

# Load Cell and Weigh Module Selection Guide



Rice Lake Weighing Systems is a global leader in process solutions founded on the principle of excellent customer service. Our dedication to customer relationships continues to guide our future in the global weighing, measurement and process control industry.

Our extensive range of products allows our customers to create personalized systems no matter what industry they are in. Rice Lake has the world's largest selection of load cells and mounts, including Rice Lake, VPG Celtron, VPG BLH, HBK, Flintec, Interface, VPG Revere, VPG Sensortronics and VPG TedeA-Huntleigh.

This overview of Rice Lake's load cell and weigh module offering demonstrates the range of solutions we can provide. A complete selection of our load cells and weigh modules can be found on [www.ricelake.com](http://www.ricelake.com) and in our Load Cell Guide. The Load Cell Guide includes complete dimensional drawings, technical specifications, wiring codes and load ratings.

Download a PDF of the Load Cell Guide from our website or request a physical copy by contacting our literature coordinator at 800-472-6703.

## Rice Lake Contact Information:

### To place an order:

Toll Free USA:  
**800-472-6703**

24-hour Fax:  
**715-234-6967**

Telephone:  
**715-234-9171**

Email:  
**[orderdesk@ricelake.com](mailto:orderdesk@ricelake.com)**

Toll Free Canada/Mexico:  
**800-321-6703**

Internet:  
**[www.ricelake.com](http://www.ricelake.com)**

### Technical Support:

Technical Support:  
**800-472-6703**

Service, Repairs, Warranty:  
**800-472-6703**  
**[service.rlws@ricelake.com](mailto:service.rlws@ricelake.com)**

Canada & Mexico  
Technical Support:  
**800-321-6703**

Customer Assistance and Service Department hours  
Weekdays: 6:30 AM to 6:30 PM (Central Time)  
Saturday: 8:00 AM to 12:00 PM (Central Time)  
Customer service available in English, Spanish and French

## TABLE OF CONTENTS

### Weigh Modules Selections

SELECTION OVERVIEW	2
SUSPENDED WEIGHING	6
VESSEL WEIGHING	8
TRUCK SCALE WEIGHING	14

### Load Cell Selections

OVERVIEW	16
SINGLE POINTS	18
DOUBLE-ENDED BEAMS	20
SINGLE-ENDED BEAMS	22
S-BEAMS AND CANISTER TYPE	24

# Selecting Load Cells and Weigh Modules

## Be Confident You're Installing The Best

Rice Lake Weighing Systems' experienced engineering and design staff deliver high-quality weigh modules and load cells. We consider factors such as working environment, loading conditions and other design specifications to help you find the best solution.

We offer over 20 different mount styles, including waterproof weigh modules. Coupled with our outstanding selection of load cells manufactured to the highest quality standards, our mounts are complete with everything you need, backed by unbeatable support.

## Custom Load Cell and Mount Specialists

Rice Lake Weighing Systems offers the most comprehensive selection of load cells, mounts and sensors available. We also know that you may have unique requirements that make custom solutions necessary. If you don't see what you need in our catalog, call us to take advantage of the many special services Rice Lake Weighing Systems has to offer:

- Customized load cells and mounts
- Special coatings—SURVIVOR® coating for use in hazardous chemical environments
- Customized cable lengths
- Special cable—PTFE load cell cable for harsh environments



# Choosing the Correct Weigh Module

The wide variety of weigh modules available can make it challenging to determine the differences and what system is best for your application. Most weigh module uses can be classified into one of three categories:

- Suspended Weighing
- Vessel Weighing
- Truck Scale Weighing

## Complete Mounting Kits

Complete mounting kits are available with our weigh modules, simplifying the selection and installation processes. Each kit comes with a detailed installation manual and an analog junction box with cable assembly, eliminating the need to order separate parts.

All standard weigh module kits include the required load cell(s), junction box, mounting hardware and cable, but can be customized to meet your exact needs.





# Suspended Weighing

Suspended weigh modules support load cells that are hung vertically and measure through tension, such as in suspended hoppers. Suspended weigh modules are available in stainless or mild steel.

