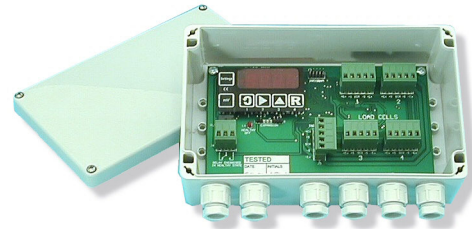


## JBOX LCI

## LOAD CELL INTEGRITY ALARM & JUNCTION BOX

A junction box for the connection of 2 to 4 load cells; with on board intelligence to monitor load cell performance. An alarm will be immediately generated if any load cell falls outside the pre-set balance, operating range or any open or short circuit connections are detected. These fault conditions are very often masked with a standard junction box allowing operation with unknown errors.



### Benefits

- Immediate alarm and indication of a load cell malfunction.
- Avoid incorrect material levels due to load cell or cable faults.
- Continuous assurance of product quantity
- Can avoid batch wastage or product recall
- Increased safety in critical applications.
- Reduction of down time by quick fault diagnosis
- Aids installation and commissioning.

### Features

- Alarm will be generated if:
  - ° One or more load cells are out of balance from pre-set error band
  - ° Any load cell is operated outside preset range
  - ° Excitation voltage drops
  - ° Any connection is lost
  - ° A short circuit is detected
- Alarm via volt free contacts for remote connection and load indication
- On board Intelligence
- mV/V display of each load cell & total
- Displays which load cell is at fault & fault type
- Can replace any standard junction box
- Options for RS485 or telemetry link

### Specifications

<i>Faults Monitored</i>	Load Cell out of pre-set balance range balance Load Cell out of pre-set operating range Low/high excitation Open circuit to any load cell on each connection Short circuit on any load cell connection Internal load cell fault (Bridge Imbalance)
<i>Powering</i>	By Load Cell Excitation typically 10v DC
<i>Indication</i>	1 x 4 digit 7 segment LED display for set up, load cell in error type & individual total mV outputs
<i>Setting Method</i>	6 buttons for reading & set up
<i>Connections</i>	2 part terminals, up to 2.5mm <sup>2</sup> cable 4 x 5 way, for load cell connection 1 x 5 way, load cell output 1 x 3 way, alarm relay contacts
<i>Dimensions</i>	200x120x75mm (PCB dimensions 170 x 100mm excluding mounting material)
<i>Environmental</i>	Sealed to IP65 with cable glands & blanking plugs fitted CE Compliance.
<i>Enclosure Material</i>	Grey ABS

### Options

1. Communications version allowing set up and monitoring of all parameters via RS485.
2. Self learning version to adapt to individual applications

### Order Codes

*JBOX LCI ABS* PCB supplied as standard in ABS Junction Box Enclosure IP65 (standard)

### Optional versions

*JBOX LCI LTL* Transparent Plastic Clear Lid  
*JBOX LCI LSS* Stainless Steel Junction Box Enclosure IP65

### Protection

Surface Junction Box to IP 65

### CE & Environmental Approvals

EMC Directive 89/336/EEC	EN 50 082-1 :1992 (Light Industrial)
EMC Emissions	EN 50 082-2 :1992 (Heavy Industrial)
EN 50 081-1 :1992 (Light Industrial)	Low Voltage Directive 73/23/EEC amended by
EN 50 081-2 :1992 (Heavy Industrial)	93/68/EEC
EMC Immunity	IEC 1010-1 :1990
	BSEN 610101 :1993

