WESTCO
ELECTRICAL & EQUIPMENT CORP.

WESTCO AT IIEE 3E XPO 2025

WESTCO Lights Up IIEE 3E XPO 2025 in Celebration of the Golden Year!

WESTCO Electrical & Equipment Corp., along with PamavTraining and VCP Trading International Corp., is at this year's eagerly awaited IIEE 3E XPO 2025. This year's event is particularly special as the Institute Of Integrated Electrical Engineers Of The Philippines (IIEE) commemorates its golden year.

Exhibitor Spotlight: WESTCO ELECTRICAL & EQUIPMENT CORP.

We, WESTCO Electrical & Equipment Corp., are one of the main exhibitors at the IIEE 3E XPO 2025, presenting our cutting-edge products. The dates of the major trade exhibition are November 26–29, 2025. Attendees will have the opportunity to see an impressive array of equipment from WESTCO and VCP, including:

Merus Power (Active Harmonic Filters). HT Instruments (Multimeters). **SATIR** (Thermal Imaging Cameras). **Doble Engineering** (e.g., Calisto 2, M7100). **PHNX Technologies** (High-voltage testing equipment). **Techimp/Basler** (Protective Relays like the BE1-FLEX/BE1-11, and the DECS-150— a Basler Digital Excitation Control System). **Vanguard** (Test equipment like EZCT 2000C, Auto Ohm, and TRM/TRF series).

Catch our team and explore an impressive range of solutions at Booth No/s. 48, 49, 50, 51, 52, 53, 54, 55, 56, and 57. You can find us on the Ground Floor in Hall 1-4 of the SMX Convention Center Manila, Pasay City.

Attendees are encouraged to stop by the WESTCO booths to:

- Explore our latest offerings in electrical equipment and solutions.
- Learn about innovative solutions driving the industry forward.
- Connect with our knowledgeable team for technical insights and discussions.

To know more about WESTCO Electrical & Equipment Corp., visit our website: www.westco-phil.com

WESTCO
ELECTRICAL & EQUIPMENT CORP.

CELEBRATING 50 YEARS OF EXCELLENCE

In celebration of IIEE's 50th Anniversary, WESTCO—alongside fellow industry leaders VCP Trading International Corporation and Pamav Training—has joined this year's momentous expo. The event is guided by the theme: "**Celebrating 50 years of Integrity, Innovation, Empowerment and Excellence**".

The Institute of Integrated Electrical Engineers of the Philippines, Inc. is the organization behind the IIEE 50th Annual National Convention and 3E XPO 2025. The SMX Convention Center, Mall of Asia Complex, Pasay City, is the venue for this huge event.

This joint event includes the 3E XPO (Electrical, Electronics, and Energy) trade show in addition to a technical convention. It successfully unites government organizations, industry professionals, engineers, suppliers, and students from various sectors. A packed schedule of academic seminars, comprehensive product exhibits, beneficial networking opportunities, and engaging conversations focused on innovations, safety, and sustainability in the field of electrical engineering await attendees.

UP NEXT !

Join us as we dive into cutting-edge electrical engineering topics and connect with industry professionals from all over the country.

- ***NOV 27, 1:00 PM - 1:30 PM**, Function Room 4: Uncovering Fire and Electrical Hazards in PV and BESS Systems*
- ***NOV 27, 4:00 PM - 4:30 PM**, Function Room 1: Partial Discharge*
- ***NOV 28, 8:30 AM - 9:00 AM**, Function Room 2: Beyond the Hotspot: Continuous Thermal Monitoring and Online Infrared Thermography*
- ***NOV 28, 8:30 AM - 9:00 AM**, Function Room 3: Power Quality Mitigation Techniques for Industrial and Utility Applications*

Diagnosing Power System Health: Doble Engineering Highlights Cutting-Edge PD/EMI Testing at IIEE Convention

The 50th Annual National Convention of the Institute of Integrated Electrical Engineers of the Philippines (IIEE) hosted a highly informative technical session on Day 2, November 27, 2025, focusing on critical aspects of "**Power System Planning & Electricity Market.**" Among the distinguished speakers was Engineer Gabby Soriano, a Technical Application Engineer representing Doble Engineering, who shared his expertise on advanced diagnostics for high-voltage equipment.

