

Testing Devices & Monitoring Equipment for Energy

Applications in industry and energy field:

Generation, Transport and Distribution of Electric Energy, Electric equipment manufacturers, etc.

Top manufacturers we represent-distribute in Romania:

Omicron Electr. (A) Test systems for equipment in the energy field



Portable Test Device for Power Transformers, Instrument Transformers, MV and HV Circuit-breakers, MV and HV Power Cables, Overhead Power Lines, Grounding Systems, Protection Relays and Substation Automation Systems, Transducers, Energy meters, Power Quality Analyzers, Monitoring Systems for Partial Discharges in Power Cables. Company is ISO 9001:2015 Certified and all products have CE marking and are IEC and IEE compliant.

B2 Electronics (A) VLF Test Systems for power cables and insulating oil



Hipot Portable Testers for VLF (0.1 Hz) for testing the MV and HV power cables, Partial Discharge and Dissipation/Power Factor Diagnostic Systems for condition evaluation of MV and HV power cables, Breakdown Analyzers for Dielectric Testing of Modern Insulation Liquids. The company is ISO 9001:2015 Certified and all products have CE marking and are IEC and IEE compliant.

AP Sensing (D) APSENSING.

Power Cable Monitoring Systems

Distributed Fiber Optical Sensing Systems for Monitoring the temperature (DTS system) and vibrations (DAS system) in Underground and Submarine MV and HV power cables. Company is ISO 9001:2015 Certified and all products have CE marking and are IEC and IEE compliant.

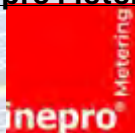
Elabo GmbH (D)



Workstation and Testing Systems for electrical industry

Workstation systems for electrical laboratories, professional training, universities, assembly and process control stations, Test Systems for electrical devices, electrical components and sub-assemblies. The company is ISO 9001:2015 Certified and all products have CE marking and are IEC and IEE compliant.

Inepro Metering (N) Electrical Energy Metering Solutions



Electric Energy Meters with one, two or three modules and communication protocols, Accessories for metering solutions, Current Transformers for Energy Meters, OEM and ODM metering solutions with our iSmart platform. The company is ISO 9001:2015 Certified and all products have CE marking and are MID, IEC and IEE compliant.

Eagle Eye (USA)



Battery Monitoring and Testing Systems

Battery Monitoring Systems, Battery Load Bank Testers, Battery Testing Equipment, Gas Detection Testers and Ventilation Systems, Stationary Power Systems. The company is ISO 9001:2015 Certified and all products have CE marking and are IEC and IEE compliant.

For more details information, please visit our site www.firsttech.ro.

TAILORED TESTING AND MONITORING SOLUTIONS

OMICRON Electronics GmbH

OMICRON is an international company that works passionately on ideas for making electric power systems safe and reliable. Our pioneering solutions are designed to meet our industry's current and future challenges. We always go the extra mile to empower our customers: we react to their needs, provide extraordinary local support, and share our expertise.

Infrastructure

Industry

Within the OMICRON group, we research and develop innovative technologies for all fields in electric power systems. When it comes to electrical testing for medium- and high-voltage equipment, protection testing, digital substation testing solutions, and cybersecurity solutions, customers all over the world trust in the accuracy, speed, and quality of our user-friendly solutions.

Founded in 1984, OMICRON draws on their decades of profound expertise in the field of electric power engineering. A dedicated team of more than 1000 employees from more than 59 different nations provides solutions with 24/7 support at 25 locations worldwide and serves customers in more than 170 countries.

Omicron Electronics offers high quality test devices for:

- Protection and recloser control testing;
- IEC 61850 testing and cyber security in energy systems;
- Testing of meters, transducers and power quality meters;
- Data maintenance management;
- Power transformer testing and monitoring;
- Instrument transformer testing;
- Circuit breaker / switchgear testing;
- Motor / generator testing and monitoring;
- Partial discharge analysis and monitoring on electric insulating systems;
- Medium and high voltage cable testing and monitoring;
- Transmission line testing;
- Grounding system testing.

By choosing OMICRON, you do not decide to simply buy a product. You also gain a partner with a stable corporate philosophy and independent funding to support you with passion and energy throughout the entire life cycle of your OMICRON product, and beyond.

