



# RICE LAKE RLP-S-SM Multi-Purpose Bench Scale User Manual

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# RICE LAKE RLP-S-SM Multi-Purpose Bench Scale User Manual



## Introduction

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. This manual can be viewed or downloaded from the RLWS website at [www.ricelake.com/manuals](http://www.ricelake.com/manuals).

## Safety

Safety Signal Definitions:



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



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



Indicates information about procedures that, if not observed, could result in

## Important

damage to equipment or corruption to and loss of data.

## General Safety



Do not operate or work on this equipment unless you have read and understand instructions in the manual. 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. Proper care is your responsibility



Failure to heed may result in serious injury or death.

DO NOT allow minors (children) or inexperienced persons to operate this unit. DO NOT operate without all shields and guards in place.

DO NOT jump on the scale.

DO NOT use for purposes other than weight taking.

DO NOT place fingers into slots or possible pinch points.

DO NOT use any load bearing component that is worn beyond 5% of the original dimension. DO NOT use this product if any of the components are cracked.

DO NOT exceed the rated load limit of the unit.

DO NOT make alterations or modifications to the unit. DO NOT remove or obscure warning labels.

Keep hands, feet and loose clothing away from moving parts.

## Front Panel

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






Indication	Description
<b>oz *</b>	On when the weight display is in ounces *(not available in Versa-portion RLP-SM)
<b>lb *</b>	On when the weight display is in pounds *(not available in Versa-portion RLP-SM)
<b>g *(kg)</b>	On when the weight display is in grams *(Versa-portion RLP-SM value is kg, display is in kilograms)
<b>→0←</b>	On when the zero point is adjusted and the weight is stable
<b>Net</b>	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

## Operation

### On/Off

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

### 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 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*.

### 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
2. With the unit powered off, press and hold the POWER key for three The display will show 3.
3. Release the POWER 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
2. With the unit powered off, press and hold the POWER key for six

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 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
2. With the unit powered off, press and hold the POWER key for nine

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 The timer is now disabled.

### 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

2. Press the ZERO key to increase the dimmer level and the Power button to decrease the dimmer
3. The display will show 1, 2, 3, or 4 depending on which dimmer level is being
4. Press the TARE key to save the setting and return to weigh

#### *Versa-portion RLP-S/SM Operation Manual*

### **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 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.

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

*(G) uppercase is the abbreviation for gross.*

### **Note**

*(g) lowercase is the correct abbreviation for grams.*



**Figure 3-1. Setup Switch**

### **Software Version and Span State Check**

1. With the unit in weigh mode, press and hold the ZERO
2. With the ZERO key held, press and release the POWER key three
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.

## 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](#).

1. With the unit in weigh mode, press and hold the ZERO
2. With the ZERO key held, press and release the POWER key twice, then press and release the TARE

The display will show *CAL00*.

### Note

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

1. Ensure there is no weight on the platter, then press the ZERO key to calibrate the zero

The display will show dashes, then *CALSP*.

2. Place the scale's full capacity weight on the platter and press the ZERO key to calibrate

The display will show dashes, then the weight value.

*Calibration weight is full grams capacity. Full capacity values are as*

### Note

*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).*

3. The scale will return to weigh mode Power down the unit.
4. Calibration is

## Enclosure Security

After an NTEP inspector has examined the unit, he/she will install security cables 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**

## 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 on page 5.

1. Press the setup switch (see [Figure 3-1](#)).
2. With the unit in weigh mode, press and hold the ZERO
3. With the ZERO key held, press and release the TARE key, then press and release the POWER key

1. With the ZERO key held, press and release the TARE key, then press and release the POWER key  
The SPEC number is displayed.

2. To increment the SPEC setting value, press the POWER Refer to Table 3-1.
3. Press the ZERO key to save data and increase the SPEC
4. Press the ZERO key to advance to the next
5. Press the TARE key to store SPECs and return to weigh

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

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 – $\pm 10\%$ F.S.                      10 – $\pm 3\%$ F.S.  01 – $\pm 5\%$ F.S.                         11 – $\pm 2\%$ F.S.		Re-zero range  0 – $\pm 2\%$ F.S.  1 – $\pm 3\%$ 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



SPEC Number	Bit 2	Bit 1	Bit 0
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)

## Internal Count and A/D Count Display

1. With the unit in weigh mode, press and hold the ZERO
2. With the ZERO key held, press and release the TARE key twice, then press and release the POWER

The display will show ,,,0,.

3. Press the POWER key to display the A/D
4. To return to weigh mode, press the TARE

(G) uppercase is the abbreviation for gross.

### Note

(g) lowercase is the correct abbreviation for grams.

## Appendix

## DC Battery Pack

- 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
2. Place scale its left

*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
4. Unscrew the two screws holding on the battery holding bracket and remove the
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 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
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
9. Put the scale back upright on its
10. Press the POWER key located on the front of the

- 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.

