Sorensen

SL-SERIES

SLD DUAL INPUT
DC ELECTRONIC LOADS

Calibration Manual

Elgar Electronics Corporation
9250 Brown Deer Road
San Diego, CA 92121-2294

1-800-73ELGAR (1-800-733-5427)
Tel: (858) 450-0085
Fax: (858) 458-0267
Email: sales@elgar.com

www.elgar.com

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SECTION 1
OPERATION DESCRIPTION

1.1 CALIBRATION MODE

This section provides a brief orientation for how to enter, navigate, adjust and store settings, and exit the calibration mode.

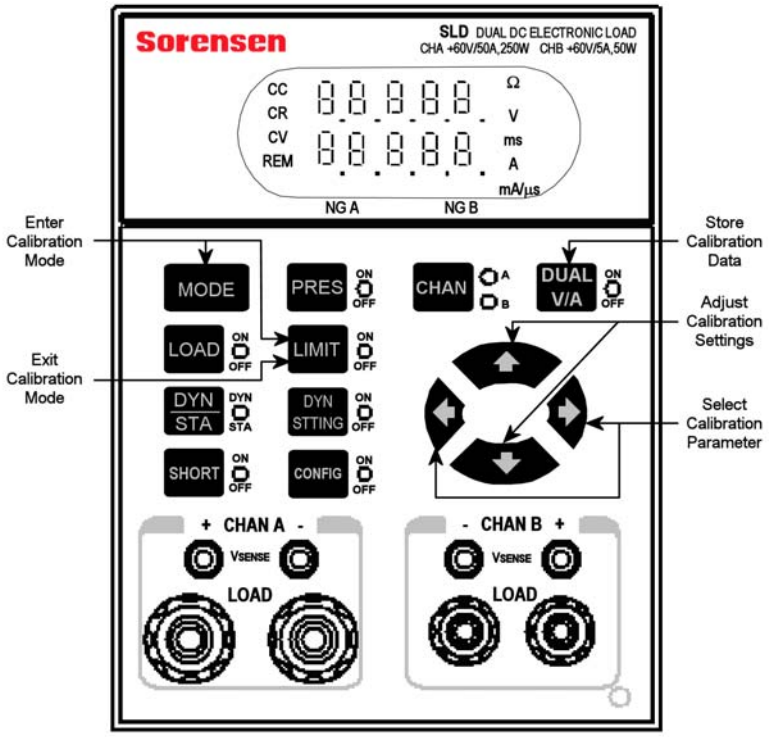

Figure 1-1. SLD Series Front Panel

1.1.1 NAVIGATION AND SETTING

1. Press **CHAN** key to select channel (A or B) to be calibrated (each channel is calibrated separately).
2. Press **MODE** and **LIMIT** keys simultaneously to enter calibration mode (Constant Current is default initial mode).
3. Press ← key to return to previous item (parameter); press → to advance to next item
   NOTE: There are 18 items (parameters) to calibrate.
4. Load level and status are set to default value automatically at each step.
5. Press ↑↓ keys to adjust the calibration values.
6. Press **DUAL V/A** key to store the calibration data.
7. Press **LIMIT** key to exit calibration mode.

Refer to Figure 1-2 for a flowchart of the calibration procedure.

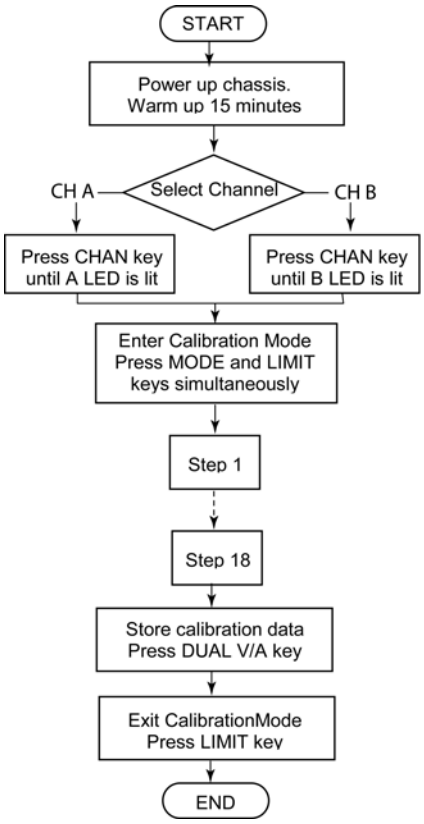

Figure 1-2. SLD Series Calibration Procedure Flowchart

SECTION 2
CALIBRATION PROCEDURE

2.1 CALIBRATION SETUP

Prior to starting the calibration procedure, gather the necessary equipment (Section 2.1.1), then power up the chassis and allow it to warm up for 15 minutes.

2.1.1 EQUIPMENT REQUIRED

- Voltage/Current Source/Calibrator: Krohn-Hite EDC 521.
- Current Shunt: Prodigit 7550.
- Digital Multi-meter (DMM): Agilent 34401A.
- DC Power Supply: SGA80-125. (Supply may depend upon models being calibrated. This model covers any module in the SLD family.)
- Current Probe: Tektronix A6303.

2.2 CHANNEL A CALIBRATION

Press **CHAN** key to light the **A** LED.

Press both **MODE** and **LIMIT** keys simultaneously to enter calibration mode. Initial default mode is Constant Current (CC) Mode.

2.2.1 CONSTANT CURRENT (CC) MODE CALIBRATION

Make the appropriate connections per Figure 2-1, Figure 2-2 or Figure 2-3, for the Load module being calibrated.

NOTE: Figure 2-1 refers to both SLD-60 and SLD-80.