Unveiling the SparkP3: Next-Generation Diagnostics

Engineer Soriano, whose extensive background includes working as a full-time instructor at Cagayan State University and a 5.5-year tenure with the National Grid Corporation of the Philippines (NGCP), provided a deep dive into Partial Discharge (PD) Testing and Electromagnetic Interference (EMI) Analysis using Doble's state-of-the-art instrument, the SparkP3.

He began by clarifying the nature of Partial Discharge, defining it as a localized electrical discharge that bridges only part of the way of an insulation, unlike a full line-to-ground fault or visible arcing. PD is an avalanche of electrons that cannot be seen but can be characterized using instruments. It occurs when the voltage stress exceeds the dielectric breakdown strength of the insulation, often stemming from design flaws, manufacturing defects, aging, or transient conditions like lightning. Crucially, uncorrected PD eventually leads to insulation degradation and, over time, a full electrical failure of the equipment.

Common sources of PD discussed include internal voids or bubbles within solid insulation, protrusions or treeing (often leading to corona discharge), surface tracking, and electrically floating objects inside gas-filled equipment like SF6 circuit breakers or GIS.

The Power of Electromagnetic Interference (EMI) Testing

Engineer Soriano then shifted the focus to Electromagnetic Interference (EMI), a diagnostic technique that provides a comprehensive view of the system's overall status, detecting both electrical and mechanical related defects. EMI testing is non-intrusive, meaning it doesn't require permanent hardware installation or system shutdown, a significant advantage in power plant environments where outages are costly and complex to coordinate.

The technique relies on measuring the electromagnetic signals emitted by all types of high-voltage equipment using a specialized sensor called a High Frequency Current Transformer (HFCT) or Radio Frequency Current Transformer (RFCT), capable of measuring signals in the MegaHertz range (up to 300 MHz). This allows for a frequency sweep that characterizes the equipment's health. While not a single, catch-all test, EMI is part of a diagnostic "**team**" that includes power factor and vibration monitoring.

EMI testing is highly effective for rotating machines (generators and motors) and is performed while they are online and preferably at least 70% loaded. Data collection with the SparkP3 is remarkably fast, taking only around 15 seconds per component. EMI is advised for routine checks (every one to two years), post-incident analysis (after faults or seismic events), and both before and after repairs/major overhauls to confirm the quality of maintenance.

THE SPARK P3 ADVANTAGE: AUTOMATION AND EXPERTISE

The SparkP3 is Doble's latest instrument, uniquely capable of performing both Partial Discharge and EMI testing up to an industry-maximum of 2000 MHz (2 GHz). Its design incorporates key features focused on ease of use and automation, directly addressing the difficulties engineers face in the field.

A standout feature is the Wizard Mode, an automated program that allows even engineers with minimal PD experience to conduct tests correctly, saving valuable time and ensuring reliable data acquisition for later analysis. Conversely, highly experienced engineers can customize test plans and tweak settings. The SparkP3's internal hardware and broad frequency range eliminate the need for external devices like frequency shifters, streamlining fieldwork. Engineer Soriano presented several compelling case studies demonstrating the instrument's power, from trending data to confirm generator stability to identifying arcing in an exciter and successfully verifying the results of an isophase bus repair. A concrete example of a failed Current Transformer (CT) acceptance test using the IEC 60270 PD standard highlighted the value of the SparkP3 in quality assurance.

Doble's Presence in the Philippines via WESTCO

Doble Engineering proudly partners with Westco Electrical and Equipment Corporation (WESTCO), which serves as its authorized distributor in the Philippines.

Engineer Soriano reinforced the local commitment by holding a practical demonstration of the SparkP3 at the WESTCO booth during the 50th Annual National Convention of the Institute of Integrated Electrical Engineers of the Philippines (IIEE). Event attendees interested in the product and its mechanism were given the opportunity to see firsthand how the cutting-edge PD and EMI diagnostic instrument operates, connecting the theory presented in the technical session with the practical application of Doble's technology.

