

Load Cell Amplifier LCA 15

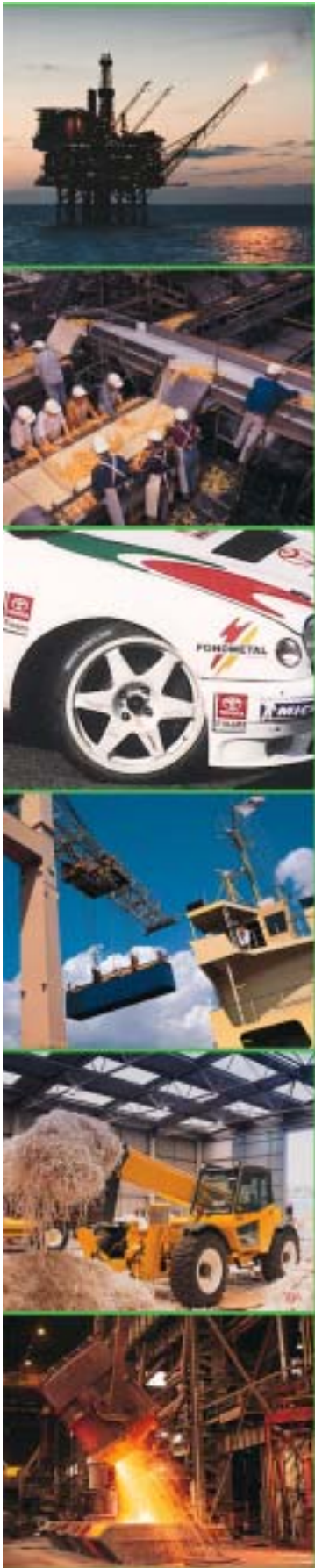


INTRODUCTION

The amplifier offers both 4 –20mA and 0-10V analogue outputs from any strain gauge input. 1 pass calibration and setting of the analogue output range, make the unit extremely user friendly; being set up by a simple hand held or on board programmer/display. Auto tare and peak hold (if set) on the analogue output are operated volt free contact closures.

FEATURES

- Variable gain strain gauge sensitivity from 0.5 to 200mV/V.
- 10V @ 160mA excitation to drive up to 6/350 ohm strain gauge bridges.
- High accuracy, low drift.
- Wide range of power supplies.
- IP65 surface mounting case.
- Isolated analogue outputs
- 10 years data retention.
- Digital programming, calibration & display.
- Data protection using keypad security



Input Details

The input is of the load cell / strain gauge type. With transducer excitation voltage of 9.6V @ 160mA to drive 6 x 350R bridges. Compensation by \pm sense wires for cable and safety barrier losses down to 3V excitation.

Load Cell sensitivity is preset via DIL switches to 0.5, 0.8, 1.0, 1.25, 1.5, 2.0, 2.5, 3.5, 5, 10, 20, 50, 100 or 200mV/V.

Initial offset is no greater than $\pm 0.15\text{mV}$ ($15\mu\text{V/V}$) which is cancelled during auto calibration.

PARAMETER	DETAILS
Speed	Up to 10 readings per second with a digital filter to reduce speed.
Accuracy / repeatability	Up to 90 days $\pm 0.08\%$ of reading, $\pm 0.05\%$ FSD typical
Drift	Up to 0.002%/°C@2.5mV/V typical
Resolution	15 bit.
Contact inputs	Available for auto tare, print and peak hold reset (volt free)

Analogue Output Details

PARAMETER	DETAILS
Drive	4-20mA up to 1Kohm and 0-10V up to 2mA
Accuracy	4-20mA $\pm 0.15\%$ of range, typical. 0-10V $\pm 2\%$ before calibration
Resolution	As for display up to 13 bits. Settling time 0.25 secs to 1% of step change
Function(s)	Time out.

CE & Environmental Approvals

PARAMETER	DETAILS
Storage Temperature	-20 to +70 °C
Operating Temperature	-10 to +50°C
Relative Humidity	95% maximum no stop condensing
Safety / Low Voltage Directive	73/23/EEC amended by 93/68/EEC to IEC 1010-1:1990, EN61010-1-1993
EMC Directive	EN50 081 – 1 : 1992 (Light Industrial)
Emissions	EN50 081 - 2 : 1992 (Heavy Industrial) EN50 082 - 1 : 1992 (Light Industrial)
EMC Immunity	EN50 082 – 2 : 1992 (Heavy Industrial)

Options Available

PARAMETER	DETAILS
2 set points	Output through 5A, 230V AC SPCO relays, with a latching operation
Communications Port	For data transfer or printer via:
20mA loop	Enabling up to 254 units to be multi dropped to 1 x RS232 via IF25 interface(s) (isolated)
RS485	Enabling up to 32 units to be multi dropped (isolated)
RS232	For 1 to 1 connection and standard printer drive (isolated)
Print Operation	By closure of volt free contact
Baud Rates	300, 600, 1200, 2400, 4800, 9600 (19200 MANTRABUS only)
Die Cast Case	Sealed to IP 65 with external dimensions of 220x120x80mm max
Stainless Steel Case	Sealed to IP 65 with external dimensions of 224x160x90mm max
DC powering	9-32V DC
PCM only (LCB)	100x160x57mm for rack or customers enclosure

Dimensions

PCB ABS Case dimensions : Width 120mm x Length 200mm x Depth 75mm.

CE Approved

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