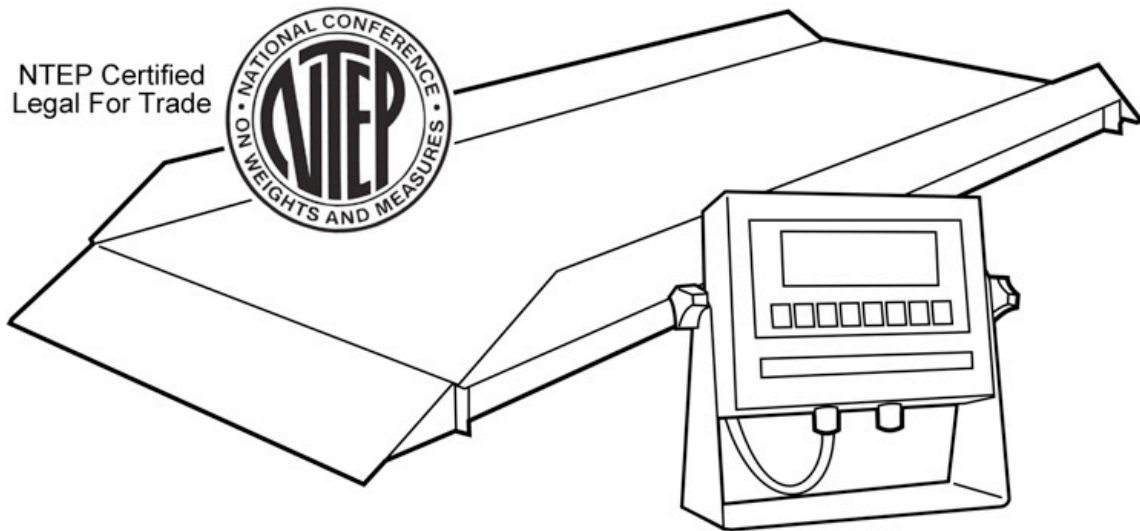




# TSM5-28-LS Livestock Alleyway Scale

## Installation Manual



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### For Parts, Service, and Support

#### Step 1:

Look for a Service Sticker on ALL sides of the Digital Indicator. If a service sticker is present, contact the servicing dealer. The servicing dealer is usually local to your area and can quickly respond for onsite service.

Your local servicing dealer can also perform periodic calibration services according to your requirements.

#### Step 2:

If you are unable to obtain service locally, contact our factory service department directly. We would be happy to assist you.

Phone: 1-800-238-0152  
Fax: 1-662-890-2386  
Email: [info@trinerscale.com](mailto:info@trinerscale.com)

Mail: Triner Scale & Mfg. Co., Inc.  
8411 Hacks Cross Rd.  
Olive Branch, MS 38611

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## 1.0 INTRODUCTION

The TSM5-28-LS scale is a fully electronic weighing system, engineered for years of reliable service.

It has four corner-mounted NTEP approved loadcells that are recessed into the scale frame for protection. Also included is a signal-trim summing board enclosed in a watertight junction box. The junction box is accessible from the top of the scale for ease of service and installation.

The scale utilizes precision “ball and cup” style adjustable leveling feet designed to compensate for irregularities in the floor. For permanent installations, two of the four feet can be held in place with the optional foot retaining plates.

### 1.1. UNPACKING

All scale platforms are shipped LTL on a pallet. Remove the packing material and inspect the scale for any damage that may have been caused during shipment.

All other standard components are shipped separately via UPS. This includes the digital indicator, leveling feet and any small accessories ordered.



The scale comes factory calibrated with the digital indicator. There is no need to calibrate the scale. Do not attempt to calibrate the scale without contacting a qualified scale technician or the factory.

## 2.0 PLATFORM INSTALLATION

After unpacking the scale, a small amount of preparation is required before the scale can be used for weighing.

### 2.1 Site Preparation

The scale should not be loaded beyond its capacity. Do not select a site where overweight loads would have to cross the platform. Avoid areas where the scale might receive damaging side impacts from wheels or forklift tines.

