

## Manuals+

[Q & A](#) | [Deep Search](#) | [Upload](#)

manuals.plus /

› [U.S. Solid](#) /

› [U.S. Solid Precision Lab Scale 5000g x 0.01g Analytical Balance Instruction Manual](#)

## U.S. Solid 5000g x 0.01g Analytical Balance

# U.S. Solid Precision Lab Scale 5000g x 0.01g Analytical Balance Instruction Manual

Model: 5000g x 0.01g Analytical Balance with RS232 Interface

## 1. INTRODUCTION

---

This manual provides comprehensive instructions for the safe and efficient operation of your U.S. Solid Precision Lab Scale. Please read this manual thoroughly before use and retain it for future reference. This analytical balance is designed for precise weighing in laboratory, industrial, and educational settings, offering a capacity of 5000g with 0.01g readability.

## 2. SAFETY PRECAUTIONS

---

- Always operate the scale on a stable, level, and vibration-free surface.
- Avoid exposing the scale to extreme temperatures, humidity, or direct sunlight.
- Do not overload the scale beyond its maximum capacity of 5000g.
- Keep the weighing pan clean and free from debris.
- Use only the provided power adapter.
- Avoid sudden impacts or dropping the scale.

## 3. SETUP AND INSTALLATION

---

### 3.1 Unpacking

Carefully remove the scale and all accessories from the packaging. Verify that all components listed in the packing list are present. The package should include the scale, stainless steel weighing pan, and power adapter.

### 3.2 Placement

Place the scale on a firm, level surface away from drafts, vibrations, and direct heat sources. Ensure adequate space around the scale for operation and ventilation.

### 3.3 Leveling the Scale

The scale must be perfectly level for accurate measurements. Use the adjustable feet at the bottom of the scale and the

bubble level indicator to achieve proper leveling.



Image: Front view of the U.S. Solid Precision Lab Scale, showing the bubble level indicator on the left side of the display panel.



### Horizontal Adjustment

Adjust leveling feet until the bubble is centered. Proper leveling is essential for accuracy.

### Environmental stability

Ensure the balance is on a stable, vibration-free surface, away from air currents and temperature changes to maintain accuracy.

### Warm-up time

Warm up the balance for 30 minutes after power-on or power loss for accurate measurements. See the manual for specific times.

### Calibration

Recalibrate after moving the balance or before use. Hold the TARE/CAL button if needed. Refer to the manual for instructions.

Image: Diagram illustrating how to adjust the leveling feet until the bubble is centered, ensuring proper horizontal adjustment for accuracy.

## 3.4 Power Connection and Warm-up

Connect the provided power adapter to the scale and then to a suitable power outlet. For optimal accuracy, allow the scale to warm up for at least 30 minutes after connecting to power or after a power loss before performing any measurements.

Your browser does not support the video tag.

Video: This video demonstrates the initial setup of the U.S. Solid Precision Lab Scale, including connecting the power supply and the recommended 30-minute warm-up period for optimal performance.

## 4. OPERATING INSTRUCTIONS

---

### 4.1 Basic Weighing

1. Press the **ON/OFF** button to turn on the scale.
2. Wait for the display to show "0.00g".
3. Place the item to be weighed on the center of the stainless steel pan.
4. Read the stable weight displayed on the LCD screen.

### 4.2 Unit Conversion

The scale supports 19 measurement units. Press the **UNIT** button to cycle through the available units (g, kg, ct, T, TAR, dr, PKT, GN, TMR, gsm, tIJ, mo, dwt, oz, lb, tIT, ozt, tIH, %).



Image: Visual representation of the 19 different measurement units supported by the U.S. Solid Precision Lab Scale, including grams, kilograms, carats, and more.

### 4.3 Tare Function

To subtract the weight of a container, place the empty container on the pan and press the **TARE/CAL** button. The display will reset to "0.00g". You can then add the item to be weighed into the container, and only the net weight of the item will be displayed.

### 4.4 Piece Counting Function

The scale can count pieces of uniform weight. To use this function:

1. Place a sample quantity (e.g., 10, 20, 50, 100, 150, 200, 250, or 500 pieces) of the items to be counted on the pan.
2. Press and hold the **COU** button until "PCS" appears on the display.
3. Use the **UNIT** button to select the sample quantity that matches the number of items on the pan.
4. Press **TARE/CAL** to confirm. The display will now show the number of pieces.
5. Add more items to the pan, and the scale will display the total count.



Image: Illustration of the piece counting feature, demonstrating how to set sample sizes (10, 20, 50, etc.) for accurate item counting.

### 4.5 Backlight Setting

To adjust the backlight behavior:

1. Press the **COU** button to choose between C0-OFF, C0-1, or C0-5.
2. C0-OFF: Backlight is always on.
3. C0-1: Backlight will turn off after 1 second of inactivity.
4. C0-5: Backlight will turn off after 5 seconds of inactivity.
5. Finally, click **TARE** until the program ends and returns to 0.00.

Your browser does not support the video tag.

Video: This segment demonstrates how to adjust the backlight settings of the scale, allowing users to choose between always-on, 1-second, or 5-second inactivity timeouts for the backlight.

