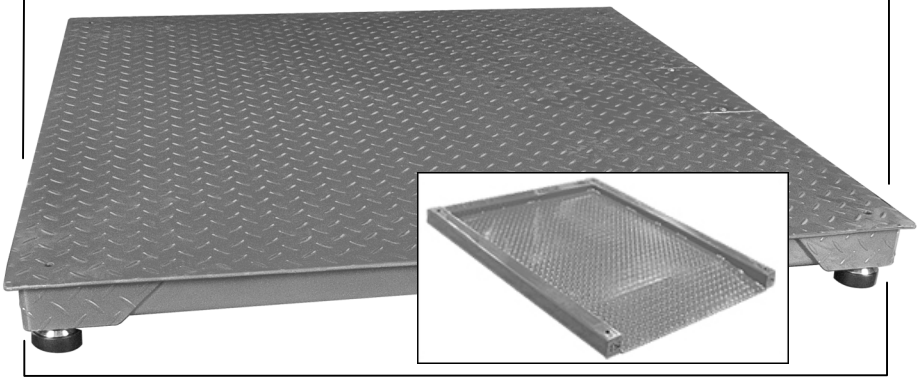
SINCE 1897
TRINER SCALE
Scales for business and industry

Set Up Guide

TSM Series Low Profile Floor Scales & Drum Scales



Guide for setting up Triner TSM Low Profile Scale Platforms and connecting to any of the following digital indicators:

TS-700 MS

TS-700 SS

7600E

NOTICE: DIGITAL INDICATOR SHIPS SEPARATELY FROM WEIGHING PLATFORM

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For Parts, Service, and Support

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.

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

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Introduction

OVERVIEW OF THE MAIN COMPONENTS

The main components of the scale system are:

- Weighing platform
- Home run cable
- Digital indicator
- Load cell feet (4)
- Junction box in weighing platform: connects load cells to home run cable

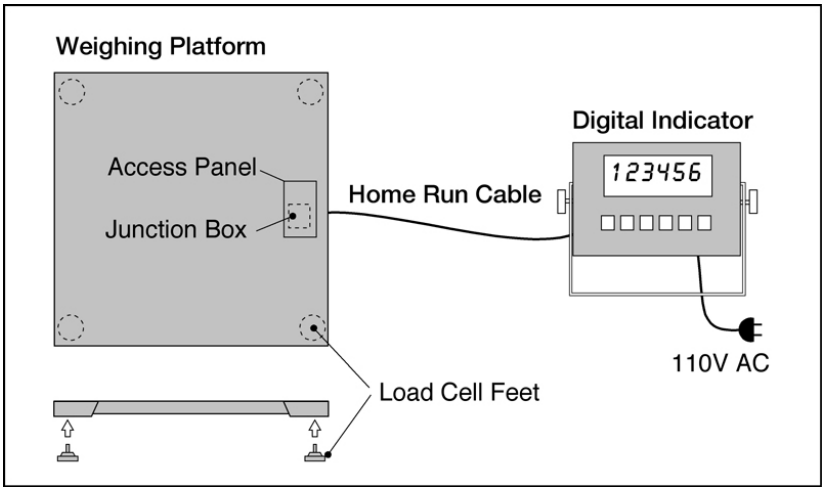

Fig. 1: Main Components

TSM SERIES WEIGHING PLATFORMS

TSM Series weighing platforms are fully electronic, low profile platforms, engineered to provide years of reliable service. Platforms are available in a wide range of sizes from 24” x 24” to 96” x 120”, and capacities from 1,000 lbs to 20,000 lbs.

All TSM Series platforms utilize precision “ball and cup” style adjustable leveling feet designed to compensate for irregularities in the floor.

OPTIONS

- Foot Retaining Plates
- Access Ramps
- Side Protection Guards
- Indicator Mounting Stand
- Pit Frame for In-ground Installations

UNPACK & INSPECT THE PLATFORM

All Triner Low Profile Floor Scale weighing 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.

THE DIGITAL INDICATOR, LEVELING FEET AND ACCESSORIES SUCH AS RECEIPT PRINTERS ARE SHIPPED SEPARATELY VIA UPS GROUND.

