



A Leader in Electric Motor Testing

# Tip Of The Week

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## Power Quality...What and Why?

Power Quality = Voltage Quality

Voltage quality can be degraded in several ways. You can have high or low voltage in reference to the motor nameplate including transient spikes of voltage. There can be imbalanced voltage between the three phases. You also may experience voltage with a high harmonic content driven by non-linear loads such as lighting, computers, and VFD's. All of these conditions can negatively affect motor performance through increased heat and vibration and insulation breakdown. IEEE-519 and NEMA MG1 address these conditions and suggest de-rating your electric motors to account for the poor voltage quality. No calculations are required on your part, the PdMA software calculates the de-ratings for you, letting you know what you can expect from your electric motors.

To see the six channel In-Rush/Start-Up test used to identify a power quality issue on a servo motor drive go to our collection of PdMA case studies at <http://www.pdma.com/PdMA-case-study.php> and click on the "Rogue Robots" case study.

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. 166 or [lou@pdma.com](mailto:lou@pdma.com).

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