

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.



TEST WEIGHTS

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



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.

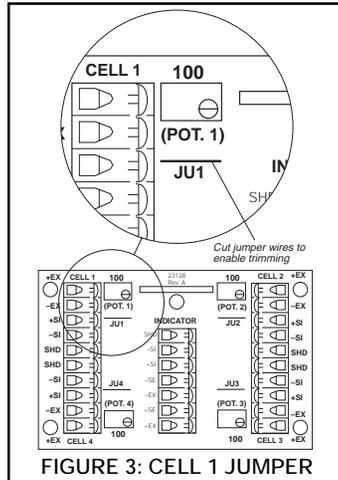
CABLE DRIP LOOPS

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 EL604ETA J-Box is an excitation trimming device. Trimming is a process of equalizing 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. Make sure jumpers have been cut to enable trimming of the cells corresponding to each load cell. See Figure 3.
3. Zero the indicator and place calibrated test weights over each load cell 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) without allowing the weight 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 which has the lowest value as your reference point. This cell will not be trimmed.
5. Replace the same test load over each cell in turn. Using the corresponding potentiometer, trim each cell down to equal the reference load cell. As corner corrections are somewhat interactive, check all cells again for repeatability. If necessary, repeat steps 4 and 5.
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.
7. The cord grip hex fittings must be turned so a hex flat, rather than a hex tip, is toward the cover. If a hex tip points toward the cover, it prevents the cover from closing fully.
8. The cover has a concave cutout to provide clearance for the indicator cable cord grip. Be certain to place the cover so the concave cutout is on the side where the cord grip is located.
9. Unused hubs must be plugged to prevent moisture entry. See the *Electronic Replacement Parts and Components* catalog to order extra hubs.
10. 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.
11. Replace the cover and tighten the cover screws in an alternating pattern to be certain the gasket is compressed equally in all locations.



EL 604ETA

Four-Channel Signal Trim Junction Box

Installation Manual



RICE LAKE WEIGHING SYSTEMS

Industrial Solutions on a Global Scale®



Introduction

The EL604ETA is an excitation trim junction box that can accommodate two, three or four load cells. If trimming is not necessary, all terminals will function properly without modification. However, load cell output can be individually trimmed with potentiometers. In this case, the jumper corresponding to the appropriate load cell terminal must be cut to enable trimming.

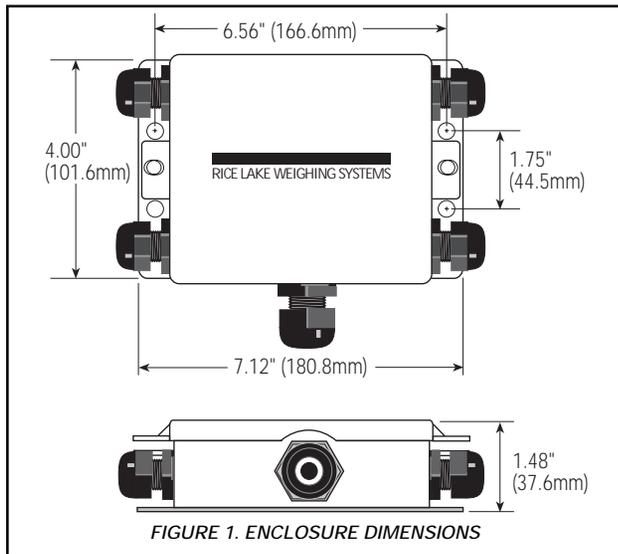
When correctly installed, the NEMA 4X stainless steel enclosure will withstand 40 psi water pressure. It is not, however, designed for high pressure washdown applications, exposure to steam, or exposure to high-temperature liquids.

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 output.

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 four pan-head screws, bolts, or other suitable 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 EL604ETA has been designed to connect and trim two, three, or four load cells only. Do not attempt to connect more than four load cells to the EL604ETA.

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 wires to the terminals, strip the wire insulation back 1/4" to expose the wire. The spring-loaded terminals will accommodate 14 to 26 gauge wire.

To connect the load cell and indicator wires to the appropriate connectors, push in the quick-connect lever with a small screw driver or ball point pen. While holding in the lever, insert the appropriate wire into the exposed wire opening. Remove the screwdriver or ball point pen to allow the spring-loaded gate to close and lock the wire in place.

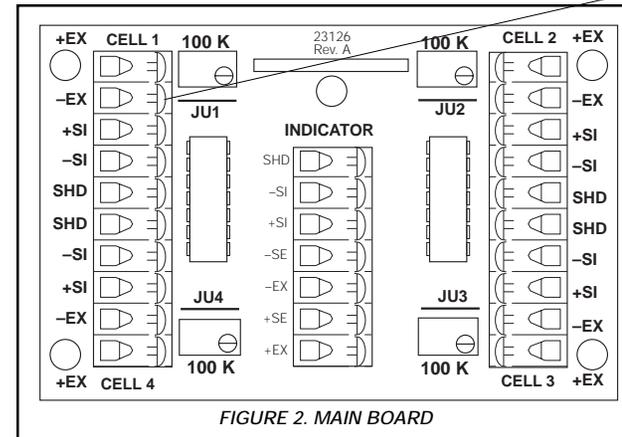
Any cell which has a load cell wired to it must have the corresponding jumper snipped to enable trimming. If less than four load cells are used, DO NOT cut the jumper traces on unused terminals. See Figure 3 on next page.

WIRING PATTERN

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

QUICK-CONNECT LEVERS

Push in corresponding lever to expose wire opening. Insert wire and release lever.



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.

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.