

# LCB3A

HYGIENIC UNIVERSAL DIGITIZER FOR LOAD CELLS

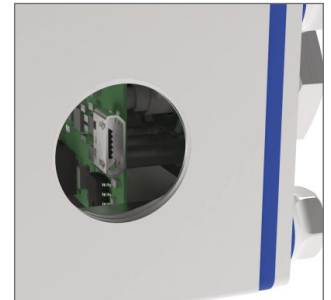
LAUMAS®



COMING SOON



MICRO USB FOR  
PC CONFIGURATION



## DESCRIPTION

- LCB3A transforms an analog load cell (mV/V output) into a digital one; it can also be used on existing load cells to digitize the weighing system.
- Hygienic device RPSCQC authorized by 3-A SSI.
- Conceived for IoT applications (Internet of Things).
- PC configuration software via micro USB port.
- Status LED of the communication interface.
- Mounting: wired or integral to the load cell body via standard 1/4 GAS fitting (specific adapters for different threads are supplied on request).
- IP67 AISI 304 stainless steel box (dimensions: 90x40x107 mm including flying connectors).
- 3 M12 hygienic connectors with solder terminals included in the supply.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from [www.laumas.com](http://www.laumas.com).

## INPUTS/OUTPUTS AND COMMUNICATION

- 1 micro USB port.
- 3 relay outputs controlled by the setpoint values or via protocols.
- 2 digital inputs: status reading via serial communication protocols.
- 1 load cell input.



## CERTIFICATIONS



Complies with the Eurasian Custom Union regulations



Equivalent of the CE marking for the United Kingdom



American standard that regulates the design, production and use of hygienic equipment

## FIELD BUSES

MODBUS RTU

MODBUS/TCP

ETHERNET  
TCP/IP

ETHERNET  
POWERLINK

EtherCAT

EtherNet/IP

PROFIBUS

PROFINET

CC-Link

CC-Link

IE Field  
Basic

IO-Link

CANopen

SERCOS  
interface

### INTERFACES AND FIELDBUSES

<p><b>RS485.</b> Male M12 circular connector, A-coded, 5-pin. Female M12 circular connector, A-coded, 5-pin. Baud rate: 2400, 4800, 9600, 19200, 38400, 115200 (bit/s).</p>	<i>coming soon</i>
<p><b>RS485 + analog output.</b> Current: 0÷20 mA; 4÷20 mA (up to 400 Ω). Voltage: 0÷10 V; 0÷5 V (min 2 kΩ). Male M12 circular connector, A-coded, 5-pin. Female M12 circular connector, A-coded, 5-pin.</p>	
<p><b>IO-Link.</b> 2x male M12 circular connector, A-coded, 4-pin. The instrument works as <i>device</i> in a IO-Link network.</p>	
<p><b>CANopen.</b> Male M12 circular connector, A-coded, 5-pin. Female M12 circular connector, A-coded, 5-pin. The instrument works as <i>slave</i> in a CANopen synchronous network.</p>	
<p><b>CC-Link IE Field Basic.</b> 2x female M12 circular connectors, D-coded, 4-pin. The instrument works as <i>slave</i> in a CC-Link IE Field Basic network.</p>	
<p><b>CC-Link.</b> Male M12 circular connector, A-coded, 4-pin. Female M12 circular connector, A-coded, 5-pin. The instrument works as <i>Remote Device Station</i> in a CC-Link network and occupies 3 stations.</p>	<i>coming soon</i>
<p><b>Profibus DP.</b> Male M12 circular connector, B-coded, 5-pin. Female M12 circular connector, B-coded, 5-pin. The instrument works as <i>slave</i> in a Profibus DP network.</p>	<i>coming soon</i>
<p><b>Modbus/TCP.</b> 2x female M12 circular connectors, D-coded, 4-pin. The instrument works as <i>slave</i> in a Modbus/TCP network.</p>	
<p><b>Ethernet TCP/IP.</b> Female M12 circular connector, D-coded, 4-pin. The instrument works in an Ethernet TCP/IP network and it is accessible via web browser.</p>	<i>coming soon</i>
<p><b>Ethernet/IP.</b> 2x female M12 circular connectors, D-coded, 4-pin. The instrument works as <i>adapter</i> in an Ethernet/IP network.</p>	
<p><b>Profinet IO.</b> 2x female M12 circular connectors, D-coded, 4-pin. The instrument works as <i>device</i> in a Profinet IO network.</p>	
<p><b>EtherCAT.</b> 2x female M12 circular connectors, D-coded, 4-pin. The instrument works as <i>slave</i> in an EtherCAT network.</p>	
<p><b>POWERLINK.</b> 2x female M12 circular connectors, D-coded, 4-pin. The instrument works as <i>slave</i> in a Powerlink network.</p>	
<p><b>SERCOS III.</b> 2x female M12 circular connectors, D-coded, 4-pin. The instrument works as <i>slave</i> in a Sercos III network.</p>	

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output or fieldbuses;
  - PC/PLC via RS485 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - up to 4 load cells in parallel by junction box.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP version for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via PC software) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Calibration via characterization values of the load cell.
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.
- Configuration backup and restore via PC software.

### BASE PROGRAM

- Hysteresis and setpoint value setting.

### SINGLE PRODUCT LOADING PROGRAM

- 99 settable formulas.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Batching start via external contact or fieldbus.

### TECHNICAL FEATURES

Power supply and consumption	12÷24 VDC ±10%; 5 W
Number of load cells • Load cells supply	up to 4 (350 Ω) - 4/6 wires • 3.3 VDC/40 mA
Linearity • Analog output linearity	<0.01% full scale • <0.01% full scale
Thermal drift • Analog output thermal drift	<0.0005% full scale/°C • <0.003% full scale/°C
A/D Converter	24 bit (16000000 points) - 4.8 kHz
Divisions (with measurement range ±10 mV and sensitivity 2 mV/V)	±999999 • 6.6 nV/d
Measurement range	±26 mV
Usable load cells sensitivity	±7 mV/V
Conversions per second	500/s
Decimals • Display increments	0÷4 • x1 x2 x5 x10 x20 x50 x100
Digital filter • Readings per second	3 filter types • 5÷500 Hz
Relay outputs	3 - max 115 VAC/150 mA - 24 VDC/200 mA
Digital inputs	2 - 5÷24 VDC
Micro USB port	B type - USB 2.0 (full-speed)
Humidity (condensate free)	85%
Storage temperature	-30 °C +80 °C
Working temperature	-20 °C +50 °C