



Digital Power Meter Monitoring Fix

Document No. ALN124

Issued: May 24, 2006

Rev. C: March 17, 2010

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Record of Changes

Page	Rev	Description	EC No.	Checked	Approved	Date
All	A	Released new Service Bulletin	01571	BB/WT	WT	5/24/06
All	B	Added calibration of DPM Version1	01644	BB/WT	WT	6/22/06
	C	Changed company name to ADB		JC	JC	3/17/10

DPM Monitoring Fix Instructions

1. Introduction

This service bulletin provides instructions to correct the Digital Power Meter Monitoring function. Note: The kit contains all necessary components to rewire the DPM.

2. Special Tools and Equipment Required

Refer to Tables 1 and 2 for the tools and equipment required.

Table 1. Required Equipment Supplied

Description	Part Number	Quantity
Service Bulletin	ALN124	1
Retrofit Kit	94A0468	A/R

Table 2. Required Equipment Not Supplied

Description	Quantity
Buchanan Crimp Tool C24	1

3. General Instructions



WARNING: Danger High Voltage. Disconnect the power to the PPF regulator. Failure to observe this warning may result in personal injury, death, or equipment damage.



If Version 1 of the ADB DPM is installed, see Section 6 before proceeding.

4. PPF Regulator Rework

Review Figure 1 and Figure 2 and then proceed as follows:

- 1) Cut twisted pair (grey/yellow) exiting T7 Clam Shell Shield (front side).
- 2) After removing excess wire length, re-route and connect grey/yellow twisted pair to the High Voltage PT (61A0317 (/30) or 35A0346) secondary using splice cap #65A0031/1 and splice cap insulator #65A0031/2 (use Buchanan tool #C24). The grey & yellow wires will be added in parallel to the existing wires on the transformer secondary.
- 3) Disconnect T7 wires from CCR output and from the HV resistor pcb.
- 4) Remove T7, Clam Shell Shield and R1HV resistor pcb w/standoff from CCR. Remove wire 210 from the R1 resistor to lightning arrester.
- 5) Remove R1 PCB and Standoff.

5. PPF Cabinet Door Rework

Review Figure 1, Figure 2, and Figure 3 then proceed as follows:

- 1) Add resistors (R250M1003M1) in series to DPM pins 3 & 4 per schematic (Figure 2) using 18awg wire (89A0182/9). Keep resistors as close as possible to the Digital Power Meter.

**6. Calibration of Version 1
of DPM**

ADDENDUM 1

Calibration instructions for Version 1 of the DPM.

After all Modifications have been made as shown in ALN-124, calibrate the DPM as instructed below. Failure to follow the calibration instructions completely may nullify calibration and the unit may not display Current, Voltage, VA or Wattage correctly.

To calibrate the DPM, you will need to apply a load (actual field load is preferred) and be able to short the regulator output. You will need an AC current clamp to measure the regulator output current. You will also need to measure the Output Voltage Feedback Transformer's secondary voltage (available as an AC voltage at the terminals on the bottom of a SGRS bay).