LOAD CELLS AND LOAD CELL FEET

All platforms are equipped with four, corner mounted NTEP approved load cells that are recessed into the scale frame for protection. Before setting up the scale, load cell feet must be screwed into the under side of the load cells.

LOAD CELL JUNCTION BOX

Located inside the weighing platform is a watertight junction box. Removing the small panel on the platform top deck accesses the junction box.

DRUM SCALES AND CUSTOM PLATFORMS

Drum scales and custom-made weighing platforms have a terminal board (instead of a junction box) that is located inside the outer frame of the platform. The terminal board is accessed through a removable side access plate.

See details in the “Drum Scale and Custom Platforms” section located in the chapter “Connecting the Digital Indicator”.

Digital Indicator

The digital indicator component controls the scale and displays the weight that is placed on the scale's weighing platform.

TSM weighing platforms are typically shipped as a complete weighing system, which includes a factory calibrated digital indicator.

For operation of the scale/digital indicator, please see the printed User's Guide booklet that is packed with the digital indicator.

BE SURE TO UNPACK ALL ITEMS IN THE DIGITAL INDICATOR SHIPPING CARTON.

When purchased as a COMPLETE SCALE SYSTEM:
The weighing platform will be factory calibrated with the digital indicator.
There is no need to calibrate the scale.

Weighing Platform Set Up

SITE PREPARATION: All style platforms
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 home run cable that connects the scale platform to the digital indicator MUST be protected from crushing, cutting, or moisture damage. Protecting the cable with conduit is recommended.

IMPORTANT **THE MOST COMMON REASON FOR THE SCALE TO BECOME INOPERABLE IS DUE TO HOME RUN CABLE DAMAGE. BE SURE TO PROTECT THE CABLE AND KEEP IT OUT OF HARM'S WAY.**

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

INSTALLING AND LEVELING THE PLATFORM

1. Locate the four leveling feet (typically packed with the digital indicator). On the underside of the weighing platform, thread the leveling feet all the way into each of the four load cells located at the corners of the platform.
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 inserting a flat blade screwdriver into the top access hole over the leveling foot, and with a clockwise motion, screw the

foot downward until solid contact is made with the floor.

4. When all feet are in contact with the floor, check the platform with a level to make sure it is within ¼ inch of level.
5. MAKE CERTAIN that the platform does not rock from corner to corner. Any amount of rocking will result in inaccurate weighing.
6. Tighten the jam-nut against the bottom of the load cell to lock the foot into place.

Connecting The Digital Indicator

STANDARD FLOOR SCALE PLATFORMS
(For drum scale & custom platforms, see pg. 11)
The TSM Series Low Profile Scale is typically purchased as a complete, factory calibrated weighing system, which includes a compatible digital indicator and all required cables and cords. The digital indicator model will vary according to which floor scale system was purchased. This section covers connecting the TSM floor scale platform to digital indicator models TS-700 MS, TS-700 SS and 7600E.

NOTE **THE CONNECTING CABLE WILL BE FOUND IN ONE OF TWO LOCATIONS, DEPENDING ON THE MODEL OF INDICATOR PURCHASED. IT WILL BE IN THE SHIPPING CARTON WITH THE INDICATOR, OR BUNDLED INSIDE THE JUNCTION BOX CAVITY INSIDE THE WEIGHING PLATFORM.**

Locate the junction box access plate on weighing platform top deck. Unscrew the two screws and remove the plate.

Connect the weighing platform to the digital indicator based on the indicator model, as follows:

CONNECTING A TS-700 MS or TS-700 SS DIGITAL INDICATOR
The home run cable is pre-wired to the weighing platform junction box and it quick-connects to the digital indicator.

1. Feed the cable out of the junction box area through the hole at the bottom of the cavity.

2. Connect the cable to the digital indicator as follows:

a. Carefully insert the cable connector into the socket on the underside of the digital indicator and fully push into the socket.
b. Screw on the connecting collar and hand tighten.

