

Versa-portion® RLP-S/SM

Multi-Purpose Bench Scale

Operation Manual



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Revision History

This section tracks and describes manual revisions for awareness of major updates.

Revision	Date	Description
B	September 8, 2023	Established revision history; Added error message details
C	May 28, 2025	Added maintenance table

Table i. Revision Letter History



Technical training seminars are available through Rice Lake Weighing Systems. Course descriptions and dates can be viewed at www.ricelake.com/training or obtained by calling 715-234-9171 and asking for the training department.

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Rice Lake continually offers web-based video training on a growing selection of product-related topics at no cost. Visit www.ricelake.com/webinars

1.0 Introduction



Manuals are available from Rice Lake Weighing Systems at www.ricelake.com/manuals

Warranty information is available at www.ricelake.com/warranties

Safety Definitions:



DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.



WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death. Includes hazards that are exposed when guards are removed.

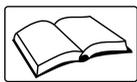


CAUTION: Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.



IMPORTANT: Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

General Safety



Do not operate or work on this equipment unless this manual has been read and all instructions are understood. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals.



WARNING

Failure to heed could result in serious injury or death.

Ensure every individual who operates or works with this unit has read and understands all safety information.

Do not transport the scale while someone is on the scale.

Do not allow minors (children) or inexperienced persons to operate this scale.

Do not use in the presence of flammable materials.

Do not use this product if any of the components are loose or cracked.

Do not use near water.

Do not use the scale on slippery surfaces, such as a wet floor.

Do not use this scale when a person's body or feet are wet, such as after taking a bath.

Do not place fingers into slots or possible pinch points.

To avoid cross contamination, the scale should be cleaned regularly.

Prior to cleaning, make sure the scale is disconnected from the power source.

People with disabilities, or who are physically frail, should always be assisted by another person when using this scale.



IMPORTANT

Do not drop the scale or subject it to violent shocks.

Do not jump on the scale.

For accurate weighing, the scale must be placed on a flat, stable surface.

Operating at voltages and frequencies other than specified could damage the equipment.

Avoid contact with excessive moisture.

Do not make alterations or modifications to the scale.

Rice Lake Weighing Systems offers optional AC adapters; utilizing an adapter not supplied by Rice Lake Weighing Systems voids all warranties and approvals.

Weight exceeding the maximum capacity may damage the scale.



IMPORTANT: All included batteries intended for sale in the EU market are classified as “Portable Batteries for General Use” and comply with European Battery Regulation (EU) 2023/1542.

1.1 Disposal



Product Disposal

The product must be brought to appropriate separate waste collection centers at the end of its life cycle.

Proper separate collection to recycle the product helps prevent possible negative effects on the environment and to health, and promotes the recycling of the materials. Users who dispose of the product illegally shall face administrative sanctions as provided by law.

Battery Disposal

Dispose of batteries at appropriate waste collection centers at the end of their life cycle in accordance with local laws and regulations. Batteries and rechargeable batteries may contain harmful substances that should not be disposed of in household waste. Batteries may contain harmful substances including but not limited to: cadmium (Cd), lithium (Li), mercury (Hg) or lead (Pb). Users who dispose of batteries illegally shall face administrative sanctions as provided by law.



WARNING: Risk of fire and explosion. Do not burn, crush, disassemble or short-circuit batteries. Do not replace battery with incorrect type.



CAUTION: Procedures that require working inside the scale base are to be performed by qualified service personnel only.

The Versa-portion RLP-S/SM is a multi-purpose bench scale that offers practical solutions for a full range of applications. Its internal resolution of 1/90,000 gives you maximum precision and accuracy. Its backlit LCD display enables operators to easily see weights. When portability is required, choose the optional rechargeable battery for over 60 hours of continuous usage. The Versa-portion RLP-S/SM is designed to reliably operate in many environments and withstand transport from one area of the plant to another or from one business to the next.

1.2 Front Panel

Table 1-1 lists the indications and front-panel buttons available on the Versa-portion RLP-S/SM.

