LCD20

Load Cell DIN Rail Signal Amplifier with Relays

Introduction

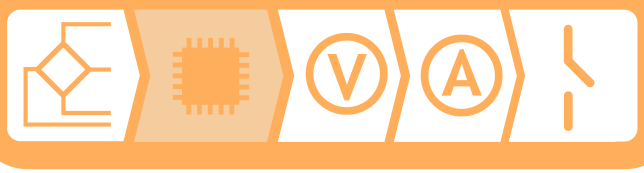
Our intelligent strain gauge bridge amplifier is a compact, stackable microprocessor based unit specifically designed to control and monitor process applications. Flexible connection to most load cells, pressure or strain gauges over a wide range of sensitivities. The unit provides isolated current 4-20mA and voltage 0-10V analogue outputs and two digital inputs. Two set point relays can be configured to set thresholds such as net, gross, peak and valley. Powered from a wide ranging DC supply, the DIN rail amplifier is supplied with 2 part screw connectors for ease of installation.

Suitable for strain gauges and other ratio-metric sensors and will support 6 wire input to compensate for barrier and cable losses. Factory calibrated to mV/V and supporting 10 point user calibration to desired engineering units. Configuration options via handheld programmer or PC Toolkit software.

The analogue outputs and relays interface to existing acquisition and control systems making this unit an ideal partner for any integrated instrumentation system.

Product Features & Benefits

- Standard analogue outputs 4-20mA and 0-10V
- **Save on Cost & Increase Reliability:**
  2 single pole relays & digital inputs as factory standard
  Provides controls and alarms without the cost of additional instrumentation
- 10 point linearization provides superior accuracy
- **Greater Flexibility:**
  6 wire load cell connection to compensate for barrier and cable losses
- **Full Digital Setup & Easy Programming:**
  -Options via a handheld unit or USB connection to a PC using our industry leading intuitive software
- Lockable Features prevents loss of device settings through user misuse
- Configuration can be saved and restored for security of setup



Accessories

LP2
Remote Handheld Programmer

PGM1
PC Communication Cable

LC Toolkit
Toolkit software

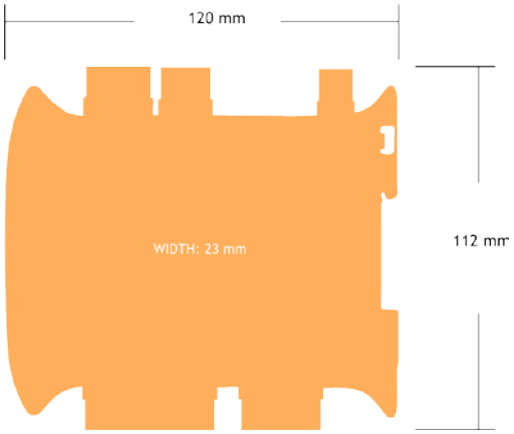
Specifications

Electrical Specifications	
Isolated Power Supply	9 to 32 V DC
Power	2.5W typical
Bridge excitation	4.75 to 5.25 V
Bridge resistance (minimum for 10V Excitation)	85 Ohms
Bridge sensitivity	0.5 to 7.0 mV/V
Resolution	1:180,000 (17.5 Bits)
Analogue outputs	4-20mA and 0-10V
Analogue output resolution	1:8000 (13 Bits)
Relays	2 off SPNO
Relay contacts rating	3A 240V AC / 3A 30V DC
Isolation	+/- 130V RMS or DC to any port

