

Process Applications:

Mix Tanks
Blenders
Reactors



Hardware Features

- 1 Million Count Resolution, 20 Updates per Second
- High Resolution (16 Bit) Analog Output
- RS-422/485 Communication Port with ASCII, BLH Digi-System Plus Network, or Modbus RTU Protocol
- Expansion Slot for A-B Remote I/O, Modbus Plus, Profibus, or Future Fieldbus
- Optional Internal Modem for On-Line Service

Safe-Weigh® Software System

- Quick-Cal Set-Up
- Dynamic Digital Process Filtering
- Real Time System & Loop Diagnostics



Product 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 and inventory 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 A-B Remote I/O, Modbus Plus, or Fieldbus (in the future).

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

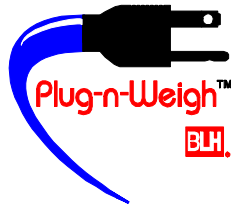
BLH Electronics, Inc.

An ISO 9001 Registered Company

Why Do We Call the LCp-100 an EXPERT?

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.

**Safe-Weigh™ Software
INSTALLED**

Communications and Interfacing

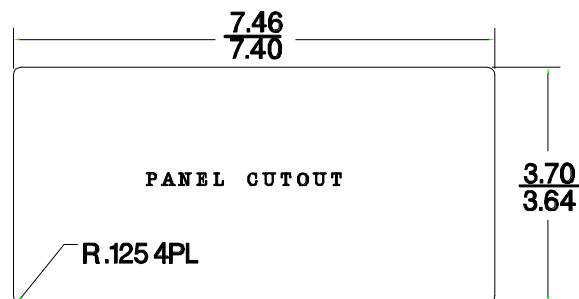
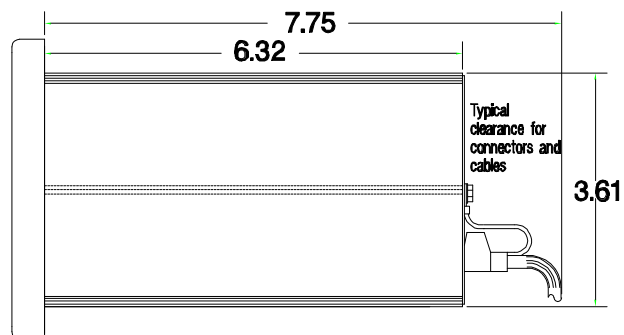
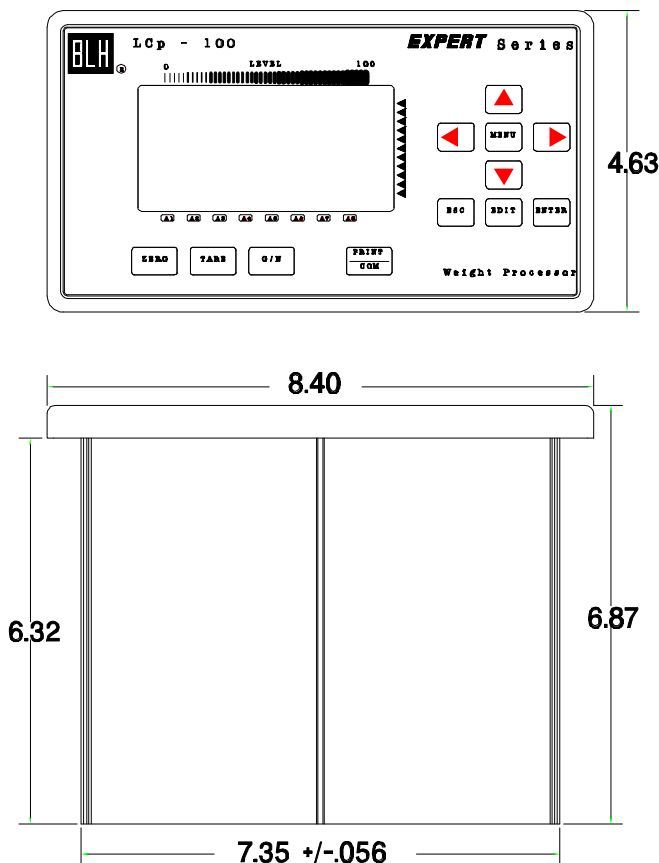
LCp-100 instruments are designed for fast, easy interfacing with virtually any PLC or DCS system. LCp-100 instruments are the first weight transmitters available with Schneider Automation, Modbus Plus Network communication. Also, as a charter member of the Allen-Bradley 'Enabled' program, BLH offers Remote I/O capability in all LCp products. Other easy digital interfaces are available for Seimens 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 Digi-System Plus protocol for communication to a PLC or DCS via an LCp-400 Gate-Weigh controller.

