

# Digital Transformer Ratiometer DTR<sup>®</sup> Model 8511



## TRANSFORMER RATIOMETERS

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# Statement of Compliance

Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments certifies that this instrument has been calibrated using standards and instruments traceable to international standards.

We guarantee that at the time of shipping your instrument has met the instrument's published specifications.

**An NIST traceable certificate may be requested at the time of purchase, or obtained by returning the instrument to our repair and calibration facility, for a charge.**

The recommended calibration interval for this instrument is 12 months and begins on the date of receipt by the customer. For recalibration, please use our calibration services. Refer to our repair and calibration section

**Serial #:** \_\_\_\_\_

**Catalog #:** 2136.55

**Model #:** DTR® 8511

Please fill in the appropriate date as indicated:

Date Received: \_\_\_\_\_

Date Calibration Due: \_\_\_\_\_



## PRODUCT PACKAGING



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



Set of (2) 15 ft Leads w/  
(4) Alligator Clips  
**Cat. #2136.77**



Extra Large Classic  
Tool Bag  
**Cat. #2133.73**



USB Type-C  
Wall Power Adapter  
**Cat. #5100.25**



Cable - 6 ft USB  
Type-C 3.1 PD to Type-C  
**Cat. #5100.28**



Cable - 10 ft USB  
Type-C to Type-A  
**Cat. #5100.27**



AC Power Adapter  
w/Cord  
**Cat. #5100.26**



(1) USB Drive  
(User Manual and  
DataView® software.



Quick Start Guide  
Model 8511

Also Included:

- (1) Statement of Compliance Sheet
- (6) internal rechargeable AA NiMH batteries

Thank you for purchasing an AEMC® Instruments **Digital Transformer Ratiometer DTR® Model 8511**.

For the best results from your instrument and for your safety, you must read the enclosed operating instructions carefully and comply with the **Precautions Before Use**. Only qualified and trained operators should use this product.



**NOTE:** The DTR® 8511 can be operated directly through the instrument using the DTR® Control Panel or through DataView® software. The DTR® 8511 user manual and DataView® software drivers are available on the included USB Drive.

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## PRECAUTIONS FOR USE

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**WARNING:** The DTR® 8511 is designed for use on de-energized (dead) transformers **ONLY**. Make sure the test sample is completely disconnected from AC power and is fully discharged.

This instrument complies with safety standard IEC 61010-2-030.



**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).

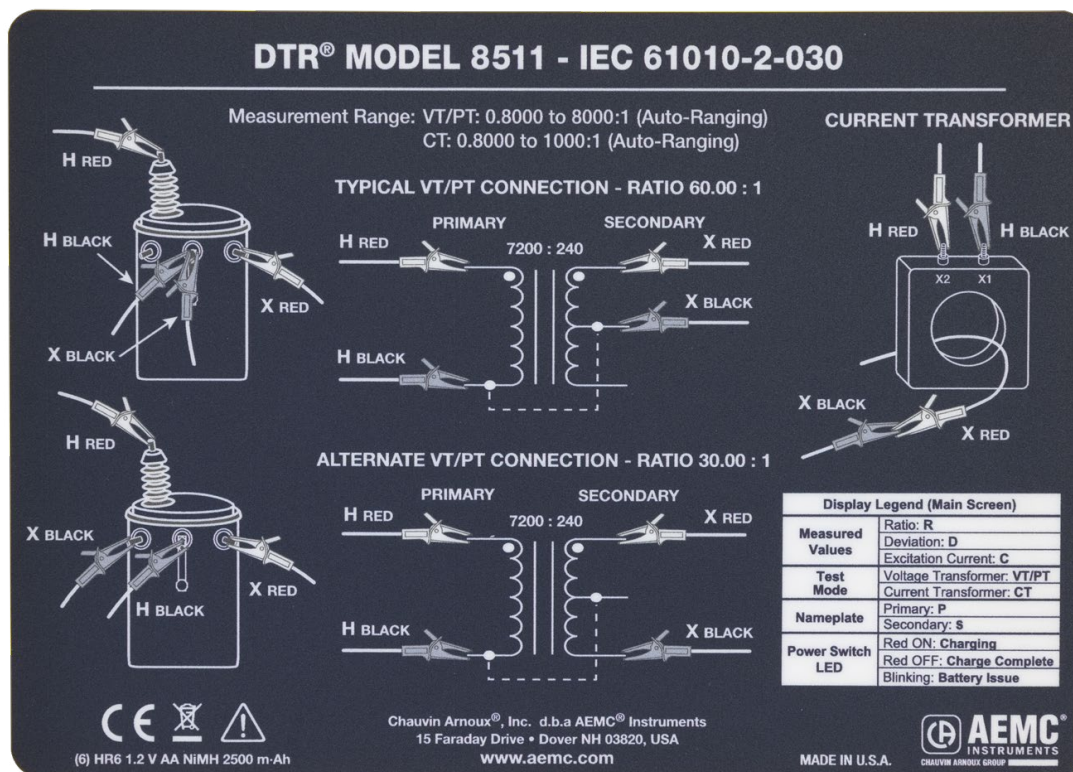
Carefully read and understand all required precautions when using this instrument. Failure to comply with these safety instructions can create a risk of electric shock, fire, and explosion; resulting in destruction of the instrument, injury to the user, and damage to the facility. If the instrument is used other than as specified in this manual, the protection provided by the instrument may be impaired.

- This instrument is protected from accidental voltages of not more than 50 V with respect to earth. The guaranteed level of protection of this equipment may be compromised if used in a manner not specified by the manufacturer.
- Read the instruction manual completely and follow all safety information before attempting to use or service this instrument.
- The Digital Transformer Ratiometer DTR® 8511 is designed for use on de-energized (dead) transformers only. Make sure the test sample is completely disconnected from AC power and is fully discharged.
- Only qualified personnel should use the DTR® 8511.
- The DTR® 8511 must not be used in a manner in which any of its components (including test cables) are relied upon to provide protection from electric shock. No high voltage insulation/protection is provided by any component of the DTR® 8511.
- Do not touch, adjust, or reposition test cables while the DTR® 8511 is conducting a test.
- Use caution on any apparatus: potentially high voltages and currents may be present and pose a shock hazard.
- Safety is the responsibility of the user.
- Never open the instrument while it is connected to AC power or when test cables are connected to transformers, equipment, circuits, etc.



## INSIDE COVER LABEL

The inside cover label provides information such as safety rating, VT/PT and CT measurement ranges and connection types, battery specifications, a Display Legend for the Main screen and Power Switch LED indicator definitions.



