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Tip Of The Week

February 20, 2017

Drive Input Imbalances, Part 2

In a recent Tip of the Week we discussed that current imbalances at the inverter input under lightly loaded conditions is a normal phenomenon of the electrical circuit. What about a voltage imbalance at the input to the VFD? The VFD separates the connection of the line supply to the motor, so the VFD protects the motor from even severe unbalanced line voltage. This may lead you to be unconcerned with voltage imbalance. However, if the voltage is imbalanced at the input of the VFD then the voltage is also imbalanced for all upstream loads associated with that leg of the distribution system. Input line reactors and DC bus chokes are simple, cost-effective devices that add impedance to the VFD input and mitigate voltage imbalance. Another benefit to their addition is a reduction of reflected harmonics from the non-linear VFD load.

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.