

Load Cell Junction Box with Fault Monitor

Features

- On board Intelligence
- Alarm via volt free contacts for remote connection and load indication
- 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
- mV/V display of each load cell & total
- Displays which load cell is at fault & fault type
- Can replace any standard junction box



Introduction

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 normally masked with a standard junction box allowing operation with measurement 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

Specifications

Faults Monitored	Load Cell out of preset balance range 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)
Powering Indication	By Load Cell Excitation typically 10v DC 1 x 4 digit 7 segment LED display for set up, load cell in error type & individual total mV outputs 6 buttons for reading & set up
Setting Method	2 part terminals, up to 2.5mm ² cable 4 x 5 way, for load cell connection
Connections	1 x 5 way, load cell output 1 x 3 way, alarm relay contacts
Dimensions Environmental Enclosure Material	200 x 120 x 75mm. (PCB dimensions 170 x 100mm excluding case) Sealed to IP65 with cable glands & blanking plugs fitted CE Compliance. Grey ABS

Order Codes

LCI PCB supplied as standard in ABS Junction Box Enclosure IP65 (standard) with a Transparent Plastic Clear Lid

Option Available

LSS Stainless Steel Junction Box Enclosure IP65

Protection

Surface Junction Box to IP65

CE & Environmental

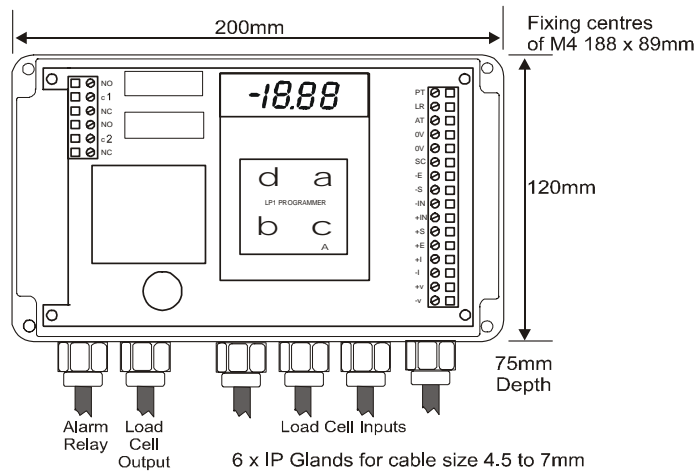
Relative humidity	95% maximum non condensing	EMC Emissions	BS EN 55011:1998
Safety/Low Voltage Directive	73/23/EEC amended by 93/68/EEC BS EN 61010-1:2001, IEC 1010-1-1990	EMC Immunity	BS EN 61000-42:1995 BS EN 61000-4-3:2002 BS EN 61000-4-4:2004 BS EN 61000-4-11:2004
EMC Directive	89/336/EEC Basic Standard BS EN 61326:1998		

Parameters

Parameters	Minimum	Typical	Maximum	Units
Power supply volts from excitation supply	8.2	10	12	V DC
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/°C
Span temperature co-efficient of Junction Box	-0.0005	0	0.0005	%/°C
Linearity of Junction Box	-0.0015	0	0.0015	%FSD
90 day Stability of Junction Box	-0.001	0	0.001	%
90 day Stability of Junction Box	-0.001	0	0.001	%FSD
Operating temperature range	-40		85	°C
Storage temperature range	-40		95	°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. To enable ADW15 or LCA15 to drive 4 x 350R load cells and the LCI.
2. Allowance for optional fitting of 'Voltage absorber' to excitation supply to protect in near lightning conditions.
3. Relay normally energised.
4. Display normally to show mV total, or fault indication if present.
5. Alarm will not function when input speed exceeds change of 1mV in 100mS. This is to prevent false alarms during sudden change of load.



C In the interest of continued product development, Mantracourt Electronics Limited reserves the right to alter product specifications without prior notice.