ELEVATING MAINTENANCE: WESTCO DELIVERS ADVANCED THERMOGRAPHY INSIGHTS AT IIEE 50TH ANNUAL NATIONAL CONVENTION

WESTCO Electrical and Equipment Corporation was a major highlight on Day 3 of the 50th Annual National Convention of the Institute of Integrated Electrical Engineers of the Philippines (IIEE). Held on November 28, 2025, in Function Room 2 of the SMX Convention Center Manila, the technical session featured Mr. Vincent Jason "Jek" V. Peñalosa, Vice President for Sales and Marketing, who presented an in-depth discussion on "**Elevating Predictive Maintenance: Advanced Techniques and Program Management in Industrial Infrared Thermography.**" Mr. Peñalosa, an Infraspection Institute Master Thermographer and the first in Asia to hold this distinction, provided valuable perspectives on the evolution and application of thermal imaging technology in electrical maintenance.

The Evolution of Electrical Temperature Inspection

Mr. Peñalosa began his presentation by tracing the history of temperature measurement in electrical systems, humorously starting with the unreliable "tancha-mometer" (estimation-meter) and contact measurements like thermocouples. He highlighted the limitations and safety risks of contact methods, which are impractical for live, high-voltage panels. This led to the adoption of non-contact instruments, first with radiometers (wireless infrared thermometers) and culminating in today's sophisticated Infrared Thermography (IR). Mr. Peñalosa defined IR as more than just a measurement—he called it "**The Art and Science**," emphasizing that while the technical aspects are learnable, proper analysis, interpretation, and avoidance of common errors require significant skill and practical experience. As a non-contact and non-invasive technique, IR serves as a crucial initial indicator, revealing a temperature rise that often precedes failure in electrical systems, making it a powerful tool in predictive maintenance.

Integrating Advanced Online Monitoring and Analysis

The session transitioned to the strategic deployment of advanced IR technology, particularly in detecting specific electrical issues. Mr. Peñalosa detailed how loose/deteriorated connections, inductive heating, and defective equipment can be identified by the concentration of heating and the presence of a thermal gradient. He then introduced **Online Infrared Cameras**—magnetic, Power over Ethernet (PoE) enabled devices designed for continuous, 24/7, 365-day monitoring of bus bars and switchgears. This real-time deployment concept, which pushes data to an asset manager, is vital for mission-critical assets.

Furthermore, Mr. Peñalosa advocated for supplementing IR with other technologies, citing the Fixed Acoustic Camera (FAC) to detect **Partial Discharge** in medium-voltage switchgears—an issue IR cameras cannot capture due to frequency differences. He stressed that periodic inspections only provide a "moment in time" snapshot, whereas real-time online monitoring mitigates the risk of failures that can occur between scheduled checks.

THERMOGRAPHY: ACCURACY, SKILL, AND THE FUTURE OF MAINTENANCE

A key part of the discussion involved a highly engaging Q&A, which solidified the importance of the human element in advanced maintenance. Addressing a question on the balance between instrument accuracy and engineer's judgment, Mr. Peñalosa offered a poetic but firm answer: "**The engineer is only as good as their equipment, and the equipment is only as good as the engineer.**" He stressed that even the most high-resolution thermal camera is useless in the hands of someone who doesn't understand the science of thermography. The operator must master the physics of temperature and electromagnetic wavelengths to maximize the camera's potential.

He concluded that while temperature serves as a critical benchmark, it cannot accurately predict the exact moment of failure. Therefore, all rules of IR apply: Emissivity affects results, and proper analysis is wholly dependent on the **operator's knowledge and skill level**. Mr. Peñalosa's presentation concluded with a gracious acceptance of the Certificate of Appreciation awarded to WESTCO Electrical and Equipment Corporation for its valuable contribution as a convention sponsor. electrical systems, making it a powerful tool in predictive maintenance.

THE IIEE 50TH ANNUAL NATIONAL CONVENTION

In honor of the IIEE's 50th Anniversary, WESTCO, VCP Trading International Corporation, and Pamav Training have joined forces as key participants in this year's significant expo.

The Institute of Integrated Electrical Engineers of the Philippines, Inc. (IIEE) is the organizer behind the IIEE 50th Annual National Convention and 3E XPO 2025. This massive, combined event will take place at the SMX Convention Center, Mall of Asia Complex, Pasay City.

