

# 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

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# 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 V<sub>DC</sub> external supply, batteries can be recharged through USB-C connector or 12 V<sub>DC</sub> external supply
- ▶ **User-Friendly Interface**  
Bright backlit display, intuitive navigation keys, and audible test alerts



# DTR® Model 8511

## Specifications



| MODEL                         | DTR® 8511                                                                                                                                                                                             |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ELECTRICAL</b>             |                                                                                                                                                                                                       |
| VT / PT Ratio Range           | Auto-Ranging 0.8000:1 to 8000.0:1                                                                                                                                                                     |
| VT / PT Accuracies*           | Ratio 0.8000 to 9.9999: $\pm 0.2\%$ of Reading<br>Ratio 10.000 to 999.99: $\pm 0.1\%$ of Reading<br>Ratio 1000.0 to 4999.9: $\pm 0.2\%$ of Reading<br>Ratio 5000.0 to 8000.0: $\pm 0.25\%$ of Reading |
| Excitation Current            | Up to 2 A                                                                                                                                                                                             |
| CT Ratio Range                | Auto-Ranging 0.8000 to 1000.0                                                                                                                                                                         |
| CT Accuracy*                  | $\pm 0.5\%$ 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 V <sub>DC</sub> charger                                                                                                                                                             |
| Measurement Method            | In accordance with ANSI / IEEE C57.12.90™                                                                                                                                                             |
| Buttons                       | 6 total buttons ( <i>One to start testing, and five for navigation</i> )                                                                                                                              |
| Battery Life                  | 500 VT / PT tests                                                                                                                                                                                     |
| Battery Charge Time           | 10 h ( <i>See user manual for full details</i> )                                                                                                                                                      |
| Weight                        | 7.1 lb (3.2 kg)                                                                                                                                                                                       |
| <b>SAFETY</b>                 |                                                                                                                                                                                                       |
| Safety Compliance / IP Rating | IEC 61010-2-030, IEC 61326-1,<br>IEC 60529, IEC 60068-2-6, IEC 60068-2-27,<br>IEC 60068-2-31, Pollution 2<br>IP 53 ( <i>cover closed</i> )                                                            |

\*Reference Condition: (23  $\pm$  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



### 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

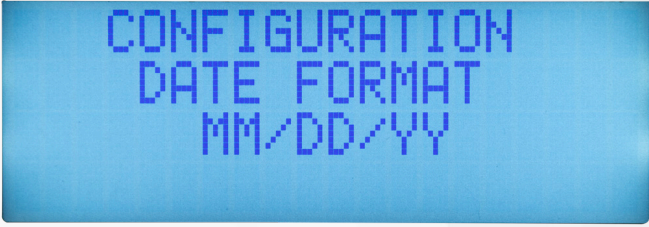
AA NiMH batteries or 12Vdc and charges via USB-C or 12 Vdc.





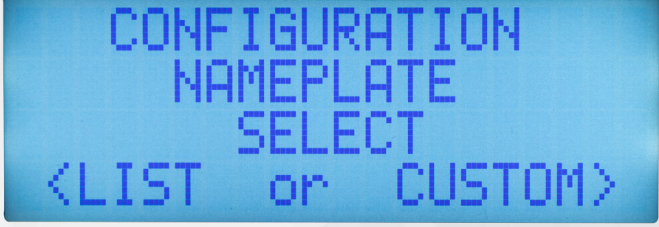
# DTR® Model 8511

## Screen Displays



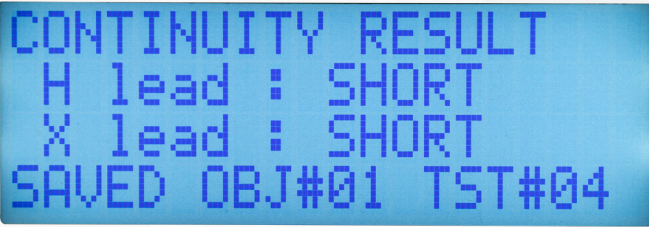
CONFIGURATION  
DATE FORMAT  
MM/DD/YY

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



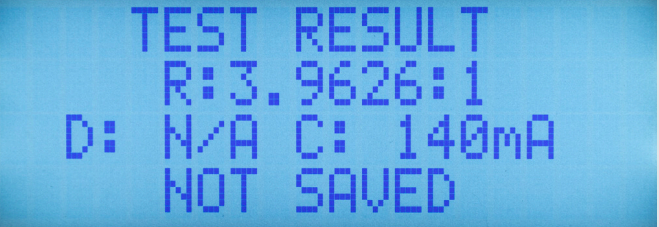
CONFIGURATION  
NAMEPLATE  
SELECT  
<LIST or CUSTOM>