## ITCM Series (Isolated Tension Cell Modules)

Featuring a clevis and rod-end ball-joint assembly, the ITCM mount is half the overall length of traditional s-beam tension mounts. This unique design consistently corrects loading alignment, even in difficult applications. The load cell is completely isolated from stray currents using PTFE-lined rod ends and a grounding strap which provides an alternative path to ground. Use in single- or multiple-module configurations. Most capacities are NTEP approved.

### Alloy Steel

100 to 20,000 pounds  
(45.4 to 9,071.9 kilograms)

### Stainless Steel

100 to 5,000 pounds  
(45.4 to 2,268 kilograms)

### Stainless Steel HE

500 to 5,000 pounds  
(226.8 to 2,268 kilograms)







# Vessel Weighing

Available in either stainless or painted mild steel, Rice Lake carries a variety of models and configurations for weighing tanks, vessels and other fixed containers.

## EZ Mount 1 Series

Utilizing a unique self-checking sliding-pin design, the EZ Mount 1 allows for thermal expansion and contraction and controlled scale-deck movement with minimal friction. FM approved load cells make this module ideal for intrinsically safe, explosion-proof, and medium- to heavy-capacity tank and hopper functions. EZ Mount 1 Series is available in stainless steel and hermetically sealed variations as well as an NTEP Certified mild and stainless steel design.

### Mild/Stainless Steel

5,000 to 150,00 pounds (2268 to 68,040 kilograms)

## RL1600 Series

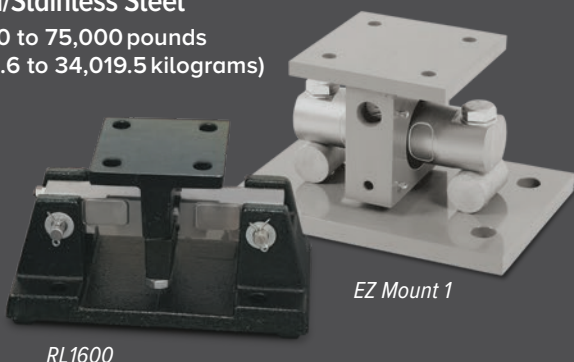
The RL1600 is a low-profile, bolt-in-place model for mounting directly to a tank without additional mounting plates or load buttons. Self-checking movement tolerates thermal expansion and contraction and provides lift-off protection. RL1600 Series is well-suited for medium- to heavy-capacity tanks, bins, hoppers and general dry ingredient and bulk material management.

### Cast Iron

1,000 to 25,000 pounds (453.6 to 11,340 kilograms)

### Mild/Stainless Steel

1,000 to 75,000 pounds  
(453.6 to 34,019.5 kilograms)



*RL1600*

*EZ Mount 1*



## RL9000 TWM Series

The low-profile, IP67-rated, RL9000 TWM maximizes space and offers an all-in-one package with optimal top plates to minimize installation time. This module delivers accurate readings even while off level by as much as 3°. RL9000 TWM has self-centering in all directions with 100% uplift protection that provides extreme durability.

### Stainless Steel

1,000 to 450,000 pounds (453.6 to 204,116.6 kilograms)

## RL9000 TWM-HT

Rice Lake's RL9000 TWM-HT adds an enhanced FEP cable with special strain gauges and other components that withstand temperatures as high as 400°F.

# Vessel Weighing

## **SURVIVOR® RL1700 HE**

This all stainless steel, weldless self-checking design guarantees reliable, waterproof performance. With a hermetically sealed IP66/68-rated stainless steel load cell, the SURVIVOR RL1700 HE is perfect for light- to medium-capacity needs of today's industrial food processors. Adjustable jacking/shipping bolts easily secure the top mounting plate away from the load cell to make installation and service fast and simple. The SURVIVOR RL1700 HE is NTEP and OIML approved.

### **Stainless Steel**

**11 to 11,023.1 pounds (5 to 5,000 kilograms)**

## **RL1800 Series**

Combining self-checking and multi-directional movement capabilities, the RL1800 tolerates platform and tank movement in all directions. The center-pivoted, tension-loading design incorporates spherical washers for self-centering. A load is suspended on a high-strength bolt instead of the traditional wire rope, providing added durability. The RL1800 is NTEP and OIML (on request) approved.