More than just a convention, the joint event includes the 3E XPO (Electrical, Electronics, and Energy) trade show. It successfully brings together a wide range of attendees, including government organizations, industry professionals, engineers, suppliers, and students. Attendees can anticipate a full program featuring academic seminars, extensive product exhibits, valuable networking sessions, and discussions centered on innovation, safety, and sustainability in electrical engineering.

Elevating Power Quality: WESTCO and Merus Power Showcase Cutting-Edge Solutions at IIEE 50th Annual Convention

The 50th Annual National Convention and 3E Expo 2025, hosted by the Institute of Integrated Electrical Engineers of the Philippines (IIEE), served as a pivotal platform for industry leaders to champion innovation and excellence.

On Day 3, November 28, 2025, at Function Room 3 of the SMX Convention Center Manila, WESTCO Electrical and Equipment Corporation, in partnership with Merus Power, delivered an in-depth technical presentation that underscored the critical need for advanced power quality (PQ) solutions in modern industrial and utility applications.

The session, led by Engr. RJay Fran, an Engineering Team Leader at WESTCO specializing in power quality, provided a comprehensive overview of prevalent power quality issues and introduced Merus Power's cutting-edge product portfolio designed to mitigate them. Engr. Fran emphasized that clean power is vital for both utilities—ensuring system reliability and availability—and consumers—guaranteeing their equipment operates correctly. He highlighted key PQ anomalies such as harmonics, reactive power issues, voltage sags/swells, and transients, but focused the discussion on the solutions for harmonics and reactive power compensation.

The Active Advantage: Static Var Generators for Superior Power Factor Correction

A significant portion of the presentation was dedicated to Merus Power's active power factor correction solution: the Static Var Generator (SVG). Engr. Fran clearly articulated the limitations of conventional capacitor banks, particularly when dealing with dynamic, fast-changing loads. Traditional capacitor banks compensate in a ladderized, stepped fashion, leading to moments of either over- or under-compensation due to their slow response time.

In contrast, the Merus SVG, which uses power electronics instead of capacitor cells and magnetic contactors, offers stepless compensation and an ultra-fast response time. The SVG monitors the system's reactive power demand and instantaneously injects the precise amount of corrective current to match it. This dynamic response ensures that the power factor remains near unity (or the desired setpoint, such as 98%) at all times, regardless of significant load changes. Crucially, the active nature of the SVG mitigates the risk of resonance, a common issue with passive solutions. Furthermore, the SVG offers dual functionality by being able to inject both inductive and capacitive kVAr, preventing the system from operating at a detrimental leading power factor. WESTCO offers these SVGs in ranges from 50 Ampere to 200 Ampere modules.

For systems with existing capacitor banks, Engr. Fran introduced the Hybrid Power Quality Solution. This approach combines the cost-effectiveness of passive banks with the dynamic compensation of the active SVG. The SVG takes on the role of the main controller, managing the capacitor steps, while also actively addressing any dynamic reactive power fluctuations. Engr. Fran issued a vital warning: the passive banks in a hybrid system must include detuned reactors to protect the capacitors from the corrective currents generated by the active solution.

Taming the Waves: Active Harmonic Filters for Non-Linear Loads

As modern industrial loads increasingly incorporate variable speed drives and other power-electronic equipment, the problem of harmonics—distortion in the system's current and voltage waveforms—is becoming widespread. Harmonics cause issues like overheating in cables and breakers, humming in electrical equipment, and failure of sensitive electronic boards.

To counter this, WESTCO introduced the Active Harmonic Filter (AHF), which utilizes the same versatile Merus Power module as the SVG but for harmonic mitigation. The principle is elegantly simple: the AHF measures the distorting harmonic currents and injects an equal but opposite-phase harmonic current back into the system. This process results in the cancellation of the harmonic components at the point of common coupling, transforming the supply current back into a more sinusoidal (clean) waveform. A case study presented by Engr. Fran demonstrated a significant reduction in Current Total Harmonic Distortion (CTHD) from a dangerously high 35% down to 7.9% after installing a 150 Ampere AHF, drastically reducing system losses and heating. The AHF modules, available from 50 Ampere to 200 Ampere, can also be applied to medium voltage networks via a step-up transformer.

