

Trimming Procedure

TRIMMING

Whenever a substantial amount of trim seems 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.

Caution

INDIVIDUAL TRIM

Do not attempt to use an odd number of load cells with the EL211A. If an odd number of cells is required, use the EL604STA J-box.

Caution

TEST WEIGHTS

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

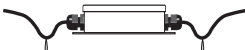
Caution

POST SCREW PLUGS

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

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.



The EL211A J-Box is a signal trimming device. Trimming equalizes the output from multiple individual load cells. 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 clockwise to give maximum signal output from each cell.
2. To use individual trimming, make sure jumpers JU1 and JU2 (located next to the section trim potentiometers) are set in the "off" position. The factory default is the "off" position; or

To use section trimming, set jumpers JU1 and JU2 to the "on" position. This connects pins 1 and 2 to enable section trimming. See Figure 3.

3. Zero the indicator and place calibrated test weights over each load cell or section in turn. The amount of test weights to be used will depend 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.
4. Record the value displayed on the indicator after the test weight is placed in turn on each corner, directly over the load cell (or over each section) without allowing the weights to overhang the sides. Allow the scale to return to zero each time 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. Replace the same test load over each cell or section in turn. Using the corresponding potentiometer, trim each cell or section down to equal the reference point. As corner corrections are somewhat interactive, check all cells or sections again for repeatability. If necessary, repeat steps 5 and 6.

6. 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.
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 the enclosed desiccant bag into the junction box before closing. If the enclosure is located 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 in all locations.

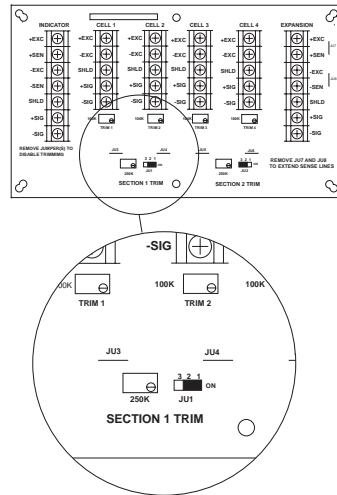


FIGURE 3 CELL 1 JUMPER

EL 211A

Four-Channel Signal Trim Junction Box

Installation Manual



Introduction

The EL211A Junction Box can accommodate up to four load cells. Additional load cells may be connected to the EL211A Junction Box by wiring additional junction boxes to the EXPANSION terminal on the EL211A. Load cell output can be trimmed with potentiometers either individually or in sections. This board cannot be used with an odd number of load cells.

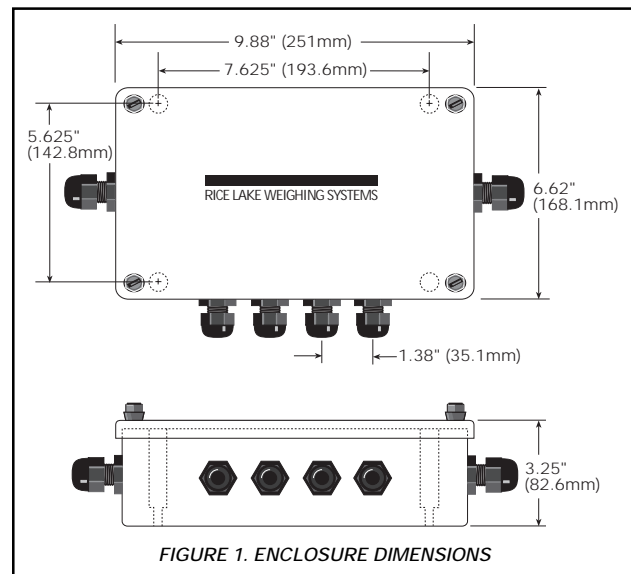
When correctly installed, the NEMA 4X fiberglass-reinforced polyester enclosure will withstand 40 psi water pressure. It is not, however, designed for high-pressure washdown applications, exposure to steam, or exposure to high-temperature liquids.

CHANGING CABLE LENGTH

Locate the junction box so load cell cables need not be cut, nor length added. Load cell output is temperature-compensated for the supplied cable length. Altering that length can change the cell's signal

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 pan-head screws provided, bolts, or other suitable masonry fasteners. Figure 1 below shows dimensions for mounting the enclosure.

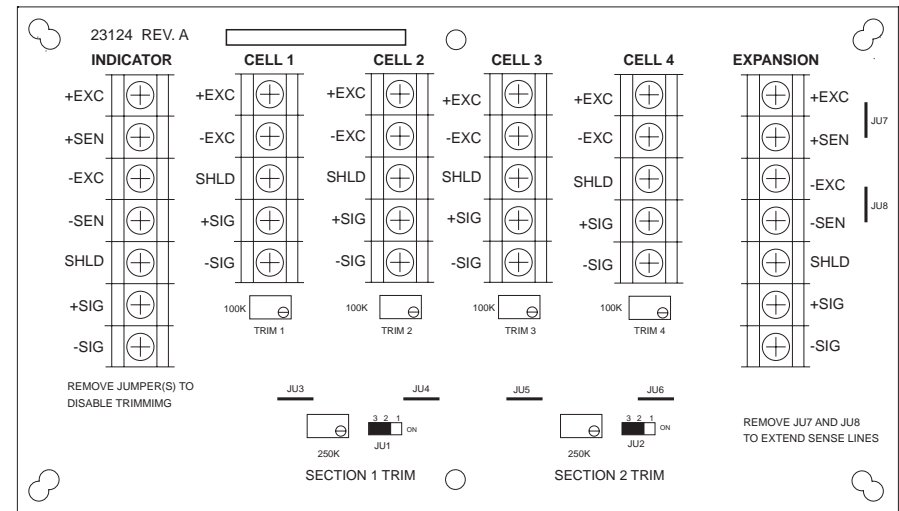


Wiring

The terminal strips are labeled "Cell 1" through "Cell 4" and are used to connect the individual load cells. Determine the number of load cells to be connected to the junction box. The EL211A has been designed to connect and trim four load cells. However, it is possible to use this box with other combinations. On a track scale or other system where load cells may be connected together in section "pairs", even numbers of cells (four or eight) may be used with the EL211A. This is done by paralleling the Excitation and Signal leads of a load cell pair, and connecting them to the same input on the J-Box. However, it is recommended practice when using more than four load cells to connect two EL211A J-Boxes by using the expansion connector.

After determining the wiring pattern, route the load cell cables through the nylon cord grip assemblies. 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; then connect the load cell and indicator cables to the appropriate connectors.

If only two load cells are used, cut the jumper traces (JU3 through JU6) on the two unused terminals. This will disable use of these terminals.



The INDICATOR terminal strip is used to connect 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 correct small errors which can cause inaccurate readings and drifting problems, especially if the indicator is located far from the junction box.