

TRAINING OVERVIEW

EDUCATION IS POWER

www.hipotronics.com/training





EDUCATION IS POWER

LEARN WHAT WE HAVE TO OFFER

Through our courses, you will gain familiarity with a wide range of test sets and applications. By applying the workflow supported by our superior product line, you can be sure that your tests are accurate and consistent.

Specifically, you will learn how to generate reliable test reports, practice general safety, and utilize well-organized step-by-step procedures.

We also provide value-added assurance to guarantee your test labs are up to date with the most recent revisions to national and international high voltage (HV) testing standards.

Our courses are ideal for a number of those working in the HV business, including but not limited to manufacturers of high voltage equipment, utilities, universities, laboratories, and maintenance and service companies.

It is important to us to help you understand the solutions available when facing difficulties during diagnostics. Most importantly, we want to help save you money by speeding up test time in the field.

All courses are taught in English and are held at our facility in Brewster, New York. Please find more details on our website at www.hipotronics.com/training.htm.

HIGH VOLTAGE
APPARATUS
MANUFACTURERS

UTILITIES

UNIVERSITIES

LABORATORIES

MAINTENANCE AND
SERVICE COMPANIES



A MESSAGE FROM OUR LEADER

GENERAL MANAGER AND VICE PRESIDENT OF THE HUBBELL HIGH VOLTAGE TEST BUSINESS

For over 50 years, Hipotronics has been the world's leading full-line manufacturer of high voltage test equipment and measurement instrumentation. As a member of the Electrical Systems Group of Hubbell Inc., we continue to advance our record of innovation.

Now, we feel it's time to share some of our expertise. Expanding the training side of our business has always been a goal of ours, and it is with great honor that we finally present Hipo University.

Hipo University is staffed with our best engineers to provide you high-quality training opportunities. After all, we have 100+ years of combined experience with Hipotronics, Haefely, and Tettex.

In the field in which we work, it is of utmost importance to feel comfortable, confident, and safe while operating our equipment.

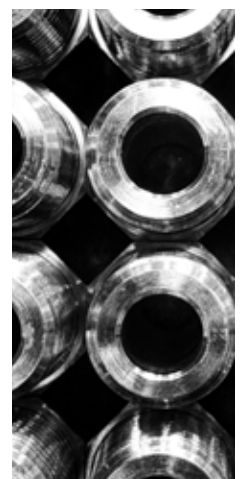
That is why the professional courses we offer focus on not only theory, but also on practice. Our mission is to reinforce technical knowledge and best testing practices in a hands-on environment.

We look forward to enabling your success and adding long-term value to your company.

Sincerely,

A stylized, handwritten signature in blue ink, consisting of several sweeping, parallel lines.

Reinhold Grob





TRAINING OVERVIEW

Training courses take place in Brewster, NY or at the customer location.

At our facility you will be afforded an opportunity to gain valuable skills and gather with peers to discuss hot topics in the industry.

Certification is provided to each individual upon completion of the course(s).

Lunch may be provided upon request of attendees.

CURRENT COURSES AVAILABLE:

- Cable Fault Locating
- Transformer Diagnostics
- Aerial Lift Testing

The length of our courses vary by subject.

Please contact us at training@hipotronics.com to sign up and begin scheduling.

MORE



Want to learn more about us?

Visit our website to see why, in a world of imitators, we stand alone as the original and still the best.

Follow us on Twitter (@HFLYHIPO), LinkedIn (HAEFELYHIPOTRONICS), and YouTube.

Interested in our products and service? Call us at 845.279.3644 or e-mail us at sales@hipotronics.com.

CABLE FAULT LOCATING

As the industry pioneer in cable and wire testing, Hipotronics remains the premier supplier for all your testing needs. That's one reason why our professionals are your go-to people for training in this area.

