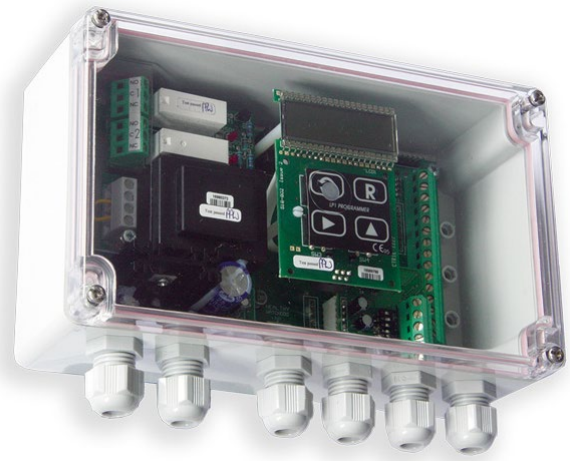
Features



- 4-20mA and 0-10V isolated analogue outputs.
- RS485 and RS232 digital data outputs.
- 5V excitation supports up to 10 x 350Ω load cells.
- Easy setup using PC, keypad, or optional remote programmer.
- mV/V factory calibrated.
- 6-wire measurement to compensate for cable/barrier losses.
- 2 set point SPCO relays.
- Programmable gain ranges covering 0.5-7.8mV/V.
- Up to 10-point auto and table calibration.
- IP20 rating (LCB20) - supplied in IP65 NEMA4 ABS protected case as standard (LCA20), stainless steel or DIN rail options available.
- ***The LCA20 shown opposite has the transparent lid option.***

Description

The LCA20 load cell amplifier with relay and data output is a compact microprocessor-based unit specifically designed to control and monitor weighing applications. Its flexibility of design allows for the connection of most load cells and pressure or strain gauges over a wide range of sensitivities. Housed in a light grey, ABS case, it is sealed to IP65 standard to meet most environmental conditions. The firmware supports Mantrabus 1 & 2, MANTRA ASCII 2 and MODBUS RTU.

The LCA20 supersedes its predecessor, the LCA15, taking advantage of new technology with improved performance and increased functionality. In addition to the introduction of a new microprocessor using the latest RISC technology and high performance analogue to digital converter, 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.

Typical Specification

Inputs

- The LCA20 accepts input from load cells/strain gauges and offers excitation voltage of 5V @160mA to drive up to 10x 350Ω bridges.
- ± sense wires compensate for cable and safety barrier losses down to 3V excitation.
- Gain sensitivity is available in two ranges, 0.5-3.7mV/V and 3.7-7.8mV/V.
- Initial offset is no greater than ±0.15mV (15µV/V) which is cancelled during auto-calibration.

PARAMETER	VALUE
Speed	Programmable 10 or 80 samples per second.
Factory mV/V Calibration Accuracy	±0.05% FSD
Drift	±2ppm/°C @ 2.5mV/V
Non-Linearity BEFORE LINEARIZATION	10-point
Internal Resolution	20bit or 1 part in 1,000,000
Noise Free Resolution @ 10Hz	17.5bit or 1 part in 180,000
Contact Inputs	Volt free and available for auto-tare, print and peak hold reset.

Analogue Output

PARAMETER	VALUE
Drive	4-20mA up to 1KΩ - 0-10V up to 2mA
Accuracy	±015% of range.
Resolution	Display up to 13 bits/4.5 digits. Settling time of 350mS to within 1% of step change.
Isolation	±130V RMS or DC maximum to analogue input or any other port.

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Data Retention/Protection

PARAMETER	VALUE
Retention	20-years for set up values, minimum of 100,000 write cycles.
Protection	Watchdog timer giving repeat auto resets. Impending power detection and hold off. Calibration and Toolkit lock feature.