### Parameter

	Min	Typical	Max	Units
Power supply volts from excitation supply	9	10	12	Vdc
Power supply current from excitation supply 1		43	52	mA
Bridge excitation 350R load cell	8	10	12	V
Bridge resistance (typically 350-700R) each	300	350	1000	ohms
Bridge sensitivity	1.0	2.0	5.0	mV/V
Bridge No selectable	1		4	Bridges
Output load	1M		100G	ohms
Bandwidth of Junction Box		100		Hz
Zero temperature co-efficient of Junction Box @ 2mV/V	-0.0005	0	0.0005	%V/q C
Span temperature co-efficient of Junction Box	-0.0005	0	0.0005	%/q C
Linearity of Junction Box	-0.0015	0	0.0015	%FSD
90 day Stability of Junction Box	-0.001	0	0.001	% FSD
Operating temperature range	-40		85	q C
Storage temperature range	-40		95	q C
Humidity		95		%
Scan Speed for alarm output (4cells)		40	100	mS
Display, Range	-50.00		+50.00	mV
Relay contacts SPCO normally energized			500	mA
Relay contacts SPCO normally energized			50	V
Alarm operating speed for less than 1mV change		100		mS

### Notes

1. Allowance for optional fitting of 'Voltage absorber' to excitation supply to protect in near lightening conditions.
2. Relay normally energised.
3. Display normally to show mV total, or fault indication if present.
4. Alarm will not function when input speed exceeds change of 1mV in 100mS. This is to prevent false alarms during sudden change of load.

# JUNCTION BOX

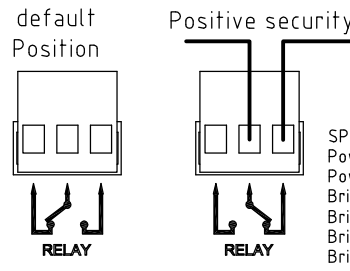
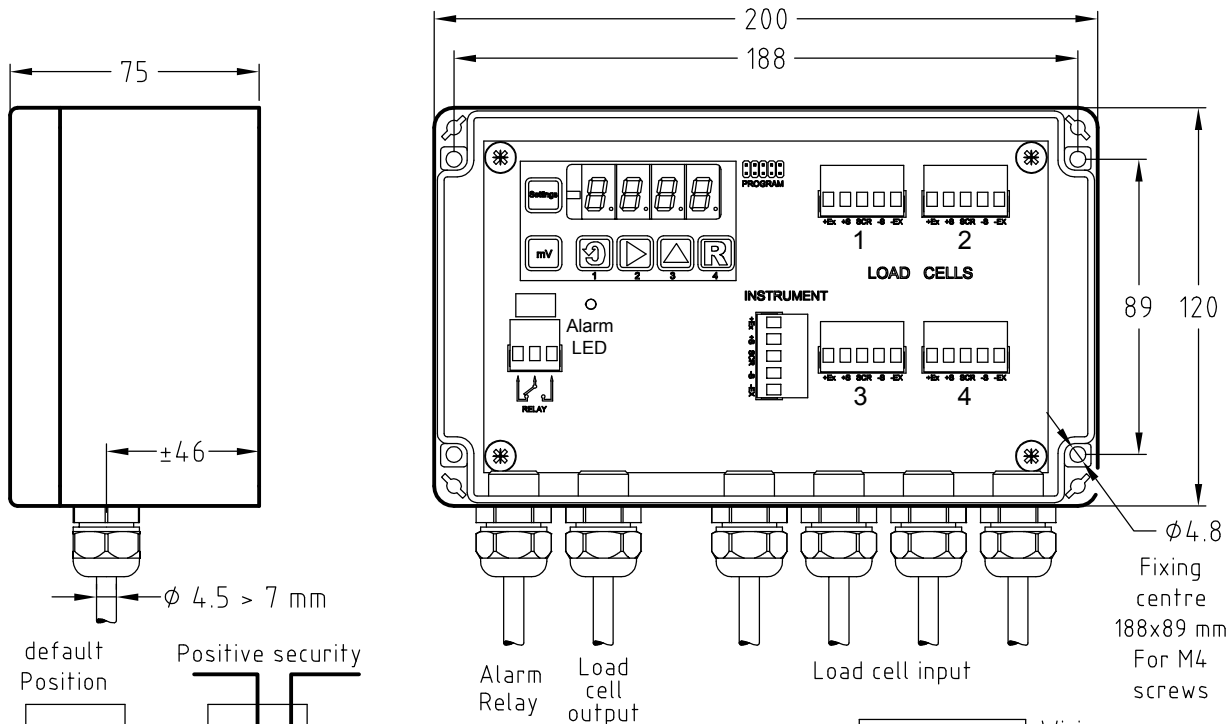
model JBOX-LCI for 1 to 4 Load cells



