

RATIO:GUARD[®] Tank Level Monitor

Quick Start Guide

Installation

1. Do not apply power until installation is complete.
2. Install the enclosure in a convenient location, close to a 120 VAC power source, and protected from direct spray.
3. The transducer is already connected with a 25' cable. It is threaded for a 2½" pipe thread to screw into a bung, or you can cut a 2-5/16" hole in the top of your tank and install it with the included nut. Hand tighten only. **Install near the center of the tank. Irregularities on the sides of the tank could cause reading errors.**
4. Remove the front of the enclosure. Connect the RD-485 communications line to the RS-232/485 converter which is connected to the computer, or to another controller which is connected to the computer. Connect the + and – wires together. (The terminal block is on the back right side of the front panel.)
5. Replace the front panel. **Be certain that the ribbon cable is properly inserted with the marked edge of the cable on the left.**
6. When all controllers have been connected to the RS-232/485 converter, apply power to the monitor. It should start cycling through the four measurements. Any input with no transducer connected will display "--"

Calibration

Calibration is done by setting the distance in inches from the shoulder of the transducer (at the top of the threads) to the level in the tank when it is full, and when it is empty. Measure both of these distances with the transducer in place at the top of the tank. The

1. Press the **MODE** key. The display should display "**1F 6**". This is the distance from the transducer when the tank is full for tank #1.

2. Press the **MODE** and **ENTER** keys together and hold them until the display starts blinking. Use the **↑** and **↓** keys to set the proper full distance. Once set, press the **ENTER** key.
3. Press and hold the **MODE** Now press the **↑** key until the display shows "**1E44**". This is the distance from the transducer when the tank is empty for tank #1.
4. Without releasing the **MODE** key, press the **MODE** and **ENTER** keys together and hold them until the display starts blinking. Use the **↑** and **↓** keys to set the proper empty distance, and press **ENTER**.
5. In the same manner, set the full distances for any other transducers that are installed, (**2F, 3F, and 4F**) and the empty distances, (**2E, 3E, and 4E**).

Operation

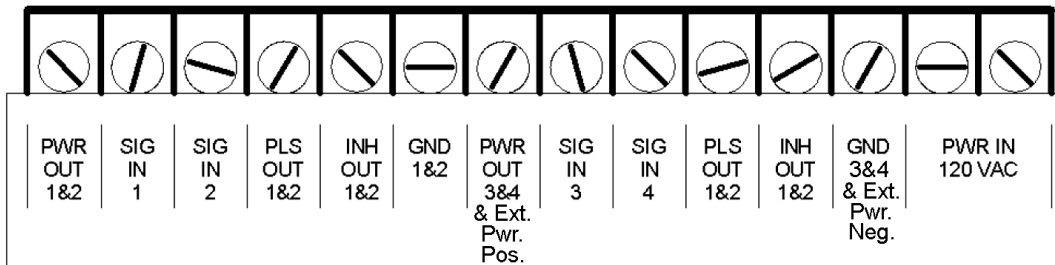
Once calibrated, the monitor will cycle through the four tanks and display the level as a percentage of full., from 0 to 99. If a tank is at or above the full level, it will display **xFUL**, where x is the tank number. If no transducer is present for a position it will display **x --**.

When the unit is in operation and communicating with the computer, it will display a momentary ":" in the middle of the display each time the computer accesses the monitor, about every 10 seconds. This indicates that communication is occurring without error.

Technical Support

Our technical staff is ready to assist you.
Phone: 800-331-9620 (U.S.A. and Canada)
918-687-4426.
Our hours are 8:30 a.m. to 4:30 p.m. central time, weekdays.
Email: info@heanderson.com
FAX: 918-682-3342

L-1 Power & Signal Connections



SPECIFICATIONS

Model L-1

**Maximum Transducer-Solution Distance
(for 0% [empty] indication)**

99 inches

**Minimum Transducer-Solution
Distance**

(for 100% [full] indication)

6 inches

Display

0.7 in. LCD 4-digit numeric

Keypad

4-Key panel integrated keypad

Enclosure

Water resistant with gasketed cover;
Sealed front panel

Transducer

50 kHz electrostatic, Parylene coated face
for harsh environments w/25' cable

Power Requirements

120 VAC

240 VAC (With A suffix on model no.)

Setpoint Memory Retention

Greater than thirty days with zero power.

