

Load Cell Active Junction Box

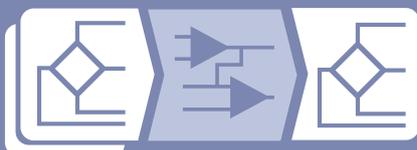


Product Features & Benefits

- Accurate and easy summation of up to 4 load cells
- Corner correction enabled to compensate for manufacturing tolerances and loading in multiple strain gauge installations
- Individual gain adjustment provided for each channel
- Simplifies installation of multi-cell platforms, silos, tanks and hopper weighing systems
- Optionally supplied as PCB only 102 x 164 mm (JPA)

Ideal Applications

- Agriculture
- Silo & Weighing Industry



Introduction

The JBA is an active summing junction box providing connectivity and corner correction for up to four strain gauge-based sensors such as load cells, force sensors, pressure sensors, torque sensors etc. It derives its power from a host instrument such as the ADW, LCA20, LCD20.

Individual channel gains are setup via an 8-way DIP switch and multi-turn potentiometers to produce an overall 1:1 input/output gain e.g. if three gauges are connected, they are each given a gain of 0.33 so that when summed, the overall gain is unity. The whole installation then appears as a single gauge to the host.

Any resulting offset (Zero) is not adjustable but can be compensated for in the host instrument.

Alternatively for a simple summing circuit with no trimming and no corner compensation, use the Passive Load Cell Junction Board (JPP) and for fault monitoring and fault detection alarm features, use the Load Cell Junction Box with Fault Monitoring, (LCI).

Related Products



JPA
Junction Box Active PCB Board



LCI
Load Cell Junction Box



LCA20
Load Cell Amplifier



LCD20
DIN Rail Load Cell Amplifier



ADW15
Weighing indicator with analogue, data and relay outputs



SMW
Weighing indicator and weight controller

Specifications

Electrical Specifications	Typical
Power supply	5-10 V (note 1)
Current requirement	12 mA (note 2)
Input range	0.5 - 20 mV/V
Bridge resistance	350 Ohms typical (note 3)
Zero	±0.03 mV
Zero temperature coefficient	0.0014 %FR/°C (note 4)
Gain temperature coefficient	0.005 %/°C
Channel gain adjustment	0.2 – 1.1 (note 5)
Output gain adjustment	±12 %

Note 1: sourced from the host's excitation supply.

Note 2: excluding strain gauge excitation current.

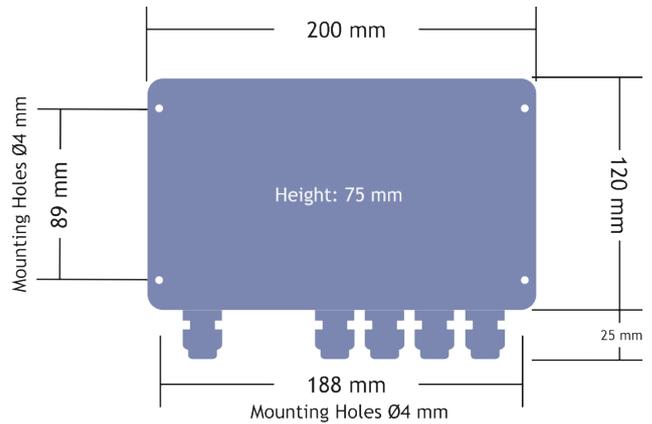
Note 3: The sum of the load cell excitation currents must not exceed the capability of the host.

Note 4: 2.5mV/V @ 4V excitation.

Note 5: dependant on the number of gauges used – set by DIP switch and channel potentiometer.

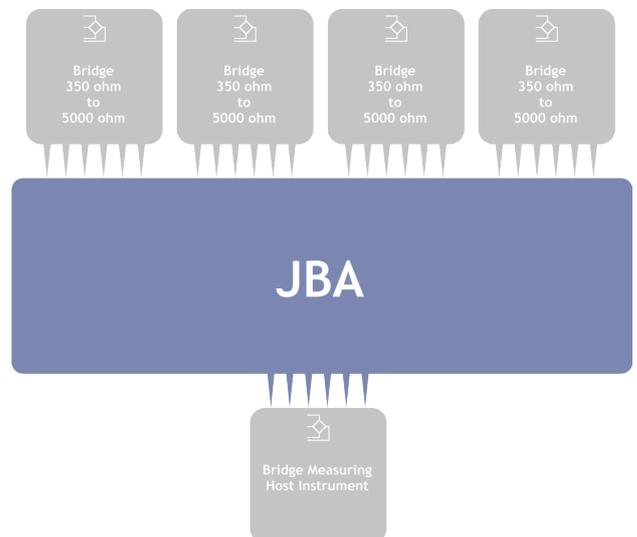
Environmental	Typical
Storage temperature	-55 to + 125°C
Operating temperature	-40 to +80°C
Maximum humidity	95% non-condensing
Approvals	
European EMC Directive	2004/108/EC
Low Voltage Directive	2006/95/EC
Strain Gauge Connections	
Two-part rising clamp screw connectors	
6-wire from host to JBA, 4-wire from JBA to each strain gauge	
Maximum cable size 2.5mm ²	

Mechanical



IP65 ABS field case fitted with 5 M16 cable glands
Cable diameter: 4mm (0.16") to 7mm (0.27")

Electrical



Order Codes

JBA: Junction Box Active

JPA: Junction Box Active PCB board only

Mounting Enclosures:

D3: IP65 Rated Case and DIN Rail Mounting for DSJ4, LCA, UAB, JBA, SMW

Accessories:

LAB: ABS IP65 Case with Plain ABS Lid 200 x 120 x 75mm

LSS: Stainless Steel IP65 Case with Stainless Steel Lid
220 x 160 x 90 mm

LDC: Die Cast Case with Die Cast Lid
220 x 120 x 80 mm

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