

DC POWER TRAINING:

From Installation to Operations

Knowledge is power. And when it comes to actual power, knowledge can mean the difference between a properly installed, maintained, and operating power system and unplanned downtime. Whether your team needs a tune-up on DC power essentials, personnel and network safety protocols, or advanced training on the newest power systems (including controllers), OmniOn's team of experts is ready to share their power design and deployment knowledge with your organization.

At the core of every OmniOn Power course is our decades-long tradition of tackling the toughest power challenges across data center, tele-communications, and industrial power applications as well as our longstanding leadership and innovation in DC power systems.

To fit your specific need, OmniOn Power's Services training team has assembled a custom combination of teaching facilities and formats – from OmniOn hands-on training labs and on-site training programs at customer facilities, to remote, online learning classes. Regardless of which training approach you require, the experience will help keep your installation and operations teams up to date on latest technologies and techniques to deliver optimum power efficiency and boost your return on investment (ROI) for your power system.



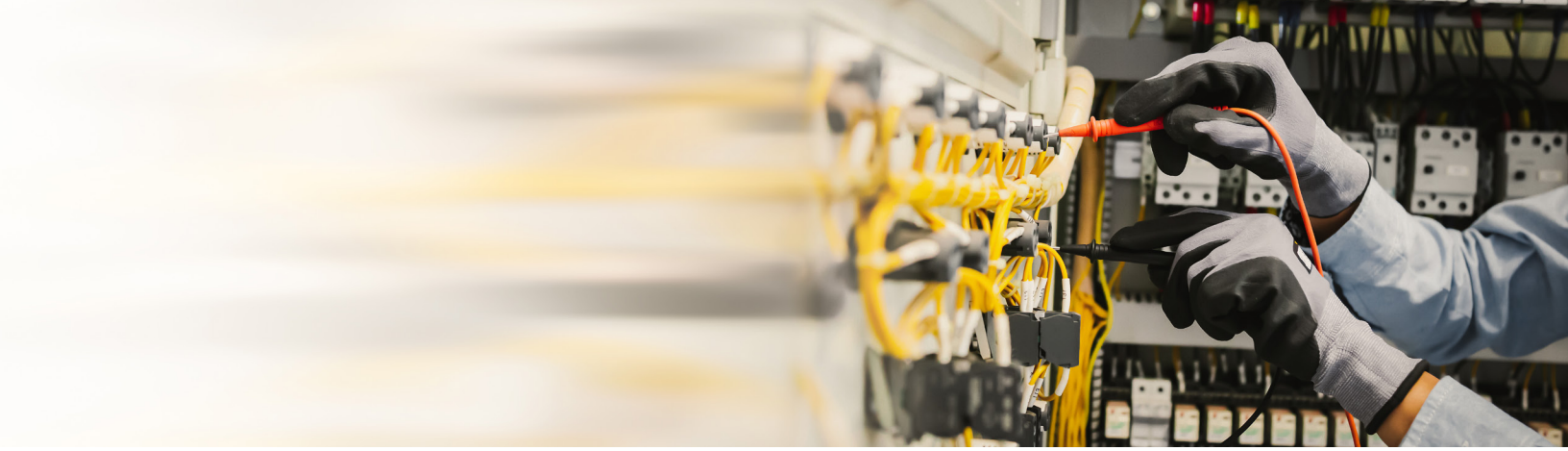
HANDS-ON LAB TRAINING ON OMNION DC POWER EQUIPMENT: Learning by Doing

- Learn with an optimal combination of classroom instruction and hands-on training.
- Work at labs equipped with latest OmniOn DC power equipment and custom testing and programming tools.
- Select from a full catalog of 50 certified courses led by our experienced OmniOn engineers.
- Study at convenient locations in Plano, TX and Hunt Valley, MD.



ON-SITE INSTRUCTION: Delivering Our Training and Tools to Your Team

- Bring OmniOn's training courses and expertise to your team and field service partners.
- Train on your existing equipment or new, pre-installation systems. Or OmniOn can ship equipment and training tools to any of your locations.
- Scale new deployments faster by training teams on off-network equipment prior to final installation.
- Integrate OmniOn's learning programs into your scheduled technology and sales training programs.



