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Specifications

- Stainless steel 304 (1.4301)
- Plastic cable glands PG9
- Available for 4, 6 or 8 load cells connections
- Excitation trim (+/- 10 turns, +/- 10 Ohm)
- 4-wire load cell connection
- 4-wire output connection
- Cable glands for cable diameter 5 to 6.2 mm
- Fit for 0.6mV/V up to 3 mV/V load cells
- Environmental protection IP65
- Screw-clamp terminals

Installation guidelines

The junction box model JB-SS304 provides an economic answer for a variety of weighing applications. Excitation trim makes it fast and easy to adjust the load cell outputs.

Model JB-SS304-4 offers connection and individual adjustment for up to 4 load cells. Models JB-SS304-6 and JB-SS304-8 offer connection and adjustment up to 6 and 8 load cells respectively. Cable glands that are not used need to be closed with suitable plugs.

Model JB-SS304 has a 5-way terminal strip for each load cell, enabling connection of 4 and 6-wire load cells with screen. Connection to the instrument is achieved via a 5-way terminal strip. Terminal strips are screw-operated cage clamp design.

To overcome disturbance, make sure not to create ground-loops whilst connecting the cable screens. Confirm (via the load cell data sheet) whether or not the load cell has its screen connected to its body.

Trimming of signal output is accomplished using 20-turn trim potentiometers. The operating temperature range of the Junction Box is -40°C to 85°C.

Dimensions

Width 178mm
 Height 45mm
 Length 193mm
 (dimensions without cable glands)

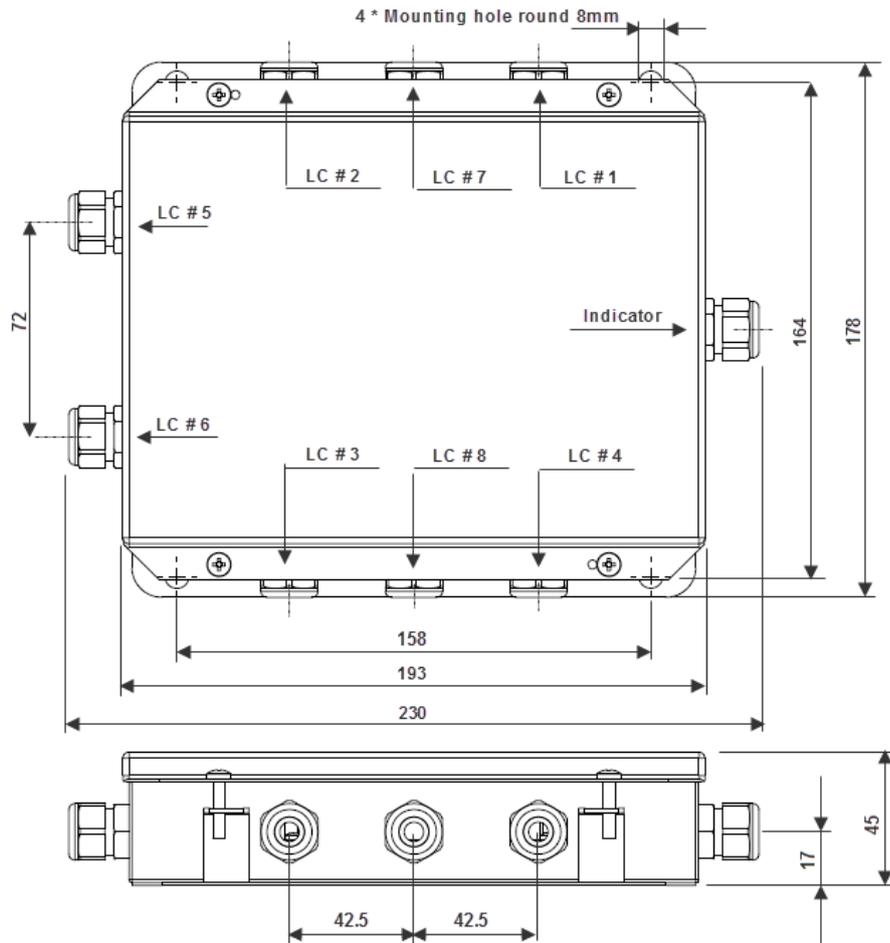


Fig 1: Outline Dimensions

Mounting

The Junction Box can be mounted through the 4 mounting holes (dia. 8mm). The load cells used should be of the same model, capacity and have the same rated output (mV/V). When installing the junction box, be sure that the enclosure is connected to the scale framework with a lowest risk to get wet.