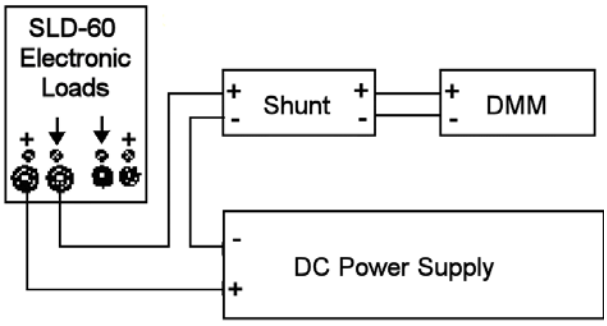

Figure 2-1. Channel A CC Mode Connections for SLD-60 or SLD-80 Calibration

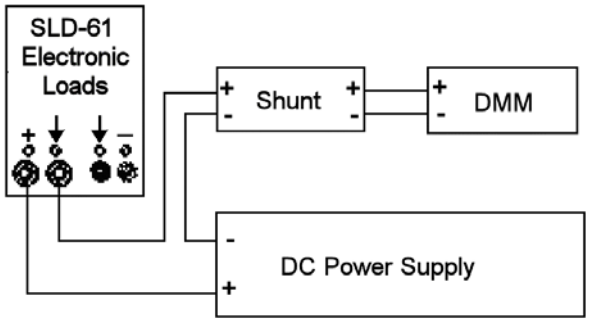

Figure 2-2. Channel A CC Mode Connections for SLD-61 Calibration

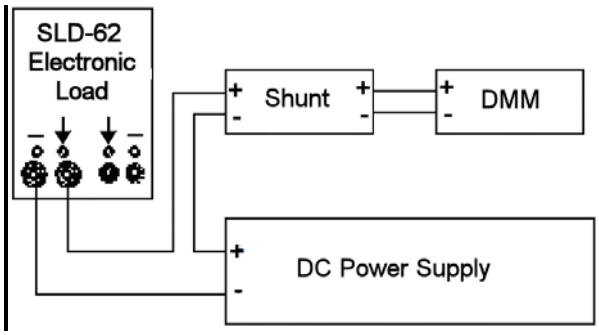

Figure 2-3. Channel A CC Mode Connections for SLD-62 Calibration

Range I Offset and Gain, Channel A CC Mode

1. Set DC power supply to +5VDC.
2. **PRES ON** (press **PRES** key until its LED is lit); set load current setting to match the value shown in *Load Setting* column of Table 2-1, for the model being calibrated.
3. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using the ↑↓ keys until the DMM reading matches the value shown in *DMM Reading* column Table 2-1, for the model being calibrated.

ITEM	MODEL	Load Setting	DMM Reading
1	SLD-60-505-255	0.000 A	0.000A
	SLD-61-505-255	0.000 A	0.000A
	SLD-60-20-102	0.0000A	0.0000A
	SLD-80-20-102	0.0000A	0.0000A
	SLD-61-5-752	0.0000A	0.0000A
	SLD-62-5-752	0.0000A	0.0000A
	SLD-60-105-550	0.0000A	0.0000A

Table 2-1. Channel A CC Mode Range I Offset Calibration Parameters

4. Scroll to next calibration parameter, Item 2 (press →).
5. Set DC power supply to +5VDC.
6. **PRES ON** (press **PRES** key until its LED is lit); set load current setting to match the value shown in *Load Setting* column of Table 2-2, for the model being calibrated.
7. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using the ↑↓ keys until the DMM reading matches the value shown in *DMM Reading* column of Table 2-2, for the model being calibrated.
8. Repeat Steps 1 through 7 (press ← to return to previous item) until no further adjustments are necessary for the DMM reading to match the value in the *DMM Reading* column for both calibration parameters (Items 1 and 2).

ITEM	MODEL	Load Setting	DMM Reading
2	SLD-60-505-255	5.000 A	5.000A
	SLD-61-505-255	5.000 A	5.000A
	SLD-60-20-102	2.002A	2.002A
	SLD-80-20-102	2.002A	2.002A
	SLD-61-5-752	0.5000A	0.5000A
	SLD-62-5-752	0.5000A	0.5000A
	SLD-60-105-550	10.001A	10.001A

Table 2-2. Channel A CC Mode Range 1 Gain Adjustment Parameters

9. Scroll to next calibration parameter, Item 3 (press →).

Range II Offset and Gain, Channel A CC Mode

1. Set DC power supply to +5VDC.
2. **PRES ON** (press **PRES** key until its LED is lit); set load current setting to match the value shown in *Load Setting* column of Table 2-3, for the model being calibrated.
3. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using the ↑↓ keys until the DMM reading matches the value shown in *DMM Reading* column of Table 2-3, for the model being calibrated.

ITEM	MODEL	Load Setting	DMM Reading
3	SLD-60-505-255	0.000 A	0.000A
	SLD-61-505-255	0.000 A	0.000A
	SLD-60-20-102	0.000A	0.000A
	SLD-80-20-102	0.000A	0.000A
	SLD-61-5-752	0.000A	0.000A
	SLD-62-5-752	0.000A	0.000A
	SLD-60-105-550	0.000A	0.000A

Table 2-3. Channel A CC Mode Range II Offset Calibration Parameters

4. Scroll to next calibration parameter, Item 4 (press →).
5. Set DC power supply to +5VDC at the input terminal.
6. **PRES ON** (press **PRES** key until its LED is lit); set load current setting to match the value shown in *Load Setting* column of Table 2-4, for the model being calibrated.
7. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using ↑↓ keys until the DMM reading matches the value shown in *DMM Reading* column of Table 2-4, for the model being calibrated.
8. Repeat Steps 1 through 7 (press ← to return to previous item) until no further adjustments are necessary for the DMM reading to match the value in the *DMM Reading* column for both calibration parameters (Items 3 and 4).

ITEM	MODEL	Load Setting	DMM Reading
4	SLD-60-505-255	50.00 A	50.00A
	SLD-61-505-255	50.00 A	50.00A
	SLD-60-20-102	20.00 A	20.00 A
	SLD-80-20-102	20.00 A	20.00 A
	SLD-61-5-752	5.000 A	5.000A
	SLD-62-5-752	5.000 A	5.000A
	SLD-60-105-550	100.01 A	100.01A

Table 2-4. Channel A CC Mode Range II Gain Adjustment Parameters

9. Scroll to next calibration parameter, Item 5 (press →).

2.2.2 DIGITAL VOLT METER (DVM) CALIBRATION, CHANNEL A

Make the appropriate connections per Figure 2-1, Figure 2-2 or Figure 2-3, for the Load module being calibrated.

Note: Figure 2-1 refers to both SLD-60 and SLD-80.