## CHARGING THE BATTERIES

**NOTE:** Before using the instrument for the first time, it is recommended to fully charge the battery by leaving it connected to the charger for **10 hours**. This initial charge helps condition the battery and extend its overall service life.



Please note that during charging, the instrument does not continuously update the displayed battery percentage. To see the most accurate reading, disconnect the charger and allow the unit to rest for a few minutes. This pause lets the battery stabilize, ensuring the displayed percentage more closely matches the true state of charge.

The DTR® 8511 includes (6) internal rechargeable AA NiMH batteries.

There are two methods to charge the batteries of the DTR® 8511.

1. Plug in the supplied 12 V<sub>DC</sub> AC power adapter with barrel connector.
2. Plug in a USB-C connector from a PC or USB power supply.

The battery remaining charge percentage will be displayed after disconnecting the instrument from the charging supply.




**NOTE:** Charging begins when the battery is at 96 % or lower.

## BATTERY CHARGE TIMES

The table below shows the estimated time required for the battery to reach a full charge, based on its current percentage. For example, if the battery is at 40 %, the table indicates approximately how long it will take to reach 100 % under normal charging conditions.

Starting Charge Status	Reach Full (100 %) Charge Status	Target Charge Status	Reach Target Charge Status
75 %	2.5 h	(0 to 25) %	2.5 h
50 %	5 h	(0 to 50) %	5 h
25 %	7.5 h	(0 to 75) %	7 h
0 %	10 h	(0 to 100) %	10 h


## TURNING THE INSTRUMENT ON

- Press Power Button  for > 2 s to turn instrument ON. A single audible tone (beep) will sound.



**NOTE:** The red LED embedded in the power button indicates battery **Charge Mode**. See **Control Features #6** for red indicator definitions.

## TURNING THE INSTRUMENT OFF






- Press Power Button  for > 2 s to turn instrument OFF.



**NOTE:** When instrument is powered off there is still minimal battery usage as the instrument always remains in Sleep Mode.

## POWER UP THE INSTRUMENT

The Title screen is only visible at power up of the instrument. It is from here that you will enter the menu system. The Title screen remains displayed until

either the Enter  or any of the navigation buttons (, , , ) are pressed to proceed to the Test screen, or two minutes have lapsed with no button presses at which time the instrument will automatically proceed to the Test screen.

From the VT/PT Test screen, use the  and  buttons to navigate to the CT Test screen or Continuity Test screen and back to the VT/PT Test screen.

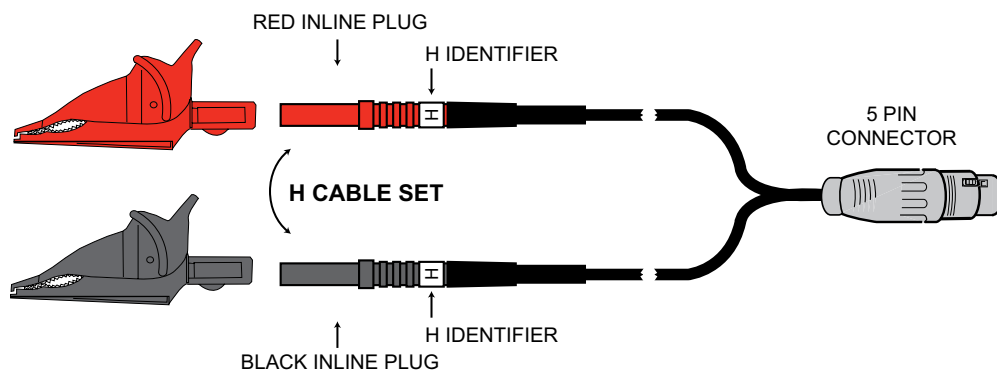
## CABLE IDENTIFICATION

The Primary (H) cable has a 5-pin connector and the Secondary (X) cable has a 3-pin connector. Due to their different pin configurations, the cables cannot be incorrectly inserted into the DTR® 8511 terminals.

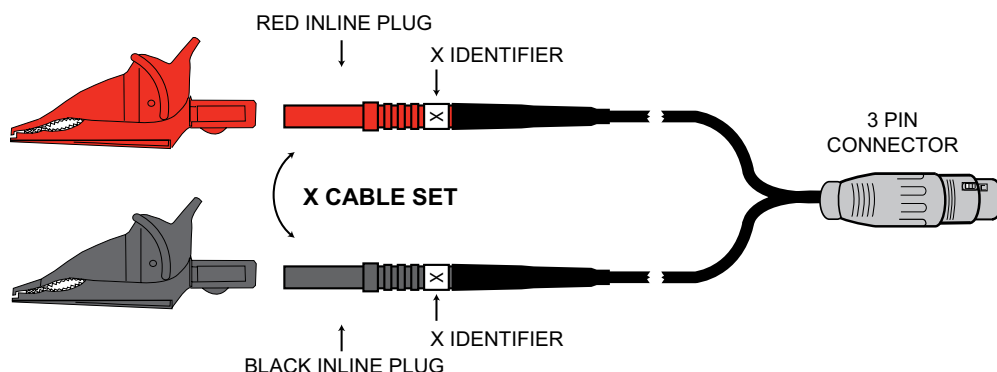


**NOTE:** Even though the cables cannot be incorrectly inserted into the DTR® 8511 terminals, the cables can be incorrectly connected to the transformer.

### Primary (H) Cable:



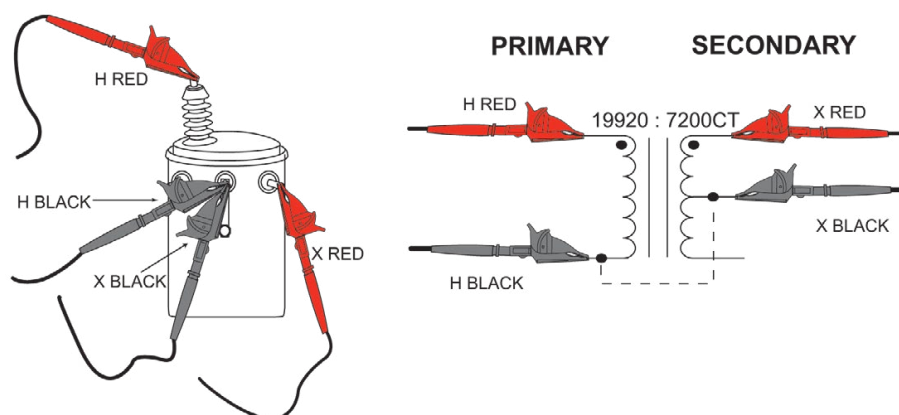
### Secondary (X) Cable:



