Digital Transformer Ratiometer

DTR® Model 8511

NEW! The DTR® 8511 is a modernized enhancement of the DTR® 8510!

PRECISE, ACCURATE, AND RELIABLE TRANSFORMER TESTING

- Measures power transformers, VT/PTs, and current transformer CT turns ratios
- Direct turns ratio readings from 0.8000:1 to 8000.0:1
- Higher excitation current capability than the older model DTR® 8510 *(up to 2 A vs. 1 A)* and optimized 64 Hz test frequency for more accurate field simulations
- Displays turns ratio, excitation current, winding polarity and % deviation from the nameplate values
- Fully automatic—no calibration, range selection, hand cranking, or tedious balancing required
- Includes DataView® analysis software for configuring, downloading, storing, and report generation of test data

Our products are backed by over 130 years of experience in test and measurement equipment, and encompass the latest international standards for quality and safety.

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

Digital Transformer Ratiometer
DTR® Model 8511

Precision Ratio Testing for Power, Voltage/Potential, and Current Transformers

The **Digital Transformer Ratiometer DTR® 8511** takes the proven reliability of the DTR® 8510 and elevates it with a range of enhancements.

While maintaining the fully automatic VT/PT and CT testing functions that technicians trust for accurate ratio and excitation current measurements, the DTR® 8511 delivers a lighter, more ergonomic design with advanced safety features built in. A brighter, larger display improves visibility in any environment, while an oversized test button allows for easy operation, even with gloves on.

The DTR® 8511 makes transformer ratio testing fast, accurate, and hassle-free. Designed for the field, it's fully automatic. No calibration, range selection, hand cranking or tedious balancing required—no wasted time!

Built-in checks catch lead reversals and opens, giving you confidence in every measurement. Results display quickly, including turns ratio, excitation current, and nameplate deviation, so you know exactly what you're working with.

You can also save nameplate voltages and compare results in real time as data is gathered. Test data can then be downloaded to a PC and analyzed with the included DataView® software, which also provides full instrument control. When connected via the isolated USB interface, results can be managed and reviewed through the DTR® Control Panel for streamlined reporting and analysis.

APPLICATIONS

- Testing transformers (power, VT/PT, and CT)
- Pole mount transformer continuity and ratio tests
- Padmount single and three phase transformers continuity and ratio tests
- Switchgear CPT (control power transformers) and CT
- Nameplate verification, commissioning and maintenance testing of frequently used transformers in industrial power distribution
- Quality control in transformer manufacturing and rewinding

Confidence in Every Result! Built-in safety checks catch wiring errors and connection issues, while deviation calculations compare against stored nameplate data for clear pass/fail confirmation.

FEATURES

- **Wide Ratio Range**
  Accurately measures transformer ratios up to 8000:1 in VT/PT mode and 1000:1 in CT mode
- **Advanced Low-Voltage Step-Down Measurement**
  Applies test current to the primary side windings, enhancing operator safety and enabling testing across a wider range of transformer types and sizes
- **Automatic Test Cycles**
  Quickly checks for lead reversal and open circuits with no manual balancing required
- **Built-in Continuity Testing**
  Detects open transformer windings quickly
- **Deviation Calculations**
  Compare measured values to stored nameplate data for instant pass/fail results
- **Large Storage Capacity**
  Save up to 9,801 test results for easy recall and reporting
- **PC Connectivity**
  Transfer data, set nameplate values, and control the instrument remotely with included DataView® software
- **Rugged & Portable**
  Lightweight, field-ready design with an IP53-rated protective case *(cover closed)*
- **Flexible Power Options**
  Operates on NiMH batteries or 12 VDC external supply, batteries can be recharged through USB-C connector or 12 VDC external supply
- **User-Friendly Interface**
  Bright backlit display, intuitive navigation keys, and audible test alerts