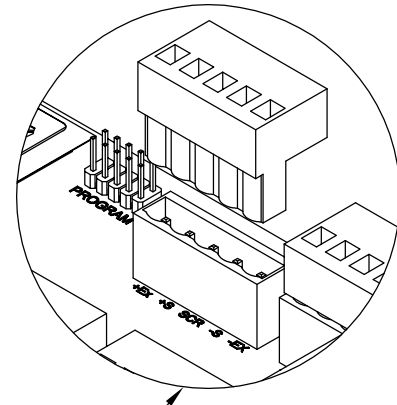
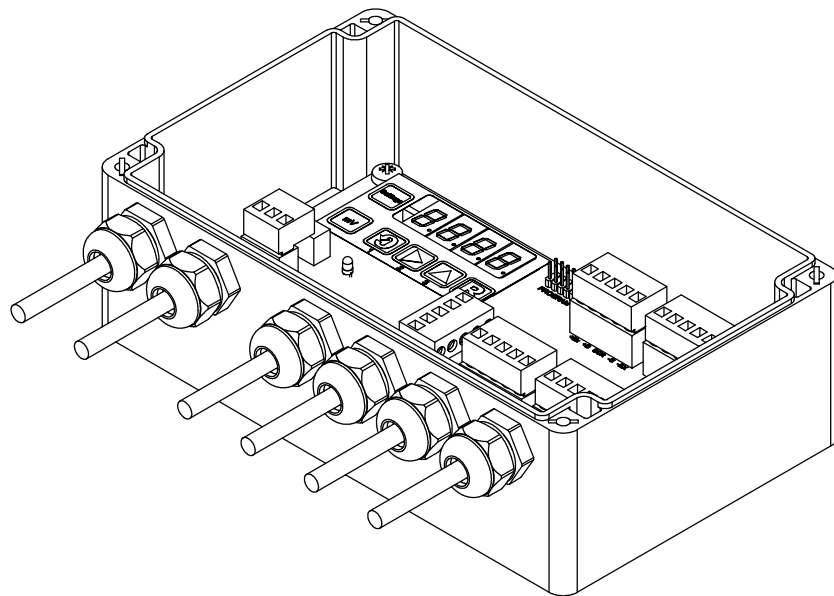
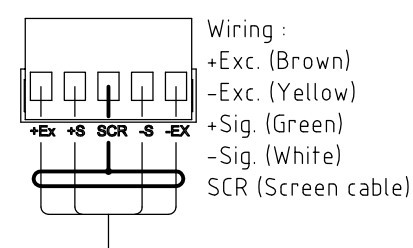
Load cell integrity alarm & junction box , IP 65 enclosure ABS

Faults monitored :

- Load Cell out of preset balance range
- Load Cell out of pre-set operating range
- Open circuit to any load cell on each connection
- Short circuit on any load cell connection
- Internal load cell fault (Bridge Imbalance)



**SPECIFICATIONS :**  
 Power supply volts from excitation supply 9 to 12 Vdc  
 Power supply current from excitation supply 43 to 52 mA  
 Bridge excitation 350R load cell 8 to 12 V  
 Bridge resistance (typically 350-700R) each 300 to 1000 ohms  
 Bridge sensitivity 1.0 to 5.0 mV/V  
 Bridge selectable 1..4 Bridges



2 part plug-in connectors wire max 2.5 mm<sup>2</sup>

Rev.14/8/2002