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Tip Of The Week

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Symmetrical Components

The three sets of symmetrical components in a three phase system are positive, negative, and zero sequence for both current and voltage. Positive sequence voltages are always present. Negative sequence is a second set of balanced phasors that are equal in magnitude, but displaced 120 degrees apart in a counter-clockwise rotation. The last set is known as zero sequence since it consists of a balanced set of phasors equal in magnitude and in phase, with no rotation sequence.

An ideal balanced system would only have positive sequence currents and voltages. Currents in a balanced system with equal magnitudes and phase angles of 120 degrees apart would produce a result of only positive sequence currents resulting in optimal efficiency.

Unbalanced systems, such as a voltage imbalance, can produce excessive negative, and possibly zero sequence currents and voltages resulting in increased losses and elevated operating temperatures.

Source: www.gedigitalenergy.com

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.