DTR® Model 8511
Specifications

IP 53 cover closed | 600 V CAT IV | 1000 V CAT III | CE | ⧈

MODEL	DTR® 8511
ELECTRICAL	
VT / PT Ratio Range	Auto-Ranging 0.8000:1 to 8000.0:1
VT / PT Accuracies*	Ratio 0.8000 to 9.9999: ± 0.2 % of Reading Ratio 10.000 to 999.99: ± 0.1 % of Reading Ratio 1000.0 to 4999.9: ± 0.2 % of Reading Ratio 5000.0 to 8000.0: ± 0.25 % of Reading
Excitation Current	Up to 2 A
CT Ratio Range	Auto-Ranging 0.8000 to 1000.0
CT Accuracy*	± 0.5 % of Reading
Output Voltage (VT / PT)	30 V @ 64 Hz
Output Voltage (CT)	5 V @ 64 Hz
Display	LCD 20 characters x 4 line display
Languages Supported	English, Spanish, French, Italian, German, Portuguese
Communication	USB Type-A to Type-C USB 2.1
Data Storage	9801 measurements
Power Supply	USB Type-C and 12 VDC charger
Measurement Method	In accordance with ANSI / IEEE C57.12.90™
Buttons	6 total buttons *(One to start testing, and five for navigation)*
Battery Life	500 VT / PT tests
Battery Charge Time	10 h *(See user manual for full details)*
Weight	7.1 lb (3.2 kg)
SAFETY	
Safety Compliance / IP Rating	IEC 61010-2-030, IEC 61326-1, IEC 60529, IEC 60068-2-6, IEC 60068-2-27, IEC 60068-2-31, Pollution 2 IP 53 *(cover closed)*

*Reference Condition: (23 ± 5) °C, (50 to 70) % RH, full battery charge, no external fields or noise.
Consult factory for NIST Calibration prices.

DTR® Model 8511
User Interface

- USB type C connection
- Measurement output (H) 5-pin connector
- LCD display
- Measurement input (X) 3-pin connector
- Navigation buttons
- 12 VDC input connector
- Power button

Red LED Indications in Power button:

- **LED Solid:** Batteries are charging
- **1 s Blinking:** Problem with the battery charger *(see user manual for full details)*
- **OFF:** Batteries are charged
- **Flashing rapidly:** Battery(s) missing or one or more are installed reversed

- Test button

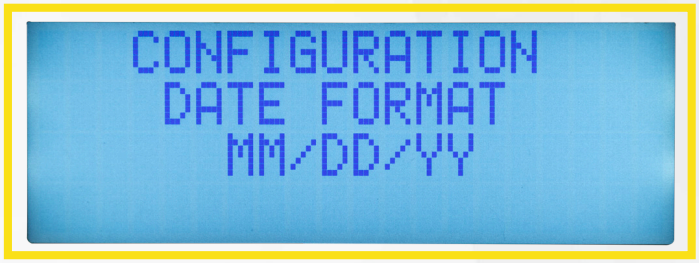
How the DTR® 8511 Improves on the 8510

- **Improved Test Performance**
  Matches the same ratio and accuracy ranges as the DTR® 8510, but with improved test power. It delivers fixed test voltages (30 VAC for VT/PT, 5 V for CT), and uses a 64 Hz test frequency for a more accurate field simulation. Additional enhancements include advanced continuity checks and improved diagnostics.
- **Smarter Data Storage and Memory**
  Both models can store up to 99 objects with 99 tests each. With the older DTR® 8510, nameplate values can only be edited through DataView®. The DTR® 8511 improves flexibility by offering 10 fixed nameplate ratios plus one customizable ratio, editable directly from the instrument or via software. It also supports manual, automatic, or no-save testing modes for greater control and efficiency.
- **Larger, Brighter Display and Easier Navigation**
  Upgraded 4-line LCD with a 6-button keypad and audible alerts for clearer visibility and more intuitive use.
- **More Convenient Power Options**
  AA NiMH batteries or 12VDC and charges via USB-C or 12 VDC.

