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Specifications

- Die-cast aluminium housing
- Plastic cable glands
- Available for 2, 3 or 4 load cells connection
- Excitation trim (28 turns, 5M Ohm)
- 4 wire load cell connection
- 4 wire output connection
- Environmental protection IP65
- Screw-clamp terminals and soldering connections

Installation guidelines

The junction box model JB02 provides a low cost answer for a variety of weighing applications. Excitation trim makes it fast and easy to adjust the load cell outputs.

Model JB02-2 offers connection and individual adjustment for up to 2 load cells. Models JB02-3 and JB02-4 offer connection and sectional adjustment for 3 and 4 load cells respectively and offer the user the possibility to connect further junction boxes where required. Cable glands that are not used need to be closed with suitable plugs.

Model JB02 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 and is also possible by soldering points. 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 28-turn trim potentiometers. The operating temperature range of the Junction Box is -40°C to 85°C.

Dimensions

Width 65mm
Height 38mm
Length 135mm
(dimensions without cable glands)\

Mounting

The Junction Box can be mounted through the 2 mounting holes (dia. 4mm). 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 low resistance earth strip.

Electrical Connections

Remove the cover and connect the load cell cables to the circuit board and the circuit board output to the associated indicator (see fig. 1). Each load cell terminal strip has the same sequence for connecting the respective wires as the indicator terminal strip (each Exc+ is marked with a square (instead of circular) soldering point). 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.

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

Fig 1 (load cell and indicator connection)

It is possible for the all JB02 to be used with fewer load cells than for which they are designed.

Calibration

After all wiring is completed and the scale instrument is powered up, 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. Before proceeding with following adjustments, check the scale for repeatability and correct any problems.

I Corner adjustment:

Model JB02 has one potentiometer for each load cell. The potentiometer nearest to a terminal strip adjusts the respective load cell connected to it.

- A. 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.
- B. Replace the test weight over each of the load cells in turn and if necessary, adjust the corresponding potentiometer so that the weight indicated matches the target weight.
- C. 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.

Notes:

Complies with:

- EMC directive 2004/108/EC in relation to the harmonised standards EN61000-6-1:2001 and EN61000-6-3:2001.
- RoHS directive 2002/95/EC.