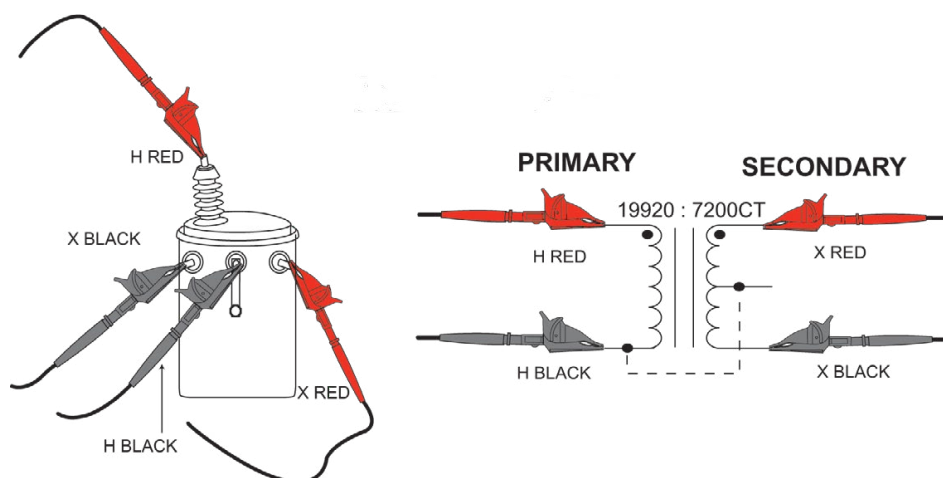


## TEST CONNECTIONS

### VT/PT Test - Typical Connection (Ratio 2.767:1)

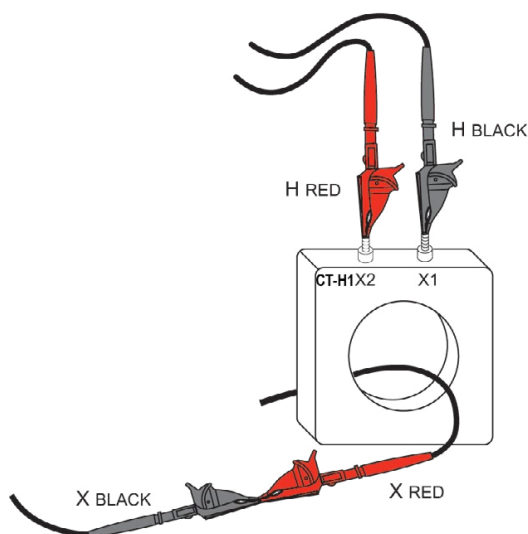


### VT/PT Test - Alternate Connection (Ratio 1.383:1)



## CT Test

Connect the Primary (H) cable to the appropriate connectors on the DTR® 8511 and the transformer under test. Connect the Secondary (X) cable as a loop through the current transformer hole as shown below.




## HOW TO START AND STOP A TEST

### NOTES:

- Testing can only run if the batteries have enough power or the supplied 12 Vdc AC power adapter is connected. LOW BATTERY will display if test is run when batteries are too low to complete the test.
- To start a test you must be on a Test screen (VT/PT, CT, Continuity) or a Test Result screen.
- When running tests from the Control Panel while connected to USB only, all testing is disabled. A TESTING DISABLED message will display. You must connect the 12 Vdc AC power adapter to proceed with testing.
- If you have not set configuration parameters, the instrument is set to default settings which were selected by purchaser at time of purchase.

After test leads have been connected, proceed with starting a test.

### VT/PT OR CT TEST

- From the VT/PT or CT Test screen press the TEST  button to start a test. One single audible tone (beep) will sound and the TEST IN PROGRESS screen will display.

#### VT/PT

VT / PT RATIO MODE									
TEST IN PROGRESS									
. . . . .									
P : 0 1 9 9 2 0					S : 0 0 7 2 0 0				

#### CT

CT RATIO MODE									
TEST IN PROGRESS									
. . . . .									
P : 0 1 9 9 2 0					S : 0 0 7 2 0 0				

- To stop/cancel the test, press the TEST  button again. A double beep will sound and the BY USER TEST CANCELED screen will display.

BY USER									
TEST CANCELED									

- If Test completes, the TEST RESULT screen will display. In the below example:
  - Ratio (R) is displayed.
  - Test was Not Saved as Storage Mode was set to NO SAVE.
  - Deviation (D) displays a value in % if Nameplate was enabled. If Nameplate is not enabled Deviation would not be available and the D value would be N/A.

#### Nameplate Enabled










TEST RESULT									
R : 2 . 7 7 3 7 : 1									
D : 0 . 2 5 %					C : < 1 m A				
NOT SAVED									

#### Nameplate Not Enabled


TEST RESULT									
R : 2 . 7 7 3 7 : 1									
D : N / A					C : < 1 m A				
NOT SAVED									

See **Configuring the Instrument** section (page 13) for list of Configuration parameter settings and value options.

