

 Practical Instrument Electronics	MODEL 530 FIELD CALIBRATION PROCEDURE	DOCUMENT NO. 530-0300	841 Holt Road Suite 1 Webster New York 14580 Business: (585) 872-9350 Fax: (585) 872-2638
Created by: M. Kieck	DATE: 6-18-02	Sheet 1 of 4	

Rev.	Date	Appd	BRIEF CHANGE DESCRIPTION
A	6-18-02	MJK	INITIAL RELEASE
B	7-28-04	LBD	UPDATES AND ADDED FIGURES

Equipment Needed:

1. Precision Current Meter with accuracy of $\pm 0.008\%$ at 20mA.
2. Precision Current Source with accuracy of $\pm 0.008\%$ at 20mA
3. Precision Voltage Source with accuracy of $\pm 0.07\%$ at 60V.

Enabling Calibration:

Place in fresh batteries and allow one hour for the Model 530 to stabilize to the ambient temperature. Remove the battery cover and the six black Phillips head screws. While holding the Model 530 face down in one hand, carefully separate the top and bottom of the housing. Place the unit into calibration mode by holding down the ON/OFF button and shorting the calibration via labeled on the PCB with tweezers. Verify the Model 530 is in calibration mode by viewing the bottom right of the LCD for the word "CAL".

Read mA Calibration:

Press the READ Button until "mA Read" appears in the bottom right corner of the LCD. Connect the Model 530 terminals to a Current Source (See Figure 1).

LO Calibration:

1. Slide the EZ-Check™ Switch to the LO position indicated by displaying a "LO" on the left side of the LCD.
2. Set the current source to 0.000 mA
3. Press the STORE/CLEAR Button.
4. The display will flash "STORED" to confirm that the displayed value was stored.

HI Calibration:

1. Slide the EZ-Check™ Switch to the HI position indicated by displaying a "HI" on the left side of the LCD.
2. Set the current source to 20.000 mA.
3. Press the STORE/CLEAR Button.
4. The display will flash "STORED" to confirm that the displayed value was stored.

Read DC Voltage Calibration:

Press the READ Button until "V Read" appears on the bottom right corner of the LCD. Connect the Model 530 terminals to a Voltage Source (See Figure 2).

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LO Calibration:

1. Slide the EZ-Check™ Switch to the LO position indicated by displaying a “LO” on the left side of the LCD.
2. Set the voltage source to 0.000 V.
3. Press the STORE/CLEAR Button.
4. The display will flash “STORED” to confirm that the displayed value was stored.

HI Calibration:

1. Slide the EZ-Check™ Switch to the HI position indicated by displaying a “HI” on the left side of the LCD.
2. Set the voltage source to 60.000 V.
3. Press the STORE/CLEAR Button.
4. The display will flash “STORED” to confirm that the displayed value was stored.

Source mA Calibration:

Press the SOURCE Button until “mA SOURCE” appears on the bottom right corner of the LCD. Connect the Model 530 terminals to a Current Meter (See Figure 3).

LO Calibration:

1. Slide the EZ-Check™ Switch to the LO position indicated by displaying a “LO” on the left side of the LCD.
2. Dial the Model 530 so the meter reads 0.000 mA.
3. Press the STORE/CLEAR Button.
4. The display will flash “STORED” to confirm that the displayed value was stored.

HI Calibration:

1. Slide the EZ-Check™ Switch to the HI position indicated by displaying a “HI” on the left side of the LCD.
2. Dial the Model 530 so the meter reads 20.000 mA.
3. Press the STORE/CLEAR Button.
4. The display will flash “STORED” to confirm that the displayed value was stored.

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Two Wire Simulation Calibration:

Press the SOURCE Button until “mA 2W SIM” appears on the bottom right corner of the LCD. Connect the Model 530 terminals in series to a Voltage Source (Set at 10V) and Current Meter (See Figure 4).

LO Calibration:

1. Slide the EZ-Check™ Switch to the LO position indicated by displaying a “LO” on the left side of the LCD.
2. Dial the Model 530 so the meter reads 4.000 mA.
3. Press the STORE/CLEAR Button.
4. The display will flash “STORED” to confirm that the displayed value was stored.

HI Calibration:

1. Slide the EZ-Check™ Switch to the HI position indicated by displaying a “HI” on the left side of the LCD.
2. Dial the Model 530 so the meter reads 20.000 mA.
3. Press the STORE/CLEAR Button.
4. The display will flash “STORED” to confirm that the displayed value was stored.

Completion of Calibration:

Turn the Model 530 OFF. Next time the unit is turned on the Model 530 will be calibrated and in normal operational mode.

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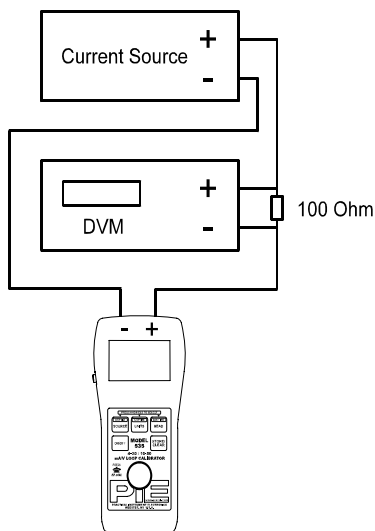


FIGURE 1 (Read mA)

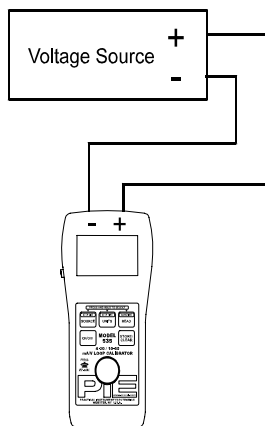


FIGURE 2 (Read V)

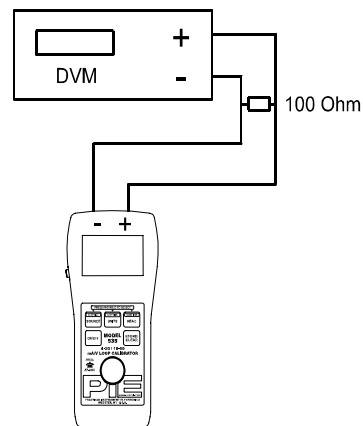


FIGURE 3 (Source mA)

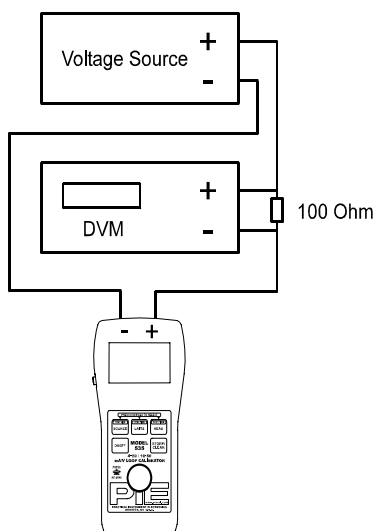


FIGURE 4 (2-Wire)