OMICRON offers free 24/7 technical support for our customers, where you can reach one of our highly qualified and experienced engineers – immediately and directly via our technical support hotline. You can benefit from our global support network with extensive product and application knowledge – 24 hours, 7 days a week.

OMICRON Academy have a state-of-art training centers, where you can make use of hands-on training possibilities in our well-equipped training centers all around the world and become familiar with both the asset and the product. Also, we could offer customized on-site training, in the customer's location and you could benefit from expert experienced trainers and high-quality training materials.

Protection and recloser control testing



IEC 61850 testing and cyber security



Equipment testing



Data and maintenance management



Power transformer testing and monitoring



Instrument transformer testing



Circuit breaker / switchgear testing



Motor / generator testing and monitoring



Partial discharge analysis and monitoring



Cable testing and monitoring



Transmission line testing



Grounding system testing





HVA28 & HVA28TD

Output voltage 29 kV_{peak}, 21 kV_{rms}
Load 0.5 µF @ 0.1 Hz @ 20 kV_{rms}
Weight 12 kg / 26.5 lbs



HVA34-1 & HVA34TD-1

Output voltage 34 kV_{peak}, 24 kV_{rms}
Load 1.5 µF @ 0.1 Hz @ 24 kV_{rms}
Weight 15 kg / 33 lbs



HVA45 & HVA45TD

Output voltage 45 kV_{peak}, 32.3 kV_{rms}
Load 0.9 µF @ 0.1 Hz @ 32 kV_{rms}
Weight 39 kg / 86 lbs



HVA45 & HVA45TD +4 kV

Output voltage 49 kV_{peak}, 34.6 kV_{rms}
Load 0.9 µF @ 0.1 Hz @ 32 kV_{rms}
Weight 39 kg / 86 lbs



HVA68TD

Output voltage 68 kV_{peak}, 48 kV_{rms}
Load 2 µF @ 0.1 Hz @ 44 kV_{rms}

B2 Electronics GmbH

B2 Electronics GmbH with its business division B2 High-Voltage is an internationally operating company, which develops, manufactures and distributes practically oriented high voltage equipment for simple cable testing, cable diagnostics and on-site oil testing.

Systems by B2 are benchmark worldwide for innovation, low weight, compact dimensions and usability and prove themselves with energy suppliers all over the world.

HVA30-1

Output voltage 34 kV_{peak}, 24 kV_{rms}
Load 6.0 µF @ 0.1 Hz @ 24 kV_{rms}
Weight 52 kg / 114.6 lbs

HVA34

Output voltage 34 kV_{peak}, 24 kV_{rms}
Load 0.5 µF @ 0.1 Hz @ 24 kV_{rms}
Weight 20 kg / 44 lbs

HVA45

Output voltage 45 kV_{peak}, 32 kV_{rms}
Load 5.0 µF @ 0.1 Hz @ 27 kV_{rms}
Weight 57 kg / 125.6 lbs

HVA54

Output voltage 54 kV_{peak}, 38 kV_{rms}
Load 3.0 µF @ 0.1 Hz @ 36 kV_{rms}
Weight 57 kg / 125.6 lbs

HVA60

Output voltage 62 kV_{peak}, 44 kV_{rms}
Load 1.0 µF @ 0.1 Hz @ 44 kV_{rms}
Weight 57 kg / 125.6 lbs

The VLF diagnostics systems

from B2 Electronics GmbH are extremely compact, portable and modular. They provide users with a clear statement about the quality and condition of a medium or high voltage network. The VLF high voltage generators (HVA) together with Partial Discharge and Tan Delta diagnostics systems provide a fully comprehensive testing and diagnostics system.

Tan Delta measurement systems

HVA68-2

Output voltage 68 kV_{peak}, 48 kV_{rms}
Load 2.0 µF @ 0.1 Hz @ 44 kV_{rms}
Weight 52 kg / 114.6 lbs

HVA90

Output voltage 90 kV_{peak}, 64 kV_{rms}
Load 1.0 µF @ 0.1 Hz @ 64 kV_{rms}
Weight 127 kg / 280 lbs

HVA94

Output voltage 94 kV_{peak}, 66 kV_{rms}
Load 0.9 µF @ 0.1 Hz @ 66 kV_{rms}
Weight 120 kg / 264.5 lbs

HVA120

Output voltage 120 kV_{peak}, 85 kV_{rms}
Load 0.5 µF @ 0.1 Hz @ 85 kV_{rms}
Weight 198 kg / 436.5 lbs

TD60-MC

Operating voltage (sine wave)
60 kV_{peak}, 42 kV_{rms}
Tan Delta (resolution/accuracy)
1 x 10⁻⁵ / ± 1 x 10⁻⁴

Tan Delta – also called dissipation factor – is a proven, simple and reliable test method for confirming the overall dielectric condition of cables or other electrical plant and infrastructure.