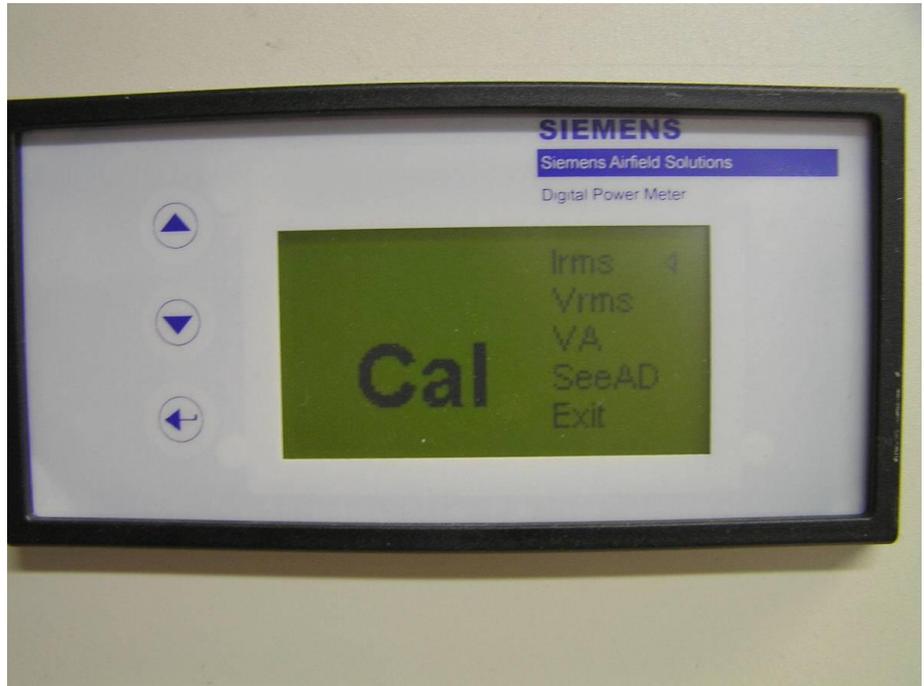
CALIBRATION

- 1) Apply power to the DPM and verify the display is working.



(PIC 1)

- 2) Depress and hold buttons ^ and < for 3 seconds to enter the calibration menu.



(PIC 2).

- 3) With the Up/Down buttons, select Irms and press < to enter Current Calibration.

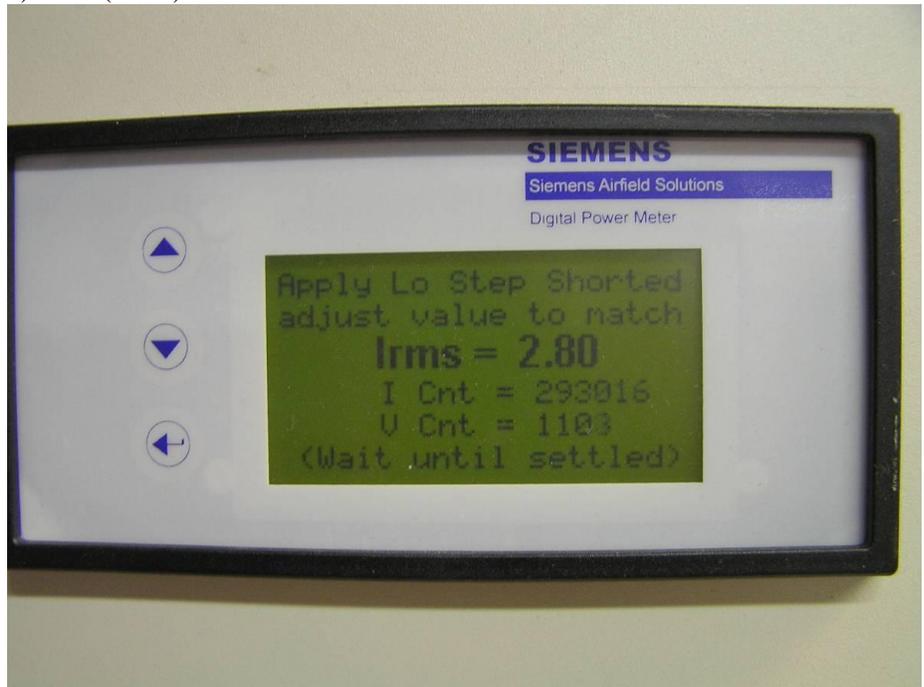


(PIC 3) Select "Y" for "New Irms Cal?".