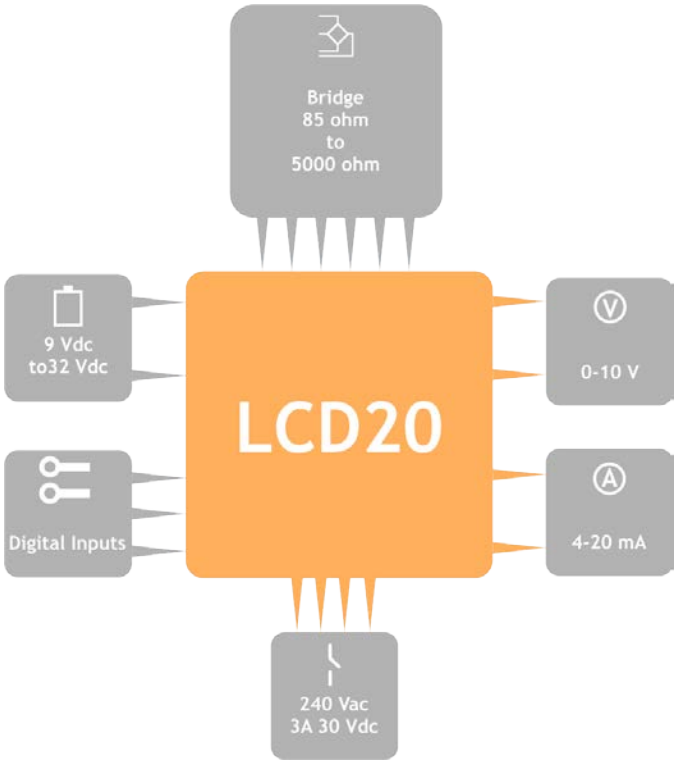
Environmental	
Operating temperature range	-20 to 50 °C
Storage temperature range	-20 to 70 °C
Maximum Humidity	95% Non-Condensing
IP Rating	IP20

Approvals	
EMC Directive	2014/30/EU
Low Voltage Directive	2014/35/EU
EMC Standards	BSEN 61326-1:2013
Low Voltage Standard	BSEN 61010-1:2010

Mechanical



Electrical



Order Codes

LCD20
Load Cell Amplifier In DIN Enclosure
LP2
Handheld Programmer
PGM1
Programming Cable for Toolkit

Manual Reference: 517-939

Mantracourt Electronics Ltd The Drive, Farringdon
Exeter, Devon, UK
EX5 2JB

Tel: +44 (0)1395 232020
Email:info@mantracourt.com

mantracourt.com

LCD20

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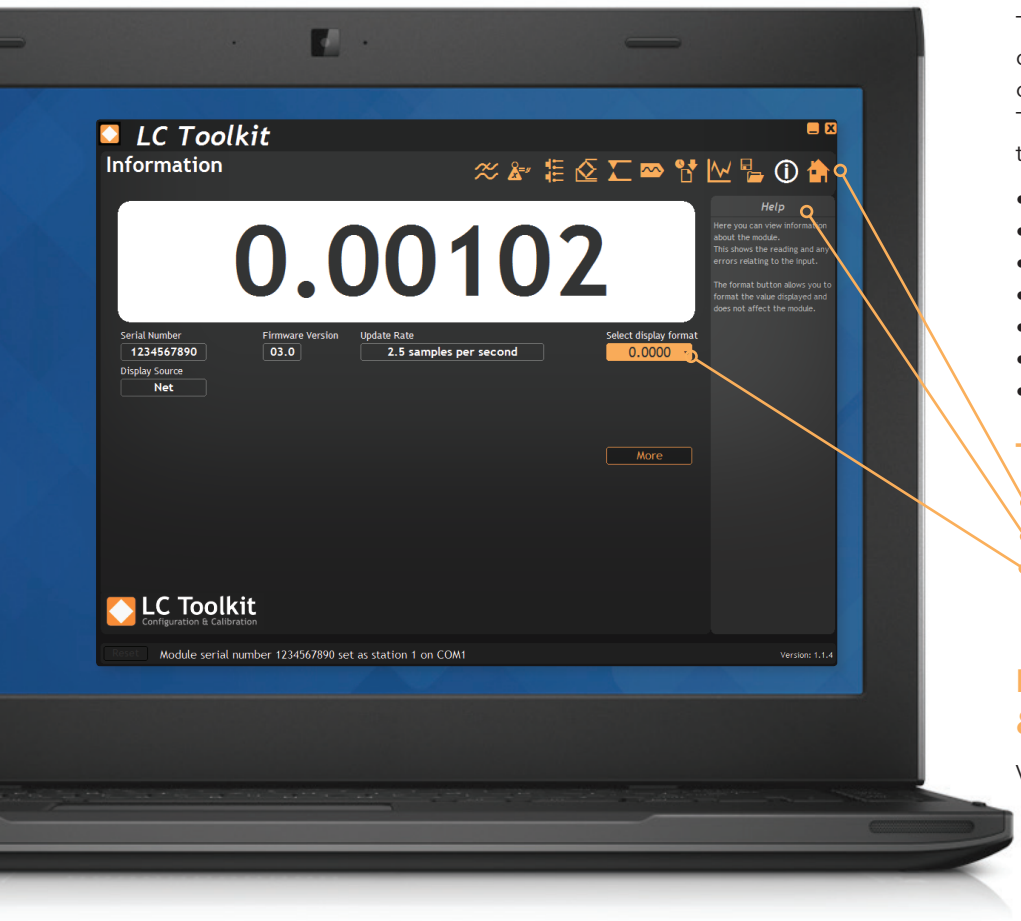
LC TOOLKIT SOFTWARE

