

## “Expert” Weight Transmitter

### FEATURES

- 1 Million count resolution, 20 updates per second
- Plug-n-Weigh® set-up for easy installation
- Dynamic digital process filtering
- Real time system & loop diagnostics
- Optional
  - Expansion slot for DeviceNet, Modbus Plus, Modbus RTU, Profibus DP, or AB Remote I/O interface
  - High resolution (16 bit) analog output
  - Optional 120 updates per second



### APPLICATIONS

- Batch & mix systems
- Reactor vessels
- Ribbon blenders
- Process weighing and control systems



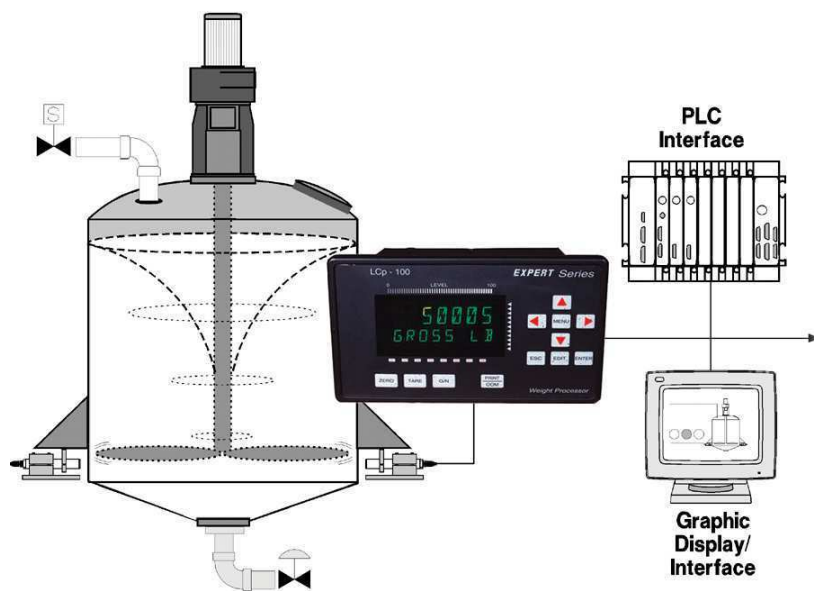
### DESCRIPTION

The LCp-100 is a high performance weight indicator and transmitter with features and options focused on the requirements of precision, high-speed process weighing applications. It is compatible with all strain gage type load cells and is designed to easily connect to any PLC, DCS, or PC based process control system. Special design emphasis has been placed on simplicity, reliability, and expandability. Transmitter outputs offered include an RS-422/485 digital serial communication port, and 16 bit derived analog current output.

Units are equipped with an expansion slot for installing a wide range of specialized digital interfaces such as DeviceNet, Profibus, AB Remote I/O, and Modbus Plus.

The LCp-100 Safe-Weigh® Software System encompasses over 50 years of BLH Nobel application expertise. Plug-n-Weigh® quick calibration and setup procedures save time, money, and even field service calls. Internal diagnostics continuously monitor weigh system performance and alert service personnel to potential problems, before they happen.

### CONFIGURATION



#### Available Outputs

- DeviceNet
- Profibus
- Modbus Plus
- Modbus RTU
- Allen-Bradley Remote I/O
- Digi-System Plus Network
- ASCII Serial
- 4–20 mA Analog

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**DESCRIPTIONS OF FEATURES**

**Plug-n-Weigh® Technology**

Plug-n-Weigh® technology minimizes start-up time while significantly reducing the operator learning curve. Intuitive configuration menus, self-configuration of many set-up parameters, and simple push-button type digital calibration combine together to make the LCp100 easy to install and operate.



**Safe-Weigh® Software System**

Safe-Weigh® Software System advantages include Expert System Diagnostics, Dynamic Digital Filtering, and a wide range of proven DCS/PLC connectivity options. Expert System Diagnostics generate on-line preventative maintenance signals, which quickly identify potential electrical/mechanical failures. Dynamic Digital Filtering ensures stable weight data and precise, repeatable setpoint control in dynamic process environments.



