

# **CDI Electronics®**

## **DVA Explained**

DVA stands for Direct Voltage Adapter, which is used to measure peak AC voltage. This type of measurement of AC voltage takes the absolute peak or highest value of the fluctuating AC voltage signal. Peak readings will be substantially higher than standard or RMS AC values and are typically used when testing marine CD (capacitor discharge) ignition systems due to their high variance in frequency as RPM increases and decreases.

An example would be that the typical RMS AC reading of a wall outlet in North America is 120V. However, a DVA measurement of this same AC voltage would reveal that the peak of the AC sine wave is typically between 160-170V.

Some meters are capable of reading DVA or peak voltage pulses. Many ignition system components produce short AC voltage pulses. A peak-reading analog meter or DVA adapter plugged into a digital meter captures and holds the peak value of an AC sine wave long enough for the human eye to see it displayed on the meter. A conventional meter is incapable of accurately measuring these short-duration voltage pulses. A peak-reading voltmeter has special circuits that allow the meter to capture the maximum voltage produced during these short duration pulses and display the voltage as DVA or peak voltage. Failure to measure DVA can cause good ignition components to be incorrectly diagnosed as faulty.

The only meters that have built-in peak reading capabilities are analog meters with built-in DVA. Digital meters do not have built-in peak reading capabilities. In order for a digital meter to read peak voltage, one will need a DVA adapter, such as CDI part# 511-9773 or 511-9773NL.

Using a DVA adapter, a digital meter must be set to its DC voltage scale. Peak AC voltage is the measurement, but the DVA adapter has a built-in bridge rectifier, which converts AC to DC. The DC voltage setting on a digital meter is required to accurately read DVA.

CDI part# 511-9773 has built-in test leads.

CDI part# 511-9773NL uses your meter's test leads.

Further information on ordering these items can be obtained by contacting our Sales Department at (800) 467-3371.