## NAVIGATING THE MENU SYSTEM

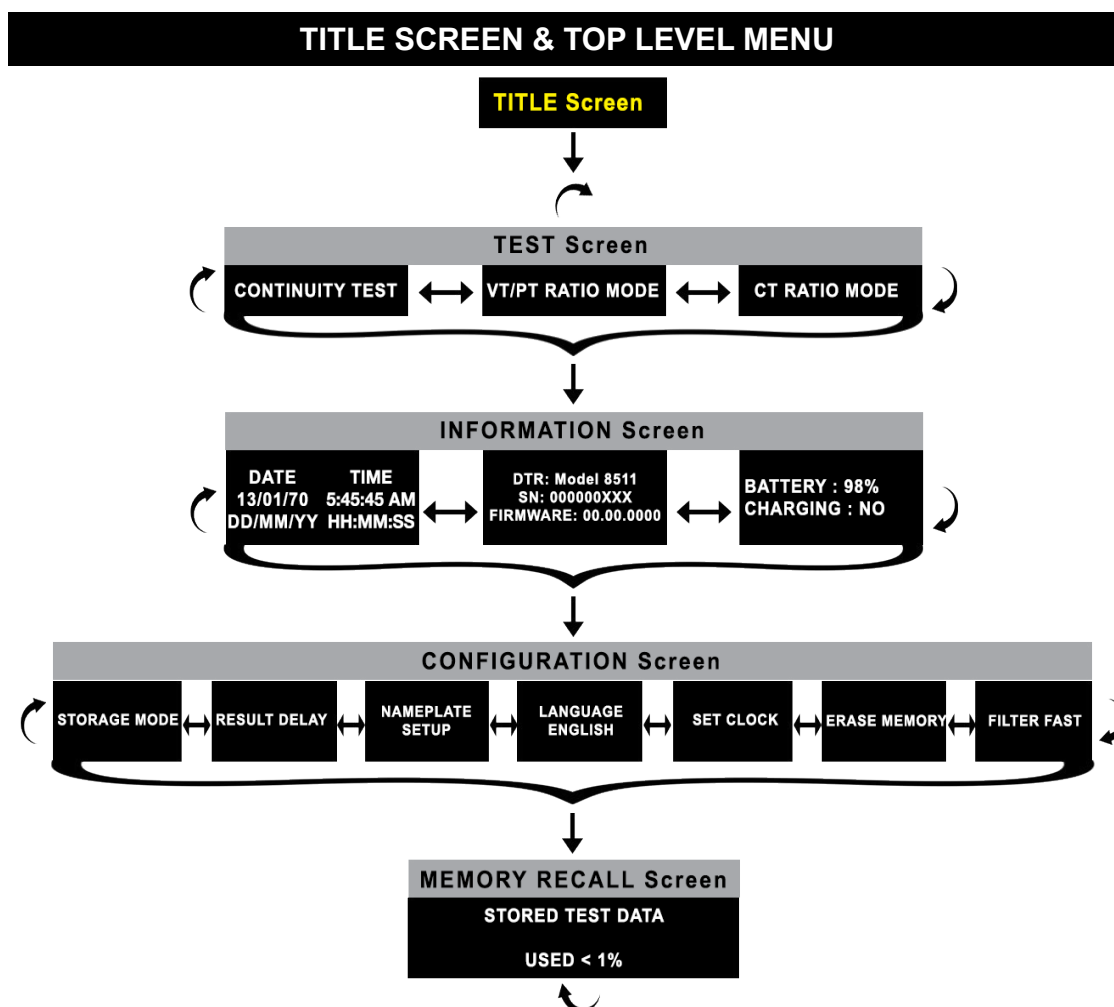
- Use the  or  buttons to navigate vertically.
- Use the  or  buttons to navigate horizontally.
- Use the Enter  button to cycle through options and set values.
- Pressing and releasing the  and  buttons simultaneously ( ) functions as a return (ESC) command to return up one level.



**NOTE:** The return (ESC) command works only when within a menu. To exit a Test Result screen, Error Message screen or a Test Canceled screen press .

- Performing the return (ESC) command ( ) with continuous presses when within a menu will result in returning back to the Top Level Menu.











The below flow chart shows the navigation directions within the Top Level Menu. Included on this chart is the **Title** screen and the **Top Level Menu** screens (Test, Information, Configuration & Memory Recall).







## CONTROL FEATURES
















1	<b>IP53 Rated Case:</b> Rugged molded IP53 case with locking latches and gasket in cover to ensure tight seal when cover is closed.
2	<p><b>Display:</b> The LCD is 5 x 8 character resolution with 4 lines, each allowing 20 characters (4 x 20 character resolution). The LCD functions as the user interface (UI) to the instrument.</p> <p><b>Backlight:</b> To conserve power, the backlight is OFF when the instrument is turned on and powered up. Enable the backlight by pressing any button. It will turn OFF automatically if after 3 minutes no buttons have been pressed.</p> <p><b>Audible Tone:</b> An audible tone (beep) will sound when the instrument is turned on, is at the start of a test, is at the end of a test and if an error occurs.</p> <p><b>NOTE:</b> The audible tone cannot be disabled.</p>
3	<p><b>USB (Type-C) Connection:</b> Allows connection to the instrument direct to a PC running the Control Panel software. The connection can also be used to charge the batteries from the supplied wall charger or a USB-C port on a PC.</p> <p><b>NOTE:</b> All types of testing are disabled if only the USB-C is connected. Even when the batteries are fully charged.</p> <p>To run a test remotely while the USB-C is present the supplied 12 V<sub>DC</sub> AC power adapter must also be connected.</p> <p>Tests can be run in real time from the Control Panel software if the instrument is being powered by a 12 V<sub>DC</sub> AC power adapter.</p>

4	<b>Measurement Signal Output (H) 5-pin Connector:</b> The H leads will connect at this point for the injection of the test signal. A 30 V(VT) or 5 V(CT) sine wave at a fixed frequency (64 Hz) is injected into the equipment under test (EUT). Voltage (VT/PT) or Current (CT) test is configured prior to performing the tests.
5	<b>Measurement Input (X) 3-pin Connector:</b> The X leads will connect at this point which is where the signal from the primary side of the transformer is returned to be measured and compared to the signal being sent.
6	<b>12 V<sub>bc</sub> Input Connector:</b> Used to charge batteries and power the instrument when batteries are depleted via an external AC power adapter with barrel connector.
7	<p><b>Power Button:</b> A momentary contact switch that turns the instrument <b>ON (wake)</b> or <b>OFF (sleep)</b>.</p> <p>To turn instrument ON press Power button  for &gt;2 s.</p> <p>To turn instrument OFF press Power button  for &gt;2 s.</p> <p><b>NOTE:</b> The <b>red LED</b> embedded in the power button indicates <b>battery charge mode</b> and does not indicate instrument ON/OFF status.</p> <p><b>Red LED Indications in Power Button:</b></p> <ul style="list-style-type: none"> <li>- <b>LED Solid:</b> Batteries are charging.</li> <li>- <b>1 s Blinking:</b> There is a problem with the battery charger.</li> <li>- <b>OFF:</b> Batteries are charged.</li> <li>- <b>Flashing Rapidly:</b> Battery(s) missing or one or more are installed reversed.</li> </ul> <p><b>Low Battery Indication:</b> LOW BATTERY will display if a test is run when batteries are too low to complete test. Refer to user manual for more information.</p>
8	<p><b>Enter  Button:</b> The large enter button allows you to easily navigate through the menu system. It allows the selection and display of choices one level below (if there is a level) in the program flow.</p>
9	<p><b>Navigation Buttons:</b> These large buttons allow you to easily navigate through the User Interface (UI) menu system.</p> <p><b>Left and Right:</b> Pressing the  or  button will navigate left or right through the menu system. The Left and Right buttons are also used to select the next and previous items within a selected group, to display or change values for certain fields like date and time, or for choosing options like YES or NO for example in Nameplate Setup (YES to Enable or NO to Disable Nameplate).</p> <p><b>Up and Down:</b> Pressing the  or  button will navigate up or down through the menu system between the Test, Information, Configuration and Memory Recall screens. The up and down buttons are also used in certain screens to cycle through options or set increments and other values.</p> <p><b>Return (ESC) Command:</b> Pressing and releasing the  and  buttons simultaneously functions as a return (ESC) command returning up one level for each press (if there is a level). This (ESC) command does not work while on a Test Result, Error Message or Test Canceled screen. To exit these screens, press Enter .</p>
10	<p><b>Test Button:</b> The large test button allows for you to easily press to start or stop a test. <b>NOTE:</b> To initiate a test, the instrument must be on a Test screen or a Test Result screen.</p>

## CONFIGURING THE INSTRUMENT

From the Top Level Menu, use the  and  navigation buttons to navigate to the Configuration screen. Using the  and  navigation buttons, navigate to the parameter screen to modify configuration parameters.