## 4.6 Unit Package Locking

To lock specific unit packages for quick access:

1. Press and hold the **COU** button. Release it when "C0-OFF" is displayed.
2. Click **TARE** to choose C06-1.
3. Press the **COU** button to cycle through C06-1, C06-2, up to C06-16, each representing a different combination of units.
4. Finally, click **TARE** until the program ends and returns to 0.00.

Your browser does not support the video tag.

Video: This segment illustrates how to lock specific unit packages on the scale, allowing users to customize and quickly switch between preferred sets of measurement units.

## 5. RS232 INTERFACE COMMUNICATION

---

The U.S. Solid Precision Lab Scale features an RS232 interface for connecting to a computer or printer, enabling serial data exchange. This allows for data logging and integration with other systems.



Image: Side view of the U.S. Solid Precision Lab Scale, highlighting the RS232 interface port for external connectivity.

## 5.1 Key Output Mode Setting (C5-2)

In Key Output Mode, the scale sends weighing data to the connected device only when the **UNIT** button is pressed.

1. Press and hold the **COU** button. Release it when "C0-OFF" is displayed.
2. Click **TARE** to choose C5-0.
3. Press the **COU** button to choose C5-2.
4. Finally, press the **TARE** button to enter into key output mode.
5. To output data, open "Uartassist" software (or similar serial terminal software), set Serial Port to COM3, Baud Rate to 9600, Data Bits to 8, Parity to None, and Stop Bits to One. Click "Open serial port".
6. Each time you press the **UNIT** button on the scale, the computer will output the current weighing data.

Your browser does not support the video tag.

Video: This segment demonstrates how to set the scale to "Key Output" mode (C5-2) for USB interface testing. It shows connecting the scale to a computer and manually triggering data output by pressing the UNIT button.

## 5.2 Continuous Output Mode Setting (C5-0)

In Continuous Output Mode, the scale continuously sends weighing data to the connected device without requiring manual input.

1. Press and hold the **COU** button. Release it when "C0-OFF" is displayed.
2. Click **TARE** to choose C5-0.
3. Finally, press the **TARE** button to enter into continuous output mode.
4. With "Uartassist" software (or similar serial terminal software) open and configured (COM3, 9600 baud, 8 data bits, no parity, one stop bit), click "Open serial port". The weighing results will be continuously output on the computer.

Your browser does not support the video tag.

Video: This segment demonstrates how to set the scale to "Continuous Output" mode (C5-0) for USB interface testing. It shows the scale continuously sending weighing data to a connected computer.

## 6. CALIBRATION

Regular calibration ensures the accuracy of your scale. The scale supports manual calibration.

1. Ensure the scale is on a stable surface and has completed its warm-up period.
2. With the scale displaying "0.00g", press and hold the **TARE/CAL** button until "CAL" appears.
3. The display will then show a flashing weight value (e.g., "2000g"). This is the required calibration weight.
4. Carefully place the specified calibration weight onto the center of the pan.
5. Wait for the display to stabilize and show "PASS" or return to "0.00g".
6. Remove the calibration weight. The scale is now calibrated.



Image: Diagram illustrating the calibration process, emphasizing the need to recalibrate after moving the balance or before use, and to hold the TARE/CAL button for instructions.

## 7. MAINTENANCE AND CARE

- **Cleaning:** Wipe the scale's exterior with a soft, damp cloth. Do not use abrasive cleaners or immerse the scale in water. The stainless steel pan can be removed for separate cleaning.
- **Storage:** When not in use for extended periods, store the scale in a dry, dust-free environment.

- **Inspection:** Periodically check the power cord for any damage.

## 8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Scale does not turn on	No power, faulty adapter, or power outlet issue.	Check power connection, try a different outlet, ensure adapter is functional.
Inaccurate readings	Not level, drafts, vibrations, not warmed up, needs calibration, or overloaded.	Level the scale, move to a stable location, allow warm-up, perform calibration, ensure weight is within capacity.
Display shows "O-Ld"	Overload.	Remove excess weight immediately to prevent damage.
RS232 communication failure	Incorrect port settings, cable issue, or wrong output mode.	Verify COM port, baud rate, data bits, parity, and stop bits. Check cable connection. Ensure correct output mode (Key or Continuous) is selected.

## 9. SPECIFICATIONS

- **Brand:** U.S. Solid
- **Model:** 5000g x 0.01g Analytical Balance
- **Capacity:** 5000 Grams (5 kg)
- **Readability:** 0.01 Grams (10 mg)
- **Display Type:** LCD with Backlight
- **Interface:** RS232
- **Measurement Units:** 19 units (g, kg, ct, T, TAR, dr, PKT, GN, TMR, gsm, tIJ, mo, dwt, oz, lb, tIT, ozt, tIH, %)
- **Applications:** Check-weighing, Tare, Piece Counting, Manual Calibration, Overload Protection
- **Material:** ABS housing & stainless steel pan
- **Product Dimensions:** 8.9 x 8.7 x 3.2 inches
- **Item Weight:** 2.9 Pounds
- **Power:** AC Adapter (included)

## 10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the warranty card included with your product or visit the official U.S. Solid website. Keep your purchase receipt as proof of purchase.

**Contact Information:** Please refer to the manufacturer's official website or contact details provided in the product packaging for support.



