



A Leader in Electric Motor Testing

Tip Of The Week

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Think Transformers

The rotor of an AC Induction motor is like the secondary circuit of a transformer. It is easy to imagine that any change to the number of turns in the secondary of a transformer, would certainly affect the circuit performance of the transformers primary windings. Well, the rotor bars of the induction motor could be compared to the winding turns in the secondary of a transformer. Changing the conductivity or resistance in any way on the rotor cage of an induction motor would be like modifying the number of turns on a transformer secondary. So, if we consider the induction motor rotor cage as a comparison to a transformer secondary, then what part of the induction motor would be compared to the transformer primary? You guessed it... the stator windings. Any resistance change to the rotor cage of an induction motor will impact the circuit characteristics (inductance) of the stator windings. Therefore, monitoring the stator winding inductance of an induction motor is a great method of trending the condition of the rotor cage.

For more technical information about the effects of the rotor on the stator inductance go to:

http://www.pdma.com/pdfs/Articles/Influence_of_Residual_Flux_on_the_Measurement_of_Inductance.pdf

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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