Available configuration parameter and value options are shown in the table below:

Parameter	Value Options												
Select Language	English, Francais, Deutsh, Italiano, Espanol, Portugues												
Set Clock	<p>Date Format Options: MM/DD/YY, DD/MM/YY, YY/MM/DD  Time Format Options: 24 HOUR, 12 HOUR  AM or PM: Displays only if Time Format is set to 12 HOUR.</p> <p>At SET DATE screen press , use  or  to set date values and  or  to navigate between date fields. Date is always entered into YYYY/MM/DD format.</p> <p>Press  to accept.</p> <p>At SET TIME screen press , use  or  to set values and use  or  to navigate between fields.</p> <p>Press  to accept. This returns you to the default SET DATE 06/15/23 screen which will not reflect the modified date. All other screens will reflect new date and new date format.</p>												
Select Filter	Normal, Slow, Fast												
Select Storage Mode	Manual Save, Auto Save, No Save												
Result Delay Time	Press  to modify increment: (01, 02, 03, 04, 05, 06, 07, 08, 09, 10) min.												
Nameplate Setup	<p>Enable (Yes or No)</p> <p>If Nameplate is enabled Deviation is available and will display as a D with a % value.</p> <p>If Nameplate is not enabled, Deviation is not available and will display as N/A.</p>												
Nameplate Values	<table> <tr> <td>#1: 19920:7200</td><td>#7: 7200:2160</td></tr> <tr> <td>#2: 19920:4800</td><td>#8: 7200:120</td></tr> <tr> <td>#3: 19920:2400</td><td>#9: 2400:120</td></tr> <tr> <td>#4: 19920:2160</td><td>#10: 2160:120</td></tr> <tr> <td>#5: 19920:120</td><td>Custom - Allows to create custom nameplates</td></tr> <tr> <td>#6: 7200:2400</td><td></td></tr> </table>	#1: 19920:7200	#7: 7200:2160	#2: 19920:4800	#8: 7200:120	#3: 19920:2400	#9: 2400:120	#4: 19920:2160	#10: 2160:120	#5: 19920:120	Custom - Allows to create custom nameplates	#6: 7200:2400	
#1: 19920:7200	#7: 7200:2160												
#2: 19920:4800	#8: 7200:120												
#3: 19920:2400	#9: 2400:120												
#4: 19920:2160	#10: 2160:120												
#5: 19920:120	Custom - Allows to create custom nameplates												
#6: 7200:2400													



## TIPS FOR MAKING PRECISE RATIO MEASUREMENTS

The DTR® Model 8511 is designed for step-down transformers. It sources low voltage on the primary. It starts with a fraction of the final source voltage and checks the secondary voltage.

If it exceeds the primary by a pre-determined value, the safety feature stops the measurement. The recommended procedure is to reverse the leads in these circumstances so that the primary of the transformer is connected to the H cables and the secondary of the transformer is connected to the X cables.



**WARNING: It is important to check that the H cables are connected to the primary side and the X cables are connected to the secondary side of the transformer before the test begins.**

Always verify the integrity of the cable connections and reposition the clips as necessary for robust and low-resistance connections. Inspect the transformer terminals for dielectric coatings, fungus, dirt or corrosion.

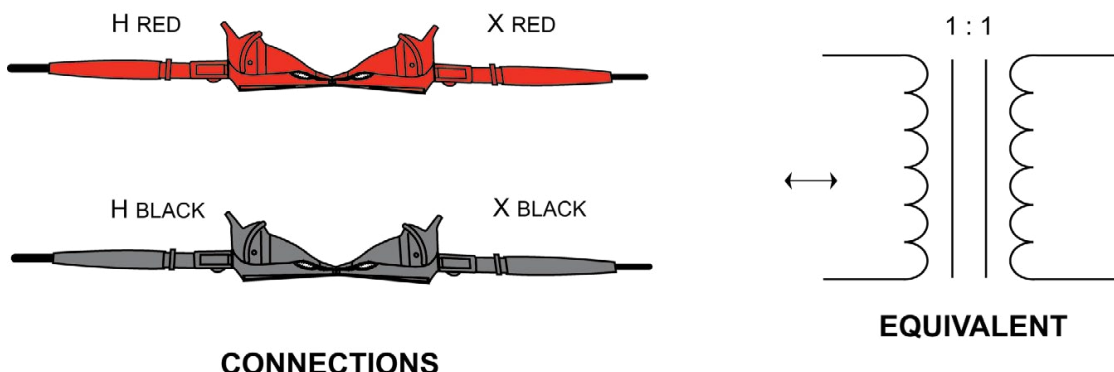
- Running a continuity test before the ratio test will provide a useful way to check windings and connections.
- When testing polyphase transformers, keep in mind that in some cases, the measured ratios must be multiplied or divided by  $\sqrt{3}$ . See § 6.2 Polyphase Connections for polyphase connection diagrams and associated ratio equations.

### RATIO TEST - 1:1

A simple test can be conducted to test functionality of the DTR® 8511.

1. Connect the HRED to XRED cable and separately connect the HBLACK to XBLACK. This connection simulates a 1:1 transformer.
2. Run VT/PT test.

In this connection mode, the test results should yield a ratio nearly equal to 1.0000. If it does not, the DTR® 8511 may require repair or re-calibration.

