

DC Output Board Part Locations

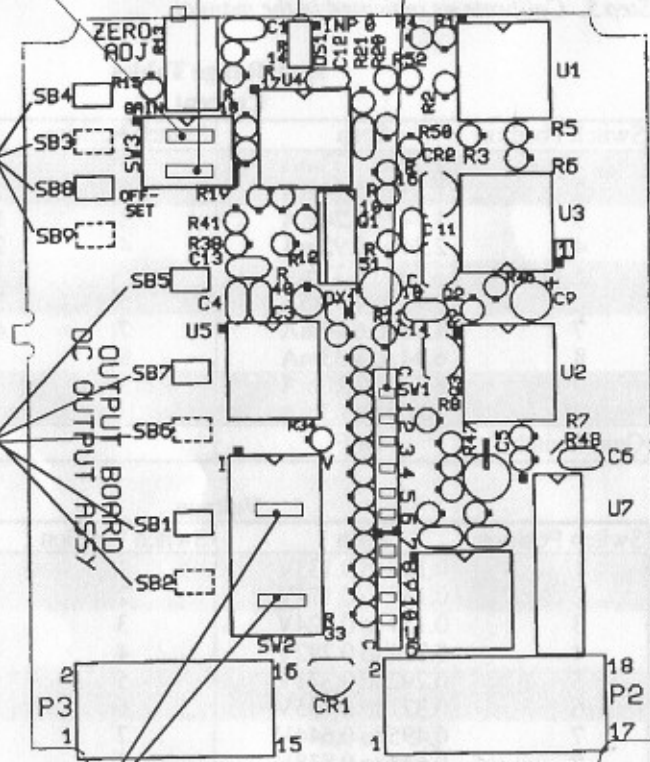
Range Switches
(Left=On, Right=Off
SW1 at the top, SW10 at the bottom)

Gain and Offset Switches
(Left=Off, Right=On)

Zero Adjust
LED

Solder Jumpers

Solder Jumpers



Output Switches
For Voltage (V), both switches down to the right.
For Current (I), both switches down to the left.

Series 8000

DC Output Board

Specifications

Minimum Span: Voltage: 100mV at 10mA
Current: 1mA at 15V

Maximum Full Scale Output: Voltage: 10V at 10mA
Current: 20mA at 15V (50mA at 10V)

Stability (percentage of span/°C): 0.025

Linearity (percentage of span): 0.05

Repeatability (percentage of span): 0.05

Output Impedance: Voltage: <math><1\Omega</math>
Current: >1M Ω

Response Time: 100ms

For general Series 8000 specifications, see the Series 8000 manual, which provides general information for the entire series.

Setup Procedure

Before setup, make certain that all range switches are OFF. This will help ensure that only the needed switches are set and that your completed setup is correct.

- I. Disassemble the Series 8000 (described on page 6 of the Series 8000 manual).
- II. Remove the DC Output Board.
- III. Set the ranges, according to the chart on page 60-2 for standard ranges or the instructions on page 60-3 for non-standard ranges.
- IV. Calibrate the unit as described on page 10 of the main manual.
- V. Reassemble the unit as described in the Series 8000 manual, pages 4 to 6.

For all part locations and switch ON/OFF positions, see page 60-4.

Setup Instructions

Standard Range Setups— Quick Reference Chart

Output	Range Switch ON	Gain Switch	Offset Switch	Output Switches
0 to 100mV	1	Off	Off	V (Both switches down to right)
0 to 1V	9	Off	Off	
1 to 5V	6	On	On	
0 to 10V	9	On	Off	
0 to 1mA	1	Off	Off	I (Both switches down to left)
0 to 10mA	10	Off	Off	
0 to 20mA	3	On	Off	
4 to 20mA	2	On	On	
0 to 50mA	7	On	Off	
10 to 50mA	6	On	On	
±5V*	9	On	On	V (Both switches down to right)
±1V*	3	On	On	

* Unit must be set up for bi-polar output, see step 3 (below) for details.

Non-standard Setup Instructions

For ranges not listed above, and for non-standard signal outputs, the following procedures allow you to configure your unit to your needs.

Step 1. Determine the span. Span = (Maximum Output) - (Minimum Output)

Step 2. Select the proper Range and Gain switch settings.

(from the Current or Voltage charts on the following page)

Uni-polar example: The required output is 2 to 10VDC. Span = 10 (Max. Output) - 2 (Min. Output) = 8. The second column of the Voltage table includes the needed span at Switch Position 8 (spans of 6.44 to 8.38). Note that the Gain Switch setting must be ON.

Bi-polar example (voltage output only): The needed output is -200mV to +200mV. The span = +0.200 - (-0.200) = 0.400. On the Voltage table you find this span in the first column, at Switch Position 6 (spans of 0.371 to 0.495). Note: that the Gain Switch setting must be OFF.

Step 3. Determine the proper solder jumper configuration.

For uni-polar outputs, solder jumpers are in their standard configuration:

Open
SB1, SB4, SB5, SB7, SB8

Closed
SB2, SB3, SB6, SB9

For bi-polar outputs, configure the solder jumpers as shown (V outputs):

Open
SB2, SB3, SB6, SB9

Closed
SB1, SB4, SB5, SB7, SB8

Step 4. Determine the proper Offset Switch setting.

If: Output Min < 0.125 then Switch is OFF
Span

If: Output Min ≥ 0.125 then Switch is ON
Span

Maximum offset is 25%: 12.5% here and 12.5% from the zero adjust.

If: bi-polar then Switch is ON

Step 5. Calibrate as indicated in the manual.

Span Range Tables

Current

Switch Position	Span	Switch Position	Span
1	1.00 to 1.33mA	1	10.00 to 13.33mA
2	1.33 to 1.74mA	2	13.33 to 17.40mA
3	1.74 to 2.24mA	3	17.40 to 22.40mA
4	2.24 to 2.92mA	4	22.40 to 29.20mA
5	2.92 to 3.71mA	5	29.20 to 37.10mA
6	3.71 to 4.95mA	6	37.10 to 49.50mA
7	4.95 to 6.44mA	7	49.50 to 50.00mA
8	6.44 to 8.33mA	8	—
9	8.33 to 10.0mA	9	—
10	10.0 to 13.3mA	10	—
Gain Switch:	OFF		ON

Voltage

Switch Position	Span	Switch Position	Span
1	0.100 to 0.133V	1	1.00 to 1.33V
2	0.133 to 0.174V	2	1.33 to 1.74V
3	0.174 to 0.224V	3	1.74 to 2.24V
4	0.224 to 0.292V	4	2.24 to 2.92V
5	0.292 to 0.371V	5	2.92 to 3.71V
6	0.371 to 0.495V	6	3.71 to 4.95V
7	0.495 to 0.644V	7	4.95 to 6.44V
8	0.644 to 0.838V	8	6.44 to 8.38V
9	0.838 to 1.000V	9	8.38 to 10.00V
10	1.000 to 1.333V	10	—
Gain Switch:	OFF		ON