Indication	Description
oz *	On when the weight display is in ounces *(not available in Versa-portion RLP-SM)
lb *	On when the weight display is in pounds *(not available in Versa-portion RLP-SM)
g* (kg)	On when the weight display is in grams *(Versa-portion RLP-SM value is kg, display is in kilograms)
→0←	On when the zero point is adjusted and the weight is stable
Net	On when tare subtraction is performed
	On (blinking) when the battery is weak and needs to be recharged
Front-Panel Button	Description
	Resets the weight display to zero
	Sets or clears the tare value
	Turns the display on/off
	Changes measurement units between lb, oz, g, kg (not available in Versa-portion RLP-SM)

Table 1-1. Versa-portion RLP-S/SM Indications and Front-Panel Buttons

2.0 Operation

2.1 On/Off

1. Press the **POWER** key. The display will blink 8.8.8.8.8.8. and show 0.000 when ready to weigh.

2.2 Tare

Tare values can be used for up to half of scale capacity.

Performing a Tare

1. Place the item to be tared (typically a container) on the platter.
2. Press the **TARE** key.
3. The display will show 0.000 with the tared item on the platter.

Removing a Stored Tare

1. Remove the tared item from the platter.
2. Press the **TARE** key.
3. The display will show 0.000.

2.3 Automatic Shut-Off Timer

The Versa-portion RLP-S/SM has a built-in automatic shut-off timer. This timer can be set to turn the unit off after three minutes of inactivity or 10 minutes of inactivity.

Setting the Timer for Three Minutes

1. If the unit is powered on, press the **POWER** key until it shuts down.
2. With the unit powered off, press and hold the **POWER** key for three seconds. The display will show 3.
3. Release the **POWER** key. The timer is now set to turn the unit off after three minutes of inactivity.

Setting the Timer for 10 Minutes

1. If the unit is powered on, press the **POWER** key until it powers off.
2. With the unit powered off, press and hold the **POWER** key for six seconds. The display will show 3 after a period of three seconds. It will show 10 after six seconds.
3. Once the display shows 10, release the **POWER** key. The timer is now set to turn the unit off after 10 minutes of inactivity.

Disabling the Timer

1. If the unit is powered on, press the **POWER** key until it shuts down.
2. With the unit powered off, press and hold the **POWER** key for nine seconds. The display will show 3 after a period of three seconds and 6 after six seconds. It will show 999 after nine seconds.
3. Once the display shows 999, release the **POWER** key. The timer is now disabled.

2.4 Display Brightness

The Versa-portion RLP-S/SM display brightness can be set to one of three levels.

Changing the brightness setting

1. Hold the **ZERO** key and press **TARE** three times.
2. Press the **ZERO** key to increase the dimmer level and the **POWER** button to decrease the dimmer level.
3. The display will show 1, 2, 3 or 4 depending on which dimmer level is being displayed.
4. Press the **TARE** key to save the setting and return to weigh mode.

2.5 Default Primary Unit

The Units button cycles through g, lb, and oz. (Versa-portion RPL-SM is only available in kg)

Setting the Default Primary Unit

1. Hold the **ZERO** key and press the **UNITS** key three times.
2. Press the **POWER** key to cycle through available units.
3. When the desired default unit is displayed, press the **TARE** key to save the setting and return to weigh mode.

2.6 G, lb and oz Conversion

(Not available in Versa-portion RLP-SM)

G, lb and oz conversion is available only when SPEC08=011 (see [Section 3.4 on page 11](#)).

1. Switch between units by pressing the **UNITS** key.



NOTE: (G) is the abbreviation for gross. (g) is the abbreviation for grams.

3.0 Calibration

To enter calibration mode, remove the screw on the bottom of the scale as shown in [Figure 3-1](#). Use a small tool to press the span setup switch located under the screw. Setup will time out to verify the switch is set to the ON position. Then, perform a span switch state check (see [Section 3.1](#)).