The interface cable between the scale platform and digital indicator **MUST** be protected from crushing, cutting, or moisture damage. Use some method of protection such as running the cable in conduit.

**IMPORTANT** The most common reason for the scale to become inoperable is because of interface cable damage. Make sure to protect the cable in some fashion!

For best results the scale should be installed on smooth level concrete. Installing the scale on dirt or asphalt is not recommended.

### 2.2 Installing and Leveling the Alleyway Scale

1. Screw the Leveling Feet all the way into each of the four loadcells.
2. Place the scale on the floor in the location of intended use.
3. Adjust any “high” corners not in contact with the floor by further unscrewing the feet on those corners until they contact the floor surface.
4. When all feet are in contact with the floor, check the platform with a level to make sure it is within  $\frac{1}{4}$  inch of level.
5. If desired, tighten the jam-nut against the bottom of the load cell to lock the foot into place.

### 3.0 CONNECTING THE DIGITAL INDICATOR TO THE PLATFORM

The TSM5-28-LS Scale is generally purchased with the TS-700 SS digital indicator. This section covers connecting the TS-700 SS digital indicator with the Alleyway weighing platform.

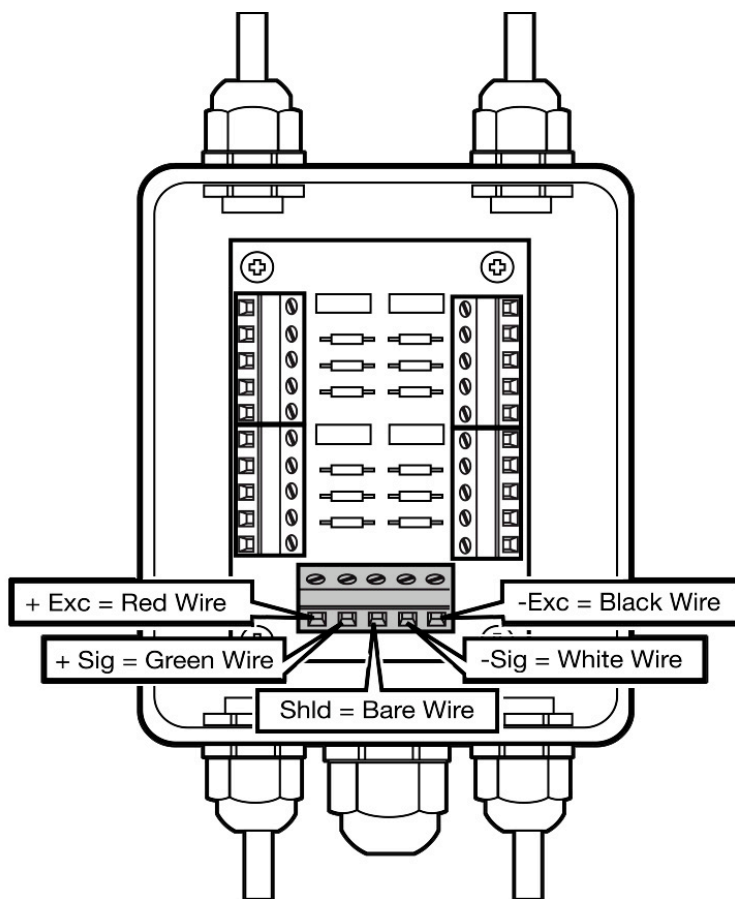
**NOTE** The scale interface cable is pre-wired to the TS-700 SS digital indicator.

**STEP 1:** Access the junction box by removing the screws that secure the access plate on the side of the Alleyway weighing platform.

#### 3.1 Connecting the TS-700 SS Digital Indicator

1. Locate the interface cable in the carton with the indicator. The cable will be prewired to the indicator.
2. Remove junction box access panel screws and slide out the junction box tray.
3. Feed the interface cable from the digital indicator through the watertight fitting on the side of the junction box. If necessary, loosen the fitting nut to increase the size of the hole.
4. Connect the wires to the terminals on the circuit board using the color codes in the table below.

