

# Installation Instructions

For PN 73428

The EL-204 is a signal trim junction box that can accommodate up to four load cells.

It has an ABS molded enclosure and molded-in nylon compression cable fittings that provide an extra waterproof seal. Figure 1 illustrates the EL-204 junction box with its six-screw attachment lid removed.

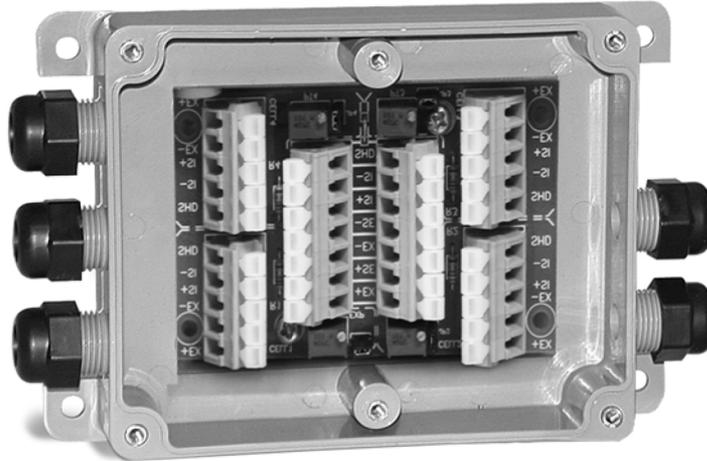


Figure 1. EL-204 Junction Box

## EL-204 Junction Box Mounting Procedure

Mount the junction box in a location convenient for servicing and away from standing water. Try to mount the enclosure in a location so that the 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.

Depending on the mounting surface, the EL-204 enclosure can be attached using two pan-head screws, bolts or other suitable fasteners. Figure 2, below, shows the dimensions for mounting the enclosure.

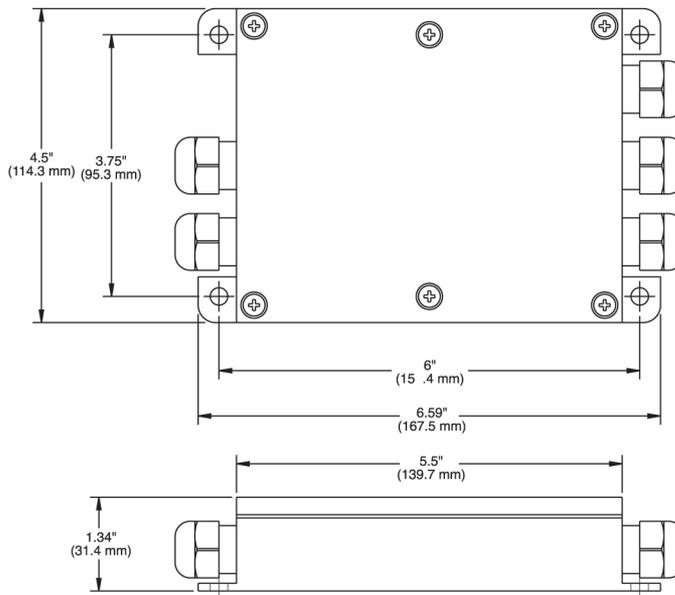


Figure 2. EL-204 Enclosure Dimensions



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## Wiring the Junction Box

The EL-204 junction box has been designed to connect and trim up to four load cells per board. For applications that use more than four load cells, use the expansion port on the main board to connect an additional junction box.

