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Resistance-to-Ground Discharge Time

It is common practice to perform resistance-to-ground (RTG) measurements to verify the integrity of the Insulation System in a motor. It is also common practice, to re-test a motor, when there are changes in the readings compared to previous test results, or if the present reading is lower than expected. In many cases, the second test is taken immediately after the first one, giving a higher RTG reading. This is not an indication of motor health, but rather a higher polarization level.

As a rule of thumb, it takes about four times the charge time for the charging currents to fully dissipate. Therefore, if we perform a one-minute RTG test, it will take about four minutes for the charge to fully dissipate. If we perform a ten-minute Polarization Index test, then the discharge time would be approximately 40 minutes.

To ensure the most accurate test results possible, it is recommended to wait a minimum of four times the charge time, before taking a second RTG test.

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.