

# JBA Active Load Cell Junction Box

## Features

- Improves overall system accuracy in weighing systems
- Combines corner correction with load cell termination
- Simple adjustment procedure
- Robust IP65 enclosure
- Ideally suited for use with the ADW15, SMW and LCA15

## Typical Applications

- Vessel Weighing
- Platform scales
- Hopper weighing
- Conveyor weighing
- Batch weighing
- Silo weighing

## Description

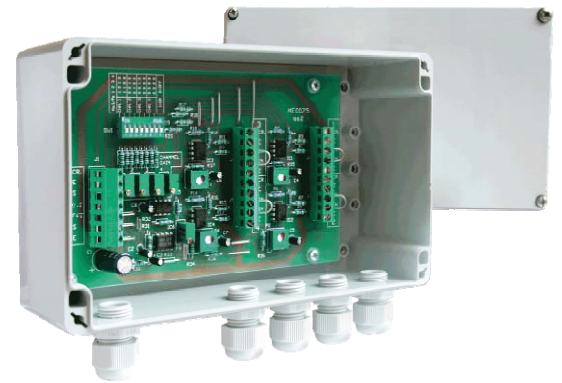
The function of the JBA active load cell junction box is to enable easy adjustment of load cell (output) manufacturing tolerances without any channel interaction, to give a summated output.

### Features

The JBA Junction Box is used to sum the outputs from up to four load cells to allow them to be connected to the LCA15/ADW15 Strain Gauge Indicator/Controller.

The individual channel gains can be set up via DIL switches and preset potentiometers to allow for 2, 3, or 4 load cells.

Adjustment of the gain does not interact with the offset and offset is preset, to speed up matching of the load cell gain.



## Specification

Powering:	10vdc nominal, from connected instrumentation
Maximum Current:	20mA
Connection:	6 wire from instrument to JBA. 4 wire from JBA to each load cell
Gain setting per channel :	Variable from 0.2 to 1.0 by use of switch and potentiometer (see table in Setup Instructions)
Maximum input voltage:	20mV/V (200mV)
90 day accuracy stability:	±0.06%gain
Effect of temperature:	±0.02% per degree C typical at 2.5mV/V
Field terminals:	35 degree screw operated cage clamp type
Maximum cable:	size 2.5mm square
Dimensions:	200 x 120 x 75mm
Environmental:	Sealed to IP65 with cable entries via 5 x IP67 glands supplied fitted
Enclosure:	ABS (120 x 200 x 75mm)
Options	Supply of Eurocard (100 x 160mm) PCB only excluding case
Case alternatives	die cast, aluminium or stainless steel sealed to IP65

### Note

Each load cell signal is added, therefore the output is the summation of all the load cell connected e.g. 4 x 2mV/V load cells will give an output of 8mV/V when set to x 1.

## Setup Instructions

Note: The offset adjustment per input is factory preset to 0 mV and this must not be adjusted. Any offset output errors from load cells due to standing loads and initial accuracy, will be added. The result of this summated offset will be passed to the LCA15/ADW15/SMW for cancellation during normal auto calibration.

The individual channel gains can be set up via DIL switches and preset potentiometers to give an overall gain of unity when 1, 2, 3 or 4 load cells, are connected. (e.g. when 2 load cells are used each channel has a gain of 0.5).

The switch setting diagram inside the JBA assumes that the load cell channels are filled, starting from No1 through to No4 as required. Unused channels should be linked out (+IN to -IN).

Number of Load Cells	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	Gain Range (via preset)
1	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	x1.5-0.5
2	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	x0.33-0.5
3	ON	OFF	ON	OFF	ON	OFF	OFF	OFF	x0.25-0.33
4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	x0.2-0.25

The unit is designed for 4 wire load cells. If 6 wire load cells be used, their excitation and sense wires should both be connected to the appropriate 'E' terminals.

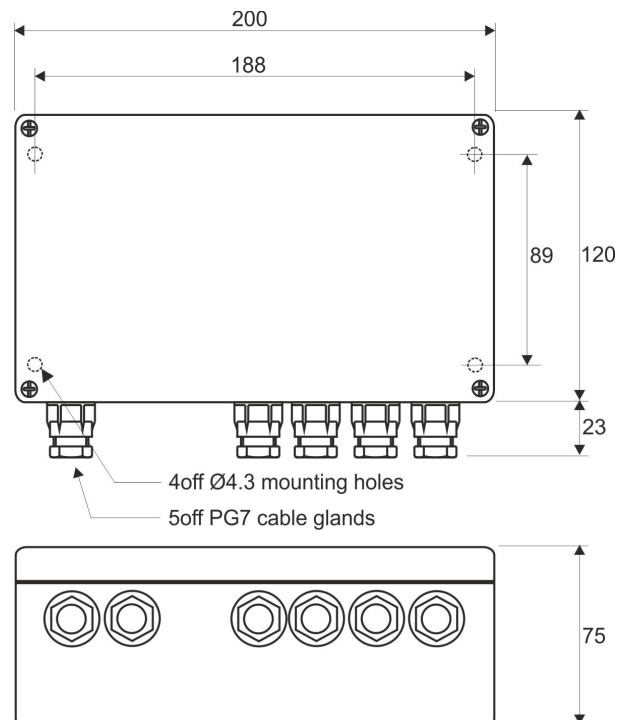
The 4 channels can be matched by adjusting the 'Channel Gain' potentiometers having first set the DIL switches for the number of load cells used.

If access to individual load cells is possible e.g. before the platform or hopper is in position, then calibration can be carried out by placing a weight on one of the cells, and noting the change in display reading on the ADW15. Repeat this for each remaining load cell, and adjust the 'Channel Gain' potentiometers, to give the same change in display reading for each cell used.

Should the platform already be in position it will be necessary to use a millivolt source to carry out the calibration. Apply a voltage of 10 times the mV/V figure given for the appropriate load cell, to each channel in turn, adjusting the 'Channel Gains' to give equal changes in display readings for each cell used.

## Mechanical Dimensions

All dimensions in millimeters



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Due to continual product development, LCM Systems Ltd. reserves the right to alter product specifications without prior notice.

Issue date: 17/11/2011