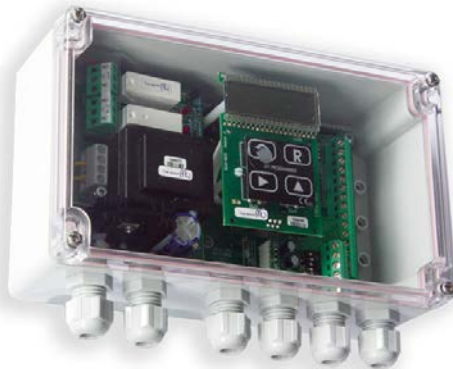


## Load Cell Amplifier with Data Outputs RS232 & RS485



### New Design PCB



*The ROHS Compliant LCA20 flexible digital signal conditioning amplifier for multiple or single load cell applications, offering very easy one-pass calibration and fast set-up*

### Introduction

The LCA15 has been redesigned to become the LCA20 taking advantage of new technology with **improved performance** and **increased functionality**. The external appearance and dimensions of the LCA20 remains the same as the LCA15.

In addition to the introduction of a new microprocessor and using the latest RISC technology, the LCA20 has many new features such as the selection of device parameters via a PC or keypad rather than using the traditional on-PCB switches.

A PCB only version, which can be DIN rail mounted, is also available as the LCB20.

### Specification at a Glance

- RS485 and RS232 digital data output for communications and printing
- Measurement speeds 10 / 80 samples per sec
- Factory calibration in mV/V
- 5 V excitation supports up to 10 x 350 R load cells
- Fully isolated 4-20 mA and 0-10 V analogue outputs
- 6 wire input to compensate for barrier and cable losses
- 2 set points SPCO relay outputs
- Sensitivity from 0.5 to 7.8 mV/V
- 10 pt linearization
- 3 x configurable digital inputs e.g. for auto tare, peak hold and reset
- Firmware now supports Mantrabus 1 & 2, MANTRA ASCII 2 & MODBUS RTU
- ROHS Compliant & Environmentally sealed to IP65 / NEMA 4 enclosure dimensions 200 x 120 x 75 mm



New LCA Toolkit Software

### User Benefits

- Improved stability of load cell input
- Improved analogue output response time
- Full digital set-up and calibration using keypad or PC
- Easy load cell sensitivity selection set by PC or keypad
- Analogue and data output, set point and display capabilities AC or DC powered
- Simple one pass calibration
- New comms module
- Easy configuration using LCA Toolkit software
- Available with DIN Rail mounting or PCB module or a stainless steel case

### Ideal Applications

- Civil Engineering
- Agriculture
- Industrial Processing



## Related Product



**LCB20**  
Digital load cell amplifier with data & relay outputs



**ADP15**  
Universal digital panel meter for measuring 4-20 mA, 0-10 V



**LC4**  
RS485/232 Communications (supports MODBUS RTU, ASCII, MANTRABUS 1 & MANTRABUS 2)



**PGM1**  
Programming cable for the LCA20

## Related Software



**LCA Toolkit**  
Quick set up software event monitoring, data logging, calibration and configuration



**Instrument Explorer**  
Quick set up software event monitoring, data logging, calibration and configuration

## Case Study

### The Application:

The supplier of a plant based herbal product had a problem with potential decay-causing organisms affecting the quality of the material during processing and subsequent storage. The solution lay in the use of a chemical spray which would protect the product from degradation. However, to be effective, the spray has to be applied in precise quantities (parts per million).

### The Solution:

The chemical spray rate is based on the product flow rate through the manufacturing process. The system developed was made up of five Mantracourt integrated ADP15 indicator display's and an LCA20 weighing amplifier/digitiser module unit supported by the LCA Toolkit software.

During the process the product flows over a chute which has a load cell mounted on a pivot. The load cell weighs the product as it flows down the chute and transmits this to the LCA20.



The LCA20 reads the product flow rate from the load cell in kilograms per hour and transmits this as a 4-20 mA signal to the ADP15 instruments. This data, in turn, allows an accurate (and also efficient) use of the treatment spray.

## CE & Environmental

|                       |                            |
|-----------------------|----------------------------|
| Storage temperature   | - 20 to +70°C              |
| Operating temperature | - 10 to +50°C              |
| Relative humidity     | 95% maximum non condensing |
| IP Rating             | IP65 / NEMA 4              |

### CE Environmental Approvals

|                        |             |
|------------------------|-------------|
| European EMC Directive | 2004/108/EC |
| Low Voltage Directive  | 2006/95/EC  |

### For more information contact us today...

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