High Speed, Intelligent Load Cell Interface Card with USB and RS232/485 Interfaces

LCIC-WIM-BEN

LCIC-WIM-BEN load cell interface card.

- ✔ High Speed; Up to 52,000 Samples per Second
- ✔ 24-Bit A/D with ±8 Million Counts for Tension and Compression Applications
- ✔ Powerful 32-Bit /135 MIPS DSP for High Speed On-Board Processing— OEM Applications Can Be Embedded On The Board
- ✔ 4 Opto-Isolated Outputs Configurable as Setpoints, Latching Alarms or User Outputs
- ✔ 4 Opto-Isolated Inputs; Input #1 Has Counter Option
- ✔ Analog Output— 0 to 2.5V, 16-Bit
- ✔ 8-Digit LED Display
- ✔ On Board Temperature Sensor
- ✔ USB 2.0 Interface— Full Speed Compatible
- ✔ RS-232/RS485 Communications Ideal for PLC Based Applications
- ✔ Multiple Boards May Be Connected Via USB or RS485

The LCIC-WIM is a high speed, intelligent load cell interface card with USB/RS-232/RS-485 interfaces. Besides its basic mode, the board includes an integral Fill Mode supplying an independent filling control.

The board is intelligent and powerful enough for OEM customers—it is ready to accept piggy-back modules and/or embedded applications for OEM special requirements.

The LCIC-WIM-BEN is useful in applications such as analyzing noise and vibration in a belt conveyor or any dynamic weighing system, for example the time it takes for stabilization after a load was applied.

Other potential applications include checking scale behavior for slow/high speed WIM (weighing in motion) applications, measuring maximum (peak) and minimum forces on a scale/testing machine (helps to select the suitable load cell for optimum performance), and running tests and getting immediate final weight results on WIM and check weighers.

LCIC-WIM Software

Three software utilities are supplied with the board: LCIC-WIM-CALIBRATION, LCIC-WIM-SETTINGS and LCIC-WIM-MONITOR.
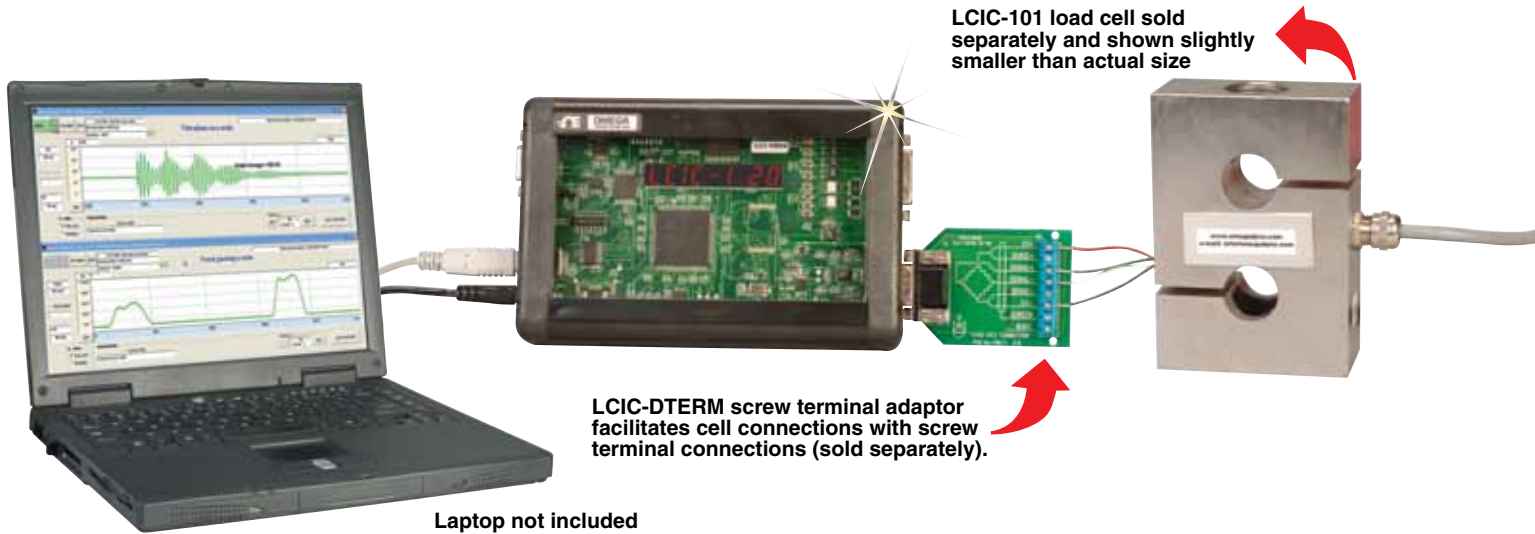
These software utilities enable easy selection and setup of the required board. The calibration utility (LCIC-WIM-CALIBRATION) enables you to calibrate the LCIC-WIM-BEN board by adjusting it to your own system. The utility is straight forward and is in the form of a Windows® wizard.