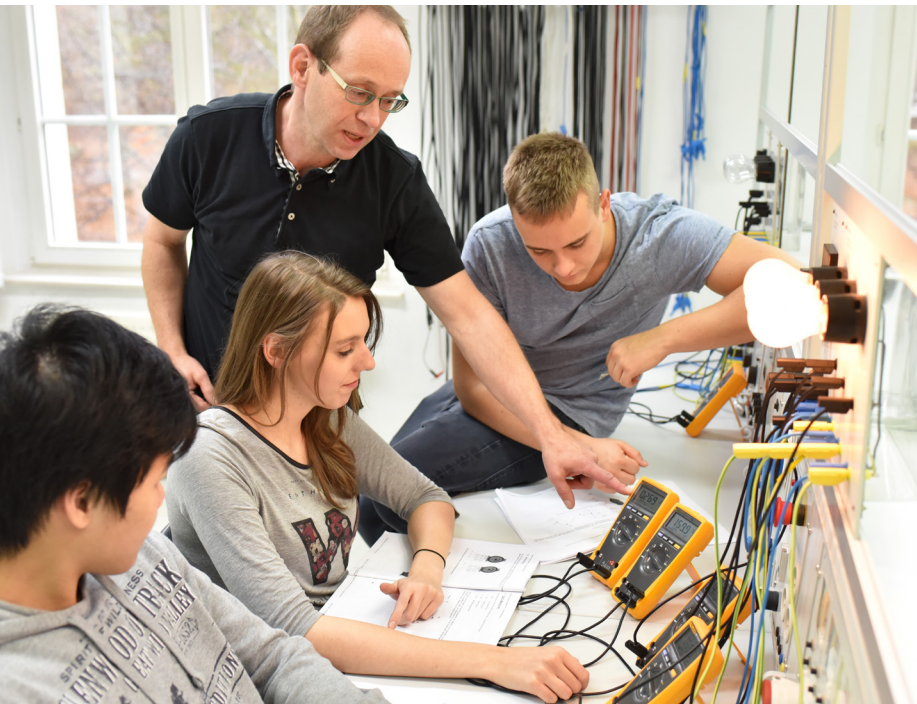
ONLINE LEARNING: Instructor Insights in a Connected World

- Access more than 40 online courses, using a combination of lecture, workshop, and interactive course elements.
- Stream sessions for individual or team learning.
- Employ a combination of self-guided and instructor-led formats.



CUSTOMIZED PROGRAMS: A Tailored Curriculum for Your Team

- Create a custom curriculum around your current, and expanding, power strategy.
- Host your own certified, branded training program for your installation partners.
- Harness the most flexible combination of lab, on-site and online learning.
- Build a technology-focused or application-centered curriculum.



HANDS-ON, INSTRUCTOR-LEAD AND ONLINE COURSES: Learning at Every Level

The robust OmniOn catalog of more than 100 in-person and online training sessions can guide your team across every phase of power system deployment and operations. Courses include:

- Power System Fundamentals.
- OmniOn DC Power Products and Systems Overviews and In-Depth Guides.
- Controller Configuration.
- Battery Basics.
- Installation and Safety Standards.
- Alarm Configurations.
- Testing and Certification.



Technical Support: Expediting Action

Whether you're looking for a rapid repair, have a technical question, or need to obtain OEM product support, our technical support team is a single call away. Our team of experts is here to help you with your needs 24/7, 365 days a year.

1.877.546.3243 | techsupport@omnionpower.com | www.omnionpower.com

OmniOn Power Courses

DC ENGINEERING FUNDAMENTALS

One day course; Course # PWR1000: \$799

What You Will Learn: This course is designed to cover general DC system components, calculations for selecting the number of rectifiers and batteries required for a power system, and how to determine the voltage drops in a DC distribution network.