Color	Terminal
Red	Exc +
Black	Exc -
Green	Sig +
White	Sig -
Bare	Shld



5. To connect the wires to the terminals, follow the instructions below:
  - a. Using a small Flat head screwdriver, loosen the terminal screws. This will open the terminal clamps so that you can insert the wire.
  - b. Carefully insert the bare end of the wire between the terminal clamps.
  - c. While holding the wire in position, use the screwdriver to tighten the terminal screw. The clamps will close around the wire. After it is tight give the wire a small tug to make sure it's secure.
  - d. Repeat the process for the remaining wires.

**IMPORTANT** When inserting the wire into the terminal clamp, make sure the clamp secures the BARE END of the wire and NOT the colored INSULATION of the wire.

**CAUTION** If the bare end of the wire is not clamped properly the scale will not operate correctly! This will be the most likely cause of any problem you may have when using the scale for the first time.

6. Once all the wires are secure, pull out any excess slack in the cable through the watertight fitting. If there is too much cable inside the box you may not be able to close the lid.
7. Tighten the liquid tight fitting nut to secure the cable so that moisture can not enter the junction box.

8. Replace the junction box cover.
9. Replace the junction box access plate.
10. Connect the AC adapter to the indicator and then to the wall outlet. If the unit has an AC power cord, connect it to the wall outlet.
11. Turn the Indicator on. After the power up sequence the display should indicate Zero. If it does not, press the ZERO key.
12. When the scale reads Zero it is ready for use.

## APPENDIX A: TROUBLESHOOTING AND PERIODIC MAINTAINANCE

### A.1 Troubleshooting Guide

Problem	Possible Problem and Corrective Action
The system does not operate – No Display	<ul style="list-style-type: none"> <li>• Power disconnected or bad power supply: <i>Check outlet first. Test the AC adapter or power supply.</i></li> <li>• Indicator fuse blown: <i>Replace fuse, check for cause.</i></li> <li>• Interface Cable cut or disconnected: <i>Replace or Properly repair cable</i></li> <li>• Interface Cable wiring problem: <i>Check connections inside junction box and at indicator.</i></li> </ul>
Display stays at Zero – Will not weigh anything	<ul style="list-style-type: none"> <li>• Item may be too light for scale resolution.</li> <li>• Interface Cable cut or disconnected: <i>Replace or Properly repair cable</i></li> <li>• Interface Cable wiring problem: <i>Check connections inside junction box and at indicator.</i></li> <li>• Load cell connections faulty: <i>Check load cell connections inside junction box.</i></li> <li>• Debris under the scale platform: <i>Check and clean debris from under the platform (Periodic Maintenance).</i></li> <li>• Indicator faulty. <i>Service or replace indicator.</i></li> </ul>
Displays erratic weights	<ul style="list-style-type: none"> <li>• Interface Cable cut or disconnected: <i>Replace or Properly repair cable</i></li> <li>• Interface Cable wiring problem: <i>Check connections inside junction box and at indicator.</i></li> <li>• Platform not level: <i>Level the scale by properly adjusting the leveling feet.</i></li> <li>• Load cell connections faulty: <i>Check load cell connections inside junction box.</i></li> <li>• Load cell or load cell cable damage: <i>Inspect load cell cables. Test and replace Loadcell if needed.</i></li> <li>• Bad power supply: <i>Check outlet first. Test the AC adapter or power supply.</i></li> <li>• Debris under the scale platform: <i>Check and clean debris from under the platform (Periodic Maintenance).</i></li> <li>• Indicator faulty. <i>Use simulator to test for stability. Service or replace indicator.</i></li> </ul>
Consistently high or low weights	<ul style="list-style-type: none"> <li>• Indicator not properly adjusted to zero: <i>Zero the indicator according to the indicator manual.</i></li> <li>• Platform binding: <i>Provide adequate clearance for free platform movement. Make sure a ramp(s) is not touching the scale. Remove any debris under and around the scale platform.</i></li> <li>• Indicator not calibrated properly: <i>Calibrate the system according to the indicator manual.</i></li> <li>• Load cell(s) faulty: <i>Test and replace load cells if necessary.</i></li> </ul>