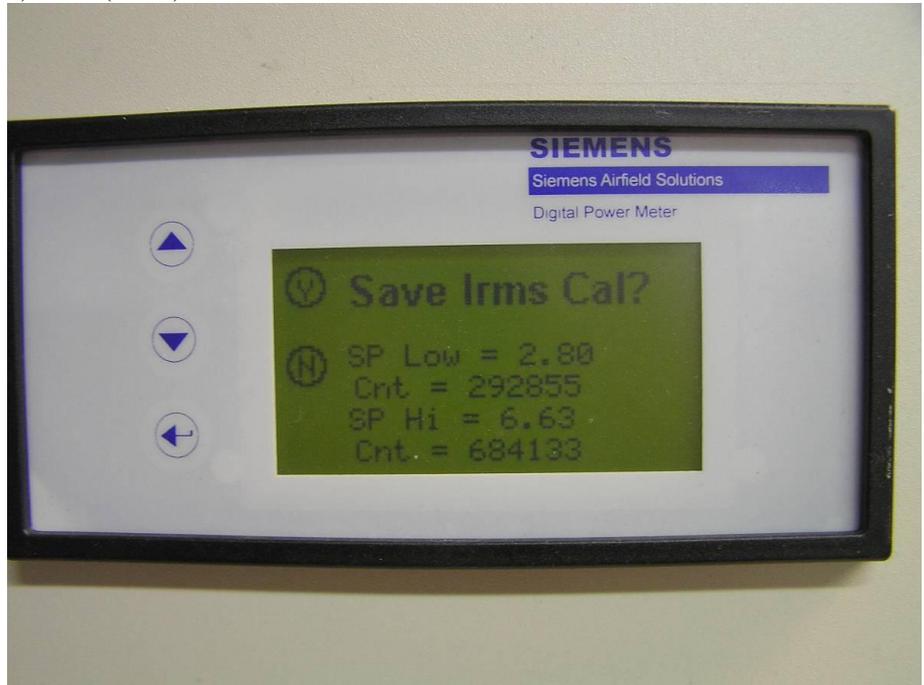
(PIC 4) Follow the instructions on the display, applying the CCR's highest step to a shorted load. Measure the CCR's output current with a current clamp and adjust the DPM display with the UP/DOWN buttons so the Irms value matches. Wait until the CNT values on the display settle and press <.

4) (PIC 5)



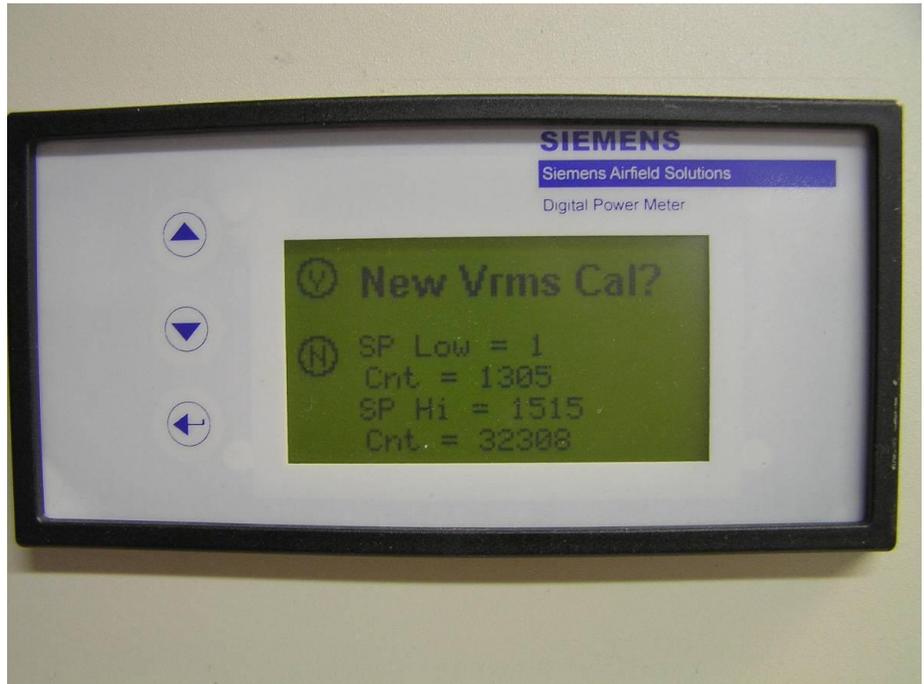
Follow the instructions on the display, applying the CCR's lowest step to a shorted load. Measure the CCR's output current with a current clamp and adjust the DPM display with the UP/DOWN buttons so the Irms value matches. Wait until the CNT values on the display settle and press <.

5) (PIC 6)



Press "Y" to accept the calibration.

