

Evaluation of DM620

Auto ranging True RMS Data Logger Multimeter

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The Circuit Specialists DM620 multimeter was evaluated and used to perform a variety of measurements and data-logging operations. This unit is sold by Circuit Specialists and comes with a full one year warranty.

The purpose of this evaluation is to demonstrate the relative accuracy and illustrate the features of this new product. The DM620 data-logging multimeter features auto ranging and has an auto shut down feature that extends battery life when the unit is left powered up. It also features Range Hold, Data Hold, and an audible continuity function. Besides the True-RMS AC and DC measurement modes for both voltage and current, it also features Resistance, Capacitance, and temperature measurements, along with a diode test function and the ability to measure the Frequency, Period, and Duty cycle of signals up to 10 Mhz.

The measurements performed were Voltage (AC and DC), current (AC and DC), Resistance, and Temperature. In addition, the True RMS feature was explored using a non-sinusoidal

waveform and comparing the result with the mathematically calculated value. I also exercised the frequency measurement function along with the period and duty cycle modes of operation.

The DATA LOGGER operation was also exploited and found to be quite easy to use. This feature is especially useful if a large amount of data needs to be recorded over a long period of time. I found it useful for measuring discharge rate on a rechargeable battery used in a solar power application. The unit features a USB interface along with an easy to use Windows based program for remotely controlled applications and for the saving of captured data to a Personal Computer. The data logger mode allows up to 17000 measurements to be stored internal to the meter. The sampling interval can be adjusted from 1 to 999 seconds between measured data points.

The unit also features a RECORD mode that will show Maximum and Minimum values of a measured quantity. This is useful for determining the amount of variation in a measured quantity.

RELATIVE mode is the standard measurement mode and has the additional ability to display relative deviation of the measured quantity.

COMPARE mode can be used to verify that the measured quantity falls within any preset High and Low limits. It is useful for use as a Go/NOGO test or sorting operation.

TREND mode can be used to display a graphical representation of the measured value over any desired time interval. It can be used in lieu of data-logging if an instantaneous display of multiple measurements is desired.

The DM620 is a low priced but extremely capable measuring device that offers many additional data-logging features. It features a built in rechargeable Li-Ion battery that may be recharged from any USB port. The unit comes with all necessary accessories including a versatile USB interface, temperature probe, a durable rubber boot and a handy soft carrying case.