



# Electric Motor Testing Tip of the Week

revolutionizing *electrical* reliability

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## Six Methods of Rotor Evaluation Using MCEMAX

The six primary methods of rotor evaluation using the MCEMAX include pole-pass frequency (Fp) sideband, 5<sup>th</sup> harmonic, demodulated pole-pass frequency, rotor influence check (RIC), in-rush/start-up, and average inductance. We are going to detail each method and provide examples of each over this six part series of tips.

### Part Four: Rotor Influence Check (RIC)

The MCE RIC utilizes inductance measurements of the stator windings to create a graphical representation of the rotor magnetic flux. Re-testing the inductance with the rotor in different positions throughout a pole face allows for analysis of winding condition, rotor condition, and air gap eccentricity. High resistance and broken rotor bars will reveal themselves as repeated distortions in all three phases of the RIC graph. This distorted residual magnetic flux can be identified and trended for severity.

For more details on the Rotor Influence Check go to MCE Analysis on page 3 of [http://www.pdma.com/PDF/Articles/Fault\\_Zone\\_Rotor.pdf](http://www.pdma.com/PDF/Articles/Fault_Zone_Rotor.pdf)

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