The VLF diagnostics system can be upgraded to measure the dissipation factor of the medium and high voltage cable insulation.

The PD measurement systems

from B2 Electronics GmbH allows the precise localization of PD faults in medium and high voltage cables and their connections (joints and terminations), often caused by mechanical damage due to a faulty installation process.

B2 Suite® Software

TD90-MC

Operating voltage (sine wave)
90 kV_{peak}, 64 kV_{rms}
Tan Delta (resolution/accuracy)
1 x 10⁻⁵ / ± 1 x 10⁻⁴

TD120-MC

Operating voltage (sine wave)
120 kV_{peak}, 85 kV_{rms}
Tan Delta (resolution/accuracy)
1 x 10⁻⁵ / ± 1 x 10⁻⁴

PD90

Operating voltage (sine wave)
90 kV_{peak}, 64 kV_{rms}
PD localization
(resolution/accuracy)
0.1 m / 1 %

PD120-2 & PD120-2

Operating voltage (sine wave)
120 kV_{peak}, 85 kV_{rms}
PD localization
(resolution/accuracy)
0.1 m / 1 %

PD120

Operating voltage (sine wave)
120 kV_{peak}, 85 kV_{rms}
PD localization
(resolution/accuracy)
0.1 m / 1 %

provides a comprehensive “all-in-one” software solution for testing, diagnosis and management with a comprehensive database.

The BA series of on-site oil testers

from B2 have ultrafast switch-off time and offers a clear detection of breakdown. The use of modern mineral or silicon oils, as well as new ester-fluids generates new challenges for oil testing. An ultrafast switch-off time (< 5 µs) is essential, for reliable, trustworthy and repeatability of any series of tests performed. Moreover, the direct measurement of the output voltage and the oscillographic display of the arc event present a precise and reliable analysis of the breakdown. The test results enable plant operators to evaluate the condition of the insulating oil, allowing them to assess on the need for substitution of the oil.

PD90-2 & PD120-2

Operating voltage (sine wave)
90 kV_{peak}, 64 kV_{rms}
PD localization
(resolution/accuracy)
0.1 m / 1 %

PD120-2 & PD120-2

Operating voltage (sine wave)
120 kV_{peak}, 85 kV_{rms}
PD localization
(resolution/accuracy)
0.1 m / 1 %

PD120-2

Operating voltage (sine wave)
120 kV_{peak}, 85 kV_{rms}
PD localization
(resolution/accuracy)
0.1 m / 1 %

BA75

max. Output voltage 75 kV_{rms}
Weight 22 kg (incl. battery)

BA80

max. Output voltage 80 kV_{rms}
Weight 22 kg (incl. battery)

B2 Electronics is an ISO 9001:2015, CE certificated company.

AP Sensing GmbH

AP Sensing is the Distributed Temperature Sensing (DTS) and Distributed Acoustic Sensing (DAS) solution provider for monitoring the temperature and vibrations in your power grid. With references in transmission and distribution, land cables, subsea cables and superconductors, we ensure proper monitoring of your network.

We develop our fiber-optic sensing solutions based on the tradition of HP/Agilent Technologies, the world leader in optical test and measurement for over 35 years. Building on HP/Agilent's processes and knowledge, we have established ourselves as the leading solution provider for distributed fiber-optical sensing in a wide range of applications.

The DTS monitoring system

Could monitor up to 80 km long medium and high voltage power cables per channel and is based on innovative Code Correlation technology. The DTS system could detect cable faults on all cable length, the faults on cable joints and cable terminations and also could determine a potential problem based on load profile of cable and a prediction software RTTR (Real Time Thermal Rating). It uses as temperature sensor a fiber optical multi-mode.

