



## **Powermetrix Division**

*Technology for Energy Corporation  
10737 Lexington Drive  
Knoxville, TN 37932  
(877) 966-5850*

TO: PowerMaster® Customers  
FROM: Chris Mullins, Product Manager  
DATE: 10/17/11  
RE: New Connection Procedure for PowerMaster®

This memo is to inform all PowerMaster® customers of a new connection procedure that is recommended by the manufacturer, Powermetrix. Recently, we have discovered that damage can occur to the internal circuitry in cases of connection sequences used by the customer especially at voltages of 277/480V AC. These instances can range from a blown internal fuse to a blown voltage switching module inside the PowerMaster®.

### **Recent Design Change Orders (DCO)**

Powermetrix has made significant changes to improve the design when users may connect the analyzer at higher voltages and in unexpected ways not known by the manufacturer. These improvements include (but are not limited to):

DCO 7300-44: This change order added the triac board, which safely steps the input voltage down from the auxiliary power connections. This change prevents cumulative damage to the power supply and prevents the power supply from drawing too much in-rush current.

DCO 7300-60 & 7300-65: This design change order disconnected neutral from the VMUX board, preventing damage occurring to the VSW. This change corrects the issue when customers incorrectly connect the Neutral voltage lead (white) to a live phase voltage.

DCO 7300-67: This change order added the auxiliary power switch to the front panel. This change controls the input voltage to the power supply and helps prevent the power supply from drawing too much in-rush current at the time of connection.

### **Connection Procedure**

Even with the prior design changes to the PowerMaster, there are still occurrences by customers that can cause damage to the internal circuitry of the analyzer. To combat these unique occurrences, Powermetrix recommends the following procedure when making connections to the metering service (at all voltage ranges).

1. Verify the PowerMaster<sup>®</sup> is off, and the Auxiliary Power switch is in the OFF position.
2. Verify all voltage and current leads are disconnected from the metering service.
3. Connect the Auxiliary Power leads (AUX PWR, AUX NEU) to an AC source (100-530VAC).
4. Turn the Auxiliary Power switch ON, and confirm the fan turns on as well.
5. Press the PowerMaster<sup>®</sup> ON key, and wait until the Main Menu is displayed.
6. Connect the voltage leads, current leads, and CT probes to the metering service.
7. Proceed with testing.

## Conclusion

With the recent DCOs and this new connection procedure, you should expect a long life cycle with your PowerMaster®. Please print this document for your reference.

If you have any questions or concerns about this memo, please feel free to contact me or Ray Gore at your convenience.

Chris Mullins

Product Manager

Ph: 865-218-5887

Cell: 865-566-1627

Email: [chris.mullins@powermetrix.com](mailto:chris.mullins@powermetrix.com)

Ray Gore

Product & Technical Support

Ph: 865-218-5888

Cell: 865-414-3562

Email: [ray.gore@powermetrix.com](mailto:ray.gore@powermetrix.com)