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Understanding Unusual Power System Configurations

When testing power systems, it is important to know the configuration of the system being tested. There are four primary types of systems in use:

- Wye – Grounded
- Delta - Floating
- Delta – Center Grounded
- Delta – Corner Grounded

When viewing the corresponding voltage-ground phasors they should line up with the type of system being tested. In this tip, we'll look at the two most unusual situations which are the Center Grounded Delta and the Corner Grounded Delta configurations.

In the Center Grounded Delta, two of the phase-ground phasors will appear exactly opposite one another and be approximately 58% of the remaining phasor. The remaining phasor will be 90 degrees from the other two.

In the Corner Grounded Delta, two of the phasors will be at line-to-line voltage and appear 60 degrees apart from one another. The remaining phasor will be near zero (typically between zero and 12 volts) and will be at some arbitrary angle.

By understanding these two unusual situations, you may provide a better power analysis.

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