Although cables are built to last, faults remain inevitable due to excessive moisture, corrosive environments, overheating, and aging. This course will help customers learn how to operate a wide range of cable fault locators using the most innovative TDR (Time Domain Reflectometer) techniques and best portable contact thumper the market has to offer.

It will also focus on ways to reduce fault location time and allow for quick sectionalizing of faulted loop feed URD (Underground Residential Distributions). We want to help you pinpoint faults quickly and accurately.

This training is usually held over the course of 3 days.

LEARN HOW TO:

- Isolate faulted sections using advanced sectionalizing techniques
- Locate and interpret cable faults with TDR (Time Domain Reflectometer) waveforms on radial and loop feed systems
- Pinpoint cable faults with Ballistic and Acoustic Listening Devices (FlashPhone)
- Verify integrity of cable insulation

RELEVANT PRODUCTS:

- Portable cable fault locator systems (5250 Series, X-WAVE)
- Truck-mount thumpers (CF Series, CET)
- Fault location radars and accessories (TDR Series, HVC series, Open/Short Locator)



TRANSFORMER DIAGNOSTICS

Testing of transformers is important for both manufacturers and end users. Manufacturers need to be certain their units are meeting the desired specifications, while end users need to perform regular maintenance procedures to detect minor fault symptoms before timely and costly failures occur.

This course is designed to help transformer manufacturers, utility and contract workers, repair companies, and research labs satisfy their testing needs.

In addition to training, HAEFELY HIPOTRONICS provides installation, calibration, repair, and system upgrade services to keep your systems performing at the highest level.

This training is usually held over the course of 2 days.

NOTE

This course can be further tailored for transformer manufacturers to include partial discharge testing, induced voltage testing, lightning impulse testing, applied AC testing, and loss testing.

LEARN HOW TO:

- Measure insulation resistance
- Measure polarization index
- Perform winding resistance measurement for any size transformer
- Assess condition of transformer insulating oil with dielectric withstand tests
- Run three-phase and single-phase turns ratio meters (TTR)
- Measure power factor and dissipation factor to detect aging and deterioration within the insulation of the transformer
- Measure short circuit impedance of power transformers at reduced current
- Perform capacitance and tan delta testing
- Conduct frequency response analysis to verify mechanical/electrical integrity

RELEVANT PRODUCTS:

- Insulation resistance tester (5478, HVM Series)
- Winding resistance meter (2293)
- Oil dielectric test set (OC60D, OC90D, E-series)
- Turns ratio meter (2795, 2796)
- Power factor tester (MIDAS)
- Frequency response analyzer (FRA5310)



AERIAL LIFT TESTING

Protecting the lives of linemen and ensuring their overall safety is a top priority for both utilities and tree removal companies. Sometimes the voltage withstand ability (dielectric breakdown) of aerial lift devices could be the difference between life and death.

That's where we come in. Our equipment allows for electric tests that tell whether or not a truck's upper boom can safely contact high voltage lines.

This course provides step-by-step training on how to test the electrical strength of boom insulators (per ANSI Standard A92.2) as well as the voltage withstand ability of hydraulic hoses and the oil they contain.

Moreover, we will shed light on test results implying dielectric failures due to: contamination of the insulator surfaces; chemical (internal or external) deterioration of the insulator; aging or degradation of the fiberglass/rubber insulating material; moisture absorption; substitution of improper insulating material with inadequate dielectric constants or voltage withstand ability.

This training is usually held over the course of 1 day.

LEARN HOW TO:

- Properly apply high voltage across the "insulator" portion of the boom
- Measure the resulting current flow through the insulator in accordance to ANSI Standard A92.2
- Improve on skills required to record and interpret test results
- Learn how to properly position lift trucks (both articulating and telescoping) for acceptance and maintenance testing

RELEVANT PRODUCTS:

- Portable HVT series AC hipots (60HVT, 100HVT, 120HVT)
- Portable 800 Series DC hipots (880PL-10MA, 8120-5PL, 8170-5PL)
- 700 Series AC dielectric test sets





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