



A Leader in Electric Motor Testing

# Tip Of The Week

May 27, 2019

## Electric Motor Reliability Trifecta - Trending (Part 1)

*(Continuing the Trifecta series, picking the top three finishers in a horse race can be worth a lot of money. Applying the Trifecta theme to motor reliability, the top three applications of test technology to ensure you win big in reliability are: Quality Control, Trending, and Troubleshooting.)*

This week we shift the Trifecta conversation to Trending and for this tip we focus on *qualitative* trending of data. Remember trend is your friend and by qualitative trending we are talking about a change in the appearance of the data rather than an amplitude value change. Many anomalies can occur with an electric motor that do not have an industry standard alarm level to compare to and this is where appearance alone can be the difference between identifying or overlooking a fault. Polarization Index (PI) tests with the MCE<sup>®</sup> technology can be compared qualitatively. Even if the calculated index for two tests may both qualify as acceptable, the appearance of the most recent PI compared to the baseline PI may indicate that moisture contamination exists, resulting in further action and a change in the asset health condition. Spectral analysis of the Rotor Evaluation or Current Demodulation tests with the EMAX technology can be displayed on a waterfall plot. These too can be used to identify qualitative changes in individual peaks or broad band energy peaks allowing additional troubleshooting and root cause analysis, even though no individual band alarm was exceeded.

Visit our PdMA YouTube Channel at <https://www.youtube.com/watch?v=O2HnIAsx56w> to listen to Todd and Noah discuss details on Trending for electric motor reliability.

*You are invited to submit an Electric Motor Testing Tip of your own and receive a free PdMA<sup>®</sup> mug or hat if we publish it! Contact Lou at 813-621-6463 ext. 166 or [lou@pdma.com](mailto:lou@pdma.com).*

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