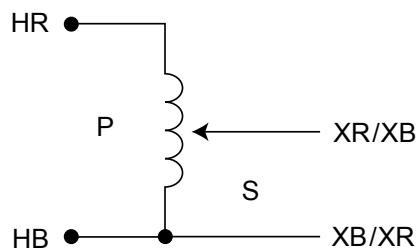
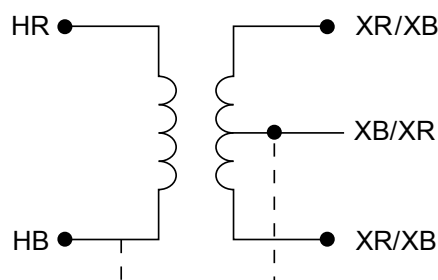
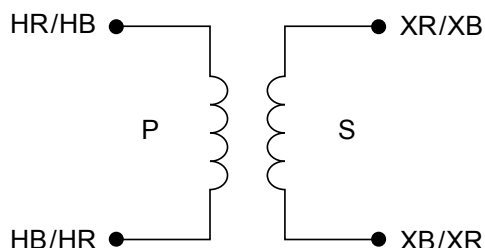


## CONNECTION DIAGRAMS

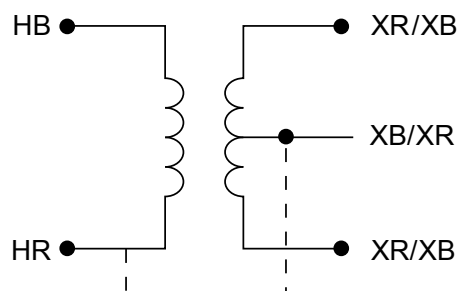
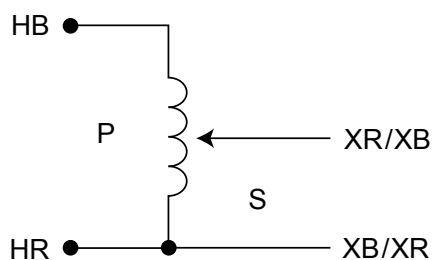
Make sure that the HRED lead is always connected such that it does not short to the XRED or XBLACK lead directly or through earth ground.

In the diagrams below, the top three are good connections but the bottom two should be avoided.

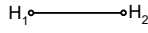
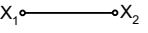
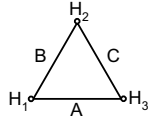
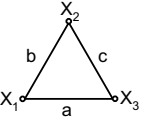
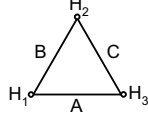
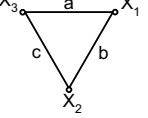
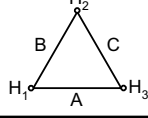
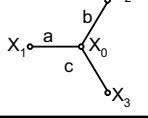
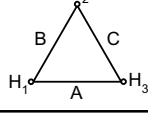
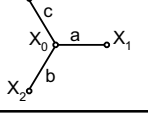
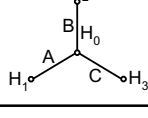
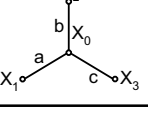
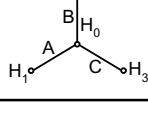
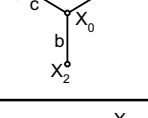
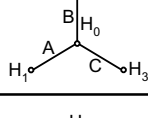
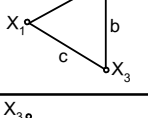
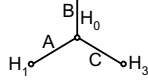
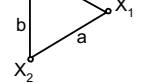
### Measurements - OK



### Measurements - NOT OK



## POLYPHASE CONNECTIONS

REF NO.	- TRANSFORMER -		XFMR TYPE	PHASE	HIGH VOLTAGE WINDING	LOW VOLTAGE WINDING	TURNS RATIO
	HIGH VOLTAGE WINDING	LOW VOLTAGE WINDING					
1			1 Ø STD	1 Ø	H <sub>1</sub> - H <sub>2</sub>	X <sub>1</sub> - X <sub>2</sub>	$\frac{V_H}{V_X}$
2			Δ - Δ STD	A	H <sub>1</sub> - H <sub>3</sub> (A)	X <sub>1</sub> - X <sub>3</sub> (a)	$\frac{V_H}{V_X}$
				B	H <sub>2</sub> - H <sub>1</sub> (B)	X <sub>2</sub> - X <sub>1</sub> (b)	
				C	H <sub>3</sub> - H <sub>2</sub> (C)	X <sub>3</sub> - X <sub>2</sub> (c)	
3			Δ - Δ REV	A	H <sub>1</sub> - H <sub>3</sub> (A)	X <sub>1</sub> - X <sub>3</sub> (a)	$\frac{V_H}{V_X}$
				B	H <sub>2</sub> - H <sub>1</sub> (B)	X <sub>2</sub> - X <sub>1</sub> (b)	
				C	H <sub>3</sub> - H <sub>2</sub> (C)	X <sub>3</sub> - X <sub>2</sub> (c)	
4			Δ - Y STD	A	H <sub>1</sub> - H <sub>3</sub> (A)	X <sub>1</sub> - X <sub>0</sub> (a)	$\frac{V_H \cdot \sqrt{3}}{V_X}$
				B	H <sub>2</sub> - H <sub>1</sub> (B)	X <sub>2</sub> - X <sub>0</sub> (b)	
				C	H <sub>3</sub> - H <sub>2</sub> (C)	X <sub>3</sub> - X <sub>0</sub> (c)	
5			Δ - Y REV	A	H <sub>1</sub> - H <sub>3</sub> (A)	X <sub>1</sub> - X <sub>0</sub> (a)	$\frac{V_H \cdot \sqrt{3}}{V_X}$
				B	H <sub>2</sub> - H <sub>1</sub> (B)	X <sub>2</sub> - X <sub>0</sub> (b)	
				C	H <sub>3</sub> - H <sub>2</sub> (C)	X <sub>3</sub> - X <sub>0</sub> (c)	
6			Y - Y STD	A	H <sub>1</sub> - H <sub>0</sub> (A)	X <sub>1</sub> - X <sub>0</sub> (a)	$\frac{V_H}{V_X}$
				B	H <sub>2</sub> - H <sub>0</sub> (B)	X <sub>2</sub> - X <sub>0</sub> (b)	
				C	H <sub>3</sub> - H <sub>0</sub> (C)	X <sub>3</sub> - X <sub>0</sub> (c)	
7			Y - Y REV	A	H <sub>1</sub> - H <sub>0</sub> (A)	X <sub>1</sub> - X <sub>0</sub> (a)	$\frac{V_H}{V_X}$
				B	H <sub>2</sub> - H <sub>0</sub> (B)	X <sub>2</sub> - X <sub>0</sub> (b)	
				C	H <sub>3</sub> - H <sub>0</sub> (C)	X <sub>3</sub> - X <sub>0</sub> (c)	
8			Y - Δ STD	A	H <sub>1</sub> - H <sub>0</sub> (A)	X <sub>1</sub> - X <sub>2</sub> (a)	$\frac{V_H}{V_X \cdot \sqrt{3}}$
				B	H <sub>2</sub> - H <sub>0</sub> (B)	X <sub>2</sub> - X <sub>3</sub> (b)	
				C	H <sub>3</sub> - H <sub>0</sub> (C)	X <sub>3</sub> - X <sub>1</sub> (c)	
9			Y - Δ REV	A	H <sub>1</sub> - H <sub>0</sub> (A)	X <sub>1</sub> - X <sub>2</sub> (a)	$\frac{V_H}{V_X \cdot \sqrt{3}}$
				B	H <sub>2</sub> - H <sub>0</sub> (B)	X <sub>2</sub> - X <sub>3</sub> (b)	
				C	H <sub>3</sub> - H <sub>0</sub> (C)	X <sub>3</sub> - X <sub>1</sub> (c)	

## DATAVIEW® & DTR® CONTROL PANEL

DataView® enables a computer to connect to and interact with a variety of AEMC® Instruments devices, including the DTR® 8511. As its name implies, the primary purpose of DataView is to view data that has been recorded by the instrument and display it as a report.