The LCIC-WIM-SETTINGS utility gives control to card's filters, analog output, fill mode parameters and more. The LCIC-WIM-MONITOR utility is a vital tool for analyzing dynamic load/force systems.

It takes full advantage of the board's speed and samples the load cell signal at maximum speed (15,000 samples per second), sending the data to the PC via the USB port and displaying it as a curve—load cell signal/versus time.

You can then zoom in/out on the data, view max (peak) and min readings, save the data in standard ASCII file format for later use and even perform some calculations like averaging on a required part of the curve.

LCIC-101 load cell sold separately and shown slightly smaller than actual size

LCIC-DTERM screw terminal adaptor facilitates cell connections with screw terminal connections (sold separately).

Laptop not included

Specifications

LOAD CELL INPUT
Bridge Input: 1 input, 4-wire or 6-wire
Excitation: 5 Vdc excitation for up to 10 load cells (350 Ω) in parallel
Compatibility: Compatible with 1, 2 & 3 mV/V load cells

A/D
Speed: Low noise wide bandwith amplifier, very high speed, up to 52,000 samples per second
Resolution: 24-bit A/D with ±8 million counts for tension and compression applications

COMMUNICATIONS
Standard Interfaces: USB 2.0 full speed compatible; combined RS-232/RS-485

INPUTS
Digital Inputs: 4 opto-isolated inputs with 10 to 30 Vdc range, each with status LED; input #1 configurable as high speed counter; input #2 configurable as sample trigger

OUTPUTS
Relays: 4 opto-isolated solid state relays rated at 50 V, 300 mA; configurable as setpoints, latching alarms or user outputs, each with status LED
Analog Output: 0 to 2.5 Vdc with 16-bit resolution

GENERAL
Power: From included 110/220 Vac adaptor
DSP: Powerful 32-bit/135 MIPS DSP for high speed onboard processing
Display: 8-digit LED display
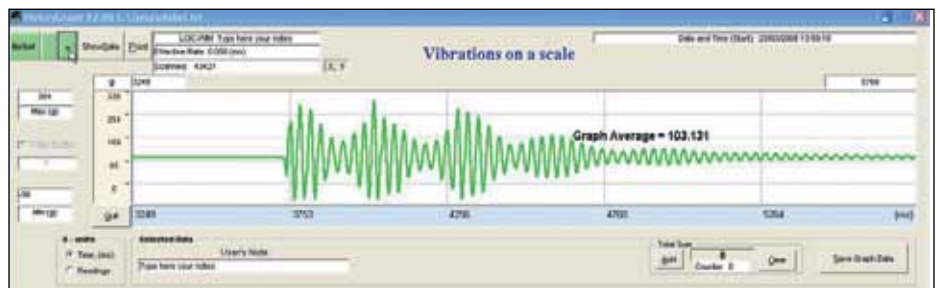**RS-232/485 Port:** DB9F connector
I/O Port: DB15M connector (digital inputs, relay outputs, analog output)
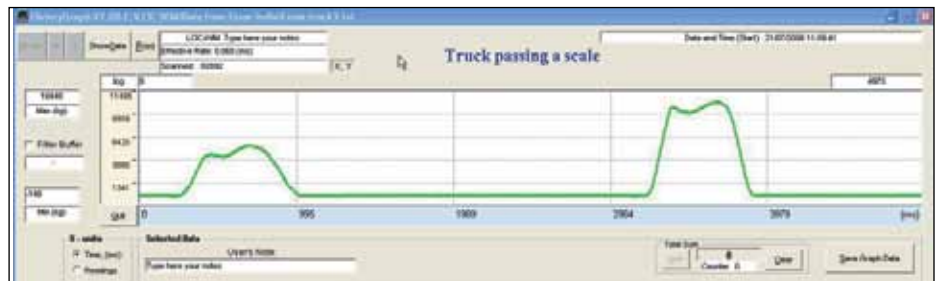
Temperature Sensor: On-board
Dimensions: Standard (Eurocard); 160 L x 100 mm W (6.3 x 3.94")
Weight: 251 g (9 oz)
Case: ABS

Windows software showing vibration on a scale.

Windows software showing weight of truck passing a scale.

To Order

Model No.	Description
LCIC-WIM-BEN	High speed load cell interface card with enclosure
LCIC-DTERM	Screw terminal adaptor
LCIC-PWR-ADAPTOR	Spare 110/220 Vac adaptor