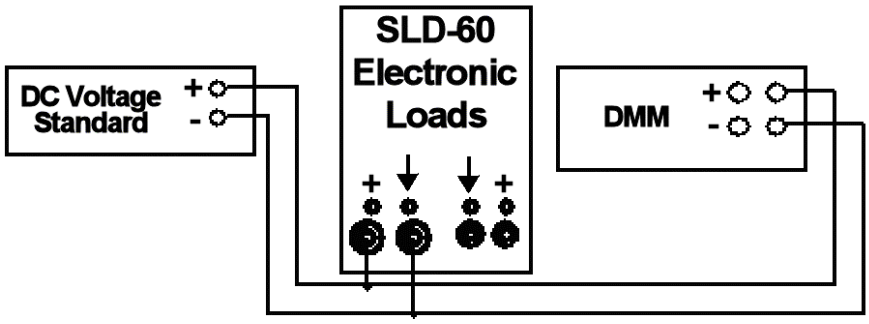

Figure 2-4. Channel A DVM Connections for SLD-60 or SLD-80 Calibration

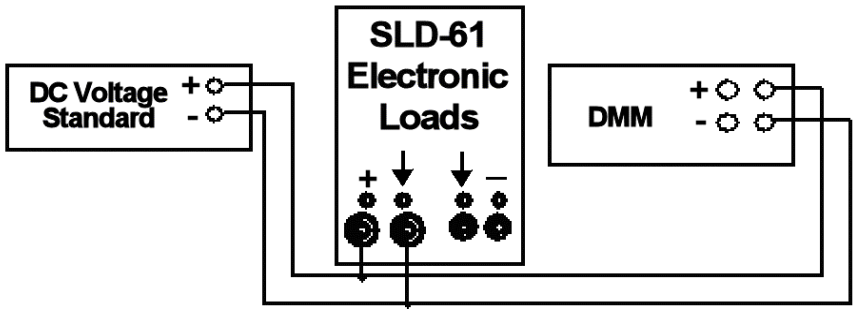

Figure 2-5. Channel A DVM Connections for SLD-61 Calibration

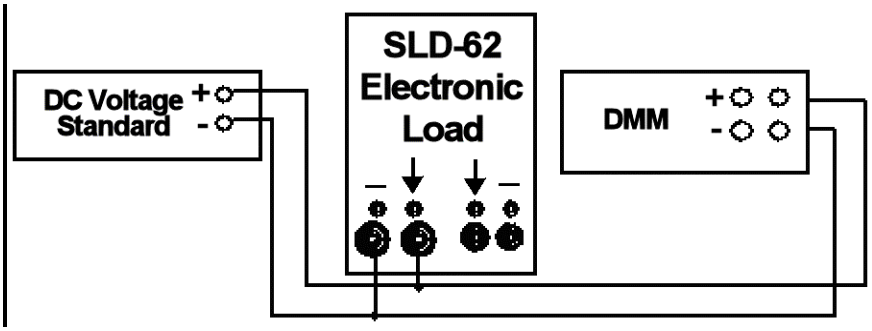

Figure 2-6. Channel A DVM Connections for SLD-62 Calibration

DVM, Channel A

1. Set the DC Voltage Standard to the value shown in *DC Input* column of Table 2-5.
2. Adjust using ↑↓ keys until the DMM reading matches the value in *DMM Reading* column.
3. Scroll to next item (press →) and repeat Steps 1 and 2 for each item through Item 8.
4. Repeat Steps 1 through 3 for all calibration parameters, Items 5 through 8 (press ← three times to return to Item 5) until no further adjustments are necessary for the DMM reading to match the value in the *DMM Reading* column of Table 2-5.

ITEM	DC INPUT	DMM Reading
5	0.000 V	0.000 V
6	15.0000 V	15.000 V
7	0.000 V	0.000 V
8	60.000 V	60.00 V
*****	80.000 V	80.00 V

***** Applies to SLD-80-20-102 only

Table 2-5. Channel A DVM Calibration Settings

5. Scroll to next calibration parameter, Item 9 (press →).

2.2.3 DIGITAL CURRENT METER (DAM) CALIBRATION, CHANNEL A

Make the appropriate connections per

DAM, Channel A

1. Set the DC power supply to +5VDC to input terminal.
2. Set the load level setting for the load model being calibrated, as shown in Table 2-6.
3. **PRES OFF** (press **PRES** key until its LED is *not* lit), so that the DAM is in Measurement mode and not in Preset mode.
4. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using ↑↓ keys until the actual current read by the shunts is equal to the DAM reading.
5. Scroll to next item (press →) and repeat steps 1 through 4 for each item through Item 12.
6. Press ← three times to return to Item 9 and repeat Steps 1 through 4 until the DAM readout matches the shunt reading for Items 9 through 12 of Table 2-6.

ITEM	Load Setting (SLD-60-505-255, SLD-61-505-255, SLD-60-105-550)	Load Setting (SLD-61-5-752, SLD-62-5-752)	Load Setting (SLD-80-20-102, SLD-60-20-102)
9	0.000 A	0.000 A	0.000 A
10	15.00 A/19.00 A	1.500 A	6.002 A
11	0.000 A	0.000 A	0.000 A
12	50.00 A/100.01 A	5.000 A	20.00 A

Table 2-6. Channel A DAM Calibration Settings

7. Scroll to next calibration parameter, Item 13 (press →).

2.2.4 CONSTANT VOLTAGE (CV) MODE CALIBRATION, CHANNEL A

1. Connect the load to the DMM and DC power supply per Figure 2-7, Figure 2-8, or Figure 2-9, for the Load module being calibrated.

   Note: Figure 2-7 refers to both SLD-60 and SLD-80.
2. Set the power source current limit to 0.1A
3. Set the load to CV mode by pressing the **MODE** key until **CV** is lit.

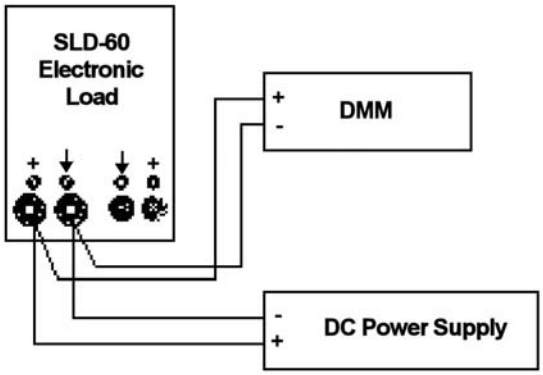

Figure 2-7. Channel A CV Mode Connections for SLD-60 or SLD-80 Calibration

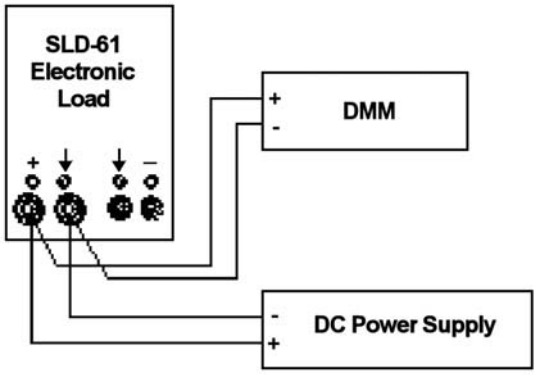

Figure 2-8. Channel A CV Mode Connections for SLD-61 Calibration

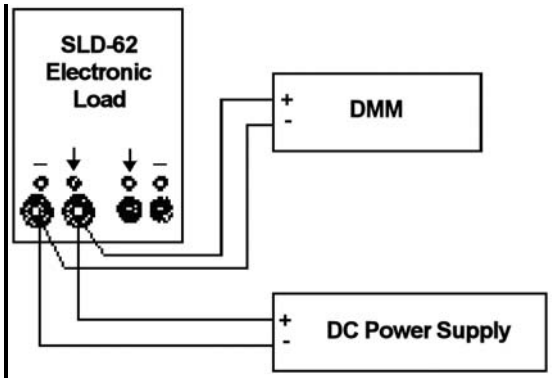

Figure 2-9. Channel A CV Mode Connections for SLD-62 Calibration

1. a) Set the DC Power supply to the value shown in the *DC INPUT* column of Table 2-7;
   b) set the electronic preset value to the value shown in the *Setting* column of Table 2-7.
2. **PRES OFF** (press **PRES** key until its LED is *not* lit), so that the DVM is in Measurement mode and not Preset mode.
3. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using the ↑↓ keys until DMM reading matches the value shown in *DMM Reading* column of Table 2-7.
4. Scroll to next calibration parameter (press →), Item 14, and repeat CV Steps 1 through 3.
5. Press ← to return to Item 13, and repeat CV Steps 1 through 4 until no further adjustments are required for both Items 13-14.