The DAS monitoring system

Could monitor up to 70 km long medium and high voltage cables per channel, and is based on 2P Squared technology. The DAS system could detect cable faults on all lengths of power cable and on cable joints and could detect any unauthorized attempts to access the power cable. The DAS system use as acoustic sensor, a fiber optical single-mode.

Fiber-optic advantages:

- Distributed temperature and acoustic / vibration measurements along the entire circuit, providing thousands of data points;
- Accurate measurements not compromised by strain or EMI;
- Perfect base to compute precise power ratings (RTTR), burial depth and for machine-learning event detection;
- Precise detection and classification of critical events such as thermal overload, third-party events (digging, anchoring) and cable faults.

Applications for our DTS/DAS solutions:

- High Voltage DC / High Voltage AC power cables;
- Underground power cables;
- Export and array cables;
- Interconnectors;
- Joints and terminations;
- Utility tunnels;
- Overhead lines;
- Transformers;
- Substation equipments.



ELABO is the engine of innovation in the electrical engineering industry. We are the technology leader in developing and manufacturing intelligent measurement and test equipment for the electrical industry. Customers employ our high-quality devices, software, test systems and furniture for training, research and development, production and quality assurance, as well as customer service.

Workstation solutions

ELABO designs, develops, and manufactures workstation systems for electrical laboratories, professional training, assembly, and process control stations.

Your advantages:

- Four decades of ELABO knowledge gained from practical experience
- Cutting-edge ergonomics
- Unbeatable cost-effectiveness
- Maximum spatial efficiency
- One-stop shopping with efficient hardware and software packages
- Robust and durable system

Test systems

ELABO is an international leader in the development and manufacture of systems for testing electrical devices and electrical components and subassemblies. Our measurement and testing devices are used for safety, quality, and function testing in electrical laboratories as well as in mass production. We also provide automated testing systems as individual workstations or as complex testing networks, for a wide range of industries and products.

Training systems for electrical laboratory

Realize hands-on training with ELABO and his classic state-of-the-art laboratory equipment.

Components

- Primus Basic workstations with attached 3HU body
- Depth slide with 2 x DIN A4 interchangeable frame profiles
- Safety device at each workstation
- Mobile work tables for project work
- DC supply EA
- Interfaces (LAN, USB, compressed air)

The Primus Basic laboratory benches with attached 3HU laboratory furniture enable state-of-the-art training. Each table is equipped with a reliable safety device.

Service and support

Trained specialists will provide you with customer care through our support hotline. We will analyze your causes of failure via remote maintenance and offer solutions. If you opt for our service and maintenance agreement, you will be able to contact us even outside of regular business hours, depending on your chosen service level. Elabo is an ISO 9001:2015 certified company.

Discover our premium quality metering solutions and our OEM options. With more than 32 years of experience, our expert team is here to work with you to supply or develop innovative electricity meters tailored to your needs.

Ambition series electricity meters

Our Ambition electricity meters are easy to install and have advanced communication capabilities through features such as the WAGO Push-in CAGE CLAMP® and Bluetooth. The Ambition series supports various wiring configurations, including 3-phase 4-wire, 3-phase 3-wire, Aron, Delta and single-phase 2-wire.

PRO series electricity meters

Our PRO series electricity meters are high-quality metering solutions designed for the top segment of the market. The meters are MID-approved for billing purposes and offer the accuracy and compliance required for professional applications. They can be produced with one, two or three modules, up to 100 A, for monitoring the electric energy in single-phase or three phase circuits.

N series electricity meters

Our N series electricity meters have been developed with a focus on load balancing for EV charging, making them highly suitable for effective energy management in power distribution at different points in a building or facility. The N series electricity meters are the most economical single phase or three phase meters available in two variants: direct or indirect connection. Those high-performance meters features Modbus RTU-RS485 and is suitable for all applications requiring accuracy.

PRO CT series current transformers

In addition to our practical PRO CT current transformers, we developed the PRO CT Split Core for existing installations where removing rails and cable lugs makes installation challenging. Additionally, the PRO CT offers exceptional durability and low maintenance requirements. The user-centric design enhances operational efficiency, making it the perfect choice for reliable and straightforward electrical metering.