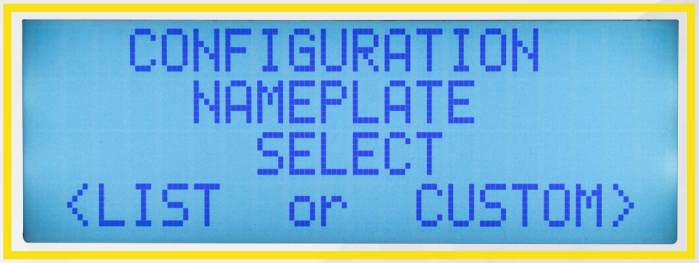
DTR® 8511

DTR® 8510

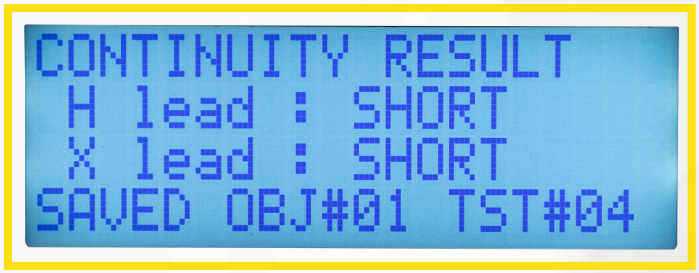
DTR® Model 8511
Screen Displays



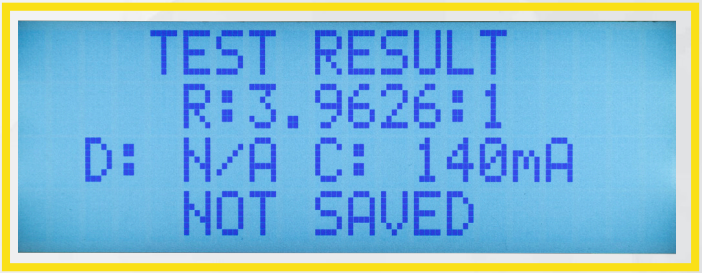
Clear display for simple configuration.
Date Format Options: MM/DD/YY, DD/MM/YY, YY/MM/DD.



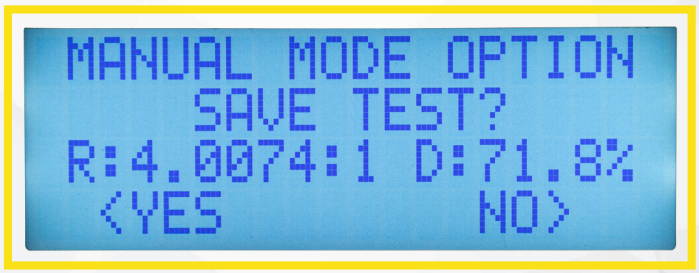
Flexible nameplate configuration, choose from preset lists or create custom entries.



Continuity result displayed and saved for future reference.

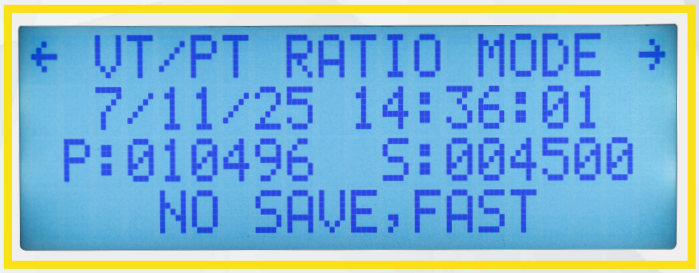


Real-time test results with option to save or discard.

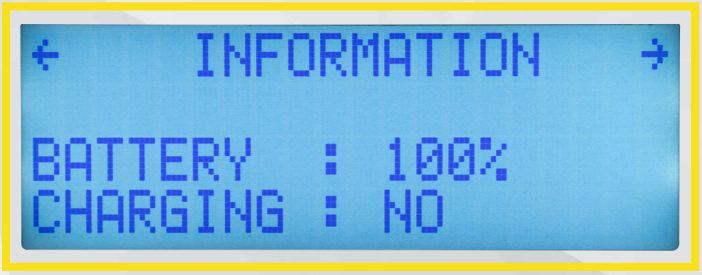


Operator control with flexible save options in Manual Mode.

Clear on-screen status while testing is underway.



Run VT/PT ratio tests with time-stamped results.



Monitor battery level and charging state easily.

DataView®

DataView® turns your test data into clear insights and professional reports

Our DataView® software makes it easier to troubleshoot, optimize performance, and document results. By connecting your DTR® 8511directly to your computer, DataView® saves time, improves accuracy, and streamlines your workflow. With DataView®, you can:

- **Connect easily**
  Link your instrument to a computer via USB
- **See data live**
  Display and analyze real-time measurements in a clear, frame-style interface
- **Retrieve past results**
  Download and review previously recorded data
- **Fine-tune settings**
  Configure a wide variety of instrument parameters
- **Maintain your device**
  Erase stored content and perform instrument upkeep
- **Generate reports effortlessly**
  Use standard templates or customize your own for professional reporting

DTR® CONTROL PANEL

All DTR® models will interact with a PC through the DTR® Control Panel. This Control Panel is designed to support the new DTR® 8511 and the older DTR® 8510.

