

Technical Bulletin # 65

To: Coulometrics Support Personnel

From: Engineering Dept.

Date: REV : 8-7-07

Subject: Installation of CM101-240 Calibration kit in CM5014 Coulometer

Purpose:

The purpose of this Bulletin is to provide a step-by-step procedure for the installation of a CM101-240 Calibration kit in a 5014 Coulometer. This consists of a CM110-062 A to D PCB, a CM110-063 D to A PCB and a CM110-054 Interface PCB. This procedure assumes these boards have been ordered as a set and calibrated as a set prior to installation.

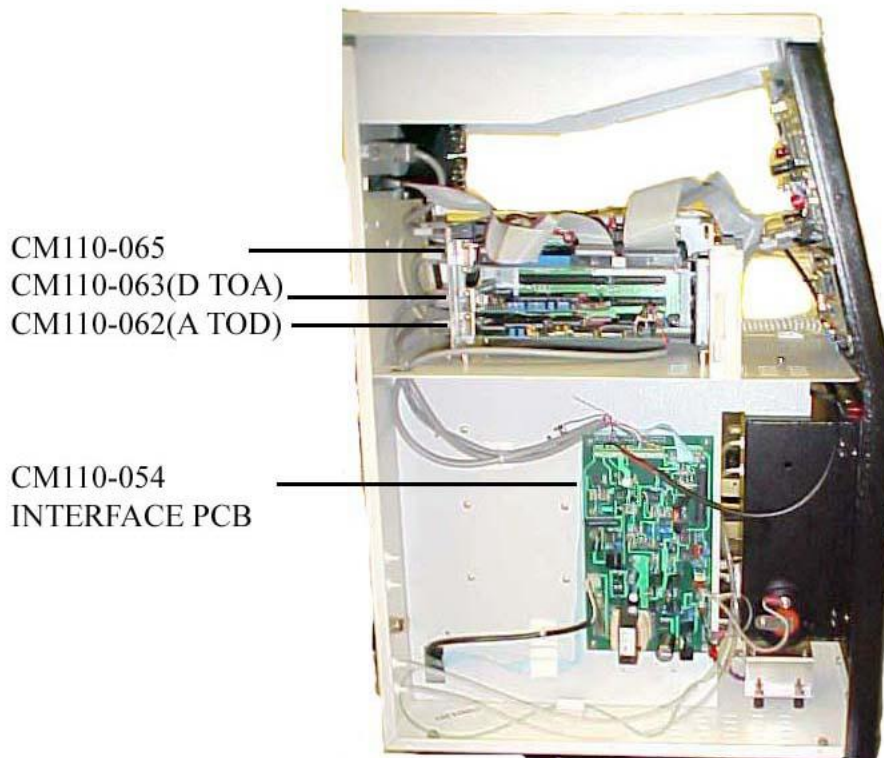
I. Remove left and right Side panels:

1. Turn the Coulometer off and unplug the power cord from the instrument.
2. Remove the 6 Phillips head screws holding on the left and right side panels of the CM5014 and set them aside.