### **Plated Mild/Stainless Steel**

**250 to 10,000 pounds (113.4 to 4,535.9 kilograms)**

## **RL1900 Series**

The stainless steel RL1900 Series Weigh Module Kit utilizes several Rice Lake Weighing Systems components to provide an unmatched level of performance. The RL1900 Kit is ideally suited for tank, hopper and bin weighing operations with medium-range capacities. Each module combines multi-directional movement and self-checking capabilities. The welded-seal stainless steel load cell withstands corrosive washdown environments. The RL1900 Series is NTEP approved.

### **Stainless Steel**

**1,000 to 10,000 pounds (453.6 to 4,535.9 kilograms)**



*RL1900*

*RL1800*

*SURVIVOR  
RL1700 HE*

# Vessel Weighing

## MVS Truck/Track/Horizontal-Tank Module

Built to withstand the most punishing environments, MVS mounts use center-loaded double-ended shear beam load cells to eliminate the need for costly check rods. The result is a pendulum effect that removes binding, protects the load cell from damaging side loads and automatically returns the scale to dead center. The mild steel MVS is easy to install and promises high performance and long life.

### NTEP Certified

20,000 to 125,000 pounds (4,536 to 56,700 kilograms)

## RL50210 TA Mini Tank and Conveyor Modules

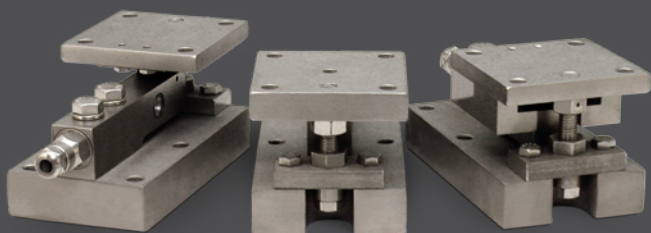
The RL50210 TA is a cost-effective solution for indoor applications with low checking requirements and moderate shock. This popular design utilizes neoprene isolation/compression mounts, allowing for minor misalignments, expansion, contraction and shock absorption. RL50210 TA is available in either stainless steel or zinc-plated mild steel and is NTEP Certified in most capacities.

### NTEP Certified

1,000 to 2,500 pounds (22.7 to 1,134.0 kilograms)

## Overload Stop Modules

500 pounds (226.8 kilograms) and up



*Paramounts*



## Paramounts® Series

Choose the Paramounts design for superior accuracy in applications with expansion, contraction and vibration. By adding up to six free-sliding modules, these systems offer the free motion to eliminate side loads and the strength to keep the vessel intact. Jacking/shipping bolts prevent accidental lift-off and allow for quick installation or service to load cells. Most capacities are NTEP Certified.

### Mild Steel EP

1,125 to 22,500 pounds (5,108 to 10,215 kilograms)

### Stainless Steel HE/Mild Steel HS

1,125 to 22,500 pounds (236.1 to 10,215 kilograms)

# Truck Scale Weighing

These modules are best suited for weighbridge designs but meet the needs of a broad range of industrial scale applications.

## MVS Truck/Track/Horizontal Tank Module

Built to withstand the most punishing environments, MVS mounts use center-loaded double-ended shear beam load cells to eliminate the need for costly check rods. The result is a pendulum effect that removes binding, protects the load cell from damaging side loads and automatically returns the scale to dead center. The mild steel MVS is easy to install and promises high performance and long life.

### Series

10,000 to 125,000 pounds (4,536 to 56,700 kilograms)

### NTEP Certified

20,000 to 125,000 pounds (9,071.9 to 56,700 kilograms)

## Translink™ Truck Scale Assembly

The Translink parallel-link truck scale assembly permits free movement in all directions on a horizontal plane while the pendulum action of the links quickly return the scale to center. No need for costly check rods; simply install platform bumpers and forget about over-travel. This painted alloy-steel assembly is ideal for heavy-capacity weighbridges and horizontal tanks.