**DESCRIPTION OF OPTIONAL FEATURES**

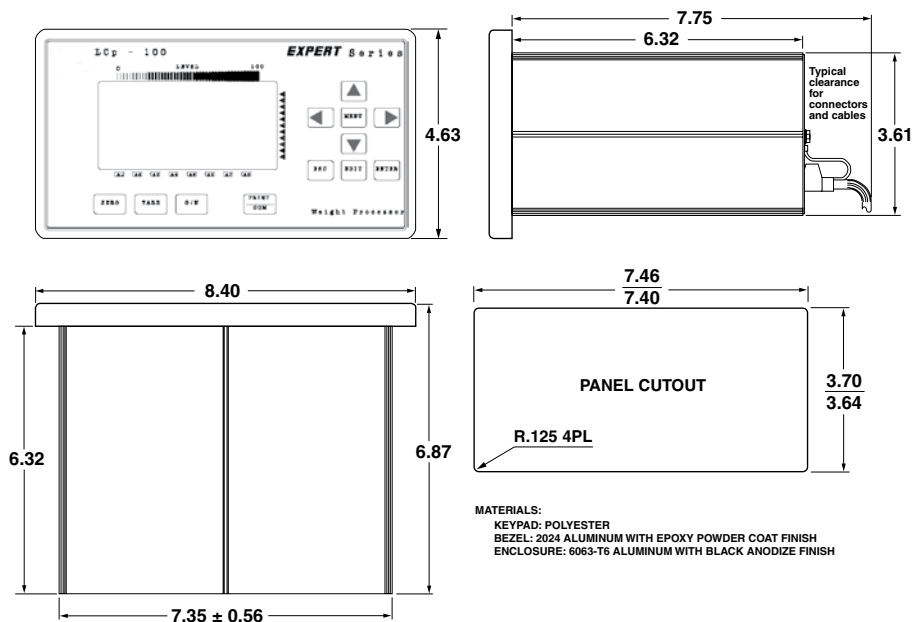
**Communications and Interfacing**

LCp-100 instruments are designed for fast, easy interfacing with virtually any PLC or DCS system. LCp-100 instruments are the first weight transmitters available with

Schneider, Modbus Plus Network communication. Also, as a licensed partner in the Allen-Bradley Encompass program, BLH Nobel offers Remote I/O capability in all LCp products. Other easy digital interfaces are available for DeviceNet, Siemens Profibus, Honeywell TDC 3000, GE series 90 PLC’s, and Fisher Rosemount (Provox).

For cost effective local area network applications, units may be ordered with BLH Nobel Digi-System Plus protocol for communication to a PLC or DCS via an LCp-400 Gate-Weigh controller.

**OUTLINE DIMENSIONS**



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SPECIFICATIONS		PARAMETER	VALUE
<b>PERFORMANCE</b>		<b>Resolution</b>	1,048,576 total counts
		<b>Displayed Resolution</b>	700,000 counts
		<b>Conversion Speed</b>	50 ms
		<b>Displayed Sensitivity</b>	0.05 $\mu$ V per count
		<b>Full Scale Range</b>	$\pm$ 3.5 mV/V
		<b>Dead Load Range</b>	100% full scale
		<b>Linearity</b>	$\pm$ 0.0015% full scale
		<b>Excitation Voltage</b>	10 VDC @ 250 mA
		<b>Software Filter</b>	Multi-variable up to 10,000 ms
		<b>Temp Coefficient Zero</b>	$\pm$ 2 ppm/ $^{\circ}$ C max.
		<b>Temp Coefficient Span</b>	$\pm$ 7 ppm/ $^{\circ}$ C max.
		<b>Step Response</b>	One conversion cycle
<b>ENVIRONMENT</b>		<b>Operating Temperature</b>	-10 to 55 $^{\circ}$ C (15 to 131 $^{\circ}$ F)
		<b>Storage Temperature</b>	-20 to 85 $^{\circ}$ C (-5 to 185 $^{\circ}$ F)
		<b>Humidity</b>	5 to 90% rh, non-condensing
<b>DISPLAY</b>		<b>Type</b>	High intensity amber LED display
		<b>Active Digits</b>	7 digit alpha numeric 0.59 in high for weight; 8 digit alphanumeric 0.39 in high for status
<b>ELECTRICAL</b>		<b>Voltage</b>	117/230 VAC $\pm$ 15% @ 50/60 Hz
		<b>Power</b>	15 W max.
		<b>Input Impedance</b>	10 m $\Omega$ min.
		<b>Noise</b>	0.4 $\mu$ V/count (min. filt. setting)
<b>ANALOG OUTPUT</b>		<b>Conversion</b>	16 bit D-A
		<b>Current Selectable</b>	4-20 mA or 0-20 mA — 600 $\Omega$ max., 0-24 mA — 500 $\Omega$ max.
		<b>PARAMETER</b>	<b>VALUE</b>
		<b>REMOTE DIGITAL INPUTS (OPTICALLY ISOLATED) (CONTACT CLOSURE OR DO LOGIC COMPATIBLE)</b>	
		<b>Closed (Momentary)</b>	Logic low
		<b>Open</b>	Logic high
		<b>Cable Length</b>	100 feet max.
		<b>COMMUNICATIONS (STANDARD)</b>	
		<b>Serial RS-422/485</b>	Full or half duplex BLH Nobel Digi-System Plus Network, ASCII
		<b>Optional Protocols</b>	Provox, or Modbus RTU odd, even or no parity-selectable
		<b>Baud Rates</b>	300, 1,200, 2,400, 4,800, 9,600, or 19,200
		<b>Addressing</b>	0-99
		<b>SPECIAL INTERFACES (OPTIONAL)</b>	
		<b>Allen-Bradley</b>	Remote I/O – 1/4 Logical Rack
		<b>Modbus RTU</b>	Slave
		<b>Modbus Plus</b>	Peer-to-peer (supports global data)
		<b>Profibus</b>	Slave
		<b>DeviceNet</b>	Slave
		<b>ENCLOSURE</b>	
		<b>Dimensions (Std.)</b>	4.63 x 8.40 x 6.5 in H x W x D
		<b>NEMA 4/4X, 12 (Opt.)</b>	8.5 x 13.5 x 10.45 in H x W x D
		<b>Weight</b>	5.4 lb
		<b>MATERIALS</b>	
		Aluminum Case & Bezel overlay meets 94V-0 rating	
		<b>APPROVALS</b>	
		<b>FM (Factory Mutual)</b>	3611
		<b>CSA</b>	C22.2 (all applicable sections)

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