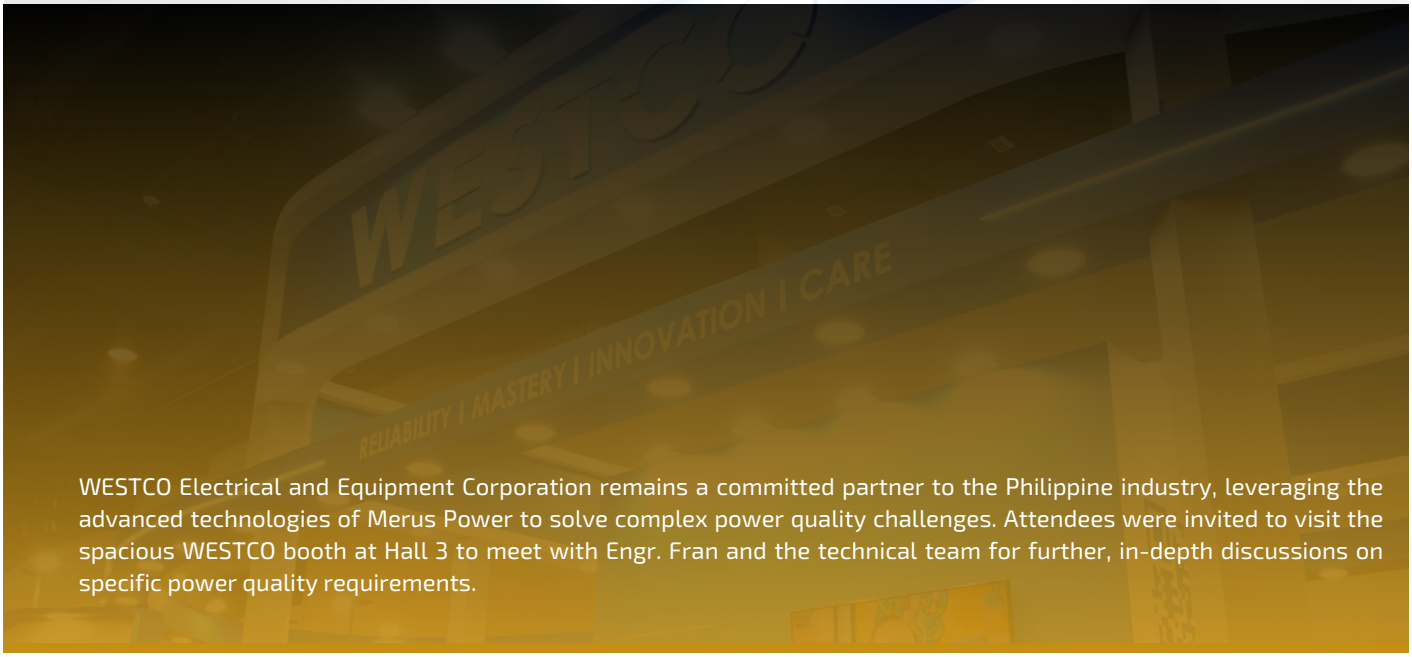
Power at the Grid Edge: STATCOM for High Voltage Dynamic Loads

For the most demanding applications in medium to high voltage (MV/HV) networks, especially those with highly dynamic and fluctuating loads like Electric Arc Furnaces (EAF) in the steel industry, Merus Power offers the Static Synchronous Compensator (STATCOM). The STATCOM is the ultimate dynamic compensator, designed to provide:

- Voltage Stabilization: Keeping the voltage stable despite highly variable load demands.
- Reactive Power Compensation: Handling high-fluctuating kVAr loads with an incredible 600-microsecond response time—significantly faster than the one-cycle (16.6 ms) response of its counterpart, the Static Var Compensator (SVC).
- Flicker Reduction and Harmonic Mitigation.

The Merus STATCOM solution is typically a hybrid design, combining the fast-acting STATCOM module to handle high-frequency fluctuations with a Tuned Capacitor Bank to cover the base kVAr requirement, ensuring a more economical yet highly effective solution. Engr. Fran shared a compelling case study from a Tanzanian mining operation where an 18 MVAr STATCOM stabilized the voltage, improved the power factor from 0.78 to 1.00, and resulted in substantial savings by allowing the plant to operate with one less of its six generators, demonstrating the tangible financial and operational benefits of power quality investment.