Electrical Connections

Remove the cover and connect the load cell cables to the circuit board and the circuit board output (marked with OUT) to the associated indicator. See fig. 2 for the connection termination on the Printed circuit board and how the parallel connection is made when load cells are connected. Each load cell terminal strip has the same sequence for connecting the respective wires as the output terminal strip. Be sure that all terminal strip connections are tight and that the cables are not damaged. Tinning the leads is not recommended for vibrant applications.

It is possible to use the JB-SS304 with fewer load cells than for which it is designed. There is no need to change anything. Make sure the un used cable glands are sealed properly.

+ EXC	excitation +
- EXC	excitation -
+ SIG	signal +
- SIG	signal -
SHIE	shield

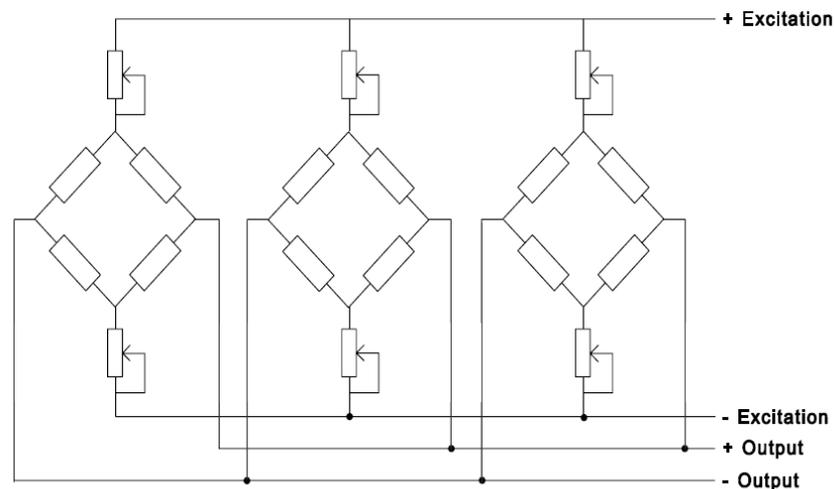


Fig 2: Load Cell and Output Connection

Calibration

After all wiring is completed and the scale instrument is powered up, check the scale for repeatability and correct any problems. Model JB-SS304 has two (2) cornering potentiometers per load cell. The potentiometers nearest to the terminal strip E+ and E- adjusts the respective load cell connected to it.

Two ways are described to adjust the corners. 1a can be used for relative large differences in load cell specifications. 1b can be used to achieve the largest possible output for best performance.

1a Corner adjustment:

The cornering potentiometers have all been set to their mid points during manufacturing. There is no need to adjust them before calibration.

- A. Apply the cornering load to each corner in turn and record the weight value.
- B. Calculate the average (mean) value of all the weight readings as a reference value.
- C. Apply the cornering load to each corner in turn and adjust the appropriate potentiometers up/down so that the weight reading is the same as the calculated reference value.
- D. Repeat steps 2-4 until the corner readings are all within the error allowed.

1b Corner adjustment:

- A. Turn each of the potentiometers fully anti-clockwise (maximum 28 turns, click will be heard and/or felt), to obtain the highest possible output from each load cell.
- B. Place a test weight over each of the load cells in turn and record their readings and location. The lowest reading will be used as your target weight.

- C. Replace the test weight over each of the load cells in turn and if necessary, adjust the corresponding potentiometers so that the weight indicated matches the target weight.
- D. Place the test weight over the load cell located in the step A. Record this weight as the new target weight and repeat steps B & C until all cells are matched and all the scale corners read the same.

II Span adjustment:

For span adjustment please see the manual of the indicator.

III Troubleshooting:

The scale seems to be reading incorrectly:

1. Unload the scale and check for a zero reading with no load on the scale.
2. Ensure that the object being weighed is fully on the scale and not supported otherwise.

The scale corner readings are not equal:

1. Repeat the setup and adjustment procedure.
2. Check the load cells for damage.

The scale readings drift rapidly:

1. Check for water in the junction box
2. Check the load cells and their cables for damage.
3. Disconnect one load cell at a time from the junction box. If the scale becomes stable, then the disconnected load cell is probably defective.

Use a load cell simulator to verify that the indicator is stable and operating correctly.

Printed Circuit Board Picture