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



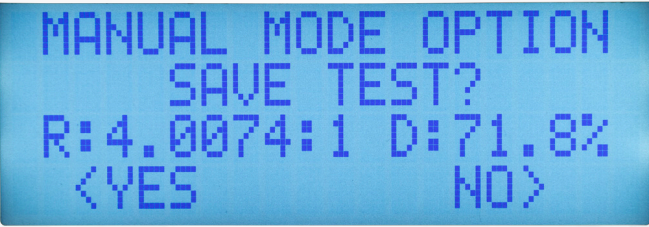
CONTINUITY RESULT  
H lead : SHORT  
X lead : SHORT  
SAVED OBJ#01 TST#04

*Continuity result displayed and saved for future reference.*



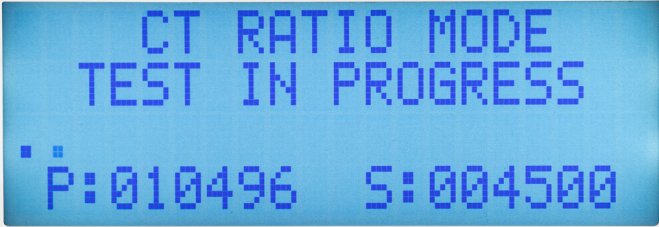
TEST RESULT  
R:3.9626:1  
D: N/A C: 140mA  
NOT SAVED

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



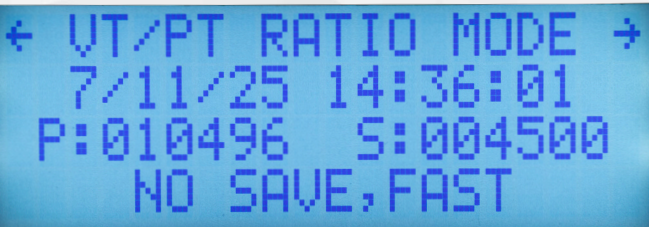
MANUAL MODE OPTION  
SAVE TEST?  
R:4.0074:1 D:71.8%  
<YES NO>

*Operator control with flexible save options in Manual Mode.*



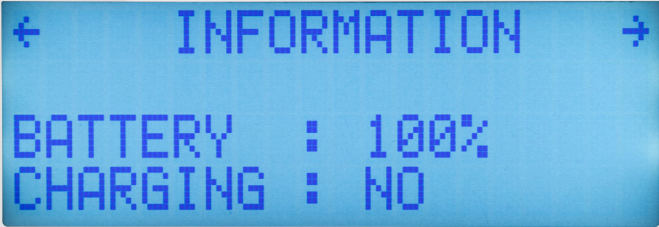
CT RATIO MODE  
TEST IN PROGRESS  
P:010496 S:004500

*Clear on-screen status while testing is underway.*



← VT/PT RATIO MODE →  
7/11/25 14:36:01  
P:010496 S:004500  
NO SAVE,FAST

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



← INFORMATION →  
BATTERY : 100%  
CHARGING : NO

*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® 8511 directly 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