EASY TO USE, INTUITIVE TOOLKIT SOFTWARE FOR SPEEDY AND PAINLESS SET-UP

- CONNECT IN SECONDS - with pc auto detection there's no scrolling through lists of product codes.
- INTUITIVE INTERFACE - you don't have to read a manual to get started. Our well-designed interface gives you highlighted options so you know what's click-able.
- LOGICAL - our toolkits configure, calibrate and provide logging functionality.
- WE DO THE THINKING FOR YOU - our toolkits have useful help panels at each stage of the process to help you make the right choice.
- USE ONE, USE THEM ALL - our icon based navigation is common to all toolkits. If you're familiar with one toolkit you'll quickly pick up the others.
- FREE - all of our software is freely available.

TAKE A TOUR



WHAT CAN IT DO?

The LC Toolkit software for Windows connects with the LCD20 via an optional programming cable PGM1. The toolkit allows all aspects of the LCD20 to be configured:

- Configure settings
- Calibrate inputs
- Calibrate analogue outputs
- Save and restore settings to a file
- Log data to a CSV file
- View data on a chart
- Use as a large display

THE DASHBOARD

- Icon based intuitive navigation
- Help panels in 'plain English'
- Interactive elements highlighted orange

DOWNLOAD & TEST-DRIVE

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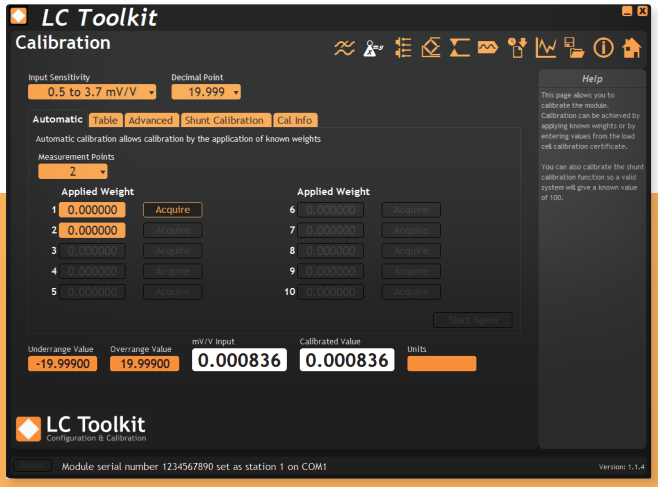
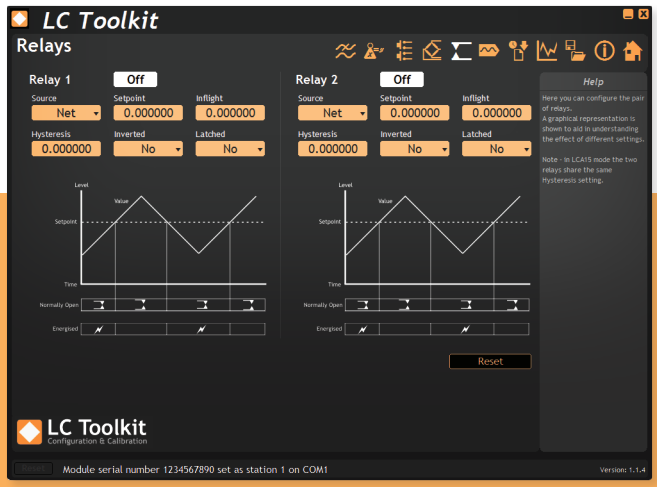
FUNCTIONALITY SCREEN SHOTS

