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In-Rush as a Load Analysis Tool

When performing online testing, we recommend performing a “steady state” in-rush test for use as a process analysis tool. By analyzing the resulting waveform for load or torque variations and then comparing the resulting oscillations with peaks found in the rotor evaluation spectrum, one can ascertain whether it is a load or rotor related peak. For example, in an in-rush test, there is a cycle variation of approximately 10 cycles per second and an additional variation of approximately 2 cycles per second. The first cycle variation is most likely a load process variation. This will show up as peaks at +/- 10 Hz from 60 Hz (line frequency). The second variation of 2 cycles per second shows up at +/- 2 Hz from 60 Hz (line frequency) and are most likely rotor related sidebands. Thus, using the in-rush test as a steady state load analysis tool can be very valuable in your motor testing program.

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.