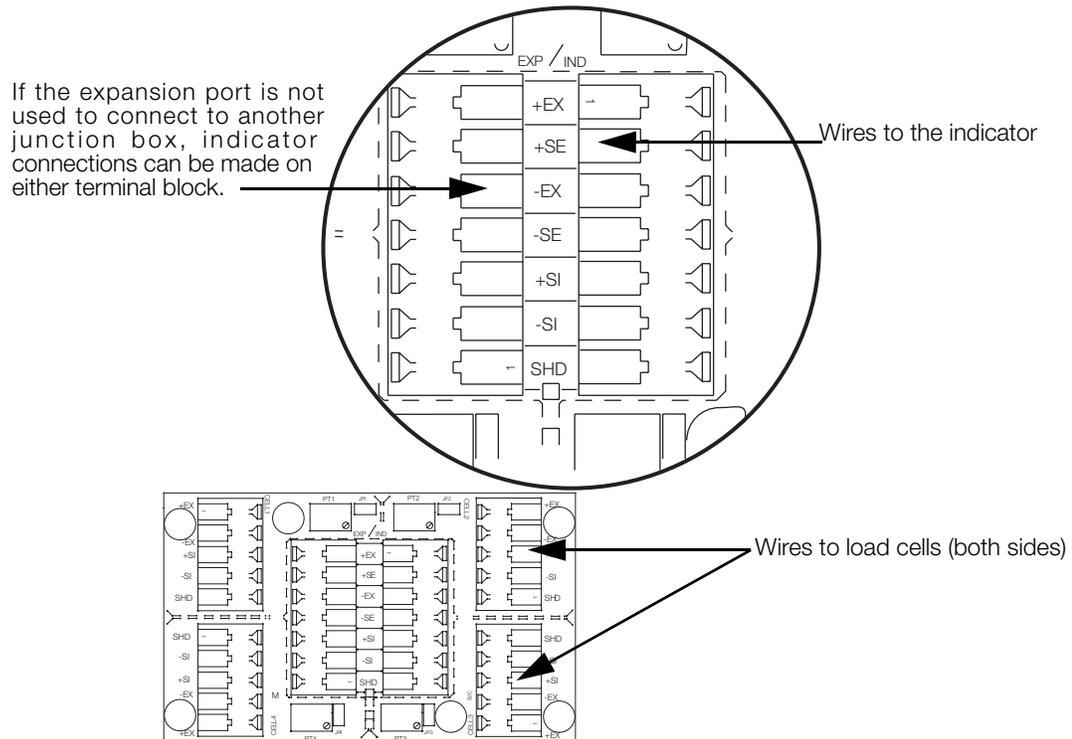


Figure 3. Expansion Board Wiring Location

After determining the wiring pattern, route the load cell cables through the cord grip assemblies and leave the grips loose until final closure. Before connecting the load cell wires to the terminals, strip the wire insulation back 1/4" to expose the wire. The spring loaded terminals will accommodate 12 to 28 gauge wire. To connect the load cell wires to the appropriate connectors, push in the quick-connect level with a small screwdriver. While holding the lever, insert the appropriate wire into the exposed wire opening. Release the screwdriver to allow the spring-loaded gate to close and lock the wire into place.

The indicator terminal strip, which is located on the expansion port is used to connect the main home run cable to the indicator. Determine the indicator's load cell input connections from the indicator operating manual. Run a cable from the indicator into the junction box through the larger cord grip and connect to the indicator terminal strip.

## Trimming Procedure

Trimming is a process of equalizing the output from multiple individual load cells. If needed, load cell output can be individually trimmed with potentiometers.

Whenever a substantial amount of trim (more than 5% of normal output), seems necessary to equalize output check for other possible problems. The best trim is always the least amount of time. When all errors except cell mismatch and cable extensions or reductions have been corrected, continue with the trimming.

Use the following steps to properly trim the EL-204 junction box.

1. Determine the number of load cells needed.
2. Make sure the jumpers are in place to enable trimming of the desired cells corresponding to each load cell in use. If you have any unused cells, remove the jumpers corresponding to those cells. See Figure 4 for the location of jumpers JP1, JP2, JP3, and JP4.
3. Set all potentiometers fully clockwise to give maximum signal output from each cell. (See the location of the potentiometers in Figure 4.)

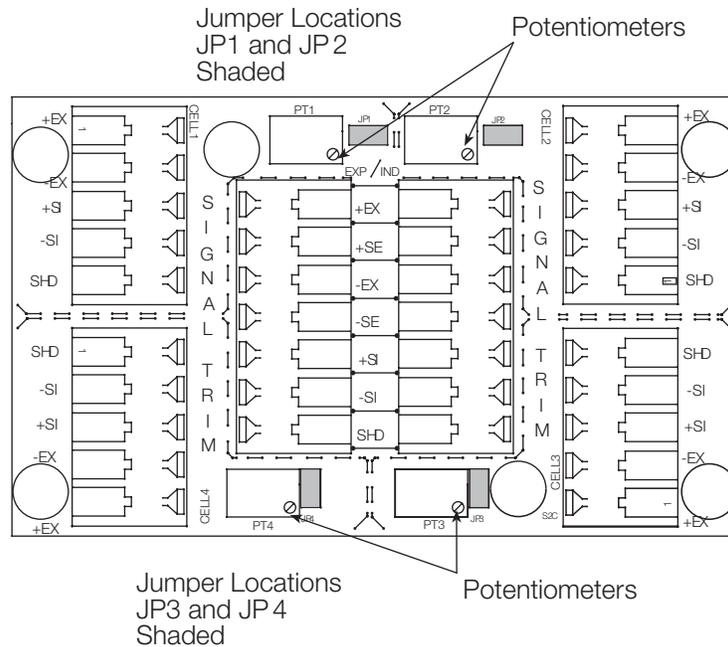


Figure 4. Signal Main Board

4. 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, it's recommended using 25% of scale capacity.
5. 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.
6. 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 four and five.
7. 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.
8. Unused hubs must be properly plugged to prevent moisture entry. See the *Electronic Replacement Parts and Components* catalog to order extra hole plugs.
9. Remove the desiccant from the plastic bag and insert the desiccant bag into the junction box before closing. Inspect the desiccant during normal service and change the desiccant as needed.
10. Replace the cover and tighten the cover screws in an alternating pattern to 15 in/lb to be certain the junction box cover is compressed equally in all locations.

# EL-204 Limited Warranty

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- Individual electronic components returned to RLWS for warranty purposes must be packaged to prevent electrostatic discharge (ESD) damage in shipment. Packaging requirements are listed in a publication, Protecting Your Components From Static Damage in Shipment, available from RLWS Equipment Return Department.
- Examination of such equipment by RLWS confirms that the nonconformity actually exists, and was not caused by accident, misuse, neglect, alteration, improper installation, improper repair or improper testing; RLWS shall be the sole judge of all alleged non-conformities.
- Such equipment has not been modified, altered, or changed by any person other than RLWS or its duly authorized repair agents.
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