ITEM	Setting	DC INPUT	DMM Reading
13	0.2000 V	61.00 V / 0.1A	0.2000 V
14	60.00 V	61.00 V / 0.1A	60.00 V
*****	80.00 V	81.00 V / 0.1A	80.00 V

***** Applies to SLD-80-20-102 only

Table 2-7. Channel A CV Mode Calibration Settings

6. Scroll to next calibration parameter, Item 15 (press →).

2.2.5 CONSTANT RESISTANCE (CR) MODE CALIBRATION, CHANNEL A

Make the appropriate connections per Figure 2-10, Figure 2-11, or Figure 2-11, for the Load module being calibrated.

Note: ** Vsense must be connected with DC INPUT COM.

Set the load to CR mode by pressing the **MODE** key until the **CR** is lit.

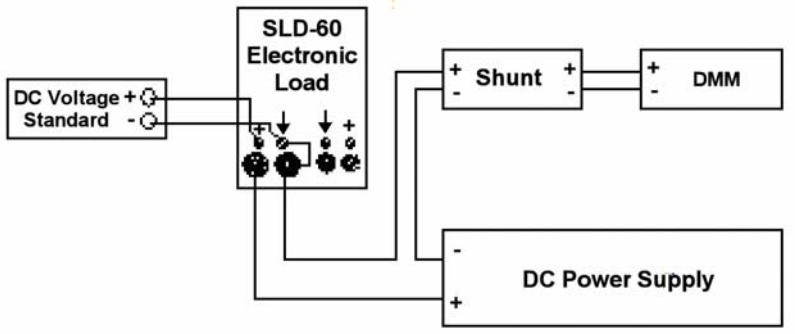

Figure 2-10. Channel A CR Mode Connections for SLD-60

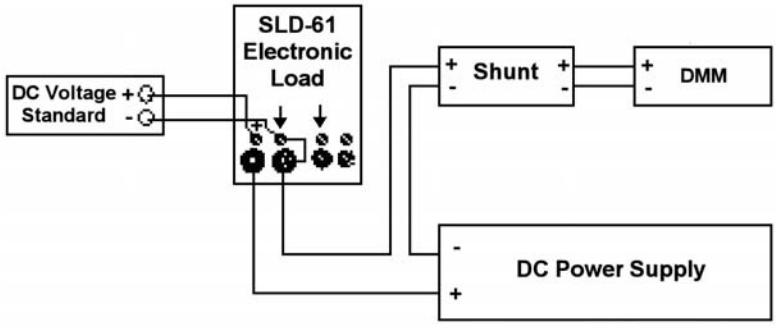

Figure 2-11. Channel A CR Mode Connections for SLD-62

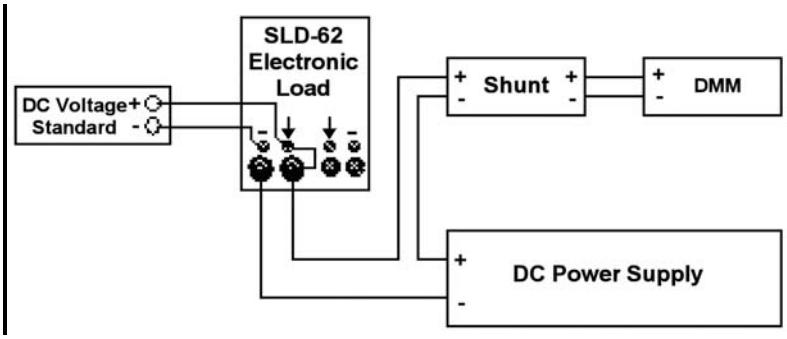

Figure 2-12. Channel A CR Mode Connections for SLD-62

CR Range I Offset and Gain, Channel A CR Mode

1. Set load to match the value in *CR Range I Offset* column of Table 2-8, for the model being calibrated.
2. Set the DC Voltage Standard to match the value in *IV Sense Input* column of Table 2-8 for the same model being calibrated.
3. **LOAD ON** (press **LOAD** key until its LED is lit).
4. Adjust using ↑↓ keys until DMM reading matches the value in *DMM Reading* column of Table 2-8.

ITEM	MODEL	CR Range I OFFSET	V SENSE input	DMM Reading
15	SLD-60-505-255	4500 Ω	60.00 V	0.013 A
	SLD-61-505-255	4500 Ω	60.00 V	0.013 A
	SLD-60-20-102	11250 Ω	60.00 V	0.0053 A
	SLD-80-20-102	15000 Ω	80.00V	0.0053 A
	SLD-61-5-752	45000 Ω	60.00 V	0.0013 A
	SLD-62-5-752	45000 Ω	60.00 V	0.0013 A
	SLD-60-105-550	2250 Ω	60.00 V	0.026 A

Table 2-8. Channel A CR Mode Range I Offset Calibration Settings

5. Scroll to next calibration parameter, Item 16 (press →).
6. Set the DC Voltage Standard to match the value in *V Sense Input* column of Table 2-9 for the same model being calibrated.
7. **LOAD ON** (press **LOAD** key until its LED is lit). Adjust using ↑↓ keys until DMM reading matches the value in *DMM Reading* column of Table 2-9.
8. Repeat Steps 1 through 7 (press ← to return to previous item) until no further adjustments are necessary for the DMM reading to match the value in the *DMM Reading* column for both calibration parameters (Items 15 and 16).

ITEM	MODEL	CR Range I GAIN	V SENSE input	DMM Reading
16	SLD-60-505-255	1.200 Ω	15.00 V	12.50 A
	SLD-61-505-255	1.200 Ω	15.00 V	12.50 A
	SLD-60-20-102	3.000 Ω	15.00 V	5.000 A
	SLD-80-20-102	4.000 Ω	15.00V	3.750 A
	SLD-61-5-752	12.000 Ω	30.00 V	2.500 A
	SLD-62-5-752	12.000 Ω	30.00 V	2.500 A
	SLD-60-105-550	0.600 Ω	6.000 V	10.00 A

Table 2-9. Channel A CR Mode Range I Gain Calibration Setting

9. Scroll to next calibration parameter, Item 17 (press ➔).

CR Range II Offset and Gain, Channel A CR Mode

10. Set load to match the value in *CR Range I Offset* column of Table 2-10, for the model being calibrated.
11. Set the DC voltage standard to match the value in *V Sense Input* column of Table 2-10 for the same model being calibrated.
12. **LOAD ON** (press **LOAD** key until its LED is lit).
13. Adjust using ↑↓ keys until DMM reading matches the value in *DMM Reading* column of Table 2-10.