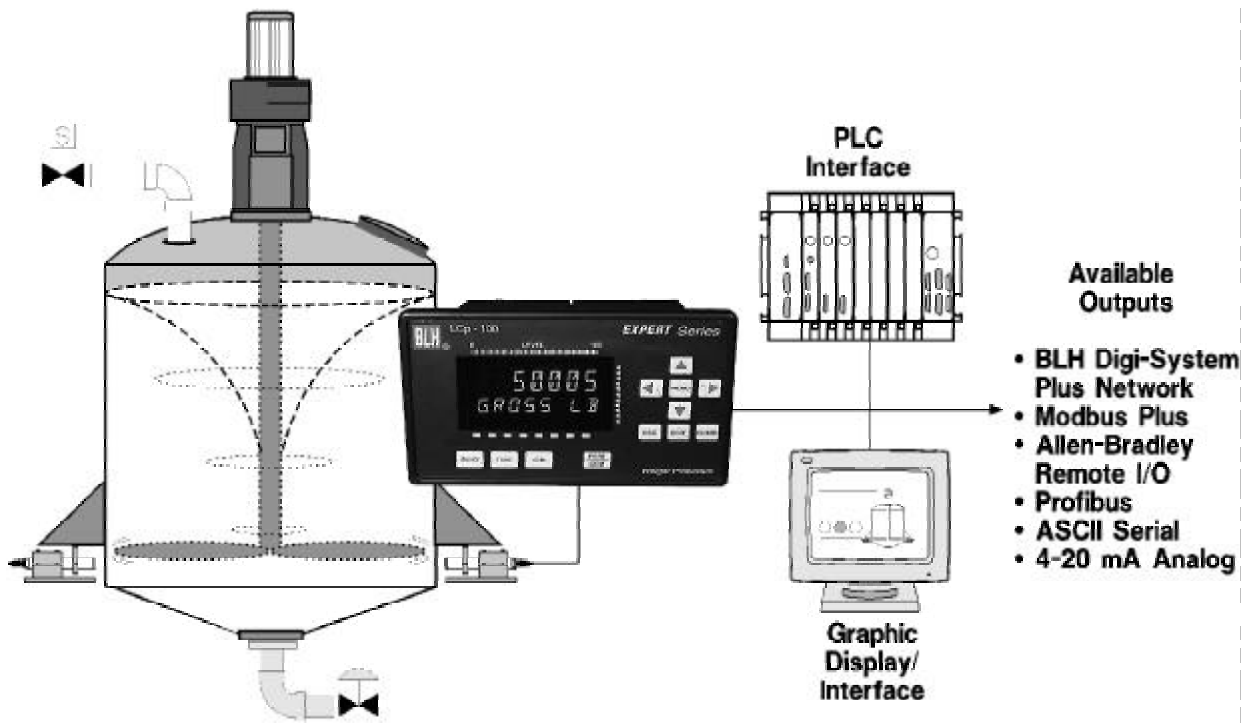
CE Marking

The CE mark certifies that LCp-100 instruments conform to international applicable safety, electrical, and emission/susceptibility standards.



MATERIALS:

KEYPAD: POLYESTER
BEZEL: 2024 ALUMINUM WITH EPOXY POWDER COAT FINISH
ENCLOSURE: 6063-T6 ALUMINUM WITH BLACK ANODIZE FINISH



