

Houston Training Center

Excellence through Education



State-of-the-art Training Facility

In 2013 the OMICRON Academy opened its state-of-the-art Training Center in Houston as part of an ongoing effort to improve the quality of our service and training to customers in North and Latin America. Our new indoor, fully air conditioned, hands-on training facilities are just minutes away from downtown Houston and area airports.

Equipment for Hands-on Training

Our indoor substation equipment includes:

- > 10 MVA power transformer for all typical electrical power transformer tests as well as advanced diagnostics
- > 69 kV SF6 circuit breaker and a 15 kV vacuum breaker for circuit breaker testing
- > Partial Discharge (PD) testing area
- > Hands-on Protective Relay Lab for up to 16 people
- > Training area for distribution automation

Credits

For all training classes, you will receive a certificate of participation hand-signed by your instructor. In addition, you can earn the following credits:

- > Continuing Education Units (CEUs)
- > Professional Development Hours (PDHs)
- > NETA Continuing Technical Development Credits (CTDs)

Types of Training

We offer training at our Training Center in Houston, at our customers' premises and online for remote attendance.

- > **Scheduled Training**
These courses take place regularly at the OMICRON Academy on fixed dates. You will benefit from exchanging experiences with other students and from working with the Academy's dedicated training equipment.
- > **Customized Training**
These courses are planned specifically for you and are tailored to your requirements. They can take place at a variety of locations, including the Houston Training Center, customer premises or a location of your choice.
- > **Webinars**
Our webinars are short interactive online courses. To participate, only a computer, a microphone, a fast Internet connection and speakers or headset are necessary.

Who Should Attend

Our professional training courses cover multiple levels ranging from fundamental through advanced topics. Areas covered include: how to use the equipment, different applications of the equipment, and theoretical understanding.

Built around real testing situations, they are ideal for technicians and engineers from electrical utilities, industrial plants, equipment manufacturers and service companies.

Work Areas

Attendees include technicians and engineers in the fields of:

- > Design and commissioning
- > Substation maintenance
- > Asset management
- > Protection
- > Metering

Convenient Location

The nearest airports are the Bush Intercontinental Airport (IAH), located 30 miles north and Hobby Airport (HOU), located 15 miles east of the OMICRON Training Center.

There are several hotels within a 10 minute drive; ask for OMICRON rates:

- > Candlewood Suites Houston Medical Center
www.ihg.com
- > Crowne Plaza Houston near Reliant – Medical
www.crowneplaza.com
- > Holiday Inn Houston Reliant Park Area (free shuttle)
www.holidayinn.com
- > Hampton Inn Houston Medical Center (free shuttle)
www.hamptoninn.hilton.com

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Further information will be made available upon registration.



Hands-on Transformer Testing



Hands-on Protective Relay Training



Personalized Training by Industry Experts



Indoor Substation for Hands-on Instruction



Protection Testing

Power System Protection Testing with the OMICRON Test Universe (Duration: 3 days)

- > Use the OMICRON Test Universe software
- > Test overcurrent, distance and transformer differential relays using the OMICRON Test Universe software
- > Create and modify automated test plans and customized test reports

Introduction to Distance Protection Testing (Duration: 1 day)

- > Test distance protection relays
- > Create automated test plans and reliable reports for distance relays

Introduction to Differential Protection Testing (Duration: 1 day)

- > Test transformer differential protection relays
- > Test bus/motor/generator/line differential protection relays

Testing Recloser Controllers and Relays (Duration: 1 day)

- > Develop test plans for recloser controllers and relays
- > Test reclosers and sectionalizers using the CMC test set in a hands-on lab

Course Tips

- > Courses are hands-on.
- > Test sets and relays are provided.
- > Students only need to bring a laptop with Test Universe installed.
- > Updates to Test Universe will be provided if needed.



Power Transformer Testing

Measurements of Power Transformers with the CPC 100 and the CP TD1 (Duration: 1 day)

- > Use the CPC 100 in combination with the CP TD1 for effective power transformer testing
- > Prepare and perform transformer tests with our intuitive PC software Primary Test Manager
- > Learn how to perform advance transformer diagnostics with the CPC 100 and TD1
- > Interpret the results according to industry standards (e.g. IEEE and IEC)

Sweep Frequency Response Analysis (SFRA) Diagnostic Tool for Assessing the Mechanical Integrity of Transformers (Duration: 1 day)

- > Prepare and perform SFRA measurements on power transformers
- > Use the FRA analyzer software from scratch and make use of the hardware and accessories for effective power transformer testing
- > Avoid measurement errors recognizing faulty traces
- > Increase the reproducibility of SFRA measurements
- > Interpret the SFRA plots using three different methods

Moisture Determination and Dielectric Diagnostics of Power Transformers (Duration: 1 day)

- > Use the DIRANA to measure the dielectric response on power transformers
- > Connect different transformer types
- > Handle practical issues like a noisy environment
- > Do the interpretation of the dielectric response curves

Basics of Conducting Partial Discharge Measurements Using the MPD 600 (Duration: 1 day)

- > Set up a Partial Discharge detector to make correct partial discharge measurements
- > Operate the MPD 600 Software and take partial discharge measurements
- > Interpret typical partial discharge patterns



Instrument Transformer Testing

Current Transformer Testing and Analysis (Duration: 1 day)

- > Perform testing of current transformers using the CT Analyzer
- > Evaluate test results
- > Create customized reports using the CT Analyzer PC software



Power Utility Communication

IEC 61850 Protection Testing with OMICRON CMC Test Equipment (Duration: 1 day)

- > Understand and analyze the Data Model of IEC 61850 IEDs
- > Work with Client/Server, GOOSE and Sampled Values services for power utility automation
- > Use IEDScout to obtain and work with SCL files from different relay vendors
- > Perform commissioning and functional testing of IEC 61850 based IEDs and systems

OMICRON is an international company serving the electrical power industry with innovative testing and diagnostic solutions. The application of OMICRON products allows users to assess the condition of the primary and secondary equipment on their systems with complete confidence. Services offered in the area of consulting, commissioning, testing, diagnosis and training make the product range complete.

Customers in more than 160 countries rely on the company's ability to supply leading-edge technology of excellent quality. Service centers on all continents provide a broad base of knowledge and extraordinary customer support. All of this together with our strong network of sales partners is what has made our company a market leader in the electrical power industry.

For more information, additional literature, and detailed contact information of our worldwide offices please visit our website.