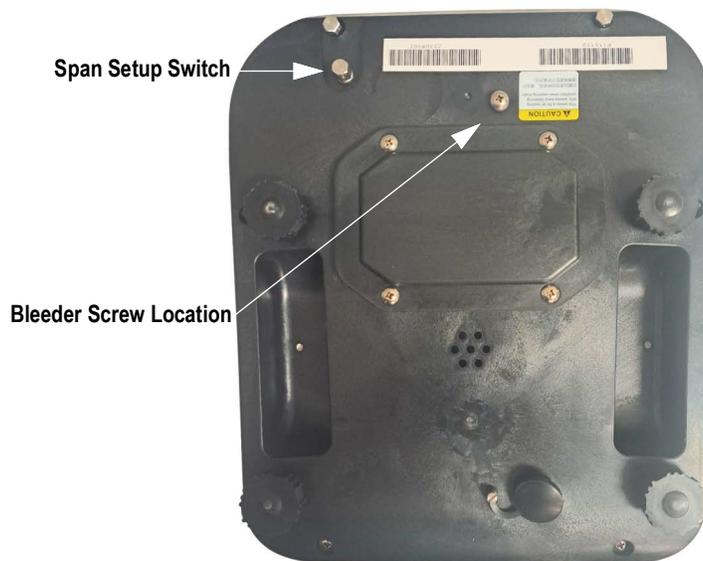


Figure 3-1. Setup Switch and Bleeder Screw Locations

IMPORTANT: Pressure can build up in the scale during shipment causing an error message to display. Release built up pressure by locating the bleeder screw (see [Figure 3-1](#)) and unscrewing 7 full turns. Leave unscrewed while scale is in use.

3.1 Software Version and Span State Check

1. With the unit in weigh mode, press and hold the **ZERO** key.
2. With the **ZERO** key held, press and release the **POWER** key three times.
3. The display will show the software version for two seconds, then show the current span switch state (S-ON or S-OFF). After three seconds, the unit will return to weigh mode.

3.2 Performing a Calibration

The Versa-portion RLP-S/SM must be calibrated in grams or kilograms, and SPEC 01 and 02 must be set for the gram value (or kg in the SM version). See [Section 3.4 on page 11](#).

1. With the unit in weigh mode, press and hold the **ZERO** key.
2. With the **ZERO** key held, press and release the **POWER** key twice, then press and release the **TARE** key. The display will show **CAL00**.

NOTE: To exit calibration at any time, press the **TARE** key.

3. Ensure there is no weight on the platter, then press the **ZERO** key to calibrate the zero point. The display will show dashes, then **CALSP**.
4. Place the scale's full capacity weight on the platter and press the **ZERO** key to calibrate span. The display will show dashes, then the weight value.

NOTE: Calibration weight is full grams capacity. Full capacity values are as follows: RLP-6S = 3000 g (3 kg); RLP-15S = 6000 g (6 kg); RLP-30S = 15000 g (15 kg); RLP-60S = 30000 g (30 kg).

5. The scale will return to weigh mode automatically. Power down the unit.
6. Calibration is complete.

3.3 Enclosure Security

After an NTEP inspector has examined the unit, security cables are installed through three bolts on the underside of the scale. These cables prevent the unit from being tampered with by an unauthorized individual. If the cable is removed, NTEP certification will become void.



Figure 3-2. Legal for trade seal; cable passes through three bolts

3.4 Setting the SPEC Value

The SPEC value is used to specify decimal point position, minimum display, net/gross multi-interval, resolution, weight single or multi-interval, decimal point figure, negative weight display mask, IR mode protection (SPAN switch must be turned on to allow calibration), start range (amount of weight that can be on the scale when it is turned on), re-zero range, manual tare cancellation, tare subtraction, tare accumulation, auto tare, weight reset, tare auto clear, zero tracking, re-zero, and the **UNIT** key function. See [Table 3-1](#).