II. Remove the old CM110-054 PCB

3. Locate the CM110-054 Interface PCB. See photo 1.

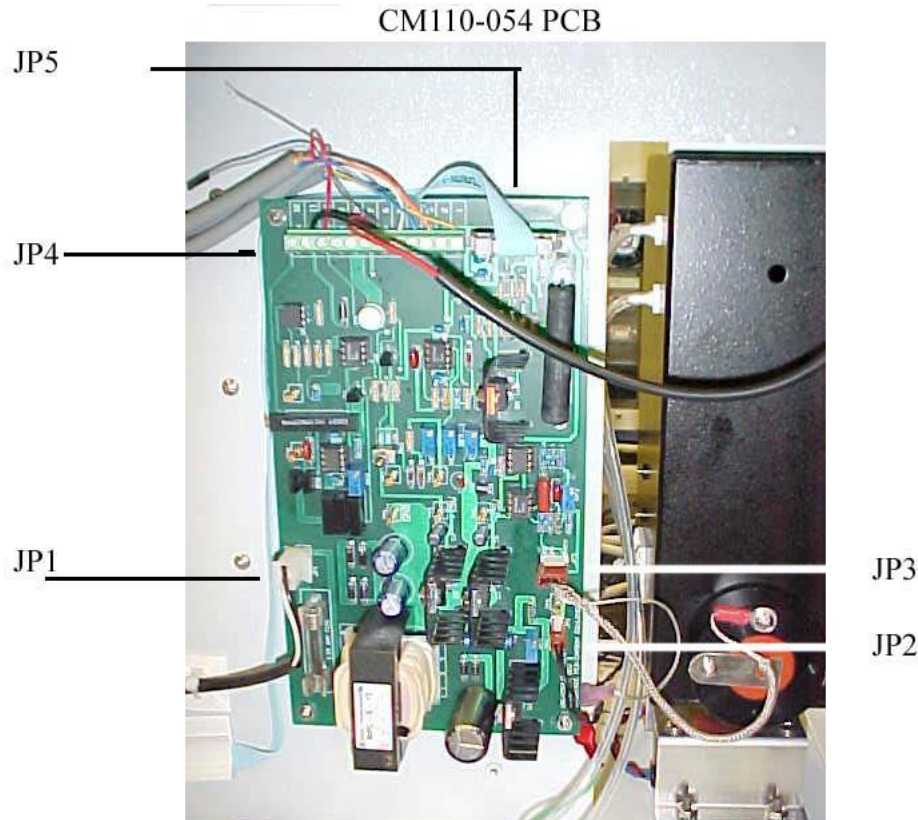
PHOTO 1



CM5014 LEFT SIDE VIEW

3. Open the two locking arms of connector JP5 (for 10 pin ribbon) and unplug it from the board. (SEE PHOTO 2)

Photo 2



4. Unplug JP1 AC power connector, JP2 Lamp connector, and JP3 Photo diode connector.

5. Using a small straight blade screwdriver, loosen and remove each wire from the JP4 terminal strip noting the Color-coding. It is absolutely necessary that these wires be reconnected properly or damage to the PCB could result. If necessary number the color-coded wires prior to removal!

Note wire to JP4-1 Yellow

JP4-2 Green

JP4-3 Orange

JP4-4 Blue

JP4-5 White

JP4-6 Brown

JP4-7 RED from CELL compartment

Jp4-8 NO connection

JP4-9 NO connection

Jp4-10 Red from multi conductor cable

JP4-11 Black from CELL compartment

JP4-12 No connection

6. Using a 1/4" nut driver, remove the four hex head nuts holding the CM110-054 PCB mounted in the instrument and remove the old board.
7. Install new CM110-054 PCB and reinstall 4 hex nuts. Tighten in place.
8. Plug the JP5 Ribbon cable back into the board and lock in place.
9. Re install JP1 AC power connector, JP2 Lamp connector, and JP3 Photo diode connector back on the board. See photo 2 of the CM110-054. Note: the connectors are keyed and can only be put on one way.
10. Using a small straight blade screwdriver, re-install each wire in to the JP4 terminal strip noting the Color-coding. It is absolutely necessary that these wires be reconnected properly or damage to the PCB could result. Note wire to JP4-1 Yellow

- JP4-2 Green
- JP4-3 Orange
- JP4-4 Blue
- JP4-5 White
- JP4-6 Brown
- JP4-7 RED from CELL compartment
- Jp4-8 NO connection
- JP4-9 NO connection
- Jp4-10 Red from multi conductor cable
- JP4-11 Black from cell compartment
- JP4-12 No connection