### Series

25,000 to 100,000 pounds  
(11,339.8 to 45,359.4 kilograms)

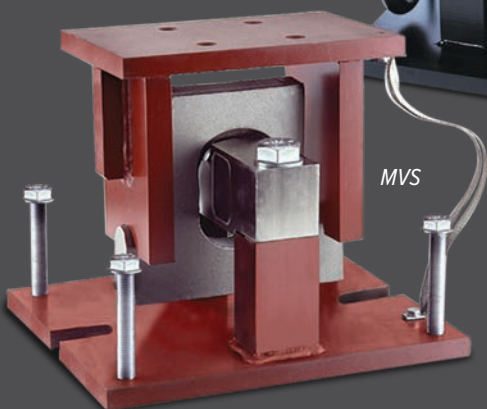




*Tranlink*



*MVS*



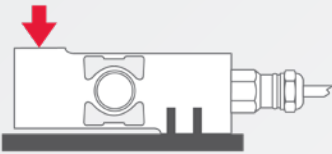
# Load Cells

With the largest selection of quality load cells available in stock, nobody offers faster, more reliable service. Whether you need a replacement load cell or a load cell for a unique application, we've got a solution to fit any need. Our knowledgeable customer service representatives can answer your questions and help you select the best load cell for any application. From tank and hopper weighing to bulk material management or mechanical scale conversions, we provide unmatched service for our customers.

## Load Cell Types

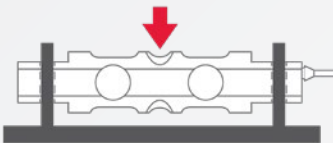
### Single Point

Single point load cells are similar to single-ended beams but designed for lighter capacity applications such as bench scales. Single point load cells are most commonly constructed of aluminum with capacities ranging from 1 to 1,000 kilograms.



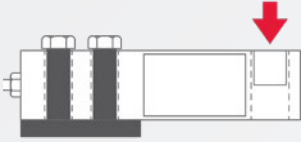
### Double-ended Beam

A double-ended beam load cell is secured at both ends with the load applied to the center. Double-ended beam load cells come in a variety of constructions with capacities ranging from 1,000 to 250,000 pounds.



## Single-ended Beam

A single-ended beam load cell is secured at one end with the load applied to the opposite end. Construction can either be mild or stainless steel with capacities ranging from 1,000 to 20,000 pounds.



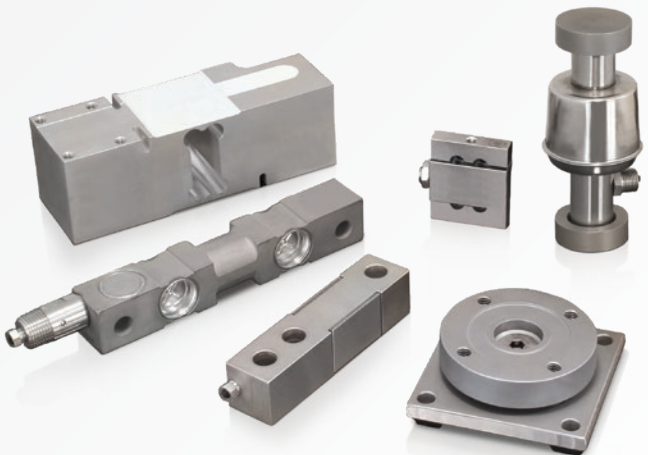
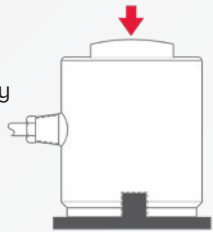
## S-beam

S-beam load cells are most commonly used to suspend a weighing vessel with tension applied through stretching. Capacities typically range from 25 to 40,000 pounds.



## Canister Type

Canister type load cells are cylindrical load cells with force applied vertically in tension or compression. These load cells are ideal for heavy-capacity and environmentally demanding applications with capacities ranging from 20,000 to 500,000 pounds.



# Single Points

## RL42018A

The RL42018A is an aluminum, IP66 single-point load cell. It is available in capacities ranging from 3 to 100 kilograms, and is NTEP Certified and FM approved. The RL42018A has 10 feet of load cell cable included.