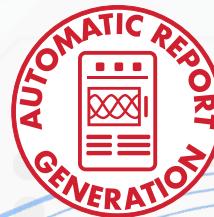


### **DTR® CONTROL PANEL**

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.**

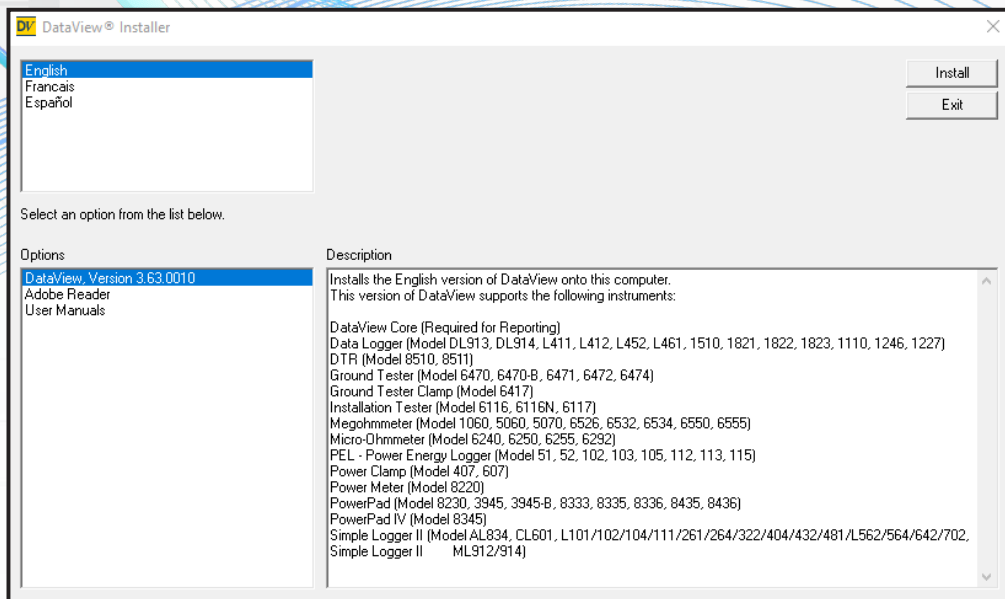
With DataView®, you're always in control. Access powerful features directly through the DataView® icon for quick navigation across all your AEMC® instruments, or streamline your workflow with the DTR® Control Panel for fast, focused interaction with your DTR® instruments. Need to review and compare multiple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



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

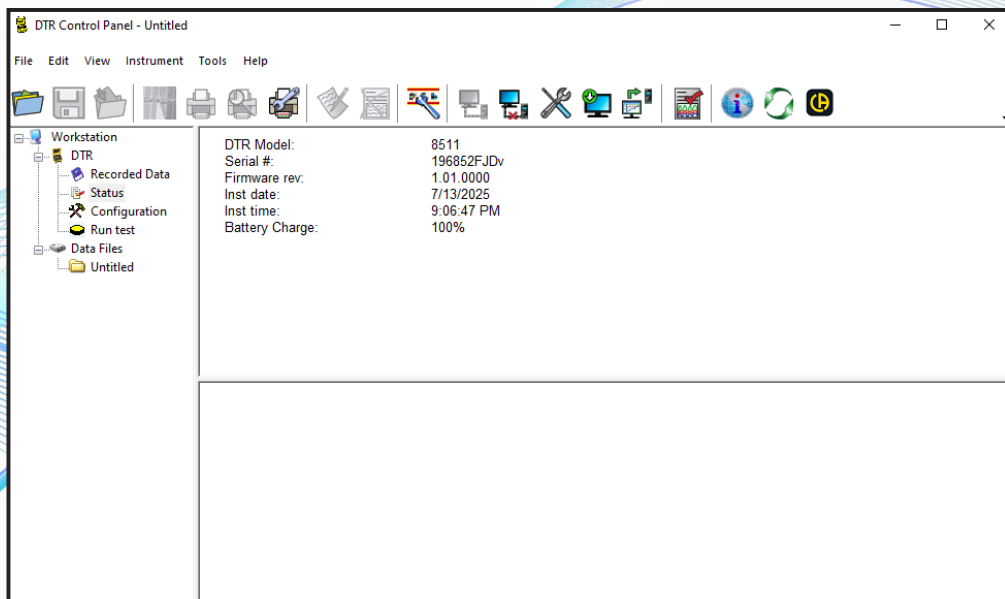






### **DataView® Setup Screen**

*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](http://www.P65Warnings.ca.gov)







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



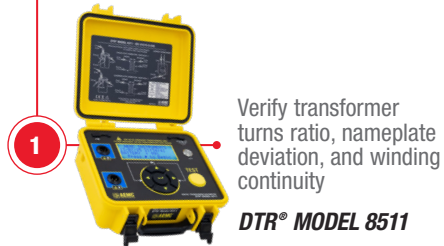
**Flexible Power Options – Operates on rechargeable**  
**NiMH batteries or 12 Vdc external supply**  
**for maximum convenience in the field.**