CALIBRATE 10-POINT LINEARISATION



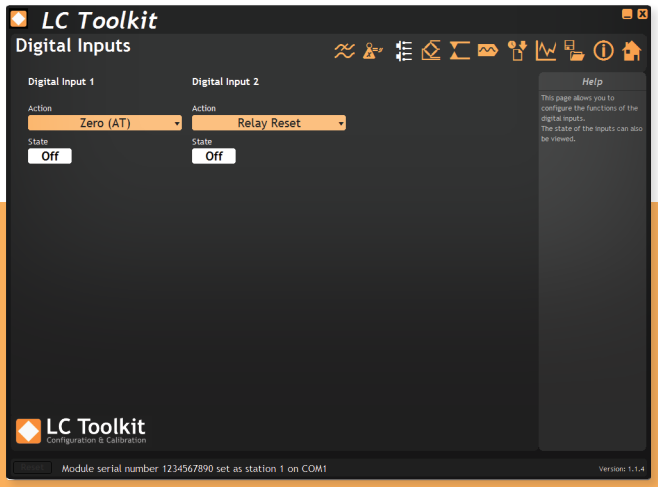
Calibration can be achieved by applying known weights or by entering values from the load cell calibration certificate. You can also calibrate the shunt calibration function so a valid system will give a known value of 100.

RELAY OUTPUT CONFIGURATION



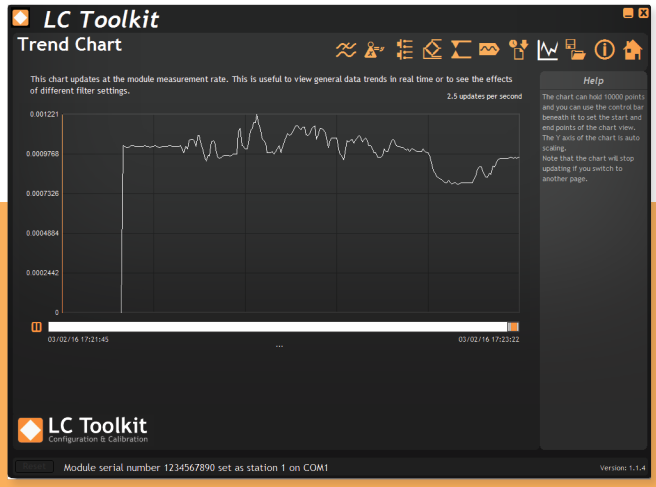
Configure the pair of relays with a graphical representation to aid understanding the effects of different settings.

DIGITAL INPUT SELECTION



This page allows you to configure the functions of the digital inputs. The state of the inputs can also be viewed.

CONFIGURE DISPLAY TO GENERATED OUTPUT



Features a real-time scrolling graphic display. The chart can hold 10000 points and you can use the control bar beneath it to set the start and end points of the chart view. The Y axis of the chart is auto scaling.