It also covers how to calculate DC wire sizes and determine the proper protector size for a DC circuit. Eco Priority Source™ Active Rectifier Management™ and Total Efficiency™ concepts will also be discussed.

Who Should Attend: DC power engineers, supervisors, installers, maintenance, and operations personnel.

Prerequisites: Working knowledge of basic electricity and electronic concepts. Must be able to read and understand schematic drawings.

Format: Online and instructor-led with hands-on exercises. Available on-site at ABB's service centers in Plano, TX and Hunt Valley, MD.

GALAXY POWER SYSTEM 4827/30 OR 4848

One day course; Course # PWR1003: \$799

What You Will Learn: This course covers the functions, physical features, and components of the Galaxy power system.

Terminology and component functions will also be covered. Modular components such as the Galaxy Controller, switch-mode rectifiers, low-voltage load disconnect, battery connection module, and distribution will be discussed.

Who Should Attend: DC power engineers, supervisors, installers, maintenance, and operations personnel.

Prerequisites: Working knowledge of basic electricity and electronic concepts. Must be able to read and understand schematic drawings. Computer skills and familiarity with Windows OS is necessary.

Course PWR1010 Millennium Controller must be taken prior to this course.

Format: Online and instructor-led with hands-on exercises. Available on-site at ABB's service centers in Plano, TX and Hunt Valley, MD.

INFINITY DC POWER SYSTEMS

One day course; Course # PWR1105i: \$799

What You Will Learn: This course covers the functions, features and procedures for installing, maintaining and operating Infinity power systems. It is designed to provide students with instruction and allow for hands-on practice to perform routine maintenance and troubleshooting analysis.

Who Should Attend: DC power engineers, supervisors, installers, maintenance, and operations personnel.

Prerequisites: Working knowledge of basic electricity and electronic concepts. Must be able to read and understand schematic drawings.

Computer skills and familiarity with Windows OS is necessary.

Format: Online and instructor-led with hands-on exercises. Available on-site at ABB's service centers in Plano, TX and Hunt Valley, MD.

INFINITY INSTALLATION REQUIREMENTS AND STANDARDS FOR VERIZON WIRELESS

One day course; Course # PWR4010: \$799

What You Will Learn: This course provides the installation requirements and standards for installing, maintaining, and operating Infinity power systems within a Verizon Wireless cell site. It is designed to provide students with instruction and hands-on practice to help them install and perform routine maintenance and troubleshooting analysis.

Who Should Attend: DC power engineers, supervisors, installers, maintenance, and operations personnel.

Prerequisites: Working knowledge of basic electricity and electronic concepts. Must be able to read and understand schematic drawings.

Computer skills and familiarity with Windows OS is necessary.

Format: Online and instructor-led with hands-on exercises. Available on-site at ABB's service centers in Plano, TX and Hunt Valley, MD.

MILLENNIUM II CONTROLLER

One day course; Course # PWR1010: \$799

What You Will Learn: This course covers a broad scope of the functions and physical features of the Galaxy Millennium II Controller, with an emphasis on engineering.

Who Should Attend: DC power engineers, supervisors, installers, maintenance, and operations personnel.

Prerequisites: Working knowledge of basic electricity and electronic concepts. Must be able to read and understand schematic drawings.

Computer skills and familiarity with Windows OS is necessary.

Format: Online and instructor-led with hands-on exercises. Available on-site at ABB's service centers in Plano, TX and Hunt Valley, MD.

PULSAR PLUS CONTROLLER

One day course; Course # PWR1105: \$799

What You Will Learn: This course is designed to provide an overview of the basic configuration procedure for the Pulsar Plus controller. The Pulsar Plus

controller is used in several of our power systems. It has many functions and features typically only found in large central office power systems.

This instruction is meant to assist in the initial installation and start-up of the power system and supplements the product documentation provided with it.

Who Should Attend: DC power engineers, supervisors, installers, maintenance, and operations personnel.

Prerequisites: Working knowledge of basic electricity and electronic concepts. Must be able to read and understand schematic drawings.