# APPLICATIONS: TRANSFORMER ACCEPTANCE AND MAINTENANCE TESTING

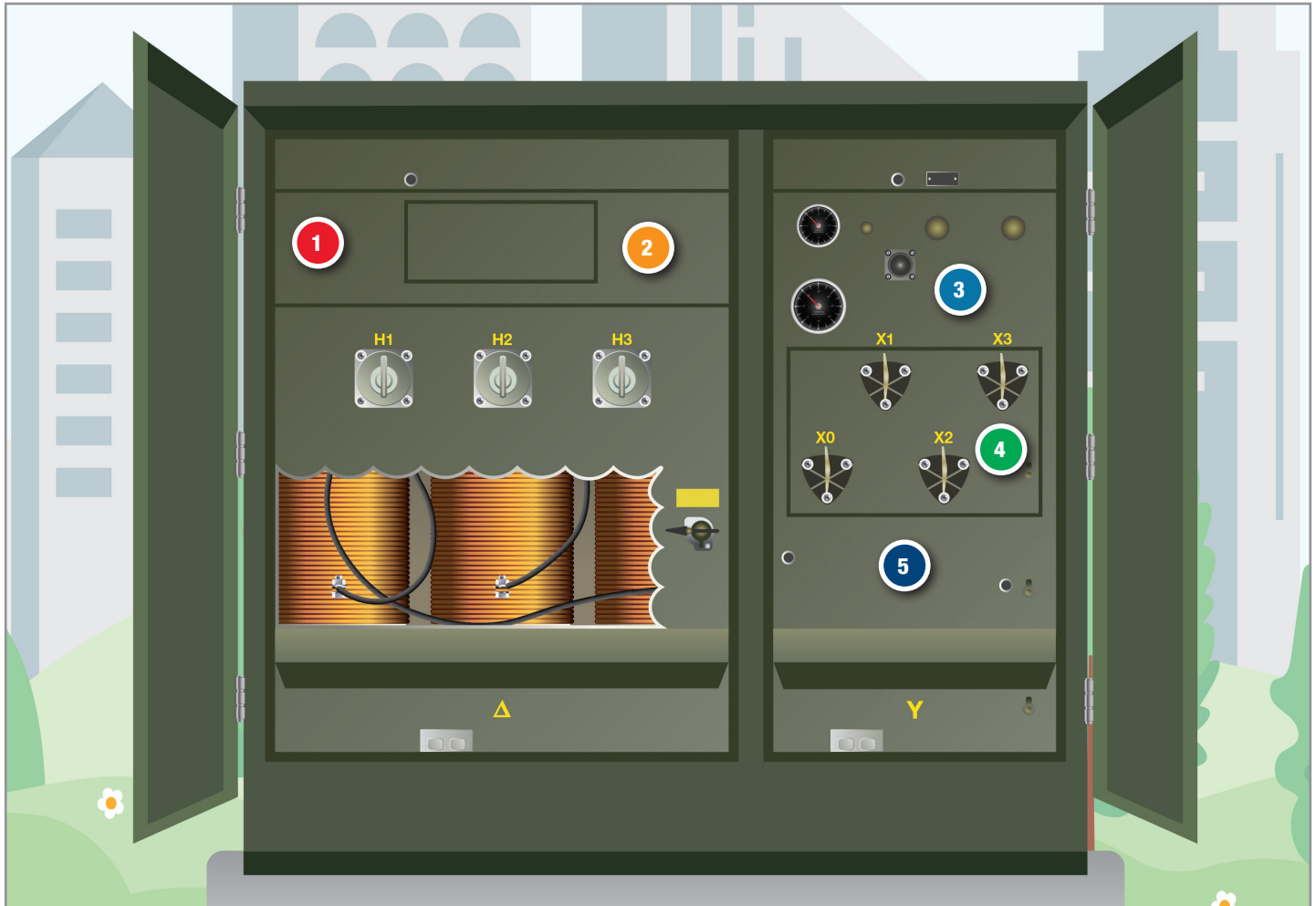
## NAMEPLATE VERIFICATION



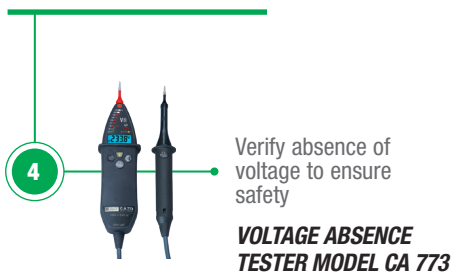
## WINDING BALANCE



## INSULATION SYSTEM



## OPERATION SAFETY



## ENERGY EFFICIENCY





## NAMEPLATE VERIFICATION



Verify transformer turns