II. Remove the old CM110-063 D to A and the CM110-062 A to D:

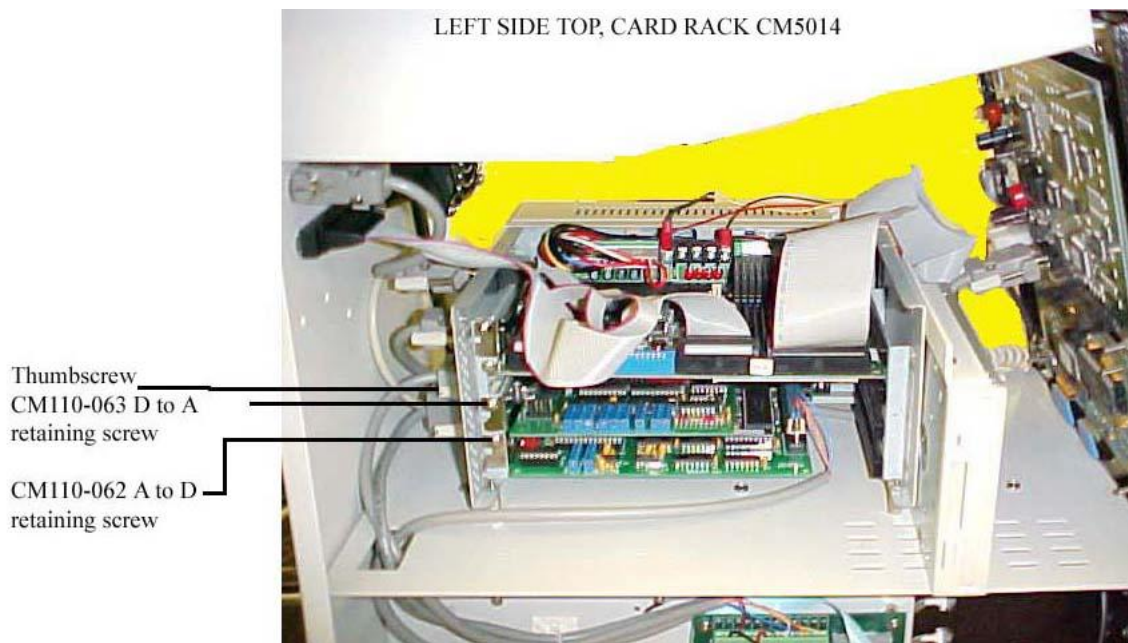
11. The Coulometer should still be off and unplugged from the AC power source.
12. Locate the card rack located in the top section of the Coulometer. Locate the CM110-063 and CM110-062 PCB. See photo 1 and photo 3.
13. The CM110-063 D to A card is the short card located in the second slot from the bottom.
14. Loosen the two thumbscrews holding the signal cable to the back of the CM110-063 card. See photo 3 for the location of a thumbscrews. Note Removal of the right side panel will make it easier to get to the thumbscrews on the right side.
15. Unplug the signal cable from the back of the card.
16. Next using a small Phillips screwdriver, loosen and remove the retaining screw holding the card in the instrument rack.
17. Now gently rock the card out of the slot by pulling it towards you.
18. Repeat the same procedure for the bottom card. This is the CM110-062 A to D card. Note the signal cable for the two cards have different size connectors so it is impossible to mix them up.
19. Losen the two thumbscrews holding the data cable to the CM110-062.
- 20 unplug the cable from the back of the card.

21. Leave the other signal cable plugged into the front of the card. The replacement card is provided with one of these cables.
22. Next using a small Phillips screwdriver, loosen and remove the retaining screw holding the card in the instrument rack.
23. Now gently rock the card out of the slot by pulling it towards you.

III. Install new CM110-062 & CM110-063 PCB's

24. Reverse the procedure to reinstall the new cards. Remember the longer card will be in the bottom slot. The shorter will be above it. Make sure the cards are pushed all the way in the slot. The retaining screw must be installed. The appropriate signal cable must be plugged into the cards. The thumbscrews must be installed to make sure the signal cable is properly connected. See Photo 3.

Photo 3



25. Make sure all signal cable wires are correctly connected to JP4 of the CM110-054 PCB.