With DataView, you can:

- Connect the instrument to a computer. This connection is through USB cable.
- Display and analyze real-time data on the computer via a frames style interface.
- Download previously recorded data from the instrument.
- Configure a wide variety of instrument settings.
- Perform instrument maintenance such as erasing its content.
- Generate reports for viewing and printing data, using standard or customizable templates.

DataView includes a core set of features used by all instruments. These features are designed for viewing data, and for opening, creating, and saving reports. DataView also includes components called Control Panels for interacting with the instrument. A Control Panel allows you to connect to the instrument, download data, and configure the instrument's settings. Each AEMC® Instruments product family has its own dedicated Control Panel; you select the Control Panel(s) you need during DataView installation.

For example, DataView includes the DTR Control Panel specifically designed for working with DTR instruments. The DTR Control Panel provides all the features available in the instrument's user interface, as well as many additional features.

## INSTALLING DATAVIEW®



**DO NOT CONNECT THE INSTRUMENT TO THE PC BEFORE INSTALLING THE SOFTWARE AND DRIVERS.**

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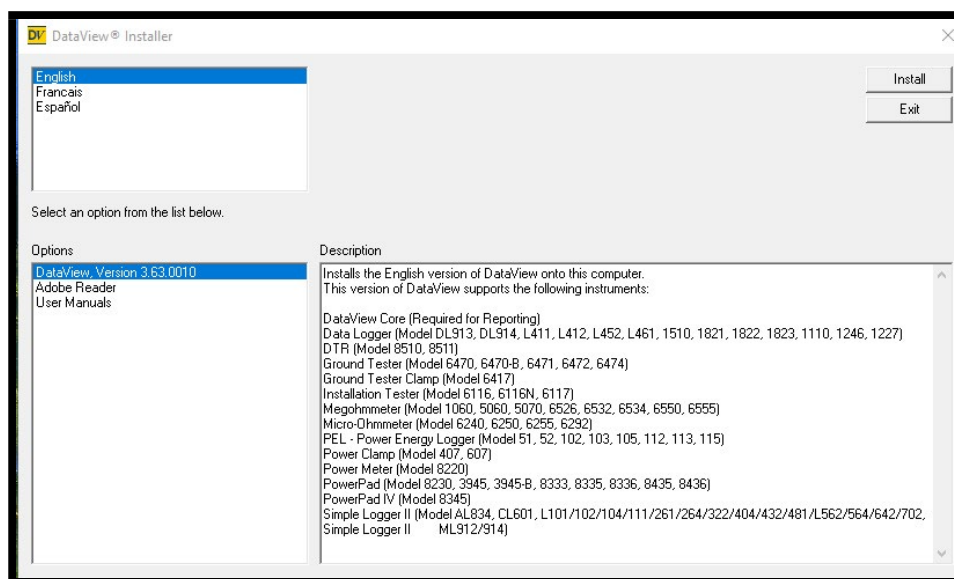


**NOTE:** When installing, the user must have administrative access rights during the installation. The users access rights can be changed after the installation is complete. DataView® must be reinstalled for each user in a multi-user system.

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1. Insert the DataView USB drive into an available USB port on your computer.
2. When the USB folder is open, find the file Setup.exe located in the root directory of the USB drive, and double-click it to run the installation program.

3. The DataView® Installer screen appears.

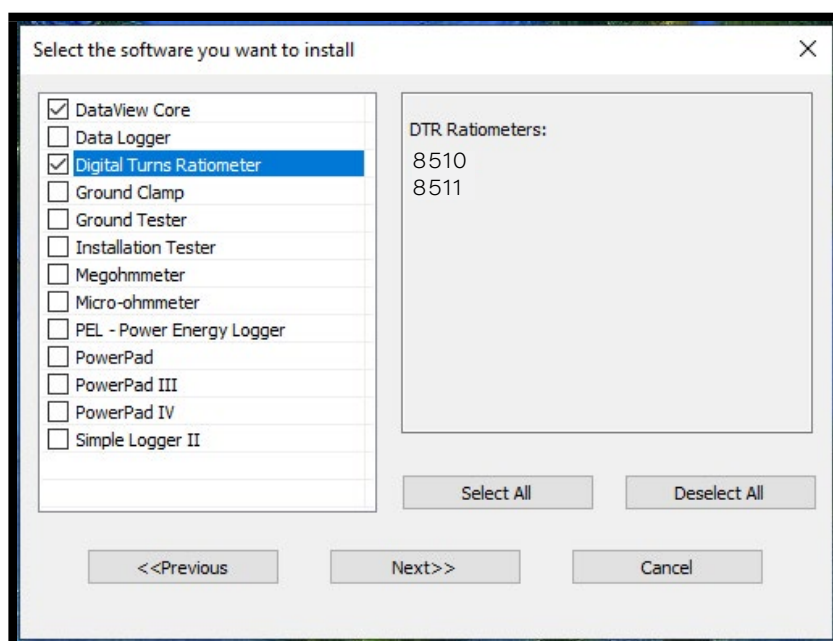


In the upper left corner of the screen, choose the language version of the Setup interface. All Setup screens and dialogs will then immediately appear in the selected language.


4. In the lower left corner are the available installation options. In addition to the DataView software, you can select Adobe Reader. This links to the Adobe web site where you can download the latest version of Reader. This program is required to view DataView .pdf documents.

If you select User Manuals and click Show, a list of .pdf files contained in the USB drive that accompanies DataView will display. You can then click Open to view a manual or click Return to return to the previous screen.

5. To install DataView, select DataView in the Options list and click Install.
6. You are now prompted to select the software you want to install.