### Aluminum

3 to 100 kilograms (6.7 to 220.5 pounds)

## RLPWM15HE

This IP69K-rated, hermetically sealed, stainless steel model is NTEP Certified and perfect for the stringent demands of industrial food processors and other wash-down applications. The RLPWM15HE includes 10 feet (3.1 meters) of load cell cable.

### Stainless Steel

10 to 100 kilograms (22 to 220.5 pounds)

## RL26018A

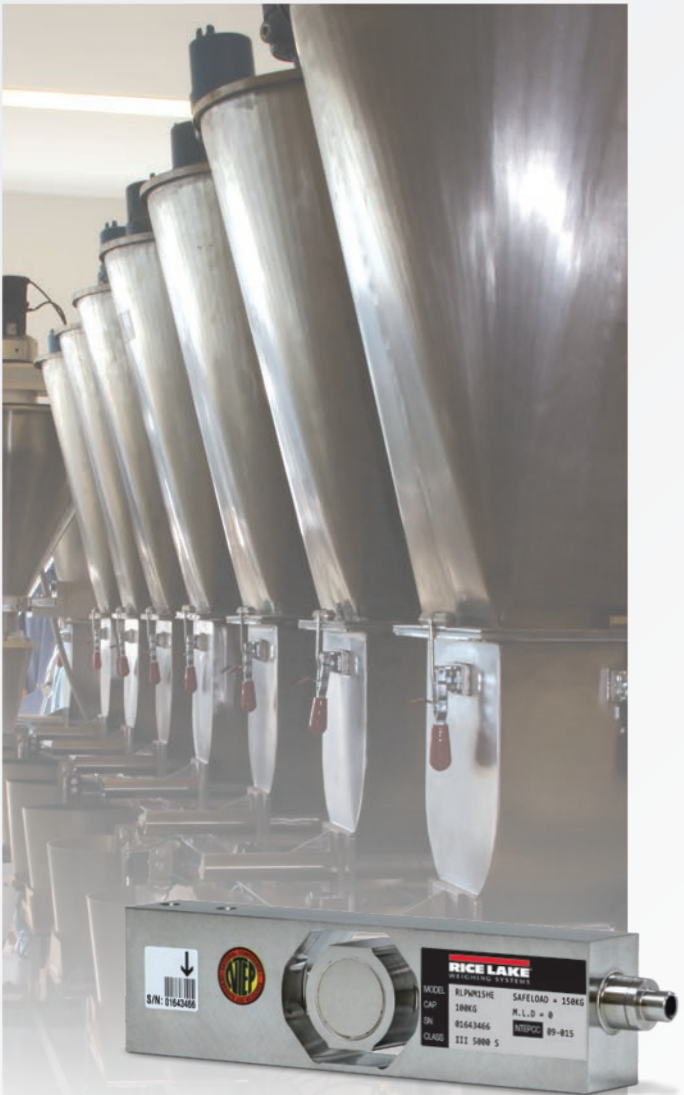
The RL26018A aluminum, single-point load cell is ideal for bench scales and comes in capacities ranging from 50 to 635 kilograms. It is NTEP and FM approved and is environmentally sealed to IP67. The RL26018A is complete with 10 feet of load cell cable.

### Aluminum

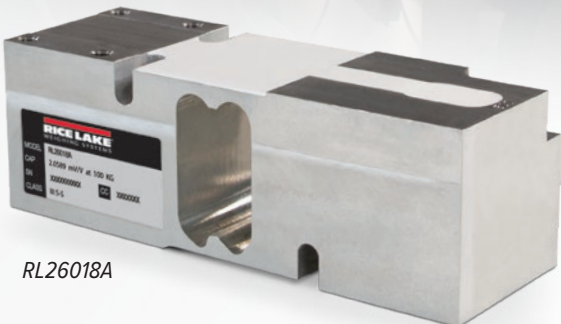
50 to 635 kilograms (110 to 1,400 pounds)



RL42018A



*RLPWM15HE*



*RL26018A*

# Double-ended Beams

## RL72020 Series

The RL72020 is an alloy steel, double-ended beam load cell ideal for truck, tank and hopper applications. The RL72020 is available in capacities of 5,000 to 250,000 pounds. It is complete with 30 feet of load cell cable.