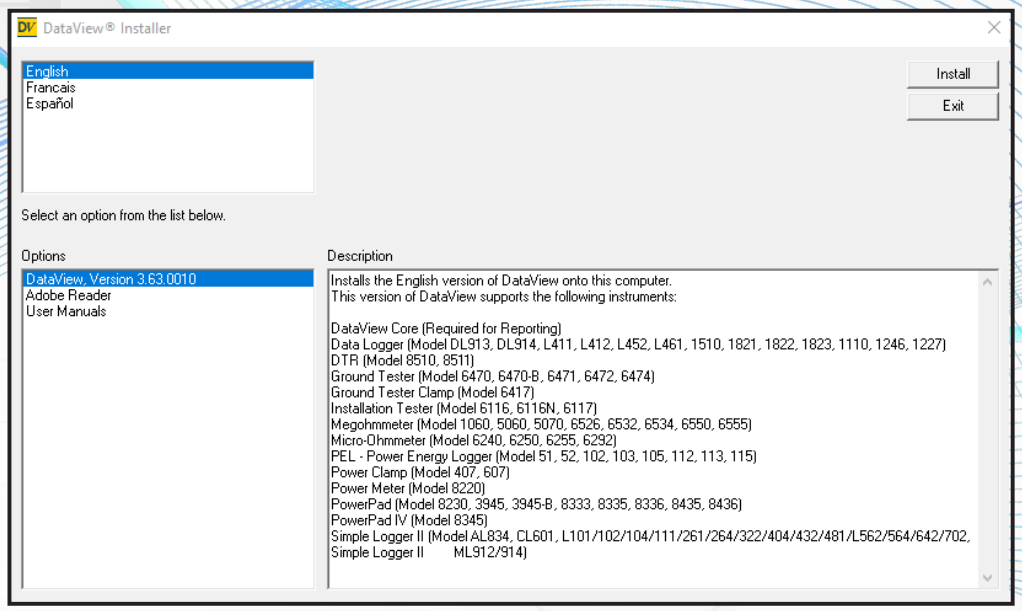
In general, **DataView® core features are for creating, viewing, editing, and storing DataView® reports; while the DTR® Control Panel is for connecting to, configuring, viewing measurements on, and downloading data from the instrument**.

With DataView®, you're always in control. Access powerful features directly through the DataView® icon for quick navigation across all your AEMC® instruments, or streamline your workflow with the DTR® Control Panel for fast, focused interaction with your DTR® instruments. Need to review and compare multiple archived reports? Our DataView® software makes it effortless, giving you maximum flexibility and efficiency in how you manage your data.

