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Tip Of The Week

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Analyzing Spectrums

One step in analyzing spectrums that is often overlooked is comparing the voltage and current spectrums. By overlaying the voltage and current spectrums, you can determine if a peak in the spectrum is related to voltage only, current only, or both. A voltage only peak would be related to an anomaly upstream in the power system. A current only peak would be related to an anomaly downstream such as in the motor or load. Voltage and current peaks that are harmonics of 2 x Line Frequency ($F_{L)}$ = 120 Hz (for 60 Hz systems) are typically normal power harmonics. Peaks that occur in pairs and are not integer harmonics of 2 x F_L may be related to power quality anomalies. Thus, you should always include analysis of the voltage and current spectrums in your review of data.

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.