ITEM	MODEL	CR Range II OFFSET	V SENSE input	Current Reading (DAM)
17	SLD-60-505-255	1.200 Ω	15.00 V	12.50 A
	SLD-61-505-255	1.200 Ω	15.00 V	12.50 A
	SLD-60-20-102	3.000 Ω	15.00 V	5.000 A
	SLD-80-20-102	4.000 Ω	15.00 V	3.750 A
	SLD-61-5-752	12.000 Ω	30.00 V	2.500 A
	SLD-62-5-752	12.000 Ω	30.00 V	2.500 A
	SLD-60-105-550	0.600 Ω	6.000 V	10.00 A

Table 2-10. Channel A CR Mode Range II Offset Calibration Settings

14. Scroll to next calibration parameter, Item 18 (press ➔).
15. Set the DC voltage standard to match the value in *IV Sense Input* column of Table 2-11 for the same model being calibrated.
16. **LOAD ON** (press **LOAD** key until its LED is lit). Adjust using ↑↓ keys until DMM reading matches the value in *DMM Reading* column of Table 2-11.
17. Repeat Steps 1 through 7 (press ← to return to previous item) until no further adjustments are necessary for the DMM reading to match the value in the *DMM Reading* column for both calibration parameters (Items 17 and 18).

ITEM	MODEL	CR Range II GAIN	V SENSE input	Current Reading (DAM)
18	SLD-60-505-255	0.04 Ω	2.000 V	50.00 A
	SLD-61-505-255	0.04 Ω	2.000 V	50.00 A
	SLD-60-20-102	0.100 Ω	25.000 V	20.00 A
	SLD-80-20-102	0.133 Ω	2.660 V	20.00 A
	SLD-61-5-752	0.400 Ω	2.000 V	5.000 A
	SLD-62-5-752	0.400 Ω	2.000 V	5.000 A
	SLD-60-105-550	0.020 Ω	2.000 V	100.00 A

Table 2-11. Channel A CR Mode Range II Gain Calibration Settings

2.2.6 STORE CHANNEL A CALIBRATION DATA

Press **DUAL V/A** key to store the calibration data.

Press **LIMIT** key to exit the calibration mode.

2.3 CHANNEL B CALIBRATION

Press **CHAN** to light the **B** LED.

Press both **MODE** and **LIMIT** simultaneously to enter calibration mode. Initial default mode is Constant Current (CC) Mode.

2.3.1 CONSTANT CURRENT (CC) MODE CALIBRATION, CHANNEL B

Make the appropriate connections per Figure 2-13, Figure 2-14 or Figure 2-15 for the load module being calibrated.

Note: refers to both SLD-60 and SLD-80.

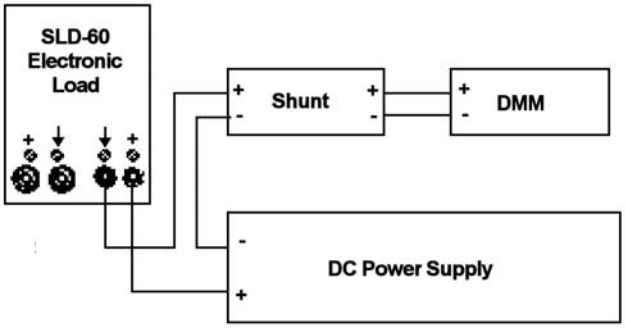

Figure 2-13. Channel B CC Mode Connections for SLD-60 Calibration

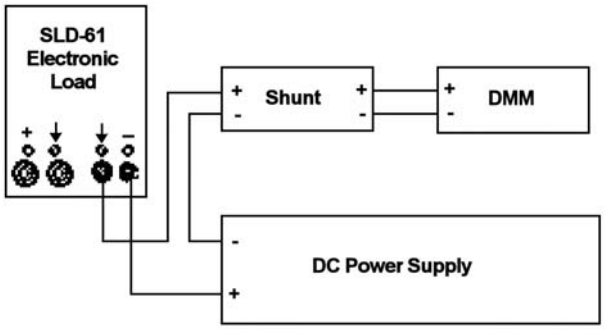

Figure 2-14. Channel B CC Mode Connections for SLD-61 Calibration

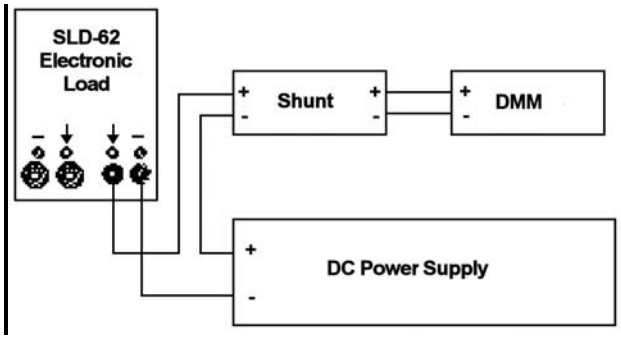

Figure 2-15. Channel B CC Mode Connections for SLD-62 Calibration

Range I Offset and Gain, Channel B CC Mode

1. Set DC power supply to +5VDC.
2. **PRES ON** (press **PRES** key until its LED is lit); set load current setting to match the value shown in *Load Setting* column of Table 2-12, for the model being calibrated.
3. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using the ↑↓ keys until the DMM reading matches the value shown in *DMM Reading* column of Table 2-12

ITEM	MODEL	Load Setting	DMM Reading
1	SLD-60-505-255	0.000 A	0.000A
	SLD-61-505-255	0.000 A	0.000A
	SLD-60-20-102	0.0000A	0.0000A
	SLD-80-20-102	0.0000A	0.0000A
	SLD-61-5-752	0.0000A	0.0000A
	SLD-62-5-752	0.0000A	0.0000A
	SLD-60-105-550	0.0000A	0.0000A

Table 2-12. CHANNEL B CC Mode Range I Offset Calibration Parameters

4. Scroll to next calibration parameter, Item 2 (press →).
5. Set DC power supply to +5VDC.
6. **PRES ON** (press **PRES** key until its LED is lit); set load current setting to match the value shown in *Load Setting* column of Table 2-13, for the model being calibrated.
7. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using the ↑↓ keys until the DMM reading matches the value shown in *DMM Reading* column of Table 2-13, for the model being calibrated.
8. Repeat Steps 1 through 7 (press ← to return to previous item) until no further adjustments are necessary for the DMM reading to match the value in the *DMM Reading* column for both calibration parameters (Items 1 and 2).