6) At the calibration menu, select Vrms and press < to enter Current Calibration.



7) (PIC 7) Select “Y” for “New Vrms Cal?”.



(PIC 8) Follow the instructions on the display, applying the CCR’s highest step to the field load. The CCR’s output voltage can be measured with an AC voltage meter at the secondary of the Output Voltage Feedback Transformer. This voltage may be found on the terminal block at the bottom of a SGRS cabinet. Adjust the DPM display with the UP/DOWN buttons so the Vrms value matches. Wait until the CNT values on the display settle and press <.

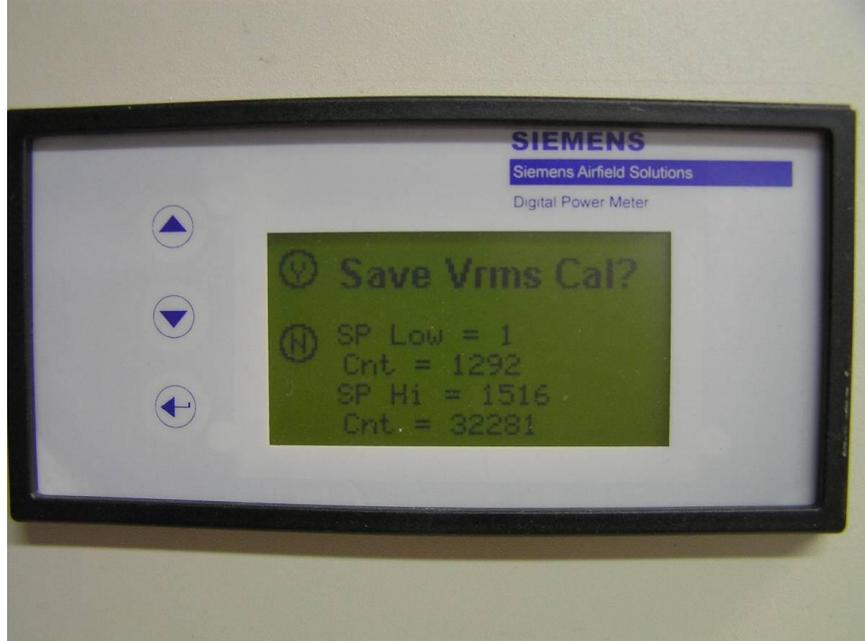
8) (PIC 9)



Follow the instructions on the display, applying the CCR’s highest step to a shorted

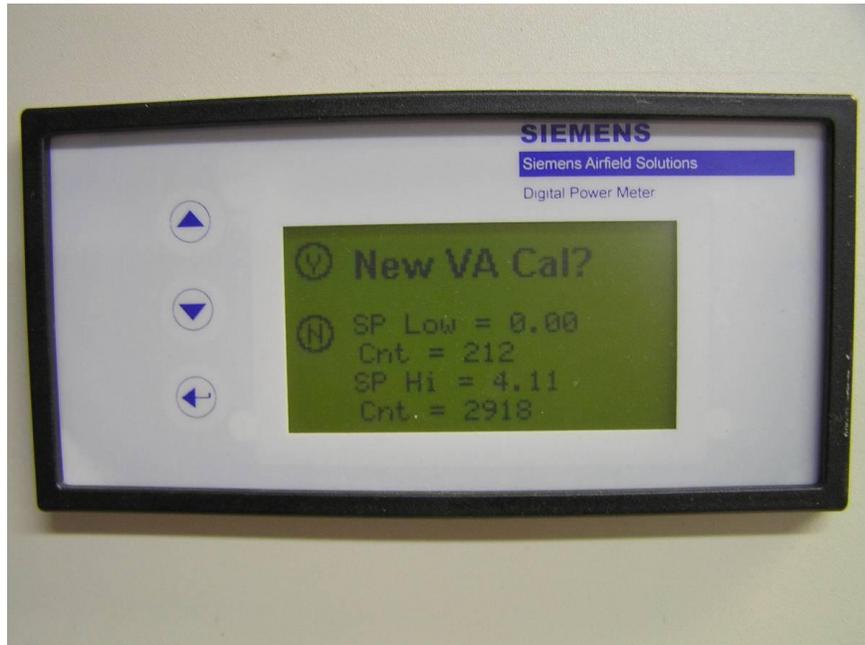
load. The CCR's output voltage can be measured with an AC voltage meter at the secondary of the Output Voltage Feedback Transformer. This voltage may be found on the terminal block at the bottom of a SGRS cabinet. Adjust the DPM display with the UP/DOWN buttons so the Vrms value matches. Wait until the CNT values on the display settle and press <.

