BLH NOBEL
A **VPG** Brand

Weight Indicator/Controller

FEATURES

- 1 million count resolution, 20/120 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, Modbus RTU, Profibus, or DeviceNet
- Rate-by-weight (mass flow) operation
- Up To 8 setpoint relay outputs
- Quick-cal set-up
- Dynamic digital process filtering
- Real time system & loop diagnostics

APPLICATIONS

- Weight and mass flow measurement with setpoint control
- Batch/blend/mix systems
- Critical ingredient processing

DESCRIPTION

LCp-200 Weight/Rate-By-Weight Controllers are high performance indicators with features and options focused on the requirements of process weighing applications with local setpoint control. They operate with all strain gage type load cells and interface easily with any PLC, DCS, or PC based supervisory control system. Engineering emphasis has been placed on simplicity, reliability, and expandability. Standard rate-by-weight operation and output provides precision mass flow control.

Eight relay outputs are available for local setpoint control, based upon set point values entered through the keypad, or downloaded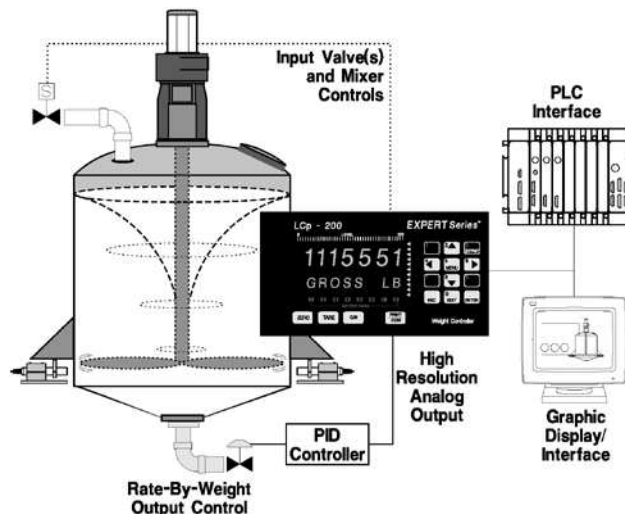 serially from a host device. All relay configuration and logic parameters are selectable through the front panel keypad. Communication of weight, setpoint values, system status, and diagnostic information is accomplished using standard protocols such as ASCII and Modbus RTU, or special serial interfaces like DeviceNet, Allen-Bradley Remote I/O, Modbus Plus, and Profibus.

The LCp-200 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. On-line diagnostics continuously monitor system performance and alert service personnel to potential problems before they happen.

CONFIGURATION

2908_MC-00572
Rev 30-Oct-2019
Technical contact: blhnobel.usa@vpgsensors.com,
Europe: blhnobel.eur@vpgsensors.com, Asia: blhnobel.asia@vpgsensors.com
www.blhnobel.com
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LCp-200

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SETPOINT CONTROL AND COMMUNICATION INTERFACES

Setpoint Availability

Precise setpoint control ensures accurate and repeatable batch process performance. Standard LCp-200 instruments have eight open collector DC setpoint output signals. Individual outputs can be configured for main (coarse) or dribble (fine) operation with in-flight and deadband (hysteresis) compensation for precision valve control. Polarity selection allows "open above" or "closed above" operation of each point. Tag names may be assigned for front panel or interface identification.
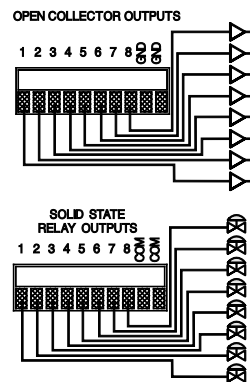
Optionally, eight solid state, triac type outputs can be ordered. Each triac output has the same configuration and parameter selections as the DC signals.
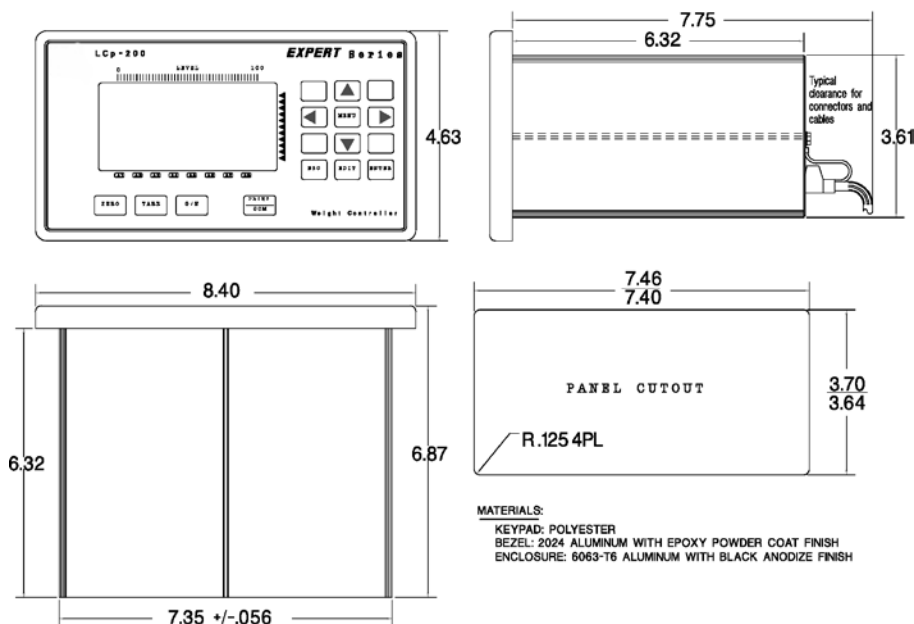
Communications and Interfacing