AUTOMATIC REPORT GENERATION

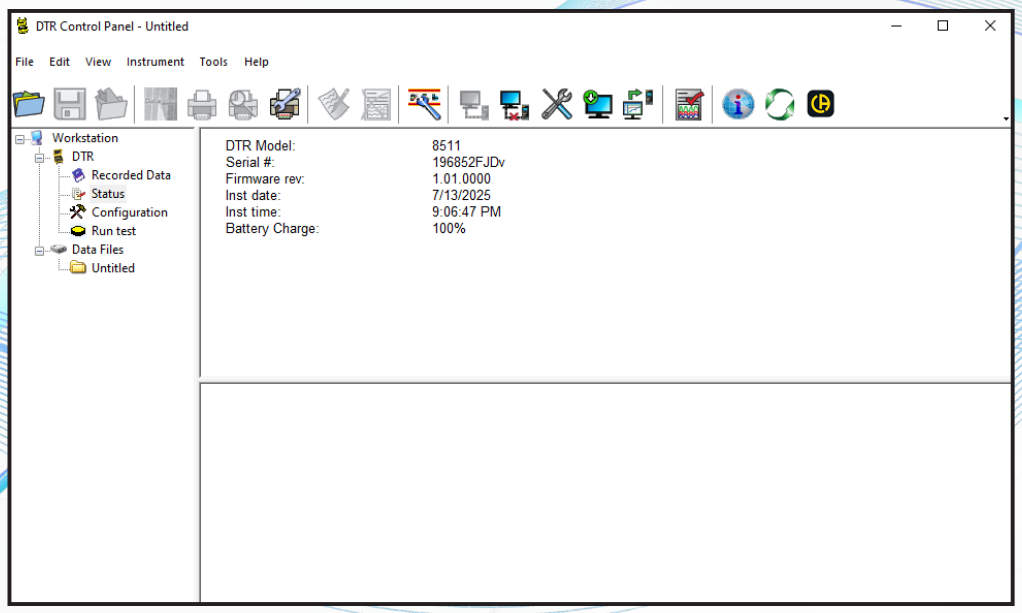
AEMC® INSTRUMENTS
www.aemc.com

Flexible Reporting – Generate professional reports instantly with built-in templates or customize your own.



DataView® Setup Screen

Getting started with DataView® is quick and intuitive. Choose your preferred language with one click. Easily install essential tools—including Adobe Reader for seamless access to DataView® PDF reports—and instantly open user manuals right from the USB drive for step-by-step guidance whenever you need it.



DTR® Control Panel

Built to support both the latest DTR® 8511 and the trusted 8510. Launch the full power of DataView® with the desktop icon, or go straight to the DTR® Control Panel for streamlined access and control—all designed to make managing your test data simple and efficient.

DTR® Model 8511
Ordering Information

DTR® 8511 (Cat. #2136.55) includes:

PRODUCT INCLUDES

Digital Transformer Ratiometer DTR® 8511 . . . . . Cat. #2136.55

- (6) internal rechargeable AA NiMH batteries *(installed)*
- Extra large carrying bag
- Set of (2) 15 ft test leads *(primary and secondary)* with (4) alligator clips *(red/black)*
- 6 ft USB Type-C to Type-C cable
- 10 ft USB Type-A to Type-C cable
- USB Type-C wall power adapter
- AC power adapter w/ cord
- USB drive with DataView® software and user manual

ACCESSORIES

- Bag – Extra Large Carrying Bag w/ Rubber Bottom . . . . . **Cat. #2133.76**
- Leads – Set of (2) 30 ft for DTR® Models 8500, 8510, and 8511 . . . . . **Cat. #2136.76**

REPLACEMENT PARTS

- Bag – Extra Large Classic Tool Bag . . . . **Cat. #2133.73**
- Leads – Set of (2) *(Replacement)*, 15 ft for DTR® Models 8500, 8510, and 8511 . . . . **Cat. #2136.77**
- Clip – Safety Alligator - Black (1000 V, CAT IV, 15 A, UL V2) . . . . . **Cat. #5000.99**
- Clip – Safety Alligator - Red (1000 V, CAT IV, 15 A, UL V2) . . . . . **Cat. #5100.00**
- Adapter – USB Type-C wall power adapter . . . . . **Cat. #5100.25**
- Adapter – Replacement AC Power Adapter w/ cord for DTR® Model 8511 . . . . . **Cat. #5100.26**
- Cable – 10 ft Type-A to Type-C USB 2.0 Full Speed (12 Mbps). . . . . **Cat. #5100.27**
- Cable – 6 ft USB Type-C 3.1 PD to Type-C USB 2.0 Full Speed (12 Mbps) . . . . . **Cat. #5100.28**

⚠ **WARNING**: This product can expose you to chemicals, including Bisphenol A, Styrene, Acrylonitrile, 1,3-Butadiene, Ethylbenzene, Nickel, Carbon, and Lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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Field-Ready & Connected – Lightweight, rugged IP53 design with bright display and oversized test button for easy use.

Flexible Power Options – Operates on rechargeable NiMH batteries or 12 V_{DC} external supply for maximum convenience in the field.