Computer skills and familiarity with Windows OS is necessary.

Format: Online and instructor-led with hands-on exercises. Available on-site at ABB's service centers in Plano, TX and Hunt Valley, MD.

OmniOn Power Courses

INDUSTRIAL DC BATTERY CHARGER TRAINING

2-hour course; Course # PWR9000: \$299

What You Will Learn: This course is designed to provide a thorough understanding of the Integritas Industrial DC Battery Charger. It provides training that covers proper installation, load terminations, power module installation, and configurations.

Who Should Attend: Utility substation, switchgear control centers, pumping stations and other motor operation facility power technicians, maintenance and operations personnel and their supervisors.

Also, engineers and engineering supervisors responsible for engineering, installing, and maintaining Industrial DC Battery Chargers.

Prerequisites: Working knowledge of basic electricity and electronic concepts. Must be able to read and understand schematic drawings.

Computer skills and familiarity with Windows OS is necessary.

Format: Online only.

EDGE DISTRIBUTED DATA CENTER POWER ARCHITECTURE TRAINING

Half day course; Course # PWR9100: \$499

What You Will Learn: This course is designed to provide a thorough understanding of the Edge Distributed Power Architecture. This training covers proper installation, cable preparation, load terminations, power module installation, and system configurations.

Who Should Attend: DC power engineers, supervisors, installers, maintenance, and operations personnel.

Prerequisites: Working knowledge of basic electricity and electronic concepts. Must be able to read and understand schematic drawings.

Computer skills and familiarity with Windows OS is necessary.

Format: Online only.

TELECOMMUNICATIONS GROUNDING

One day course; Course # PWR901: \$799

What You Will Learn: This course is designed to provide an understanding of proper grounding that will help prevent personal injury, service outages, noise, and equipment damage. The course shows methods and materials used to ground telephone equipment from cell sites to central offices.

Who Should Attend: Installers and maintenance personnel who do the hands-on work on telephone facility grounding systems, those who supervise such work, and anyone interested in this subject.

Prerequisites: Working knowledge of basic electricity and electronic concepts.

Format: Online and instructor-led with hands-on exercises. Available on-site at ABB's service centers in Plano, TX and Hunt Valley, MD.

DC POWER INSTALLATION STANDARDS AND BEST PRACTICES

One day course; Course # PWR4010: \$799

What You Will Learn: This course is designed to provide an understating of how to safely install, form and protect distribution circuits within a 48V DC power system.

Who Should Attend: DC power engineers, supervisors, installers, maintenance, and operations personnel.

Prerequisites: Working knowledge of basic electricity and electronic concepts. Must be able to read and understand schematic drawings.

Format: Online and instructor-led with hands-on exercises. Available on-site at ABB's service centers in Plano, TX and Hunt Valley, MD

NPFA SAFETY GUIDELINES AND BEST PRACTICES

One day course; Course # PWR11001: \$799

What You Will Learn: This course meets the electrical section of OSHA requirements - 29 CFR 1910.269, 29 CFR 1910.303 through 29 CFR 1910.308, 29 CFR 1910.333. This course covers safety guidelines and best practices while working on and around DC power systems.

Who Should Attend: Installers, maintenance personnel and their supervisors.

Prerequisites: Working knowledge of basic electricity and electronic concepts.

Format: Online and instructor-led with hands-on exercises. Available on-site at ABB's service centers in Plano, TX and Hunt Valley, MD.

PERSONNEL AND NETWORK SAFETY BEST PRACTICES

3-hour course; Course # PWR81111: \$399

What You Will Learn: This course is designed to provide safety guidelines and best practices while working on and around AC and DC power systems, including rectifiers, cabling, bus bars, fuses, and circuit breakers.

Who Should Attend: Installers, maintenance personnel and their supervisors.

Prerequisites: Working knowledge of basic electricity and electronic concepts.

Format: Online and instructor-led with hands-on exercises. Available on-site at ABB's service centers in Plano, TX and Hunt Valley, MD.