9) (PIC 10)



10) Press "Y" to accept the calibration.

11) At the calibration menu, select VA and press < to enter VA/Watt Calibration.



(PIC 11) Select "Y" for "New VA Cal?".



(PIC 12) Follow the instructions on the display, applying the CCR's highest step to the field load. The CCR's VA can be calculated by multiplying it's output current and voltage values together. Adjust the DPM display with the UP/DOWN buttons so the VA value matches your calculated value. Wait until the CNT values on the display settle and press <.

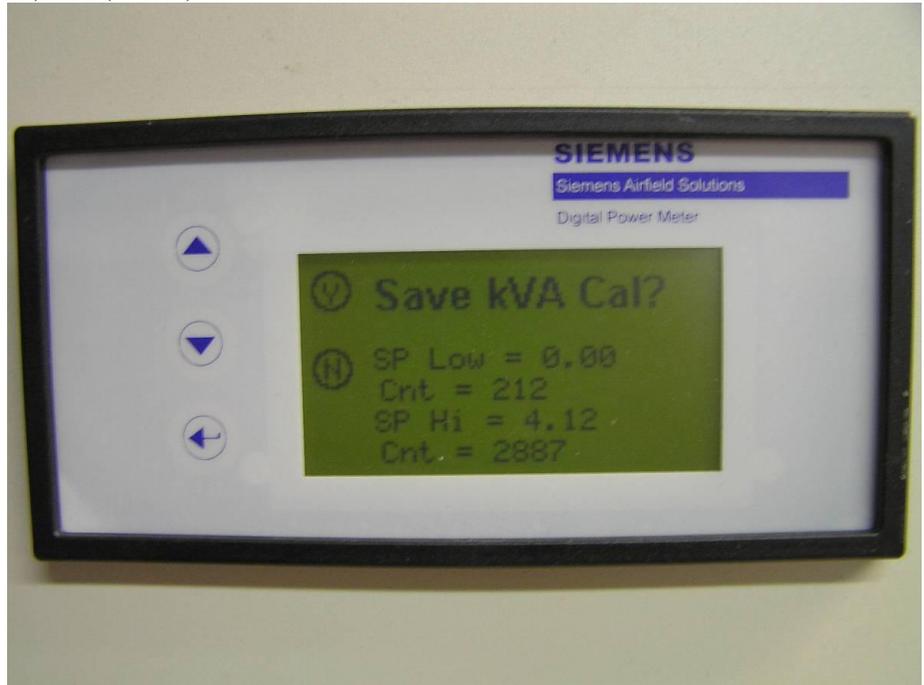
12) (PIC 13)



Follow the instructions on the display, applying the CCR's highest step to a shorted load. The CCR's VA at this point should be zero. Adjust the DPM display with the UP/DOWN buttons so the VA value reads zero. Wait until the CNT values on the

display settle and press <.

13) (PIC 14)



Press “Y” to accept the calibration.

14) Select “EXIT” From the main calibration menu and press < to exit calibration. You should now be at the Current Display screen.

VERIFYING CALIBRATION AND PHASE WIRING

- 1) Apply the load that was used for calibration to the CCR.
- 2) Turn on the CCR and verify that the Current, Voltage, VA and Wattage are displaying correctly. Cycle through the different screens with the UP/DOWN arrows. If everything displays correctly you are done with calibration.

NOTE: If the Wattage screen displays 0.00kW or -9.99kW the phase of the Voltage feedback wires will need reversed. This can be done on DPM connector.

