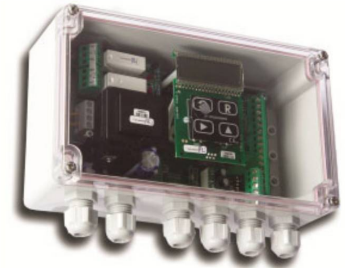# LCA20 Loadcell Amplifier

- ✓ 4 to 20mA and 0 to 10V output
- ✓ Data logging at 13ms to 1hr intervals
- ✓ 10 point linearisation
- ✓ 2 set point option with relay outputs
- ✓ RS232/485 communications option
- ✓ Factory calibration in mV/V
- ✓ RoHS compliant

Specification

Parameter	Value	Unit
Loadcell Input		
Bridge Excitation	4.75 (Min) / 5 (Typical) / 5.25 (Max)	Vdc
Loadcell Excitation System	6 wire (4 wire loadcells can be used with links)	
Bridge Impedance	35	Ohms
Bridge Sensitivity Range 1	±3.7	mV/V
Bridge Sensitivity Range 2	±7.8	mV/V
Factory Calibration of sensitivity	±0.05	%FS
Offset Temperature Stability (2.5mV/V FS)	±2	ppm/°C
Gain Temperature Stability	±4	ppm/°C
Non-linearity	±10	ppm FR
Internal Resolution	1 Million	Counts/Divisions
Resolution at 10Hz sampling	180,000	Counts/Divisions
Resolution at 80Hz sampling	130,000	Counts/Divisions
Analogue Output		
Current Output	4 (Min) / 20 (Max)	mA

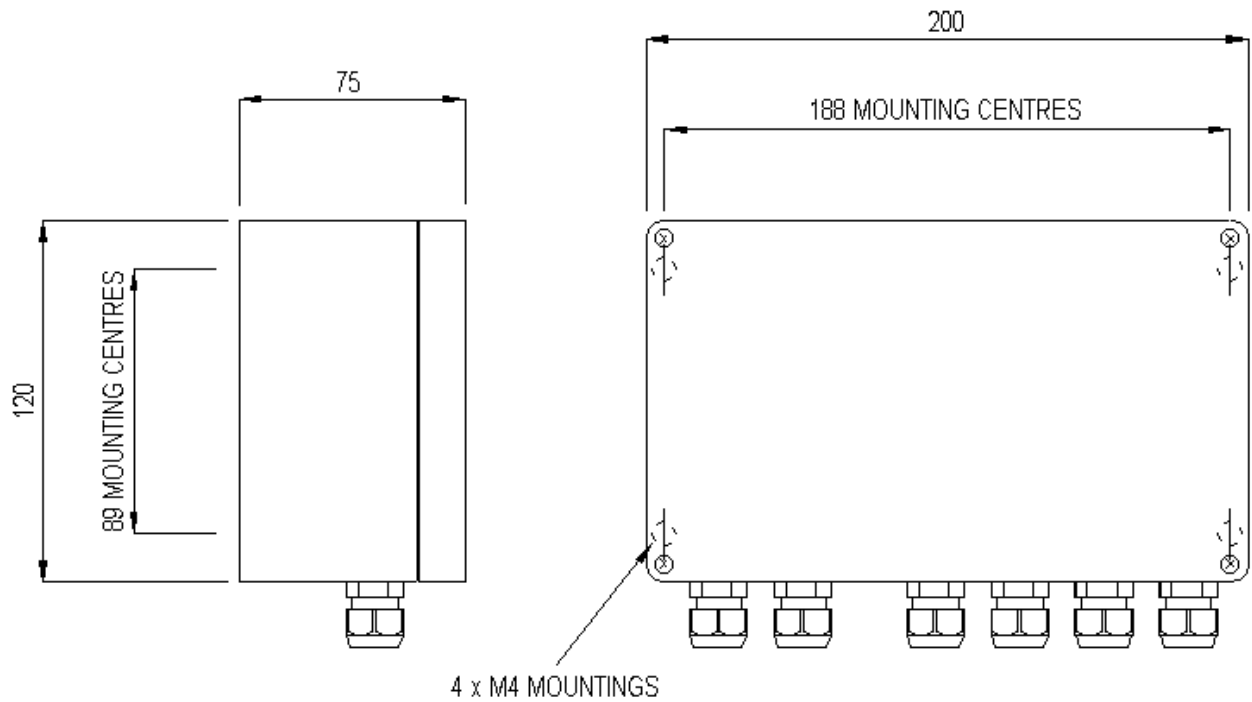|		
Loop resistance	1	kÎ©
Voltage Output	0 (Min) / 10 (Max)	V
Load resistance	5	kÎ©
Bandwidth -3dB	8.5	Hz
Phase Delay â€" Step Change	26	ms
Phase Delay â€" Sine Wave	55	ms
Rise and fall time (10 to 90%)	40	ms
Rise and fall time (1 to 99%)	85	ms
Zero stability	0.005 (Typical) / 0.01 (Max)	%FS/°C
Gain stability	0.005 (Typical) / 0.01 (Max)	%FS/°C
Resolution	8,000	Counts/Divisions
Power, Options and Environmental		
Option LS1 Power Supply (110Vac)	97 (Min) / 120 (Max)	Vac
Option LS1 Power Supply (230Vac)	210 (Min) / 260 (Max)	Vac
Option LS3 Power Supply	9 (Min) / 32 (Max)	Vdc
Power	3 (Min) / 10 (Max)	W
Option LR1	2 Setpoints with SPCO contacts rated 240Vac at 5A.	
Option LC4	Serial communication supporting RS232, RS422 and RS485.	
Option LP1	On-board programmer with 4½ digit display.	
Option LP2	Remote handheld programmer with 4½ digit display.	
Option LTL	Transparent lid.	
Option PGM1	Programming cable.	
Operating temperature range	-10 (Min) / 50 (Max)	°C
Storage temperature	-20 (Min) / 70 (Max)	°C
Humidity	0 (Min) / 95 (Max)	%RH Non condensing
Protection	IP65	

