PdMA CORPORATION A Leader in Electric Motor Testing

Tip Of The Week

April 22, 2013

A Hidden Sensor on Every System

The electric motor takes electrical energy and creates an invisible rotating magnetic field in the stator windings. This rotating magnetic field induces, or causes current and subsequent magnetic fields on the rotor. These two magnetic fields, like magnets over and under a table, will attract and repel to create torque that turns the shaft of the motor creating mechanical energy. This mechanical energy delivered to various processes throughout your system in turn provides feedback through the motor in the form of electrical energy. Variations in torque caused by load changes or mechanical faults will modulate the rotation of the rotor on which the induced magnetic field exists. This change in the rotating magnetic field will in turn modulate or change the invisible rotating magnetic field on the stator, thereby providing intelligence into the unseen inner workings of your system processes.

Effectively, your motor can be used like a transducer to see into the inner workings of the mechanical system and load. For more details on using the motor as a sensor visit our website at http://www.pdma.com/PdMA-articles.php to read *Process Analysis – Your Path to System Knowledge*.

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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