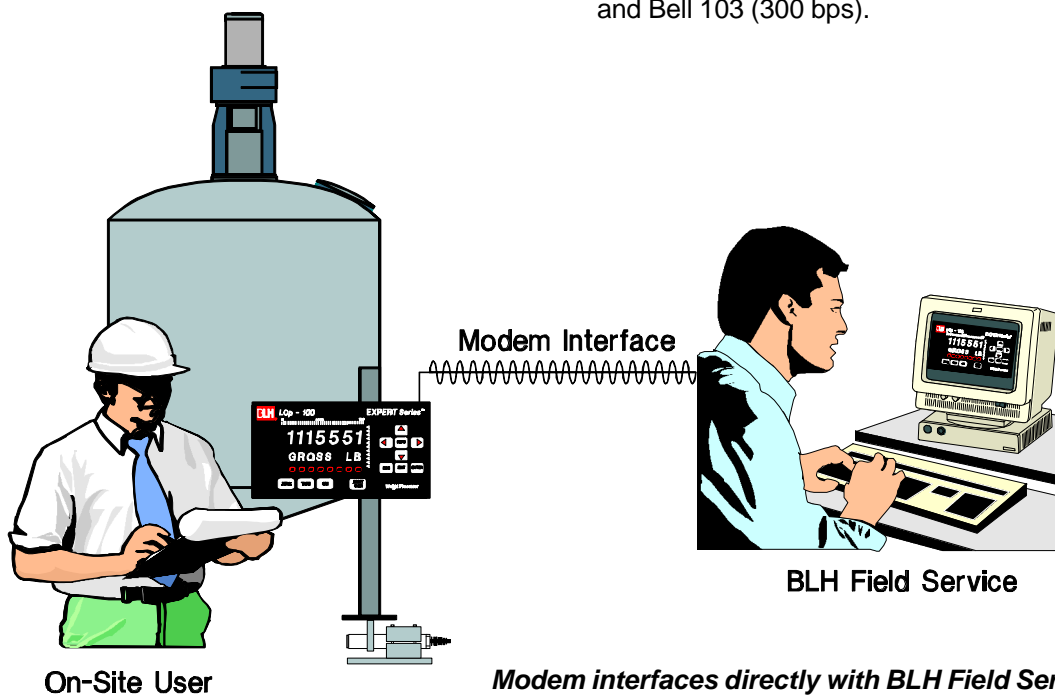
Typical LCp-100 Weighing Application

On-Line System Diagnostics

LCp-100 diagnostics provide easy access to critical operating system data. Front panel display alarm/status annunciators A1-A8 can be configured to represent communication errors, setpoint status, analog output errors, Allen-Bradley Remote I/O or Modbus Plus status, and modem status. Information related to any active annunciator is transmitted to a host PLC or DCS via the communication interface.

Field Service Modem Connection

Units equipped with the optional internal modem connect directly with the BLH field service department. Service Engineers diagnose and correct (if possible) system errors right over the phone line. Service Engineers also can evaluate internal memory locations to detect improper set-ups, hardware failures, and can upload software revisions as they become available. The LCp-100 modem is a V.22 bis data modem compatible with CCITT V.22 bis (2400 bps), Bell 212A (1200 bps), and Bell 103 (300 bps).



Modem interfaces directly with BLH Field Service Engineer

LCp-100 Specifications

Performance

Resolution	1048576 total counts
Displayed Resolution	700,000 counts
Conversion Speed	50 msec
Displayed Sensitivity	0.05 uV per count
Noise	0.4 uV per count (min. filt. setting)
Full Scale Range	3.5 mV/V
Dead Load Range	100% full scale
Input Impedance	10 m-ohms min
Excitation Voltage	10 Vdc @ 250 mA
Linearity	+/-0.0015% full scale
Software Filter	multi-variable up to 10,000 msec
Step Response	one conversion
Temp Coefficient Zero	+/-2ppm/°C
Temp Coefficient Span	+/-7ppm/°C

Environment

Operating Temperature	-10 to 55° C (15 to 131° F)
Storage Temperature	-20 to 85° C (-5 to 185°F)
Humidity	5 to 90% rh non-condensing
Voltage	117/230 Vac +/-15% @ 50/60 Hz
Power	15 watts max

Enclosure

Dimensions (std)	4.63 x 8.40 x 6.5 in. HWD
NEMA 4/4X, 12 (opt)	8.5 x 13.5 x 10.45 in. HWD

Materials

Aluminum Case & Bezel	overlay meets 94V-0 rating
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Display

Type	high intensity cobalt green vacuum fluorescent
Active Digits	7 digit alpha numeric.59" high for weight: 8 digit alphanumeric .39" high for status

Analog Output (Optional)

Conversion	16 bit D-A
Current Selectable	4-20 mA or 0-20 mA - 600 ohm max., 0-24 mA - 500 ohm max.