1. Press the setup switch (see [Figure 3-1](#) on page 10).
2. With the unit in weigh mode, press and hold the **ZERO** key.
3. With the **ZERO** key held, press and release the **TARE** key, then press and release the **POWER** key twice. The SPEC number is displayed.
4. To increment the SPEC setting value, press the **POWER** key. Refer to [Table 3-1](#).
5. Press the **ZERO** key to save data and increase the SPEC count.
6. Press the **ZERO** key to advance to the next SPEC.
7. Press the **TARE** key to store SPECS and return to weigh mode.

SPEC Number	Bit 2	Bit 1	Bit 0
00	Decimal point position 000 - None 001 - 2nd digit (0.0) 010 - 3rd digit (0.00) 011 - 4th digit (0.000) 100 - 5th digit (0.0000) 101 ~ 111 - Not used		
01	Minimum display 00 - 1 01 - 2 10 - 5 11 - 10		Net/gross multi-interval 0 - Gross 1 - Net

Table 3-1. SPEC number and bit explanation (defaults are bold)

SPEC Number	Bit 2	Bit 1	Bit 0
02	Resolution Selection 00 - 1/2000 01 - 1/3000 10 - 1/6000 11 - 1/7500		Weight single interval or multi-interval 0 - Single interval
03	Decimal point figure for numeral 0 - Period 1 - Comma	Negative weight display mask 0 - Minus gross > 9e 1 - Minus gross weight	IR (inter resolution) mode protected by SPAN SW (SPAN switch must be turned on for calibration) 0 - No 1 - Yes
04	Start range (amount of weight that can be on the scale when it is turned on; if there is more weight than allowed, the display will show all 8s) 00 - ±10% F.S. 01 - ±5% F.S.	10 - ±3%F.S. 11 - ±2%F.S.	Re-zero range 0 - ±2% F.S. 1 - ±3% F.S.
05 Not NTEP Approved	Manual tare cancellation 0 - Allow 1 - Prohibit	Tare subtraction 0 - Allow 1 - Prohibit	Tare accumulation 0 - Allow 1 - Prohibit
06	Auto tare clear when rezero 0 - Allow 1 - Prohibit	Weight reset when tare 0 - Allow 1 - Prohibit	Tare auto clear (Greater or equal to Gross 21e and greater or equal to Net 5e) 0 - Allow 1 - Prohibit
07	Zero tracking when Tare 0 - Allow 1 - Prohibit	Re-zero function 0 - Allow 1 - Prohibit	Additional zero for weight when only fixed zeros are displayed (V1.02 and above) 0 - Allow (NTEP) 1 - Prohibit
08	Unit key (Not used on Versa-portion RLP-SM) 000 - No 001 - For g and lb conversion 010 - Not used 011 - G, lb and oz 100 - 111 Not used		

Table 3-1. SPEC number and bit explanation (defaults are bold) (Continued)

3.5 Internal Count and A/D Count Display

1. With the unit in weigh mode, press and hold the **ZERO** key.
2. With the **ZERO** key held, press and release the **TARE** key twice, then press and release the **POWER** key. The display will show **,,,,,0, .**
3. Press the **POWER** key to display the A/D count.
4. To return to weigh mode, press the **TARE** key.



NOTE: (G) is the abbreviation for gross. (g) is the abbreviation for grams.

4.0 Appendix

4.1 DC Battery Pack

4.1.1 Battery Pack Replacement/Installation

An optional DC battery pack (PN 108516) for the Versa-portion RLP-S/SM is available and can be purchased from RLWS to ship with the scale or retrofit in the field. The rechargeable 6V 5.0 AH battery pack allows for up to 60 hours of scale use without an AC power supply (with display set to Dimmer Level 2). It is located in the bottom of the scale base. Use the following procedure to install or replace the battery pack.

1. Unplug the scale from power source.
2. Place scale on its left side.



CAUTION: Do not turn the scale upside down. Always work with the scale on its side. Damage to the load cell can occur if the scale is turned upside down.

