Trimming Procedure

TRIMMING

Whenever a substantial amount of trim is necessary to equalize output (more than 5% of normal output), check for other possible problems. The best trim is always the least amount of trim.

Trimming is a process of equalizing the output from multiple individual load cells, or from pairs of cells if using the section trim format. When all errors except cell mismatch and cable extensions or reductions have been corrected, continue with the trimming procedure below.

1. Set all potentiometers fully counter-clockwise to give maximum signal output from each cell.

2. Make sure isolation resistors corresponding to any unused terminals have been cut to disable use of these channels.

3. Zero the indicator and place calibrated test weights over each load cell in turn (or over each section) without allowing the weights to overhang the sides. The amount of test weights used depends on the scale configuration; for specific recommendations, refer to *Handbook 44 Field Manual*, published by the Institute for Weights and Measures. For a four-cell platform, we recommend using 25% of scale capacity.

⚠ **TEST WEIGHTS**

CAUTION: When loading the corners, do not exceed the concentrated load capacity (CLC) specified by the scale manufacturer.

4. Record the value each time weight is placed on the scale and allow the scale to return to zero to check for friction or other mechanical problems. Select the load cell or section which has the lowest value as your reference point—this cell or section will not be trimmed.

5. Now replace the same test load over each cell or section and trim each with its potentiometer down to the reference level cell or section. As corner corrections are somewhat interactive, check all cells or sections again for repeatability.

6. Tighten all wiring connections. Pull excess cable out of the enclosure and tighten the cord grip assemblies with a wrench. To be watertight, each cord grip must be tightened so the rubber sleeve begins to protrude from the hub.
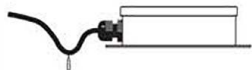
⚠ **POST SCREW PLUGS**

CAUTION: To prevent water and other contaminants from entering the J-Box, fill any unused cable grips with post screw plugs, part number 19538.

7. Unused hubs must be plugged to prevent moisture entry. See the *Electronic Replacement Parts and Components* catalog to order extra hole plugs.

8. Insert a commercial desiccant containing antioxidant properties into the junction box before closing. If the enclosure is in a damp or wet area, change the desiccant every four to six months.

9. Replace the cover and tighten the cover screws in an alternating pattern to be certain the gasket is compressed equally in all locations.

CABLE DRIP LOOPS

If cables will be exposed to water or other liquids, bend a short downward loop in all cables near the cord grips so any fluids draining down the cables will drip off before reaching the junction box.

Authorized distributors and their employees can view or download this manual from the Rice Lake Weighing Systems distributor site at **www.ricelake.com**.

JB1010ST
Ten-Channel Signal Trim Junction Box

Installation Manual

RICE LAKE
WEIGHING SYSTEMS

68812

Introduction

The JB1010ST Junction Box can accommodate two, four, six, eight, or ten load cells with transient protection components. This board cannot be used with an odd number of cells. Any unused channels require modification. Load cell output can be trimmed with potentiometers either individually or in pairs.

When correctly installed, the NEMA 4X stainless steel enclosure will withstand 40 psi water pressure. It is not, however, designed for high-pressure washdown applications, exposure to steam, or exposure to high-temperature liquids.

Mounting the Junction Box Enclosure

Mount the enclosure in a location convenient for servicing and away from standing water. Try to mount the enclosure in a location that will not require extending the load cell cables. Depending on the mounting surface, the enclosure is attached using the four suitable fasteners. Figure 1 below shows dimensions for mounting the enclosure.
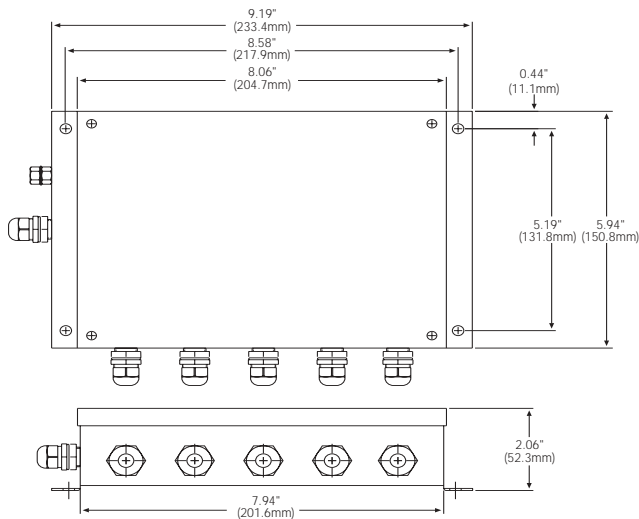

FIGURE 1. ENCLOSURE DIMENSIONS

Wiring

The terminal strips are labeled "Cell 1" through "Cell 10" and are used to connect the individual load cells. Determine the number of load cells to be connected to the junction box. The JB1010ST has been designed to connect and trim two, four, six, eight, or ten load cells only. Load cell output can be trimmed with potentiometers individually, or paired channels may be trimmed as a section. If using the paired-channel section trim, there must be two load cells attached to each section.

After determining the wiring pattern, route the load cell cables through the nylon cord grip assemblies and leave the grips loose until final closure. Before connecting load cell cables to the terminals, check that all wire ends have been properly stripped and tinned.

Determine the color coding of the load cells used and connect each load cell cable to its terminal according to the labels by the terminals. For each cable, twist the woven shield into a single "wire" and attach it to the shield pin on its terminal strip. **Disable any unused channels by cutting the isolation resistors corresponding to those channels.**

⚠ **LOAD CELL**

CAUTION: Do not attempt to use an odd number of load cells with the JB1010ST. You must use both channels for each section.

WIRING PATTERN

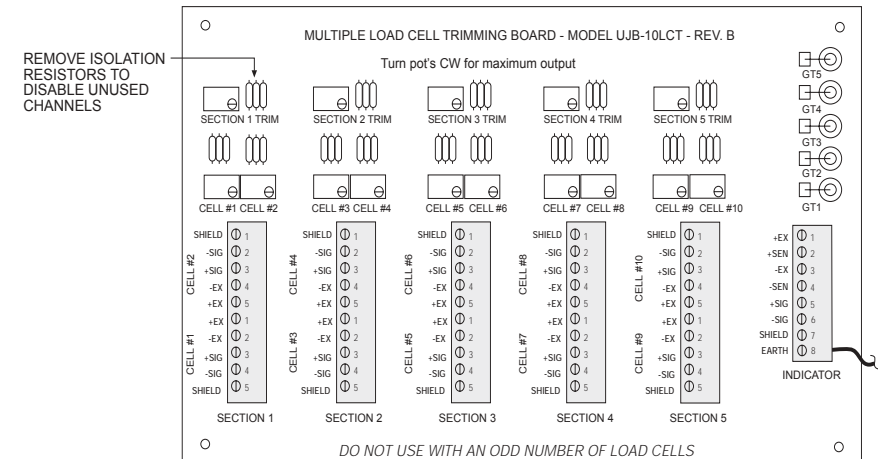See back cover of Rice Lake Weighing Systems *Load Cell Guide* for wiring color codes.

*FIGURE 2: MAIN BOARD*D

The INDICATOR terminal strip is for connecting the main cable to the indicator. Determine the indicator's load cell input connections from the operating manual. Run a cable from your indicator terminal into the junction box through the larger cord grip and make the connections on the INDICATOR terminal.

SENSE LEADS

Use sense leads to compensate for temperature changes, especially if the indicator is located far from the junction box.

Dec. 2010