Remote Digital Inputs (Optically Isolated)

(Contact closure or do logic compatible)	
Closed (Momentary)	logic low
Open	logic high
Cable Length	100 feet max.

Communications (Standard)

Serial RS-422/485	full or half duplex BLH Digi-System Plus Network, ASCII, Provox, or Modbus protocols odd, even or no parity- selectable 300, 1200, 2400, 4800, 9600, or 19200
Baud Rates	0-99
Addressing	

Special Interfaces (Optional)

Allen-Bradley	Remote I/O -1/4 Logical Rack
Modbus RTU	slave
Modbus Plus	peer-to-peer (supports global data)
Profibus	slave

Internal Service Modem (Optional)

Baud Rate	2400: Bell 212/103 compatible
Availability	U.S.A. and Canada only

Approvals/CE Marking

FM (Factory Mutual)	3611
CSA	C22.2 (all applicable sections)
IEC 801-2	ESD susceptibility, category B
IEC 801-3	radiated electromagnetic field, cat. A
IEC 801-4	conducted line transients, cat. B
EMI Emissions	FCC part 15 subpart B. Class A
	Canadian Dept. of communication, Class A
EN 5501	Group 1, Class A
IEC 1010-1/EN61010-1	Electrical Safety
EN50082-1 1992	Susceptibility: subparts 801,2,3, & 4
EN55011	Emissions: Equipment Class I, Group A

BLH is continually seeking to improve product quality and performance. Specifications may change accordingly.

PLC and Allen-Bradley are trademarks of Allen-Bradley Co, Inc.
Modbus is a trademark of Schneider Automation.
Profibus is a trademark of Seimens.

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Ordering Specification Code

LCP-100- [M]-[AP]-[C]-[B]-[M] Indicating Weight Transmitter



LCP-200- [M]-[AP]-[C]-[B]-[M] Indicating Weight Transmitter with Discrete I/O & Rate Functions



LCP-100 LCP-200

[M] MOUNTING

[1] NEMA 4X PANEL MOUNT	STD	STD
[2] #1 & FM/CSA DIV. 2 APPROVAL (CLI, DIV2, GRP A-D,FG)		
[5] NEMA 4X STAINLESS STEEL WALL MOUNT ENCLOSURE		
[6] #5 & FM/CSA DIV. 2 APPROVAL (CLI,II, DIV2, GRP A-D,FG)		
[7] #5 with MODEL 306 INTERNAL SUMMING BOARD		
[8] #6 with MODEL 306 INTERNAL SUMMING BOARD		
[13] #6 with TYPE Y PURGE SUITABLE FOR DIV. 1 AREAS		
[15] NEMA 4/7/9 Ex Enclosure(CL I,II,III, DIV1,GRP BCDEFG)		

[A] EXPANSION SLOT A

[1] NONE	STD	STD
[3] MODBUS PLUS		
[4] ALLEN BRADLEY REMOTE I/O		
[5] PROFIBUS DP		

[P] PROCESS INPUTS & OUTPUTS

[1] REMOTE FUNCTION INPUT (zero, gross/net, tare, print)	STD	STD
[2] #1 and ANALOG CURRENT OUTPUT		
[9] #1 and ANALOG CURRENT OUTPUT,BIPOLAR DIRECTION, 100 UPDATES/SECOND, UNITS IN LB, KG, PLI, N, N/M		

[C] COMMUNICATION

[1] RS-485/422 W/ ASCII PROTOCOL & DIGISYSTEM +	STD	STD
[2] #1 and MODBUS RTU PROTOCOL		
[3] #1 & PROVOX PROTOCOL (includes 20mA serial converter)		

[B] EXPANSION SLOT B

[1] None	STD	N/A
[2] 8 Open Collector DC Outputs	N/A	STD
[3] 8 Solid State Relay Outputs	N/A	

[M] MODEM/ON-LINE SERVICE

[1] NONE	STD	STD
[2] MODEM with 90 DAYS ON-LINE SERVICE		

Weigh-View Software Kit (471297)