ITEM	MODEL	Load Setting	DMM Reading
2	SLD-60-505-255	0.500 A	0.500A
	SLD-61-505-255	0.500 A	0.500A
	SLD-60-20-102	2.002A	2.002A
	SLD-80-20-102	2.002A	2.002A
	SLD-61-5-752	0.5000A	0.5000A
	SLD-62-5-752	0.5000A	0.5000A
	SLD-60-105-550	0.5000A	0.5000A

Table 2-13. Channel B CC Mode Range 1 Gain Adjustment Parameters

9. Scroll to next calibration parameter, Item 3 (press →).

Range II Offset and Gain, Channel B CC Mode

1. Set DC power supply to +5VDC.
2. **PRES ON** (press PRES key until its LED is lit); set load current setting to match the value shown in *Load Setting* column of Table 2-14, for the model being calibrated.
3. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using the ↑↓ keys until the DMM reading matches the value shown in *DMM Reading* column of Table 2-14, for the model being calibrated.

ITEM	MODEL	Load Setting	DMM Reading
3	SLD-60-505-255	0.00 A	0.000A
	SLD-61-505-255	0.00 A	0.000A
	SLD-60-20-102	0.000A	0.000A
	SLD-80-20-102	0.000A	0.000A
	SLD-61-5-752	0.000A	0.000A
	SLD-62-5-752	0.000A	0.000A
	SLD-60-105-550	0.000A	0.000A

Table 2-14. CHANNEL B CC Mode Range II Offset Adjust Pparameters.

4. Scroll to next calibration parameter, Item 4 (press →).
5. Set DC power supply to +5VDC at the input terminal.
6. **PRES ON** (press **PRES** key until its LED is lit); set load current setting to match the value shown in *Load Setting* column of Table 2-15, for the model being calibrated.
7. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using ↑↓ keys until the DMM reading matches the value shown in *DMM Reading* column of Table 2-15, for the model being calibrated.
8. Repeat Steps 1 through 7 (press ← to return to previous item) until no further adjustments are necessary for the DMM reading to match the value in the *DMM Reading* column for both calibration parameters (Items 3 and 4).

ITEM	MODEL	Load Setting	DMM Reading
4	SLD-60-505-255	5.000 A	5.000A
	SLD-61-505-255	5.000 A	5.000A
	SLD-60-20-102	20.00 A	20.00A
	SLD-80-20-102	20.00 A	20.00A
	SLD-61-5-752	5.000 A	5.000A
	SLD-62-5-752	5.000 A	5.000A
	SLD-60-105-550	100.01 A	100.01A

Table 2-15. Channel B CC Mode Range II Gain Adjustment Parameters

9. Scroll to next calibration parameter, Item 5 (press →).

2.3.2 DIGITAL VOLT METER (DVM) CALIBRATION, CHANNEL B

Make the appropriate connections per Figure 2-16, Figure 2-17, or Figure 2-18, for the Load module being calibrated.

Note: Figure 2-16 refers to both SLD-60 and SLD-80.

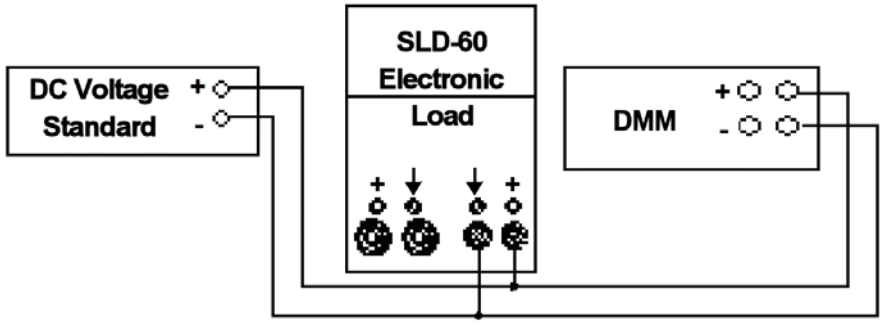

Figure 2-16. Channel B DVM Connections for SLD-60 or SLD-80 Calibration

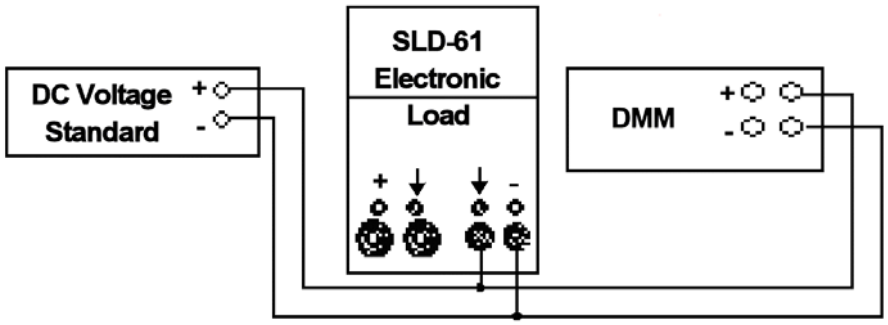

Figure 2-17. Channel B DVM Connections for SLD-61 Calibration

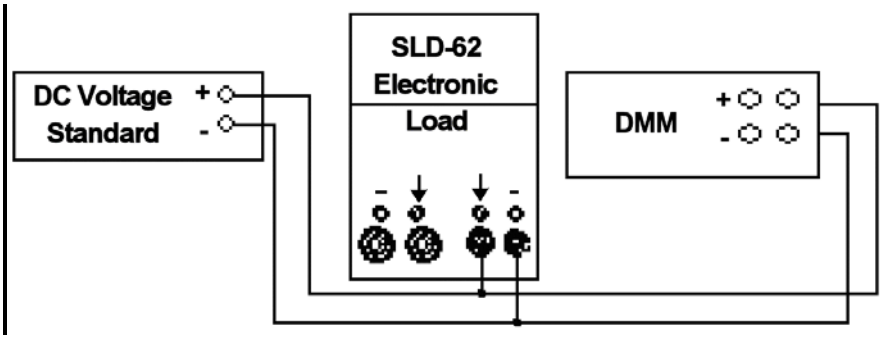

Figure 2-18. Channel B DVM Connections for SLD-62 Calibration

DVM, Channel B

1. Set the DC Voltage Standard to the values shown in *DC Input* column of Table 2-16.
2. Adjust using ↑↓ keys until the DMM reading matches the value in *DMM Reading* column.
3. Scroll to next item (press →) and repeat Steps 1 and 2 for each item through Item 8.
4. Repeat Steps 1 through 3 for all calibration parameters, Items 5 through 8 (press ← three times to return to Item 5) until no further adjustments are necessary for the DMM reading to match the value in the *DMM Reading* column of Table 2-16.