NOTE: The “SeeAD” screen in the calibration menu displays internal A/D values and can be used for troubleshooting. (i.e. If you want to verify that the DPM is receiving current and voltage signals you should see the CNT values increase as you step the CCR current up to the field load.

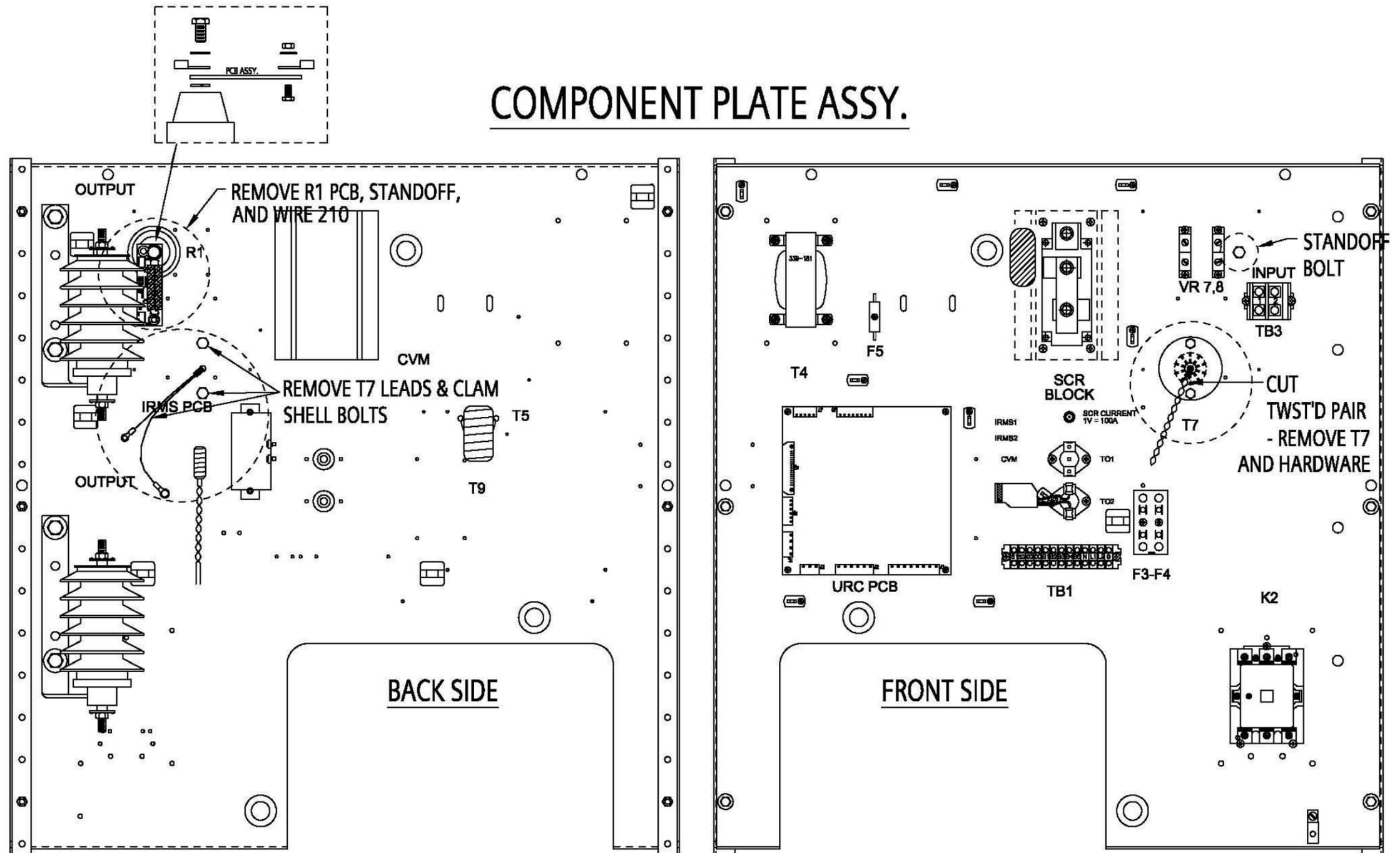


Figure1 Control Panel Assembly



FRONT PANEL ASSY. - REAR VIEW OF 94A0399/JFK KIT

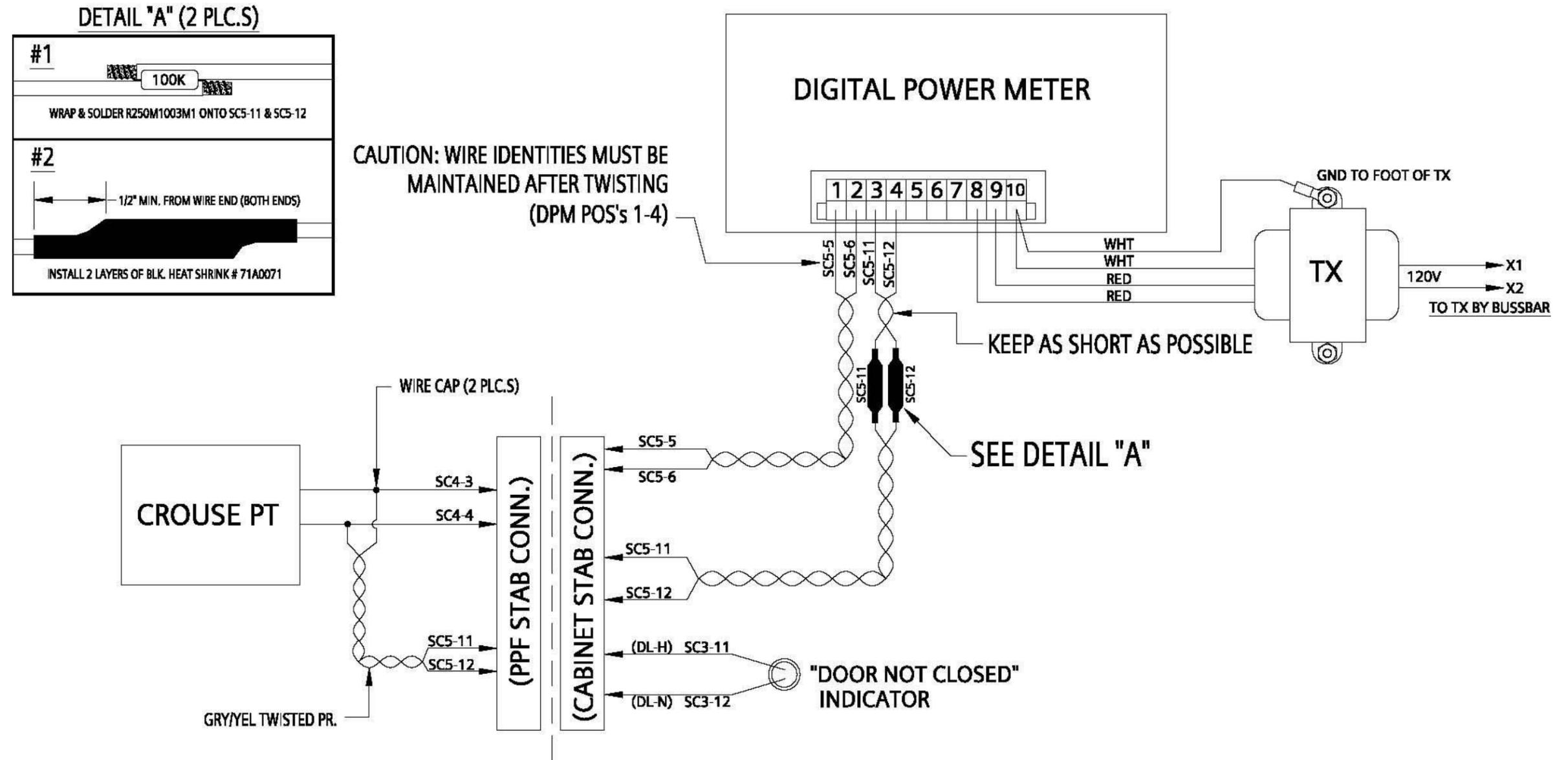


Figure 2 Wiring Schematic