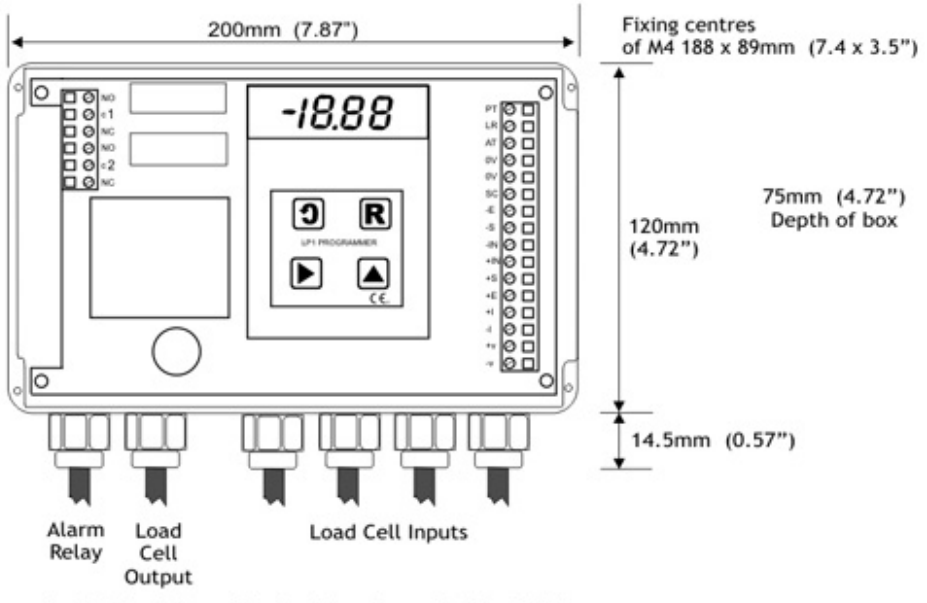
Other Options & Accessories

PARAMETER	VALUE
2 Set Points	Output through 5A 240V AC SPCO relays with a latching option.
Communications Port RS485	Enabling up to 253 units to be multi dropped.
Communications Port RS232	For 1 to 1 connection and standard printer drive and large displays.
Printer Operation	By closure of volt-free contact or continuous ASCII stream.
Baud Rates	2400, 4800, 9600, 19200, 38400, 57600, 76800, 115200.
Die Cast Case	Sealed to IP65/NEMA 4 with external dimensions of 220 x 120 x 80mm maximum.
Stainless Steel Case	Sealed to IP65/NEMA 4 with external dimensions of 224 x 160 x 90mm.
PCB Only (Eurocard) LCB20	100 x 160 x 57mm for rack or customer enclosure.

Environmental

PARAMETER	VALUE
Storage Temperature	-20 to + 70°C
Operating Temperature	-10 to +50°C
Relative Humidity	95% maximum non-condensing.
CE Environmental Approval	European EMC Directive 2004/108/EC, Low Voltage Directive 2006/95/EC

Outline Dimensions in millimetres



6 x IP Glands for cable size 4.5 to 7mm (0.18" x 0.27")

LCB Clearance Dimensions

Clearance above the top of LS1 ac power supply 52mm (2.04")

Clearance above the top of keypad 50mm (1.97")

Clearance above the LS3 dc power supply 42mm (1.65")

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Ordering Codes

CODE	DESCRIPTION
LCA20	LCA20 base unit.
LC4	RS485/232 communications.
LR1	Relay output module with 2 set points.
LS1	AC power supply. 100/120V or 220/230VAC.
LS3	DC power supply. 9-32VDC.
LP1	On board programmer.
LP2	Remote handheld programmer.
LTL	Transparent plastic lid case.
JBA	Junction box active.
JPA	Junction box active – PCB only.
JPP	Junction box passive – PCB only.
LSS	Stainless steel case.
LDC	Die cast case.
PGM1	Programming lead.
When PCM provide you with a quotation you will see an ordering code like this: **"LCA20-0-LR1-LS1-LP1-0-JBA-PGM1"**	

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