### Alloy Steel

5,000 to  
250,000 pounds  
(2268.0 to 113,400 kilograms)



## RL75016 Series

The RL75016 is a double-ended beam load cell for tank and hopper applications that features stainless and mild steel construction as well as hermetic sealing for hostile environments. This load cell comes complete with 25 feet (7.6 meters) of load cell cable. The RL75016 includes the alloy-steel RL75016, stainless steel RL75016 SS, and the stainless steel, welded-seal RL75016 WHE designed for hostile environments.

### Series

1,000 to 25,000 pounds  
(453.6 to 11,339.8 kilograms)

## RL75058-LP Series

The RL75058-LP high-alloy steel, nickel plated load cell has built-in lightning protection and is available in capacities from 10,000 to 125,000 pounds. Sealed to IP67, it has a 3 mV output and is cFMus approved and NTEP Certified.

### Series

10,000 to 125,000 pounds  
(4,535.9 to 56,699.1 kilograms)



RL75016



RL75058-LP

# Single-ended Beams

## RL32018 Series

The RL32018 is designed for low-profile scales in a variety of process applications. Each load cell is FM approved and NTEP Certified. It comes with 20 feet of load cell cable.

### Alloy Steel

500 to 20,000 pounds (226.8 to 9,071.9 kilograms)

### Alloy Steel NTEP Certified

1,000 to 10,000 pounds (453.6 to 4,535.9 kilograms)

## RL32018S-HE Series

The RL32018S-HE is a hermetically sealed, stainless steel load cell that provides exceptional performance in food and chemical processing. Sealed to IP69K standards, this load cell is 3 mV/V and NTEP Certified. It comes with 20 feet of PTFE jacketed cable.

### Stainless Steel

1,000 to 10,000 pounds (453.6 to 4,535.9 kilograms)

## RL9018SS

The RL9018SS is hermetically sealed with an IP68/IP69K rating to function flawlessly in harsh environments. The RL9018SS is traditionally used in low-profile platforms, weighing and packaging machines, electromechanical conversions and general-purpose weighing applications. It is NTEP Certified and each load cell comes with 3 meters of cable.

### Stainless Steel

5 to 500 kilograms (11.0 to 1,102.3 pounds)





RL32018



RL9018SS



RL32018S HE

# S-beams

## RL20000 Series

The IP67-rated RL20000 Series is equipped to handle damp operating environments with ease and is NTEP Certified in most capacities. Each s-beam load cell includes 20 feet (6.1 meters) of load cell cable. Environmentally sealed models include the alloy-steel RL20000, stainless steel RL20000 SS, stainless steel RL20000 ST and the alloy-steel RL20001. Also available is the stainless steel, welded-seal RL20001 HE.

### RL20001HE Stainless Steel

Capacities ranging from 500 lb to 10,000 lb.

### RL20000ST Stainless Steel

Capacities ranging from 5 lb to 10,000 lb.

### RL20001 Alloy Steel

Capacities range from 250 lb to 20,000 lb.



## RLCSP1 Compression Canister

This high-capacity load cell is built with reliability, durability and precision in mind. RLCSP1 offers welded-seal, stainless steel construction for demanding vehicle-scale and process applications. This load cell is NTEP Certified and comes standard with 30 feet (9.2 meters) of load cell cable.

### Stainless Steel

25,000 to 200,000 pounds (11,339.8 to 90,718.5 kilograms)



*RLCSP1*



**RICE LAKE**<sup>®</sup>  
WEIGHING SYSTEMS

230 West Coleman Street  
Rice Lake, Wisconsin 54868 - USA  
Tel: (715) 234 9171 | Fax: (715) 234 6967  
[www.ricelake.com](http://www.ricelake.com)

*Specifications subject to change without notice.*  
© 2016 Rice Lake Weighing Systems PN 43740 en-US 12/23 REV-B