PdMA® CORPORATION A Leader in Electric Motor Testing

# Tip Of The Week

**October 31, 2016**

## Change From Baseline

We know phase resistance of an electric motor can change drastically with temperature. As temperature rises the resistance rises as a result of copper having a positive temperature coefficient. However, on a three phase motor even though the phase resistance values change with temperature the balance of resistance between the three phases should not change. For your medium and high voltage motors ($\geq$ 4kV) the balance of resistance is often very low (<1%). In fact, it is quite common to see values of imbalance in the one-hundredths of a percent (ex. .03%). The standard MCEGold balance of resistance setpoints for a medium voltage motor is 1% (caution) and 2% (alarm) so a baseline balance of resistance of .03% would have to increase ~3000% to reach the 1% alarm setpoint. Therefore, it is important for you to consider establishing a *change from baseline* alarm setpoint for your balance of resistance in these situations to alert you to large changes in the circuit condition.

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.