

# Load Cell Active Junction Box

## Instruction Sheet

### Features

- The Strain Gauge Junction Box is used to sum the outputs from up to 4 Strain Gauges 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 Strain Gauges
- Gain is not interactive and offset is preset, to speed up matching of Strain Gauge gain



### Introduction

The load cell Junction Box is used to sum the outputs up to 4 load cells to allow them to be connected to an ADW15.

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 as a gain of 0.5)

The switch setting diagram inside the JBA assumes that the load cell channels are filled starting from No.1 through to No.4 as required. Unused channels should be linked out (+IN to -IN).

### Switch settings

Number of Strain Gauges Connected	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	x 1 - 0.5
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	x 0.33 - x 0.5
3	ON	OFF	ON	OFF	ON	OFF	OFF	OFF	x 0.25 - 0.33
4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	x 0.20 - 0.25

The unit is designed for 4 wire Strain Gauges, should 6 wire Strain Gauges be used, their excitation and sense wires should be both 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 Strain Gauges used. If access to individual Strain Gauges is possible eg 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 Strain Gauge, 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 millivolt/volt figure given for the appropriate Strain Gauge, to each channel in turn, adjusting the 'Channel Gains' to give equal changes in display readings for each cell used.

### Specifications

Input	Up to 20mV/V
Channel Gain	x 1 to x 0.25 to allow for 1-4 load cells, DIL switch selectable with potentiometer for fine trim.
Dimensions	200 x 120 x 75mm ABS