In conclusion, the presentation firmly established that for MV and HV systems with highly dynamic and large reactive power needs, active solutions like STATCOMs are the most suitable choice, as they comprehensively address voltage stabilization, harmonic mitigation, power factor correction, and flicker reduction in a single solution.



WESTCO Electrical and Equipment Corporation remains a committed partner to the Philippine industry, leveraging the advanced technologies of Merus Power to solve complex power quality challenges. Attendees were invited to visit the spacious WESTCO booth at Hall 3 to meet with Engr. Fran and the technical team for further, in-depth discussions on specific power quality requirements.

Powering Up: Merus Power Provided Crucial Technical Training to WESTCO Before the 50th IIEE Convention

TIn a key preparatory step leading up to the **50th IIEE Annual Convention**, Merus Power, a leading provider of innovative power quality solutions, **ensured** its chosen specialty distributor, WESTCO, was expertly equipped to tackle modern power grid challenges. Merus Power **conducted** a specialized technical training session for WESTCO's team at the distributor's Demo Lab, focusing on mastering power quality.

TRAINING SOLIDIFIED WESTCO'S EXPERTISE IN HARMONICS

The comprehensive training, which was **led** by Merus Power Engineering Engineer Juuhani Jaatinen, **focused** on the fundamental principles of Harmonics. This was a critical step **taken** by both companies to better **prepare** WESTCO's team for supporting customers who were experiencing the complexities of modern power quality issues that would be a major talking point at the convention.

The session **began** by establishing the basic concept of harmonics and how a fundamental shift in electrical systems **made** them a critical issue. Historically, loads **were** typically symmetric, and currents **were** purely sinusoidal. However, modern electrical installations evolved significantly, now featuring a proliferation of single-phase non-linear loads (such as switch-mode power supplies in computers and LEDs). These loads **generated** unwanted harmonic currents, leading to high currents in the neutral conductor—a growing concern Merus Power **addressed** through this specialized training.

TThe core of the training **covered** the theory behind harmonics, often **explained** using Joseph Fourier's mathematical method to divide a distorted waveform into its fundamental frequency and various harmonics. Crucially, the Merus Power team **imparted** the understanding that harmonic currents **traveled** from lower voltage levels up through the network. This knowledge **ensured** that WESTCO **was** expertly prepared to help customers diagnose and mitigate these power quality issues and guarantee system reliability long before the IIEE convention **opened**.

Key Merus Power Solutions Featured in Preparation

WESTCO's distribution portfolio, which **was highlighted** during the training, features two of Merus Power's key power quality solutions designed to combat harmonics and other power quality disturbances: the **Merus A2 Active Harmonic Filter** and the **Merus HPQ**

MERUS POWER

Hybrid Power Quality Solution. These products **represented** essential components in tackling the three main power quality programs: Harmonics, Flicker, and Reactive Power Compensation.
Harmonics, Flicker, and Reactive Power Compensation.

- **Merus A2 Active Harmonic Filter**: The A2 **was presented** as a high-performance active filter specifically designed to mitigate harmonics. It **operated** by injecting opposing, calculated harmonic currents into the system to cancel out the undesirable harmonics. This dramatically **cleaned up** current and voltage waveforms, reducing common problems like equipment overheating.

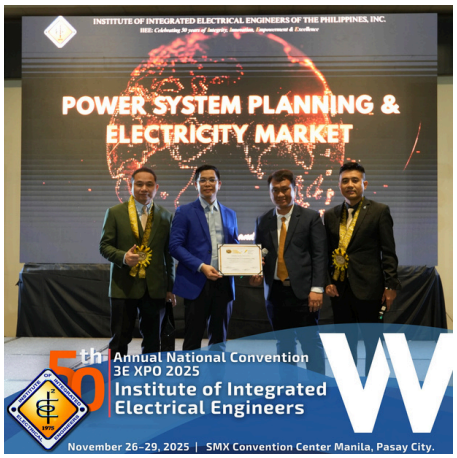
- **Merus HPQ Hybrid Power Quality Solution**: The HPQ **was described** as a dynamic, high-speed solution that **combined** the benefits of an active filter and a passive filter into one comprehensive unit. This hybrid approach **allowed** the Merus HPQ to offer superior power quality conditioning, including Advanced Harmonic Filtering, Flicker Mitigation, and Reactive Power Compensation.

