



A Leader in Electric Motor Testing

Tip Of The Week

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Mechanical or Electrical?

Often when evaluating motor current through a simple spectrum analysis plot, frequencies generated by mechanical shaft line components such as belts, bearings, pumps, and fans are present. With enough knowledge about the system, band alarms can be easily created around these frequencies to trigger an alarm in the event of a sudden increase in amplitude. However, sometimes these mechanical peaks coincide with common electrical peaks such as the pole pass frequency which is equal to the number of poles developed in the stator windings multiplied by the slip between the rotor and stator. When this happens it can create a false alarm for an electrical anomaly which is why it is important to utilize multiple indications when confirming elevated pole pass frequencies. Some alternate indications are the demodulated current spectrum, trending of stator inductance, trending motor start times, and performing a rotor influence check. Having multiple indications of an anomaly won't guarantee you get the source right but it sure increases your odds.

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.

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