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Current and Impedance Imbalance Relationship

As mentioned in previous tips, the current imbalance can change dramatically from a no load to a full load state. Unfortunately in an unloaded state the current and impedance imbalances can be quite high and enter an alarming condition. Is it the load or a motor fault? Here's a simple check. Increase the load on the motor to see if the imbalance levels change. If they go away and clear the alarms then you were seeing a load variable. If the current and impedance imbalance levels continue to alarm with similar % imbalance values then suspect a power circuit/high resistance fault. If the current and impedance imbalance levels continue to alarm with impedance imbalance increasing to 1.5 or more of the current imbalance levels, then you should suspect a stator winding fault. As with any fault detection, a shutdown MCE test is recommended to confirm your suspicion.

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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