3. Replace the junction box access plate.

4. Connect the digital indicator's AC adapter to the indicator and plug the other end into a stable 110V AC socket.

5. Power on the digital indicator. After the power up sequence the weight display should indicate "0". If it displays an amount of weight, press the ZERO key.

6. When the readout displays "0" it is ready for use.

CONNECTING A 7600E INDICATOR

The home run cable for a 7600E model is pre-wired to the digital indicator and requires connecting the five wire leads into the weighing platform junction box.

1. Remove the junction box access plate on the weighing platform top deck.

2. Feed the five wire leads of the home run cable up through the oval hole in the floor of the junction box cavity. Gently pull a generous amount of slack cable up through the hole.

3. Remove the junction box faceplate.

4. Referring to the Fig. 2 diagram on the following page:

    a. Using a small flat head screwdriver, loosen the terminal screws.
    b. Feed the five wire leads into the junction box through the strain relief collar.
    c. Carefully insert the bare end of the wire into the terminal opening.
    d. While holding the wire in position, tighten down the terminal screw. After tightening, gently pull the wire to make sure it's secure.
    e. Repeat the process for the remaining wires.

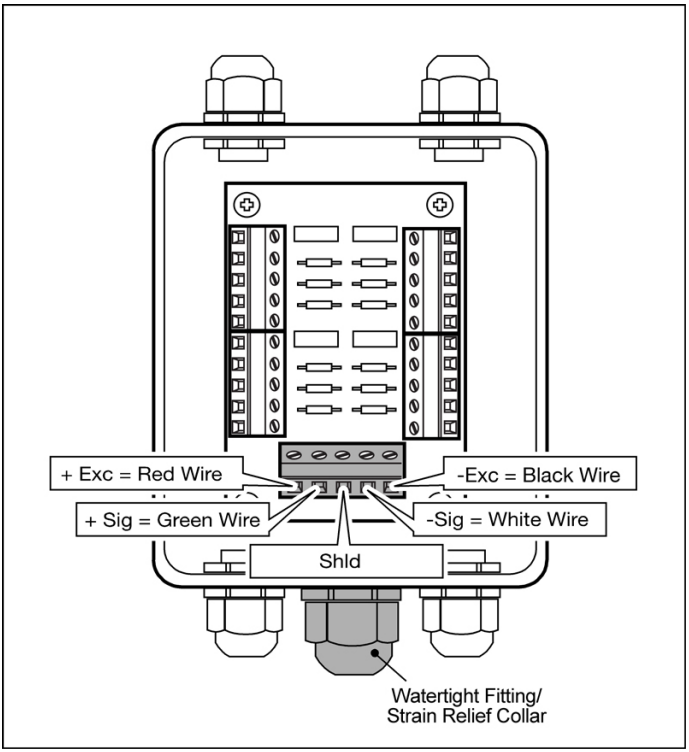

Fig. 2: Junction Box Wiring Diagram
(For clarity, loadcell wiring is not illustrated)

IMPORTANT **WHEN INSERTING THE WIRE INTO THE TERMINAL CLAMP, MAKE SURE THE CLAMP SECURES THE BARE WIRE AND NOT THE COLORED INSULATION OF THE WIRE.**

CAUTION **IF THE BARE END OF THE WIRE IS NOT PROPERLY SECURED, 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.**

5. Once all the wires are secure, pull out any excess slack in the cable through the liquid tight fitting.

6. Tighten the liquid tight fitting nut to secure the cable to prevent moisture from entering the junction box.

7. Replace the junction box faceplate and securely fasten down.

8. Replace the junction box access plate and securely fasten down.

9. Plug the 110V AC power cord from the digital indicator into a stable 110V AC outlet.

10. The 7600E model digital indicator will automatically power on. After the power up sequence the weight display should indicate “0”. If it displays an amount of weight, press the ZERO key.