APPLICATIONS: TRANSFORMER ACCEPTANCE AND MAINTENANCE TESTING

NAMEPLATE VERIFICATION

Verify transformer turns ratio, nameplate deviation, and winding continuity

DTR® MODEL 8511

WINDING BALANCE

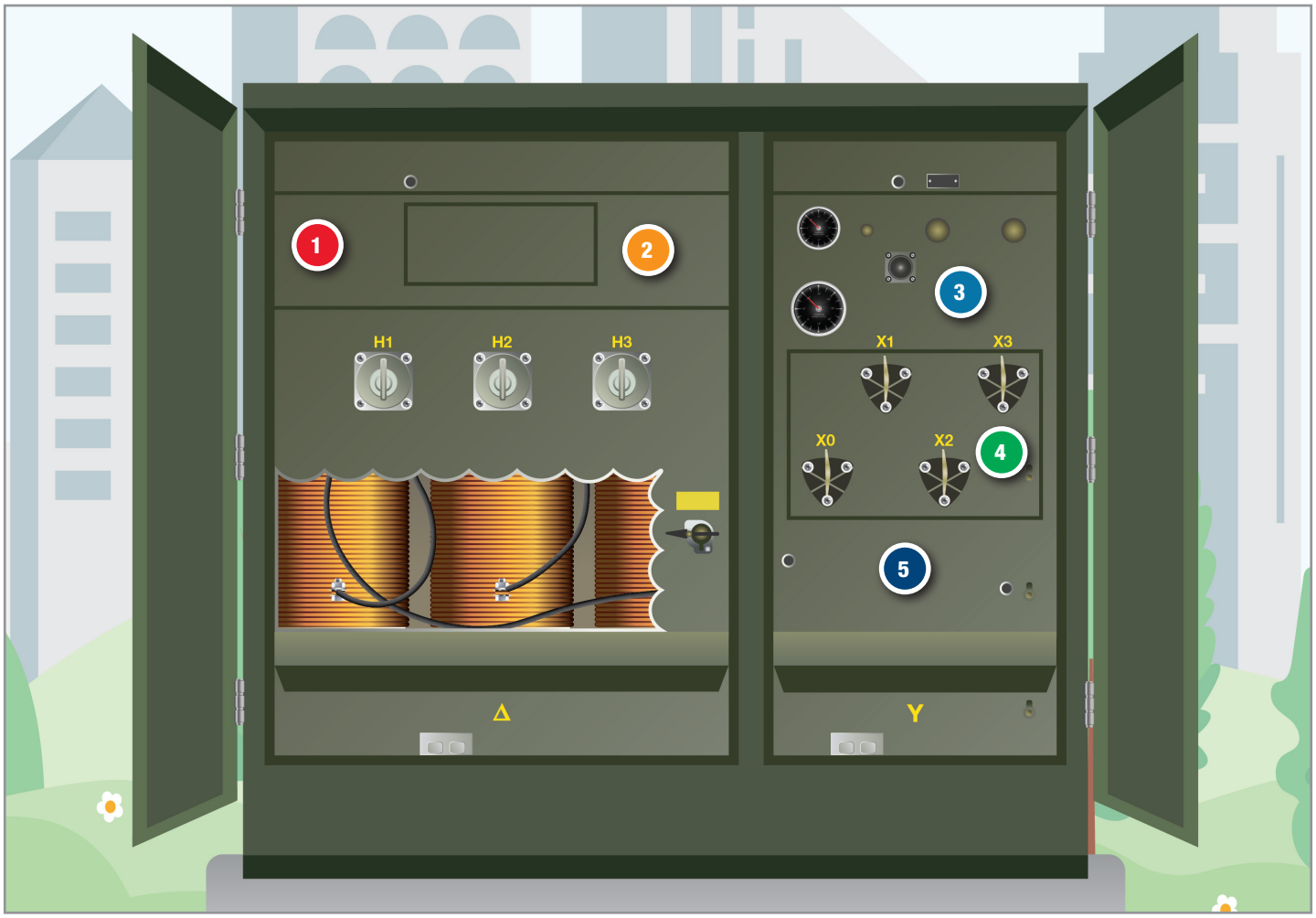
Measure winding and bolted connection resistance

MICRO-OHMMETER MODEL 6240

INSULATION SYSTEM

Test transformer insulation resistance

MEGOHMMETER MODEL 6550



OPERATION SAFETY

Verify absence of voltage to ensure safety

VOLTAGE ABSENCE TESTER MODEL CA 773

ENERGY EFFICIENCY

Measure and record harmonics and unbalance at the Point of Common Coupling (PCC)