Each AEMC® Instruments product family has its own specially designed Control Panel. If you are performing a complete install, by default all available Control Panels are selected (a check mark next to the Control Panel indicates it is selected). Control Panels take up disk space on the computer; so unless you have other types of AEMC® Instruments devices, we recommend that you select DTR and deselect the rest. You should also check the option DataView Core, which is a requirement if you plan to create DataView reports.

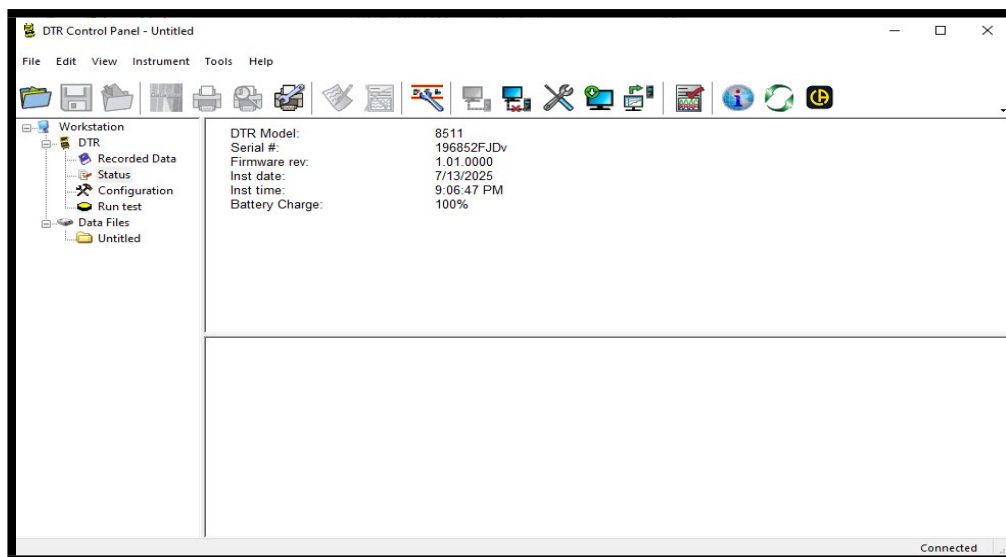
7. After you finish selecting and deselecting Control Panels and/or DataView Core, click Next.
8. The Setup program now informs you that it is ready to install DataView. If you want to review any of your previous selections, click the Previous button to return to earlier screens. Otherwise, click Install to begin installation.
9. The InstallShield program installs the selected software.
10. When all programs are installed, a message appears informing you of this. Click Finish to return to the Setup screen.
11. You can now select additional Setup options to install. When finished, click Exit.
12. The DataView folder now appears on your PC desktop, within which is the DTR Control Panel icon  and the icon(s) for any other Control Panel(s) you have installed.

You can now open the DTR Control Panel and connect your DTR® 8511 to the computer.

## 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® Model 8510.

Clicking the DataView icon in the DataView folder on your desktop opens the core DataView program. Clicking the DTR Control Panel icon opens the DTR Control Panel:





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.

You can access all DataView features through either the DataView icon or the Control Panel icon. For users who interact with DTR instruments, we recommend primarily using the DTR Control Panel. However, there are situations where using the core DataView icon may be more convenient for some users, such as when viewing multiple archived reports from different AEMC® Instruments product families.

For further information about using the DTR Control Panel, consult the Help system that comes with the product. Access this Help by clicking the option Help in the DTR Control Panel's menu bar at the top of the screen.




**NOTE:** For more information on installing/using DataView, or the DTR® Control Panel refer to the DTR® 8511 user manual that is included on the supplied USB Drive or refer to the Help file within the software.

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## CONNECTING TO COMPUTER VIA CONTROL PANEL

Before you can use the DTR® Control Panel to communicate with your DTR® 8511, you must establish a connection between the instrument and the computer.

To begin, ensure that you have installed DataView with the DTR Control Panel. Also ensure that the required communication and connection drivers are installed on your computer. These drivers are installed as part of the DataView installation process.

1. Connect the USB cable to the instrument and computer.
2. Double click on the DataView Folder on your  desktop to open folder.
3. Double click on DTR.
4. The DTR Control Panel will open.
5. The DTR Control Panel Connection window will open.



6. When ready, **click** OK. The Control Panel will open to the DTR Model 8511 status screen.

## REPAIR AND CALIBRATION

To ensure that your instrument meets factory specifications, we recommend that the instrument be sent back to our factory Service Center at one-year intervals for recalibration or as required by other standards or internal procedures.

### For instrument repair and calibration:

You must contact our Service Center for a Customer Service Authorization Number (CSA#). Send an email to [repair@aemc.com](mailto:repair@aemc.com) requesting a CSA#, you will be provided a CSA Form and other required paperwork along with the next steps to complete the request. Then return the instrument along with the signed CSA Form. This will ensure that when your instrument arrives, it will be tracked and processed promptly. Please write the CSA# on the outside of the shipping container. If the instrument is returned for calibration, we need to know if you want a standard calibration or a calibration traceable to N.I.S.T. (includes calibration certificate plus recorded calibration data).

**Ship To:** Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments

### (Or contact your authorized distributor.)

Contact us for the costs for repair, standard calibration, and calibration traceable to N.I.S.T.



**NOTE:** You must obtain a CSA# before returning any instrument.

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## TECHNICAL SUPPORT

If you are experiencing any technical problems or require any assistance with the proper operation or application of your instrument, please call or e-mail our technical support team:

## LIMITED WARRANTY

The instrument is warrantied to the owner for a period of two years from the date of original purchase against defects in manufacture. This limited warranty is given by AEMC® Instruments, not by the distributor from whom it was purchased. This warranty is void if the unit has been tampered with, abused, or if the defect is related to service not performed by AEMC® Instruments.

**Full warranty coverage and product registration is available on our website**

**Please print the online Warranty Coverage Information for your records.**

### **What AEMC® Instruments will do:**

If a malfunction occurs within the warranty period, you may return the instrument to us for repair, provided we have your warranty registration information on file or a proof of purchase. AEMC® Instruments will repair or replace the faulty material at our discretion.

**REGISTER ONLINE**

## WARRANTY REPAIRS

### **What you must do to return an Instrument for Warranty Repair:**

First, requesting a Customer Service Authorization Number (CSA#) from our Service Department. You will be provided a CSA Form and other required paperwork along with the next steps to complete the request. Then return the instrument along with the signed CSA Form. Please write the CSA# on the outside of the shipping container. Return the instrument, postage or shipment pre-paid to:

**Caution: To protect yourself against in-transit loss, we recommend that you insure your returned material.**



**NOTE:** You must obtain a CSA# before returning any instrument.

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