ITEM	DC INPUT	DMM Reading
5	0.000 V	0.000 V
6	15.0000 V	15.000 V
7	0.000 V	0.000 V
8	60.000 V	60.000 V
*****	80.000 V	80.000 V

***** Applies to SLD-80-20-102 only

Table 2-16. Channel B DVM Calibration Settings

5. Scroll to next calibration parameter, Item 9 (press →).

2.3.3 DIGITAL CURRENT METER (DAM) CALIBRATION, CHANNEL B

Make the appropriate connections per

DAM, **Channel B**

1. Set the DC power supply to +5VDC to input terminal.
2. Set the load level setting for the model being calibrated, as shown in *Setting* column of Table 2-17.
3. **PRESS OFF** (press **PRES** key until its LED is *not* lit), so that the DAM is in Measurement mode and not in Preset mode.
4. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using ↑↓ keys until the DMM Reading matches the value in *DMM Reading* column of Table 2-17.
5. Scroll to next item (press →) and repeat steps 1 through 4 for each item through Item 12.
6. Repeat Steps 1 through 5 for all calibration parameters, Items 9 through 12 (press ← three times to return to Item 9) until no further adjustments are necessary for the DMM reading to match the value in the *DMM Reading* column of Table 2-17.

ITEM	Setting	DMM Reading
9	0.0000 A	0.000 A
10	1.500 A	6.002 A
11	0.0000 A	0.000 A
12	5.000 A	20.00 A

Table 2-17. Channel B DAM Calibration Settings for SLD-60-20-102 and SLD-80-20-102

7. Scroll to next calibration parameter, Item 13 (press →).

2.3.4 CONSTANT VOLTAGE (CV) MODE CALIBRATION, CHANNEL B

1. Connect the load to the DMM and DC power supply per Figure 2-19, Figure 2-20, or Figure 2-21, for the Load module being calibrated.

   Note: Figure 2-19 refers to both SLD-60 and SLD-80.
2. Set the power source current limit to 0.1A
3. Set the load to CV mode by pressing the **MODE** key until **CV** is lit.

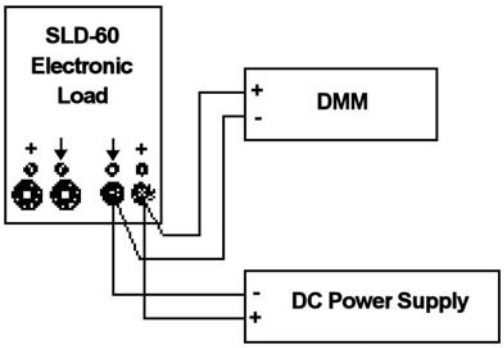

Figure 2-19. Channel B CV Mode Connections for SLD-60 or SLD-80 Calibration

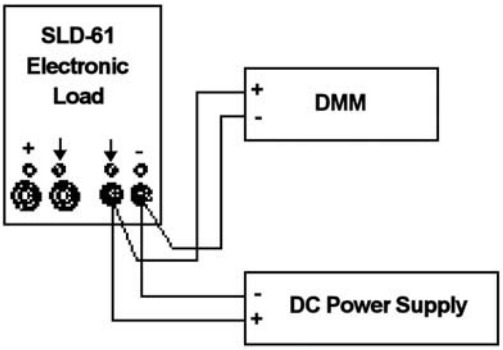

Figure 2-20. Channel B CV Mode Connections for SLD-61 Calibration

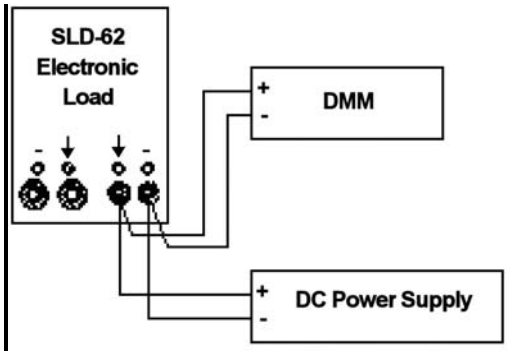

Figure 2-21. Channel B CV Mode Connections for SLD-62 Calibration

1. a) Set the DC Power supply to the value shown in the *DC INPUT* column of Table 2-18;
   b) set the electronic preset value to the value shown in the *Setting* column of Table 2-18.
2. **PRES OFF** (press **PRES** key until its LED is *not* lit), so that the DVM is in Measurement mode and not Preset mode.
3. **LOAD ON** (press **LOAD** key until its LED is lit); adjust using the ↑↓ keys until DMM reading matches the value shown in *DMM Reading* column of Table 2-18.
4. Scroll to next calibration parameter (press →), Item 14, and repeat CV Steps 1 through 3.
5. Press ← to return to Item 13, and repeat CV Steps 1 through 4 until no further adjustments are required for both Items 13-14.

ITEM	Setting	DC INPUT	DVM
13	0.200 V	61.00 V / 0.1A	0.2000 V
14	60.00 V	61.00 V / 0.1A	60.00 V
*****	80.00 V	81.00 V / 0.1A	80.00 V

***** Applies to SLD-80-20-102 only

Table 2-18. Channel B CV Mode Calibration Settings

6. Scroll to next calibration parameter, Item 15 (press →).

2.3.5 CONSTANT RESISTANCE (CR) MODE CALIBRATION, CHANNEL B

Make the appropriate connections per Figure 2-22, Figure 2-23, or Figure 2-24, for the Load module being calibrated.

Note: ** Vsense must be connected with DC INPUT COM.

Set the load to CR mode by pressing the **MODE** key until the **CR** is lit.