## 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.
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*

## Specifications

**Display**

LED, 6 digits

**Capacity**

RPL-6S	6.000 lb x 0.002 lb; 3000 g x 1 g; 60.00 oz x 0.02 oz
RPL-15S	15.000 lb x 0.005 lb; 6000 g x 2 g; 150.00 oz x 0.05 oz
RPL-30S	30.00 lb x 0.01 lb; 15000 g x 5 g; 300.0 oz x 0.1 oz
RPL-60S	60.00 lb x 0.02 lb; 30000 g x 10 g; 600.0 oz x 0.2 oz
Versa-portion RPL-SM	
RPL-3SM	3 kg x 1 g
RPL-6SM	6 kg x 2 g
RPL-15SM	15 kg x 5 g
RPL-30SM	30 kg x 10 g

**Display Indicators**Ounces, Grams, Pounds, NET, Center of  
Zero, Battery Usage

Versa-portion RPL-SM

Kilograms, NET, Center of Zero, Battery  
Usage**Keyboard**

REZERO key, TARE key, ON/OFF key

**Resolution**

Display Resolution	1/3000
Internal Resolution	1/90,000

**Platter Size**

237.2 mm x 298.0 mm

**Operating Humidity**

15 to 85% relative humidity

**Operating Temperature**

14° F to 104° F (-10° C to +40° C)

**Power Consumption**

18W when using AC power  
 3W when using rechargeable battery  
 Battery life: 60 hours of continuous usage

**Power Source**DC 12V/1.5A, DC 6V5Ah rechargeable  
battery (Optional)**Dimensions**

251.6 mm x 289.7 mm x 134.6 mm

**Package Weight**

6.3 kg

**Package Size**

377 mm x 337 mm x 245 mm

**Capacity/Minimum Graduation/Tare Range**

Max Cap.	Min Cap.	Min Graduation	Tare Range
3 kg	20 g	1 g (1e = 30IR)	0 - 1.499 kg
6 kg	40 g	2 g (1e = 30IR)	0 - 2.998 kg
15 kg	100 g	5 g (1e = 30IR)	0 - 7.495 kg
30 kg	200 g	10 g (1e = 30IR)	0 - 14.99 kg

**Certifications and Approvals****Versa-portion (US version)**

CoC Number 10-068



AM-10-0054

Versa-portion RPL-SM (pending)  
OIML**Rating**

IP68



*Do not use any parts on  
 this scale that may  
 contain lead.*

**Versa-portion RPL-S/SM Limited Warranty**

Rice Lake Weighing Systems (RLWS) warrants that all RLWS equipment and systems properly installed by a Distributor or Original Equipment Manufacturer (OEM) will operate per written specifications as confirmed by the Distributor/OEM and accepted by RLWS. All systems and components are warranted against defects in materials and workmanship for one year.

RLWS warrants that the equipment sold hereunder will conform to the current written specifications authorized by RLWS. RLWS warrants the equipment against faulty workmanship and defective materials. If any equipment fails to conform to these warranties, RLWS will, at its option, repair or replace such goods returned within the warranty period subject to the following conditions:

- Upon discovery by Buyer of such nonconformity, RLWS will be given prompt written notice with a detailed explanation of the alleged deficiencies.
- Individual electronic components returned to RLWS for warranty purposes must be packaged to prevent electrostatic discharge (ESD) damage in Packaging requirements are listed in a publication, *Protecting Your Components From Static Damage in Shipment*, available from RLWS Equipment Return Department.
- Examination of such equipment by RLWS confirms that the nonconformity actually exists, and was not caused by accident, misuse, neglect, alteration, improper installation, improper repair or improper testing; RLWS shall

be the sole judge of all alleged non-conformities.

- Such equipment has not been modified, altered, or changed by any person other than RLWS or its duly authorized repair
- RLWS will have a reasonable time to repair or replace the defective equipment. Buyer is responsible for shipping charges both
- In no event will RLWS be responsible for travel time or on-location repairs, including assembly or disassembly of equipment, nor will RLWS be liable for the cost of any repairs made by others.

**These warranties exclude all other warranties, expressed or implied, including without limitation warranties of merchantability or fitness for a particular purpose. Neither RLWS nor distributor will, in any event, be liable for incidental or consequential damages.**

**RLWS and buyer agree that RLWS's sole and exclusive liability hereunder is limited to repair or replacement of such goods. In accepting this warranty, the buyer waives any and all other claims to warranty.**


**Should the seller be other than RLWS, the buyer agrees to look only to the seller for warranty claims. No terms, conditions, understanding, or agreements purporting to modify the terms of this warranty shall have any legal effect unless made in writing and signed by a corporate officer of RLWS and the Buyer.**

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	<p><a href="#">RICE LAKE RLP-S-SM Multi-Purpose Bench Scale</a> [pdf] User Manual</p> <p>RLP-S-SM Multi-Purpose Bench Scale, RLP-S-SM, Multi-Purpose Bench Scale, Bench Scale, Scale</p>
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## References

-  [Rice Lake India](#)
-  [Rice Lake Weighing Systems](#)
-  [Manuals | Rice Lake Weighing Systems](#)
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