11. When the digital indicator displays “0” the scale is ready for use.

DRUM SCALE AND CUSTOM PLATFORMS
Referring to Fig. 3 below:

1. Unscrew the two bolts and remove the “Side Access Plate”, located on the outside frame.

2. Feed the home run cable (from the digital indicator) through the strain relief collar.

3. Connect the wires to the screw terminals on the terminal block.

4. Reattach the Side Access Plate and firmly tighten the two bolts.

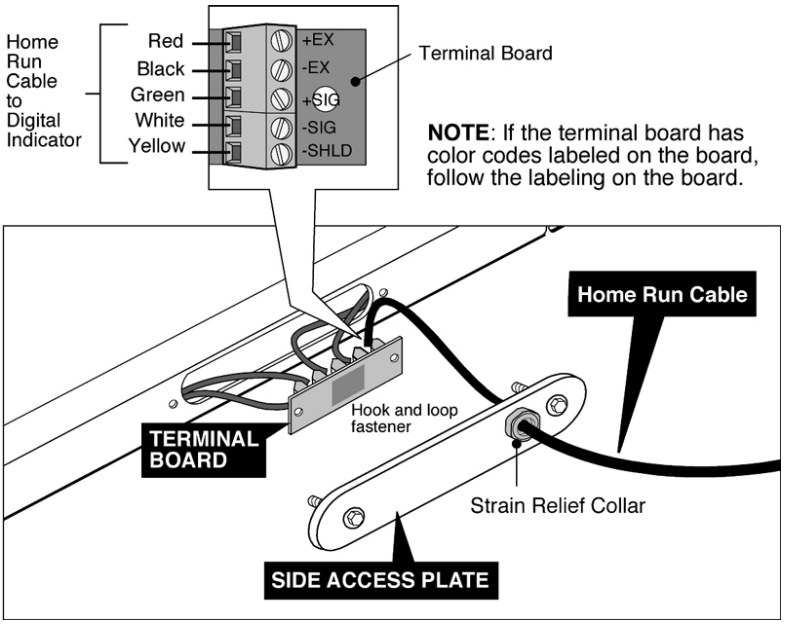

Fig. 3: Terminal Board Wiring Diagram

A.1 Troubleshooting Guide

Condition	Possible Problem & Correction
The system does not operate – No Display.	• Power disconnected or bad power supply: Check outlet first. Test the AC adapter or power supply. • Indicator fuse blown: Replace fuse, check for cause. • Interface Cable cut or disconnected: Replace or Properly repair cable. • Interface Cable wiring problem: Check connections inside junction box and at indicator.
Display stays at Zero. Scale will not weigh anything.	• Item may be too light for scale resolution. • Interface Cable cut or disconnected: Replace or Properly repair cable. • Interface Cable wiring problem: Check connections inside junction box and at indicator. • Load cell connections faulty: Check load cell connections inside junction box. • Debris under the scale platform: Check and clean debris from under the platform (Periodic Maintenance). • Indicator faulty. Service or replace indicator.

Condition	Possible Problem & Correction
Scale displays erratic weights.	• Interface Cable cut or disconnected: Replace or Properly repair cable. • Interface Cable wiring problem: Check connections inside junction box and at indicator. • Platform not level: Level the scale by properly adjusting the leveling feet. • Load cell connections faulty: Check load cell connections inside junction box. • Load cell or load cell cable damage: Inspect load cell cables. Test and replace Loadcell if needed. • Bad power supply: Check outlet first. Test the AC adapter or power supply. • Debris under the scale platform: Check and clean debris from under the platform (Periodic Maintenance). • Indicator faulty. Use simulator to test for stability. Service or replace.

Condition	Possible Problem & Correction
Scale consistently displays weights that are too high or too low.	• Indicator not properly adjusted to zero: Zero the indicator according to the indicator manual. • Platform binding: 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. • Indicator not calibrated properly: Calibrate the system according to the indicator manual. • Load cell(s) faulty: Test and replace load cells if necessary.

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.

-- End --

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 ½-20 x 1 ¾	LCB02
Eye Bolt M12	M12EB
Leveling foot retaining plate, 3”	RTP
Top access plate screw M8 x 1.25	TPS01

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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No terms, condition, 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 the seller. This warranty gives you specific legal rights, and you my have other rights, which vary from jurisdiction to jurisdiction.

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