LCp-200 instruments are designed for fast, easy interfacing with virtually any PLC or DCS system. LCp-200 instruments are the first weight/rate system controllers with Schneider Modbus Plus licensing. As a charter member of the Allen-Bradley "Encompass" program, BLH Nobel offers Remote I/O capability in all LCp products. Profibus can be ordered for communication with Seimens controllers.

For network applications, units can be ordered with our Digi-System Plus protocol for communication with an LCp-400 Gate-Weigh controller.

Open collector setpoint outputs interface with PLC I/O cards and optional solid state triac relays control process valves directly

OPEN COLLECTOR OUTPUTS

1 2 3 4 5 6 7 8 COM COM

SOLID STATE RELAY OUTPUTS

1 2 3 4 5 6 7 8 COM COM

OUTLINE DIMENSIONS

LCp-200   EXPERT Series
LEVEL
Weight Controller

7.75
6.32
Typical clearance for connectors and cables
3.61

4.63

8.40
6.32   6.87
7.35 +/-.056

7.46
7.40

PANEL CUTOUT

R.125 4PL

3.70
3.64

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

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SPECIFICATIONS

PARAMETER	VALUE
PERFORMANCE	
Resolution	1,048,576 total counts
Displayed Resolution	700,000 counts
Conversion Speed	50 ms
Displayed Sensitivity	0.05 µV per count
Noise	0.4 µV per count (min. filt. setting)
Full Scale Range	3.5 mV/V
Dead Load Range	100% full scale
Input impedance	10 mΩ min.
Excitation Voltage	10 VDC @ 250 mA
Linearity	±0.0015% full scale
Software Filter	Multi-variable up to 10,000 ms
Step Response	One conversion
Temp Coefficient Zero	±2 ppm/°C
Temp Coefficient Span	±7 ppm/°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 W max.
ENCLOSURE	
Dimensions (Std.)	4.63 × 8.40 × 6.5 in H × W × D
NEMA 4/4X, 12 (Opt.)	8.5 × 13.5 × 10.45 in H × W × D
MATERIALS	
Aluminum Case & Bezel	Overlay meets 94V-0 rating
DISPLAY	
Type	High intensity cobalt green vacuum fluorescent
Active Digits	7 digit alpha numeric 0.59 in high for weight: 8 digit alpha numeric 0.39 in high for status
ANALOG OUTPUT (OPTIONAL)	
Conversion	16 bit D-A
Current Selectable	4–20 mA or 0–20 mA 600 Ω max.

PARAMETER	VALUE
REMOTE DIGITAL INPUTS (OPTICALLY ISOLATED) (CONTACT CLOSURE OR DO LOGIC COMPATIBLE)	
Closed (Momentary)	Logic low
Open	Logic high
Cable Length	100 ft max.
DC SETPOINT OUTPUTS – 8 (STANDARD)	
Type	Open collector (current sinking)
Operating Voltage	5–35 VDC
ON Voltage	1.2 VDC @ 40 mA 0.8 VDC @ 1 mA
OFF State Leakage	0.04 µA @ 40 VDC
Power	External supply required
AC SETPOINT OUTPUTS – 8 (OPTIONAL)	
Type	Triac
Operating Voltage	12–240 VAC
AC Frequency	20–500 Hz
ON State Voltage Drop	$1.2\ V_{RMS}$
Min–Max Load Current	5 mA – 1 A
Leakage Current	1 mA @ full rated load voltage
Power	External supply required
COMMUNICATIONS (STANDARD)	
Serial RS-422/485	Full or half duplex ASCII, printer, Provox, or Modbus protocols odd, even or no parity-selectable
Baud Rates	300, 1,200, 2,400, 4,800, 9,600, or 19,200
Addressing	0–99
SPECIAL INTERFACES (OPTIONAL)	
DeviceNet	To ODVA specification
Allen-Bradley	Remote I/O – ¼ Logical Rack
Modbus RTU	Slave
Modbus Plus	Peer-to-peer
Profibus	Slave
APPROVALS/CERTIFICATIONS	
FM (factory Mutual)	3611 (Div 2)
CSA	C22.2 (all applicable sections)

BLH Nobel is continually seeking to improve product quality and performance. Specifications may change without notice.

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