3. Unscrew the Phillips-head screws holding the battery compartment door closed.
4. Unscrew the two screws holding on the battery holding bracket and remove the bracket.
5. If you are removing a battery previously installed, remove the battery from its compartment, then disconnect the black (-) and red (+) electrical leads from the battery. If you are installing a new battery, go to step 6.
6. Attach the red lead to the positive (+) terminal of the new DC battery pack, and the black lead to the negative (-) terminal. Place new DC battery pack in battery compartment.
7. Replace the battery holding bracket and fasten it with its two screws.
8. Replace the battery compartment door and fasten it with the screws removed in Step 3.
9. Put the scale back upright on its feet.
10. Press the **POWER** key located on the front of the scale.

4.1.2 Battery Charging

A fully charged battery allows for approximately 60 hours of continuous use. When the battery is low, the battery indicator light will light up. To charge the battery, plug in the AC power cord. Charge time is 8-10 hours.

4.2 Error Messages

Display	Description	Solution
8 8 8 8 8 8	The scale is not steady.	Place the scale on a firm, flat base.
O F	The weight exceeds capacity + 9d, or something is on the platter when it was powered on.	Remove any items from the platter and cycle power.
U F	The negative weight exceeds the display limit.	Re-zero or cycle power.
	The scale has excessive pressure built up.	Unscrew bleeder screw 7 turns.
E r r o r	An error has occurred in maintenance mode.	Repeat the operation.
E R R 01	There is an A/D error.	Contact the scale dealer or RLWS.
E R R 02	There is a data flash erase error.	Contact the scale dealer or RLWS.
E R R 03	There is a data flash program error.	Contact the scale dealer or RLWS.

Table 4-1. Error Messages

4.3 Periodic Maintenance

Refer to the following table for periodic maintenance guidelines:

Task	Process	Daily/Weekly	Quarterly	Per Local Regulations
Routine Cleaning	Remove dirt, dust and debris.	X		
Verify battery and AC power adapter is working	Check battery life on display gauge. If not using batteries, confirm AC power adapter is connected.	X		
Ensure scale is level	Check level and adjust scale feet as needed.	X		
Test repeatability and accuracy	Place a minimum of 5% of full scale capacity on the scale 3 times in each quadrant.		X	
Inspect for damage	Check AC power adapter, cover, etc for visible damage or missing parts.		X	
Calibrate	Perform certified calibration.			X
Certification	Review and renew test weight certifications.			X

Table 4-2. Periodic Maintenance

6.0 Specifications

Display:

LED, six-digit

Capacity:

Pound	Gram	Ounce
6.0 x 0.002 lb	3,000 x 1 g	60.0 x 0.02 oz
15.0 x 0.005 lb	6,000 x 2 g	150.0 x 0.05 oz
30.0 x 0.01 lb	15,000 x 5 g	300.0 x 0.1 oz
60.0 x 0.02 lb	30,000 x 10 g	600.0 x 0.2 oz

Display Indicators:

Ounces, grams, pounds, net, center of zero, battery usage

Keyboard:

Rezero, Tare, On/Off, Unit

Resolution:

Internal: 90,000 count

Display: 3,000

Operating Humidity:

15 to 85% RH

Operating Temperature:

14 °F to 104 °F (-10 °C to 40 °C)

Power Consumption:

18 W when using DC power, 3 W when using rechargeable battery

Battery life: 60 hours of continuous usage

Power Source:

AC 117/100 V, 240/230/220 V

DC 12 V/1.5A, DC 6 V 5Ah optional rechargeable battery

Calibration:

RLP-S: Grams

Overall Dimensions:

(L x W x H)

11.4 x 9.9 x 5.3 in

(290 x 252 x 135 mm)

Package Size:

(L x W x H)

14.8 x 13.3 x 9.6 in

(377 x 337 x 245 mm)

Platter Size:

9.3 x 7.8 in

(237 x 198.0 mm)

Approximate Weight:

15 lb (6.3 kg)

Warranty:

One-year limited

Approvals:



NTEP

CC 10-068

Class III 3,000 d

Measurement
Canada
Approved

Measurement Canada

AM-10-0054



NOTE: Only the Versa-portion RLP-S complies with CE certifications. The RLP-SM model is not CE certified.



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