The LCA15 has been redesigned to become the LCA20 taking advantage of new technology to improve performance and increase functionality.

The external appearance and dimensions remain the same as the LCA15. All set up functions are via either a programming module or a computer depending on the options chosen. There are two types of programming module, one can be mounted on the amplifier board and the other is a separate hand held unit that can be used with more than one amplifier. Free toolkit software is available that can be run on a computer to carry out all the set-up functions and is able to log data from the LCA20. The computer is connected via a PGM1 programming cable or an LC4 communications module. The LC4 module supports RS232, RS422 and RS485 using Mantrabus 1 and 2, Mantra ASCII or Modbus RTU. Data logging intervals can be set at 13ms to 1hr. The logging duration can be set to 99999 readings or 999 hours. The exact limits on the logging function are affected by the sampling rate of the LCA20, the serial port speed and the computer used for logging. Two analogue outputs are available, 4 to 20mA and 0 to 10V. The current output operates in source mode with the amplifier supplying the loop power. The analogue output is uni-polar so if a bi-directional loadcell is used it is scaled so that the mid point of the analogue output is equal to zero load. This will be 12mA or 5V. If the LCA20 is supplied with a loadcell it will normally be calibrated to read the loadcell output in the same engineering units as the loadcell calibration. A traceable system certificate will be supplied for the amplifier and loadcell combination. Alternative calibrations are possible; please consult our engineering department to discuss your requirements. The full manual is available for download from our website if you require more detail on any of the items in this data-sheet. Alternative calibrations are possible; please consult our engineering department to discuss your requirements.CE - This instrumentation product complies with the requirements of the European EMC directive.

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Outline

75

120

89 MOUNTING CENTRES

200

188 MOUNTING CENTRES

4 x M4 MOUNTINGS