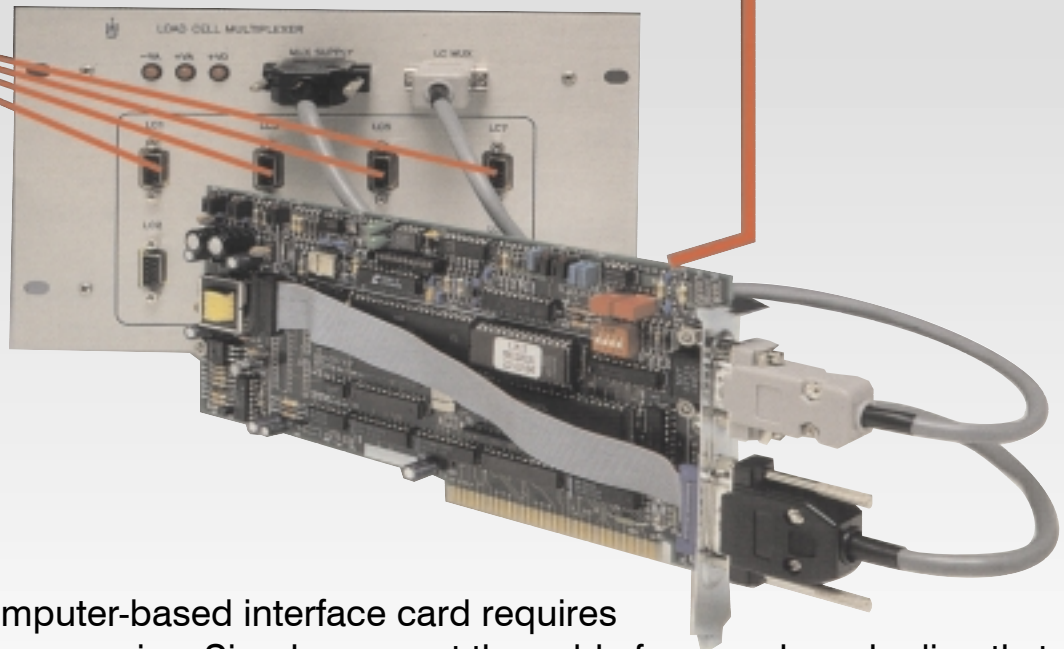# Load-Cell Interface Card LCIC®-MUX-8

For PC/AT or Compatibles

Any application related to Multi-Scale Weighing is now available with one board in your existing PC...

Stand-alone microcomputer-based interface card requires
no other interfacing accessories. Simply connect the cable from each scale directly to the multiplexed box and you are ready.

- One card scans up to eight scales/silos.
- Option to lock the board on one channel for real-time applications.
- Each channel powers 4-6 load-calls (350Ω each).
- Long distance available between the multiplexed box and the scales/silos.
- Compatible with all load cells and other strain gage-based transducers.
- Replaces all conventional weight indicators. Card resides directly on computer bus, thus eliminating RS232 and other communication ports.
- User-friendly easy calibration from the PC keyboard.
- Very useful software package is included to simultaneously displays all eight channels on your PC. Source code examples on how to access the board are included.

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The LCIC® MUX-8 is a load cell interface package for IBM PC/AT and compatible computers. The kit includes the PC board as well as an external box with the connectors to accommodate up to eight channels.

In fact, this unit is a perfect – and most affordable – solution for multi-scale weighing (such as silos), and the most convenient method to collect data by PC. It will replace eight weighing indicators which require a communication interface on each and an expensive communication board for the PC to accommodate the eight channels. It will even save you the time to develop the necessary software.

The LCIC® MUX-8 will automatically and independently scan channels at the rate of one second per channel and store the current results in the board's memory. This method frees the PC to do all other jobs and to read the channel data only when necessary. IMS also provides a ready-to-run software package to utilize the PC as a multiple weighing indicator which can display all eight channels at the same time. This package comes with unique features such as digital and analog display of the silo content, printing the contents of the silos with date and time, naming each silo, option to tare each silo, and more. Of course, we also provide full examples in source code language for the programmer to customize the card to the user's specific applications.

Typical Applications

- Weighing silos and hoppers
- Inventory control
- Weighing beds in hospitals

Main Features

- User-friendly calibration procedure with automatic zero and gain adjustment.
- Calibration parameters reside in the LCIC memory and are retained even if the card is moved from one PC to another.
- Calibration library. Different calibrations for various scales may be stored in a library for later use on the same card.
- No auxiliary power supply is required. The LCIC powers and senses 6-wire load cells.
- Provides data in weighing units (kg, gr, lb, ton) in ASCII or floating point – usable by almost any programming language.
- 16 different addresses to choose from, which allows the installation of several cards in one PC. With two cards you have 16 channels. Three cards provide 24 channels, as so forth.

Software Included

- Mapping memory diagnostics – for easy address selection to install the card.
- User-friendly calibration software.
- Very useful and ready-to-run software package to utilize the PC as a multiple weighing indicator that can display all eight channels, printing the silo weight, naming each silo, and more.
- Examples in source code on how to access the card, allowing customization of the card to user-specific applications.

Hardware Specifications

- Excitation voltage: 8.2 VDC
- Internal A/D resolution: 16 bit
- Internal A/D conversion time: 4000 per second
- PCB type: multilayer (six layer)
- Power consumption (without load cells): 400 mA max @ +5V
- Channel scanning method: multiplexing the excitation and the signal
- Channel scanning rate: 1 second per channel with an option to lock the board from the software on one channel – for real-time applications
- Sensitivity range: from 0.6 mV/V up to 35 mV/V load cells
- Number of load-cells: 4 (6 as an option) in parallel (350Ω each)
- Load cell connection: 6 wires (sense) – eight 9-pin "D" type connector.
- Method of communication with PC bus (ISA): Dual port ram (memory mapped) with 16 different addresses (up to 16 cards in one PC)
- Length of cable between the LCIC and the load cells: up to 150 meters
- Distance between the PC and multiplexer box: 1 meter (cables included)
- Option for RS232 output from the card to remote display
- Operating temperature: 0-60° C
- Dimensions:
  - Board: ¾ PC/AT
  - Multiplexer box: 160 mm × 235 mm × 50 mm.
- Weight:
  - PC board: 200 gr
  - Multiplexer box: 900 gr