## **A.2 Periodic Maintenance**

The TSM Series Low Profile Scale is designed and engineered to require very little maintenance. Follow the basic guidelines below:

1. Periodically clean any debris from under and around the scale. If debris such as broken wood from pallets wedges between the scale platform and the ground or a ramp, erratic weights will result.
2. Provide adequate clearance for free platform movement. Make sure a ramp(s) is not touching the scale. Remove any debris under and around the scale platform.
3. Make sure the scale is level. Adjust the leveling feet if required to make sure all four feet are in contact with the floor.
4. Periodic Calibration Notes
  - a. The scale is shipped factory calibrated.
  - b. It is recommended you have your scale calibrated once a year with Test Weights to assure accuracy.
  - c. You should refer to your quality system guidelines to determine your particular calibration frequency.
  - d. If calibration is required, refer to the indicator manual to determine the correct calibration procedures.
  - e. For optimum calibration, load the scale with Test Weights equal to 70%-80% of the scales capacity.
  - f. The scale may be calibrated with less Test Weight. Try to use at least 40% of the scales capacity if possible.
  - g. Calibrating the scale with anything other than industry standard test weights is not recommended or reliable. Refer to your own quality standards to determine what kind of test weight is acceptable.

## APPENDIX B: PARTS LIST

Part Description	Part Number
Four load cell steel NEMA 4x junction box assembly with signal trim summing card	JBOX
1/2 -20 precision ball and cup leveling foot	FOOT07
2.5k (2,500 lb) Sheerbeam load cell	LC002
5k (5,000 lb) Sheerbeam load cell	LC004
Load cell Bolt M12 x 1.75 x 50mm	LCB01
Load cell Bolt 1/2-20 x 1 3/4	LCB02
Eye Bolt M12	M12EB
Leveling foot retaining plate, 3"	RTP
Top access plate screw M8 x 1.25	TPS01

# **TRINER SCALE & MFG. CO, INC.**

## **LIMITED WARRANTY**

**What is Covered:** Triner Scale & Mfg. Co. Inc. warrants to the first end user customer of the Triner Scale product enclosed with this limited warranty statement that the product, if purchased and used in the United States, conforms to the manufacturer's specifications and will be free from defects in workmanship and materials for a period of one (1) year from the date of original purchase.

**What Triner Scale Will Do to Correct Problems:** Should your Triner Scale product prove defective during the warranty period, please call Triner Scale at (800) 238-0152 for warranty repair instructions and return authorization. Triner Scale will, at its option, repair or replace on an exchange basis the defective unit as follows:

### **PARTS**

New or comparable rebuilt parts in exchange for defective parts for one (1) year after original purchase.

### **LABOR**

Carry-In or mail in service for ninety (90) days from the date of original purchase. Labor and shipping cost after the ninety (90) day period will be charged to you.

If you are authorized by Triner Scale to ship the product to Triner Scale for repair, it is your responsibility to securely package the product in its original container or an equivalent and provide proof of the date of original purchase. You will be responsible for shipping costs to Triner Scale repair facility. When warranty service involves the exchange of the product or a part, the exchanged product may be new or previously repaired to the Triner Scale standard of quality. Exchange or replacement products or parts assume the remaining warranty period of the product covered by this limited warranty.

**What this Warranty Does Not Cover:** This warranty covers only consumer use in the United States. Triner Scale is not responsible for warranty service should the Triner Scale label or logo or the serial number be removed or the product fail to be properly maintained or fail to function properly as a result of misuse, abuse, improper installation, neglect, improper shipping, damage caused by disasters such as fire, flood, and lightning, improper electrical current, interaction with non-Triner Scale products, or service other than a Triner Scale Authorized Service. Packaging and shipping costs incurred in presenting your Triner Scale product for warranty service are your responsibility. If a claimed defect cannot be identified or reproduced in service, you will be held responsible for costs incurred.

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