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## Fundamental vs. Total RMS

A significant advantage delivered by the MCEMAX is the ability to segregate the Fundamental and Total RMS values of voltage and current. Most multi-meters will normally deliver Total RMS, which provides a value similar to our Total Voltage or current value. However, our Fundamental value will always be lower as it represents only the fundamental (working) frequency of the voltage and current. If you have a large differential between fundamental and total then a large amount of distortion is suspect. Poor power quality to a motor delivering design full load may result in a high temperature situation. This is due to the motor working harder than designed to deliver its designed full load. Compare your output horsepower (HP) to your running amps. If the motor is at design full load amps (FLA) and is delivering less than the designed HP, check your fundamental vs. total values of voltage and current. You may find that they are very different.

You are invited to submit an Electric Motor Testing Tip of your own and receive a free PdMA mug or hat if we publish it! Contact Lou at 813-621-6463 ext. 126 or [lou@pdma.com](mailto:lou@pdma.com).

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