# Weight Controller

## FEATURES

- Designed for NIST Handbook 44 compliance
- Canadian weights and measures and NTEP CoC
- Rate-by-weight (Mass Flow) operation
- Expansion slot for A-B remote I/O, Modbus Plus
- FM and CSA approved
- Up to 8 setpoint relay outputs
- Optional 16 bit analog output


## APPLICATIONS

- Inventory systems
- Custody transfer scales
- Calibration standards

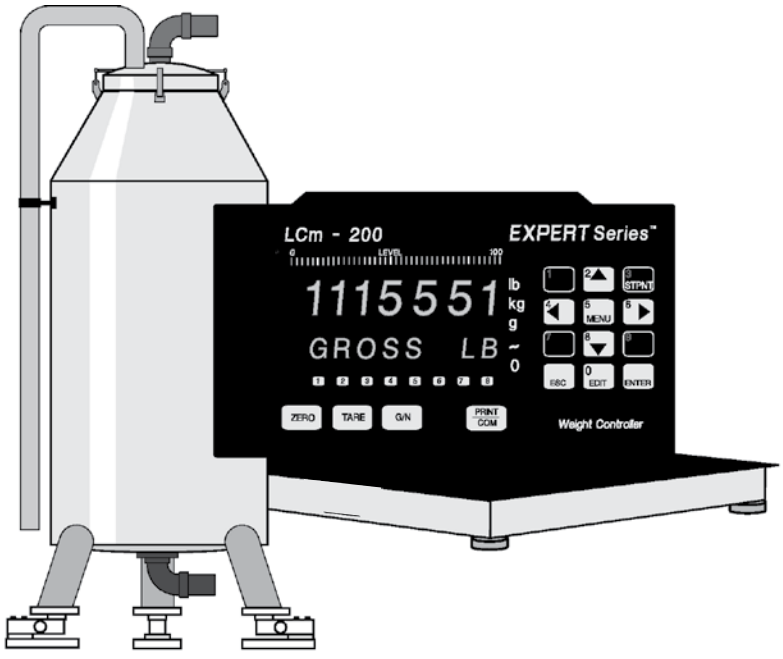
## DESCRIPTION

LCm-200 “Expert” Series Controllers are specifically designed for Class III and Class IIIHD scale systems. Each unit meets NIST Handbook 44 (NTEP) and Canadian Weights and Measures legal-for-trade requirements. Tamperproof sealing combined with configuration menu locks ensures maximum security for LCm-200 based systems.

LCm-200s are compatible with all strain gage type load cells and interface easily with any PLC, PC, or DCS based supervisory control system. High performance “Expert” features include Plug-n-Weigh® quick calibration, rate-by-weight mass flow measurement, continuous on-line diagnostics, and dynamic digital filtering. Process control options provide high resolution 16 bit analog output, eight solid state setpoint relay outputs, and various communication standard protocols such as Allen-Bradley Remote I/O, Modbus Plus, Modbus RTU, and Fisher Provox.

The integral Safe-Weigh® Software Operating System encompasses over 50 years of BLH application expertise. On-line diagnostics continuously monitor system performance and alert operating personnel to potential problems before they happen.

## CONFIGURATION



BLH NOBEL
A VPG Brand

Weight Controller

## SPECIFICATIONS

| PARAMETER | VALUE |
|---|---|
| **PERFORMANCE** | |
| **Resolution** | 1,048, 576 total counts |
| **Displayed Resolution** | 700.000 counts |
| **Conversion Speed** | 50 ms<br>(20 updates per second) |
| **Displayed Sensitivity** | 0.05 mV per count |
| **Noise** | 0.4 µV per count<br>(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 at 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 Temp** | –10 to +55°C (15 to 131°F) |
| **Storage Temp** | –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 94 V-O rating |
| **Display** | high intensity amber LED display |
| **Weight Digits** | 7–0.59 in high alphanumeric |
| **Status Digits** | 8–0.39 in high alphanumeric |
| **REMOTE DIGITAL INPUTS (CONTACT CLOSURE OR DC LOGIC COMPATIBLE)** | |
| **Closed (Momentary)** | logic low |
| **Open** | logic high |
| **Cable Length** | 100 ft maximum |

| PARAMETER | VALUE |
|---|---|
| **DC SETPOINT OUTPUTS – 8 (STANDARD)** | |
| **Type** | open collector (current sinking) |
| **Operating Voltage** | 5–35 VDC |
| **ON Voltage** | 1.2 VDC @ 40 mA or<br>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 V-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,<br>Provox, Modbus,<br>or BLH network protocols |
| **Parity** | odd, even, or none (selectable) |
| **Addressing** | 0–99 |
| **SPECIAL INTERFACES (OPTIONAL)** | |
| **Allen-Bradley** | Remote I/O = ¼ logical rack |
| **Modbus RTU** | slave |
| **Fisher Provox** | CL6921 weigh scale<br>interface card |
| **Modbus Plus** | peer-to-peer |
| **ANALOG OUTPUT (OPTIONAL)** | |
| **Conversion** | 16 bit D-A |
| **Current Selections** | 4–20 or 0–20 mA @ 600 Ω,<br>0–24 mA @ 500 Ω |
| **APPROVALS** | |
| **Can. Weights/Meas.** | Class III/IIIHD nmax 10000/20000 |
| **NTEP** | Class III/IIIHD nmax 10000/20000 |
| **CSA** | C22.2 (all applicable sections) |
| **FM (Factory Mutual)** | 3611 |

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