ratio, nameplate deviation, and winding continuity

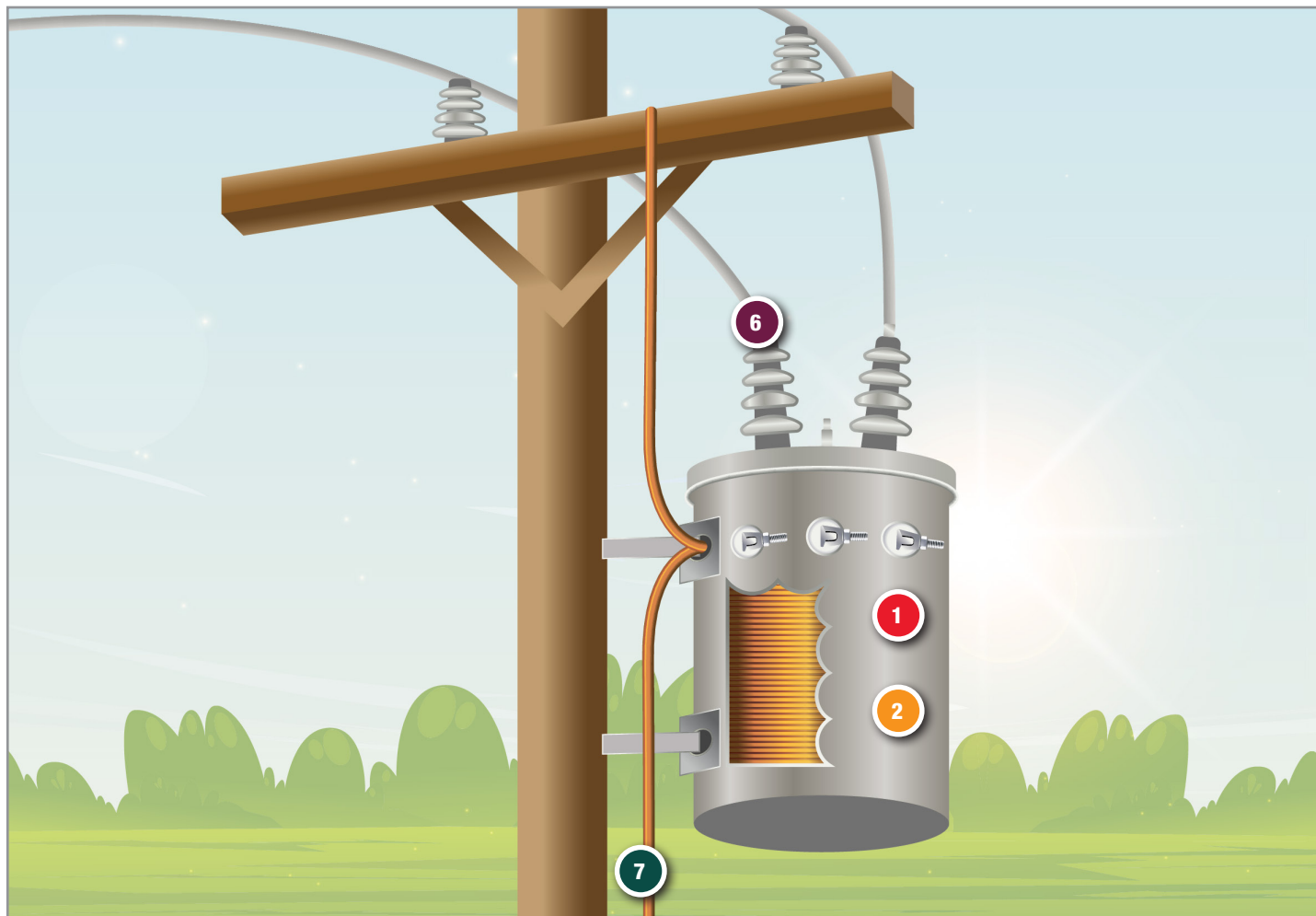
**DTR® MODEL 8511**

## 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**





## Family of Products

UNITED STATES & CANADA

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*Engineered for Excellence*  
**BUILT TO LAST™**