By strategically preparing with this intensive training, Merus Power **ensured** that its partner, WESTCO, **was positioned** to offer robust and reliable solutions to clients attending the 50th IIEE Annual Convention.

A VICTORY AND A THANK YOU: WESTCO'S SUCCESS AT THE 50TH IIEE 3E XPO 2025

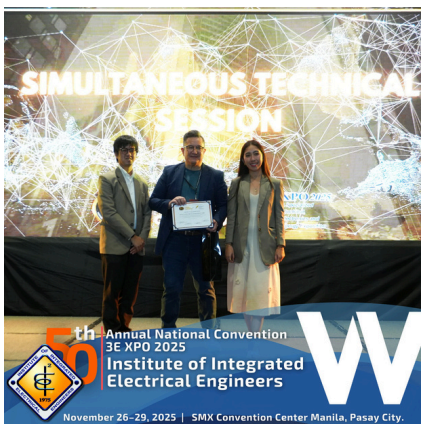
WESTCO Electrical & Equipment Corp., alongside partners Pamav Training and VCP Trading International Corp., proudly illuminated the Institute of Integrated Electrical Engineers of the Philippines (IIEE) 50th Annual National Convention and 3E XPO from November 26–29, 2025. This landmark event celebrated the IIEE's golden anniversary, and our company was honored to be a main exhibitor, showcasing a vast array of cutting-edge solutions at Booth Nos. 48-57 on the Ground Floor of the SMX Convention Center Manila.

Our extensive exhibit featured the latest from top-tier brands, including **Merus Power** (Active Harmonic Filters and SVGs), **HT Instruments** (Multimeters), **SATIR** (Thermal Imaging Cameras), Doble (e.g., SparkP3, Calisto 2, M7100), **PHNX Technologies** (High-voltage testing), **Techimp/Basler** (Protective Relays and Excitation Control Systems), and Vanguard (Test Equipment).



The convention was marked by highly informative technical sessions led by WESTCO's experts and principals. On Day 2 (November 27), the focus was on "**Power System Planning & Electricity Market**". **Engr. Gabby Soriano** of Doble Engineering delivered a crucial session on "Diagnosing Power System Health," demonstrating the power of the SparkP3 for advanced Partial Discharge (PD) and Electromagnetic Interference (EMI) testing, a non-intrusive diagnostic essential for high-voltage equipment. Additionally, on the same day, the session featured Bender presented by Harvard Loh in Function Room 4, under the track for "**Electrical Engineering Education and Research & Electrical Engineering Safety**".

On Day 3 (November 28), **Mr. Vincent Jason "Jek" V. Peñalosa**, VP for Sales and Marketing and an Infraspection Institute Master Thermographer, presented on "**Elevating Predictive Maintenance,**" emphasizing the "**Art and Science**" of Infrared Thermography and the strategic value of both periodic inspection and online monitoring systems. Completing the technical showcase on Day 3, **Engr. RJay Fran**, an Engineering Team Leader, detailed the imperative of clean power, showcasing Merus Power's active solutions—the Static Var Generator (SVG) for superior power factor correction and the Active Harmonic Filter (AHF) to mitigate non-linear load distortion, along with the high-voltage capabilities of the **STATCOM**.



A GRATEFUL THANK YOU TO OUR VALUED ATTENDEES

To all the esteemed engineers, industry professionals, students, and partners who stopped by the WESTCO booths and attended our technical sessions —**Thank you**. Your enthusiastic participation made our presence at the IIEE 3E XPO 2025 an overwhelming success. We are deeply grateful for the opportunity to connect, share technical insights, and demonstrate how our innovative products and solutions from Merus Power, Doble, SATIR, and more are driving innovation, safety, and sustainability in the electrical engineering field. Your engagement reinforced the importance of continuous learning and collaboration in elevating industry standards. We look forward to continuing these valuable discussions and supporting your power system needs.