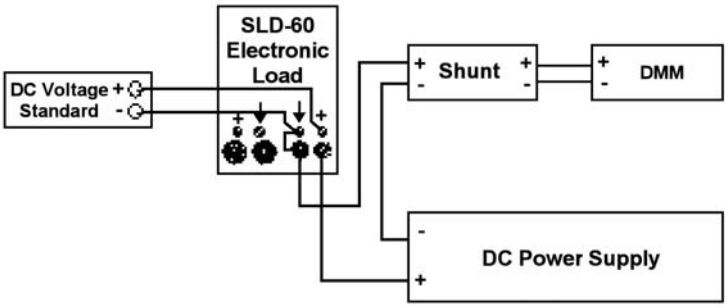

Figure 2-22. Channel B CR Mode Connections for SLD-60

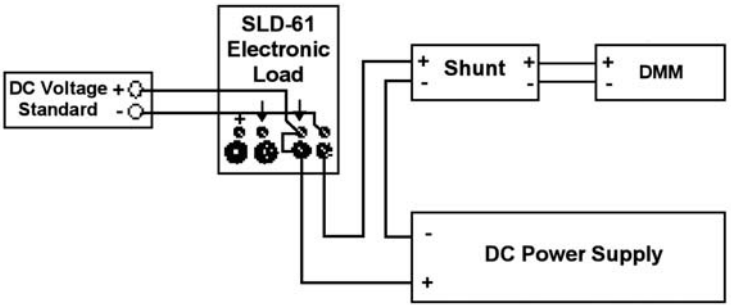

Figure 2-23. Channel B CR Mode Connections for SLD-62

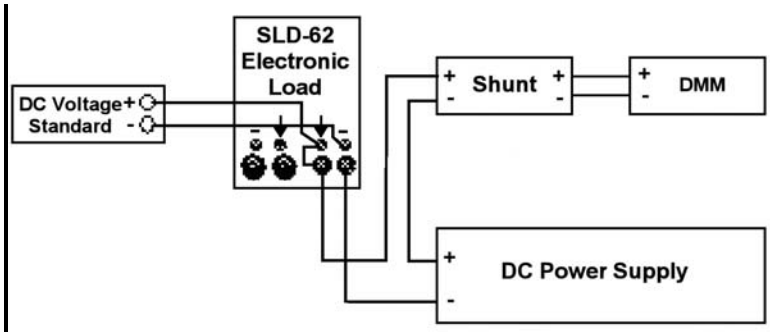

Figure 2-24. Channel B CR Mode Connections for SLD-62

CR Range I Offset and Gain, Channel B CR Mode

1. Set load to match the value in *CR Range I Offset* column of Table 2-19, for the model being calibrated.
2. Set the DC Voltage Standard to match the value in *V Sense Input* column of Table 2-19 for the same model being calibrated.
3. **LOAD ON** (press **LOAD** key until its LED is lit).
4. Adjust using ↑↓ keys until DMM reading matches the value in *DMM Reading* column of Table 2-19.

ITEM	MODEL	CR Range I OFFSET	V SENSE input	DMM Reading
15	SLD-60-505-255	4500 Ω	60.00 V	0.013 A
	SLD-61-505-255	4500 Ω	60.00 V	0.013 A
	SLD-60-20-102	11250 Ω	60.00 V	0.0053 A
	SLD-80-20-102	15000 Ω	80.00V	0.0053 A
	SLD-61-5-752	45000 Ω	60.00 V	0.0013 A
	SLD-62-5-752	45000 Ω	60.00 V	0.0013 A
	SLD-60-105-550	45000 Ω	60.00 V	0.0013 A

Table 2-19. Channel B CR Range I Offset Calibration Settings

5. Scroll to next calibration parameter, Item 16 (press →).
6. Set the DC Voltage Standard to match the value in *IV Sense Input* column of Table 2-20 for the same model being calibrated.
7. **LOAD ON** (press **LOAD** key until its LED is lit). Adjust using ↑↓ keys until DMM reading matches the value in *DMM Reading* column of Table 2-20.
8. Repeat Steps 1 through 7 (press ← to return to previous item) until no further adjustments are necessary for the DMM reading to match the value in the *DMM Reading* column for both calibration parameters (Items 15 and 16).

ITEM	MODEL	CR Range I GAIN	V SENSE input	DMM Reading
16	SLD-60-505-255	1.200 Ω	60.00 V	5.00 A
	SLD-61-505-255	1.200 Ω	60.00 V	5.00 A
	SLD-60-20-102	3.000 Ω	15.00 V	5.000 A
	SLD-80-20-102	4.000 Ω	15.00V	3.750 A
	SLD-61-5-752	12.000 Ω	60.00 V	5.00 A
	SLD-62-5-752	12.000 Ω	60.00 V	5.00 A
	SLD-60-105-550	12.000 Ω	60.00 V	5.00 A

Table 2-20. Channel B CR Mode Range I Gain Calibration Setting

9. Scroll to next calibration parameter, Item 17 (press →).

CR Range II Offset and Gain, Channel A CR Mode

1. Set load to match the value in *CR Range I Offset* column of Table 2-21, for the model being calibrated.
2. Set the DC voltage standard to match the value in *IV Sense Input* column of Table 2-21 for the same model being calibrated.
3. **LOAD ON** (press **LOAD** key until its LED is lit).
4. Adjust using ↑↓ keys until DMM reading matches the value in *DMM Reading* column of Table 2-21.

ITEM	MODEL	CR Range II OFFSET	V SENSE input	DMM Reading
17	SLD-60-505-255	12.00 Ω	60.00 V	5.00 A
	SLD-61-505-255	12.00 Ω	60.00 V	5.00 A
	SLD-60-20-102	3.000 Ω	15.00 V	5.00 A
	SLD-80-20-102	4.000 Ω	15.00V	3.750 A
	SLD-61-5-752	12.000 Ω	60.00 V	5.000 A
	SLD-62-5-752	12.000 Ω	60.00 V	5.000 A
	SLD-60-105-550	12.000 Ω	60.00 V	5.000 A

Table 2-21. Channel B CR Mode Range II Offset Calibration Settings

5. Scroll to next calibration parameter, Item 18 (press →).
6. Set the DC voltage standard to match the value in *V Sense Input* column of Table 2-22 for the same model being calibrated.
7. **LOAD ON** (press **LOAD** key until its LED is lit). Adjust using ↑↓ keys until DMM reading matches the value in *DMM Reading* column of Table 2-22.
8. Repeat Steps 1 through 7 (press ← to return to previous item) until no further adjustments are necessary for the DMM reading to match the value in the *DMM Reading* column for both calibration parameters (Items 17 and 18).

ITEM	MODEL	CR Range II GAIN	V SENSE input	DMM Reading
18	SLD-60-505-255	2.000 Ω	5.000 V	2.500 A
	SLD-61-505-255	2.000 Ω	5.000 V	2.500 A
	SLD-60-20-102	0.500 Ω	5.000 V	10.00 A
	SLD-80-20-102	0.133 Ω	2.66 V	20.00 A
	SLD-61-5-752	2.000 Ω	5.000 V	2.500 A
	SLD-62-5-752	2.000 Ω	5.000 V	2.500 A
	SLD-60-105-550	2.000 Ω	5.000 V	2.500 A

Table 2-22. Channel B CR Mode Range II Gain Calibration Settings

2.3.6 STORE CHANNEL B CALIBRATION DATA

Press **DUAL V/A** key to store the calibration data.

Press **LIMIT** key to exit the calibration mode.

2.4 CALIBRATION DATA RECORD

SLD SERIES ELECTRONIC LOAD Calibration Data Record

MODEL No: _____ Serial No: _____

DATE: _____ Inspector: _____

Item	Description	CHAN A	CHAN B
1	CC Range I Offset		
2	CC Range I Gain		
3	CC Range II Offset		
4	CC Range II Gain		
5	DVM Range I Offset		
6	DVM Range I Gain		
7	DVM Range II Offset		
8	DVM Range II Gain		
9	DAM Range I Offset		
10	DAM Range I Gain		
11	DAM Range II Offset		
12	DAM Range II Gain		
13	CV Offset		
14	CV Gain		
15	CR. Range I Offset		
16	CR Range I Gain		
17	CR Range II Offset		
18	CR Range II Gain		