POWERPAD® IV, CLASS A, MODEL 8345

Monitor and log facility power consumption, harmonics and unbalance

POWER & ENERGY LOGGER MODEL PEL 115

NAMEPLATE VERIFICATION

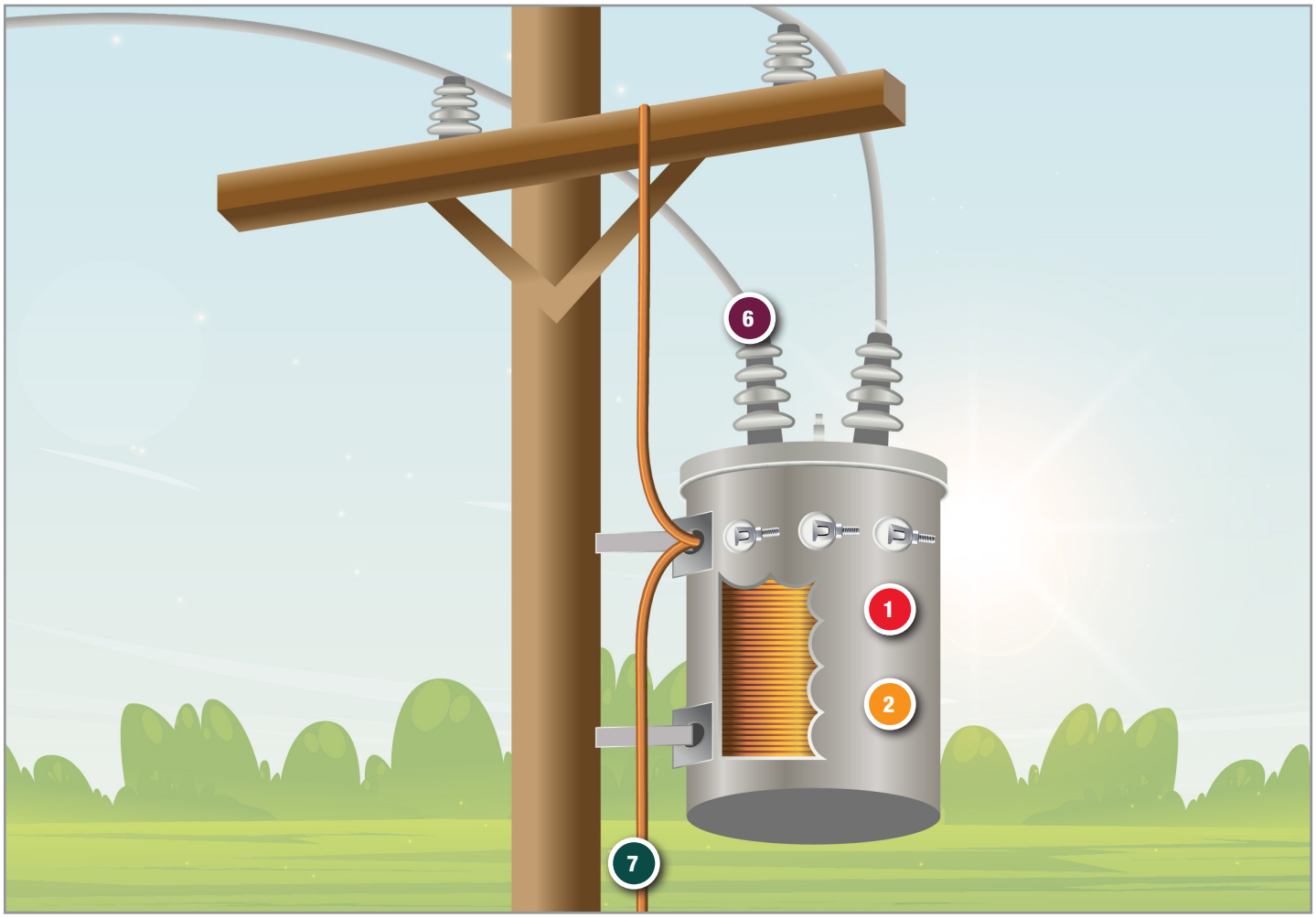
Verify transformer turns ratio, nameplate deviation, and winding continuity

DTR® MODEL 8511

WINDING BALANCE

Measure winding and bolted connection resistance

MICRO-OHMMETER MODEL 6240



LOAD MONITORING

Measure and log current outdoors with watertight protection

DATA LOGGER MODEL DL913

GROUNDING SYSTEM

Measure individual ground resistance on a utility multi-point grounding system

GROUND RESISTANCE TESTER MODEL 6416

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Family of Products

UNITED STATES & CANADA

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