantees your seat in a class.

#### Please visit www.pmutraining.com/paymentfags.cfm for additional information on:

- · Payment process details based on chosen form of payment
- How to locate a Schneider Electric USA distributor in your area
- · How to request an official training quote
- · How to register using a coupon
- · How to register with a discount code

# **PMU Course Summary Sheet**

Choose a course from the list below 2 Check the PMU website for dates of availability Check the PMU website

3 Log in with your Student ID and register for your chosen class

Please email us at PowerLogic.University@schneider-electric.com or call us at 615-538-9809 should you need any assistance with the registration process.

| Course  | Course Number   | Length |
|---|-----------------|--------|
| Factory Classes: EcoStruxure™ Software Solutions              |                 |        |
| PME 9.x Operation Bundle (with 12mo. On-Demand Campus access) | 3000PMUOPS300B  | 4 Days |
| PME 9.x Operation (without 12 mo. On-Demand Campus access)    | 3000PMUOPS300   | 4 Days |
| PME 9.x Administration and Maintenance                        | 3000PMUADMIN310 | 4 Days |
| PME 9.x Advanced Programming                                  | 3000PMUPROG320  | 4 Days |
| Other Software Classes  |                 |        |
| Power Quality - Identification, Causation and Mitigation      | 3000PMUPQ350    | 3 Days |
| Hardware Installation and Troubleshooting                     | 3000PMUHW300    | 4 Days |
| Online Training Solutions                                     |                 |        |
| On-Demand Campus (one-year subscription – online access)      | 3000PMUODC301   | 12 mo. |
| SMSTrainer (one-year subscription – online access)            | 3000PMUSMST301  | 12 mo. |
| EEMTrainer (one-year subscription – online access)            | 3000PMUEEMT301  | 12 mo. |
| Educational Hardware  |                 | ·      |
| PMU Education Kit with ION9000, ION8000 and ION5000 meters    | PMUTRAINLAB9    | n/a    |

#### Forms of payment accepted\*:

1. Credit Card\*\*

Payments via Visa®, MasterCard®, or American Express® can be submitted during the individual online registration process.

2 Purchase Order†

All purchase order registrations will require the prior issuance of a formal sales quote.

3. Prepaid Voucher

Prepaid vouchers containing a "V" prefix (e.g., V4-1016-12345687-01) should be entered in the "Voucher Number" field on the online registation form.

4. Buy One - Get One Free (2-for-1) Coupon<sup>‡</sup>

This coupon is awarded in the Welcome Packet for each purchase or renewal of a site's annual Priority or Premium Support Agreement. Coupon #'s should be entered into the "2-for-1" Support Coupon Number" field on the online registration form.

For additional registration/payment information, including discounts, sales quotes, and information about Prime and Ultra Support Level Packages, please visit: www.pmutraining.com/paymentfags.cfm

#### **Billing Policy:**

A valid form of payment is required to confirm your registration.

#### **Cancellation Policy:**

Schneider Electric USA/Power Management University (PMU) reserves the right to cancel any course up to two (2) weeks in advance, upon which any/all registrants will be notified

Schneider Electric USA/Power Management University (PMU) reserves the right to change course schedule, modify course content, and limit class size.

Please check our website at www.pmutraining.com for the latest available schedule and for more information on the following:

- > New factory class offerings
- > Customized Onsite training
- > More information on the On-Demand Campus
- > The latest videos on PMUTV

#### Schneider Electric USA

Franklin, TN 37067 Toll Free 866-466-7627 www.pmutraining.com

Doc# 3000CT0702R12/19

\*Once the online registration has been submitted, an automated email will be sent to the student confirming that it has been received. 6700 Tower Circle, Suite 700 Once all the required form of payment information is received, verified and/or processed, a final email confirmation will be sent to the student guaranteeing their seat/s in the training class.

Please email us at PowerLogic.University@se.com or call us at (615) 538-9809 should you have any difficulties with this process.

\*\*Credit card payments via Visa, MasterCard, and American Express are subject to individual approval.

†Please note that invoicing against purchase orders will not take place until after the student's attendance has been confirmed in the class.

\*Please contact the Support Department at Service.Agreements@se.com for questions regarding the following:

Support renewal/activation status & coupons not yet received, access to On-Demand or the Knowledge Base through your Support Package.