PRO-Flex series electricity meters

Discover our PRO-Flex electricity meters, which are ideal for mobile energy users at locations such as campsites or marinas, to accurately measure the energy consumption of different devices. The PRO-Flex electricity meter eliminates the need for expensive infrastructure in multiple locations. This electric meter actually offers the solution for measuring the energy consumption of mobile devices and mobile or changing users.

Certificates

All products are MID Certificated, have CE Marking and comply also with other standards like: 2014/32/EU, IEC 62052-11, IEC 62053-21, IEC 62053-23, EN 50470-1 and EN 50470-3. Also, the company is ISO 9001:2015 cerificated.

Eagle Eye Mission is a producer for Battery Monitoring systems, Portable Testers and Load Banks. Eagle Eye has become the global leader when combining Critical DC Power Education, Solutions, and Services. The Eagle Eye Mission is to lead the industry in battery testing education, training, products and support.

Battery Monitoring System

The Battery Monitoring System is designed to measure the ageing status of up to 448 jars (or 448 cells) by measuring and recording: string voltage and current, as well as jar/cell voltage, internal resistance, connection resistance, and temperature. It ensures backup power systems are optimally maintained in large-scale environments.

Portable Battery Testers

The IBEX-Series portable battery testers are the fastest, smallest and most accurate battery testers in the industry today. Ensure reliability of backup power systems and prevent unexpected failures with the IBEX-Series. Eagle Eye Power Solutions offers multiple IBEX kit options to meet any company's needs and budget. Test Internal Ohmic Resistance (R) or Conductance (Siemens), Jar Voltage (V), Ripple Current, Temperature, and Strap Resistance to ensure you are testing per IEEE and NERC Recommendations.

Digital Hydrometer / Specific Gravity Tester

The digital hydrometer / specific gravity tester is specifically designed to quickly & safely measure the temperature-compensated specific gravity of your batteries. Such devices are critical in determining the charge level of lead-acid batteries, without touching any liquid or cumbersome cleaning. Single-handed automatic operation makes this method 10x faster than conventional glass hydrometer and thermometer methods. Measure specific gravity and temperature simultaneously with a press of a button.

DC/AC Load Banks

DC Load Banks are designed for discharge testing, battery capacity testing, acceptance testing, battery maintenance and other testing for DC power with a load. The LB-Series load banks are portable, economic, easy-to-use and come complete with DataView Software for data management and analysis. The AC Load Bank Series are the smallest AC load banks in the industry that offer unmatched capacities with rugged durability. Each load bank is fully self-contained and designed for portable AC load testing that can easily withstand harsh testing environments. Our patent-pending resistor design and assembly make it possible to achieve smaller portable load banks than anyone in the industry.

Ground Fault Locator

The ground fault locator is an essential instrument to pinpoint faulty grounding where electrical cables have breakage and lost to the ground. The unit deals with current leakage of DC systems with high resistance. The GFL-1000 is built based on years of field experience in different DC systems to fast-detect, track and locate virtual grounding faults.

Eagle Eye Power Solutions LLC is an ISO 9001:2015 Certified company.

Testing Devices & Monitoring Equipment for Energy

Applications in industry and energy field:

Generation, Transport and Distribution of Electric Energy, Electric equipment manufacturers, etc.

International cooperations

HOVE A/S (Dk)



High-end Lubrication Tools and Grease Cartridge Solutions

Portable lubrication pump for port cranes, Advanced solutions for lubricating mechanical bearings, primarily within the wind turbine industry, Portable Lubrication High Flow Pumps for direct and central lubrication systems, Pre-filled Grease Cartridge of 1500, 3000 and 5000 ml.

Contact: tehnic@firsttech.ro

Romanian Partners

Electromontaj SA



Construction company on Romanian energy market

Design and construction of electric power lines, Design and construction of power stations and substations, Design and manufacture of steel lattice towers, cables and accessories, Testing of steel lattice towers with height of up to 90 meters, Others special construction works in energy field.

Contact: office.bucuresti@em.ro

NKT Cables SRL



Power cable and accessories manufaturer

Romanian subsidiary of NKT Cables GmbH Germany – producer of cable solutions, HV power cables systems, MV power cables systems, LV cable systems.

Contact: dumitru.ilioiu@nkt.com

Pentru mai multe informatii accesati site-ul nostru www.firsttech.ro.