



A Leader in Electric Motor Testing

Tip Of The Week

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Rotor Evaluation Using MCEMAX® - Part 1

Six independent methods of rotor evaluation can be used from the MCEMAX technology to analyze the condition of a squirrel cage AC induction motor: Pole-pass frequency (Fp) sidebands around line frequency, 5th harmonic, demodulated Fp frequency, Rotor Influence Check (RIC), In/Rush-Start/Up, and average inductance. Over the next six tips we will discuss each of these methods in detail and provide examples.

Part 1

Rotor bars on the rotor of a squirrel cage induction motor act as a shorting mechanism to the magnetic flux emitted from the steel rotor laminations. When one or more of the rotor bars break, the magnetic field in the vicinity of the broken bar will intensify. The resulting higher reflected impedance onto the stator windings will also elevate the stator inductance readings as measured by the MCEMAX. Monitoring the trend of the stator inductance is an ideal method to monitor the degradation in rotor bar health. To view a case study in trending stator inductance to troubleshoot an AC induction rotor click on the link below to visit the PdMA YouTube Channel. [Rotor Evaluation Tip 1](https://www.youtube.com/watch?v=eBreba2BMm8) (https://www.youtube.com/watch?v=eBreba2BMm8)

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.

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