

*Instrumentation designed
with the user in mind.*

Two-Wire Ultrasonic Transmitter

Liquids and Solids

Level, Volume or Flow

Breweries

Dairies

Chemicals

Food Processing

Pharmaceuticals

Plastics

Power Plants

Pulp & Paper

Water & Wastewater

The SmartSonic-2™ model L5660-2R is a microprocessor based ultrasonic 2-wire transmitter for the measurement of level, volume and/or flow in liquids and solids.

The built-in microprocessor incorporates formulas for linear volume in a wide range of tank shapes and for flow rate of a variety of weirs and flumes.

The model L5660-2HH handheld device is required for set up and calibration. It can be used either as a handheld calibrator or as a USB adaptor to any PC with the included L5660-2R software installed.

This device enables simple step-by-step set up and calibration, including:

- x Choice of output for level, volume or flow
- x Open channel flow characterization
- x Selection of units

The L-5660-2R-IS version is CSA approved for use in hazardous locations.



ADVANTAGES

- x Two-wire loop powered
- x Works on liquids or solids
 - X Up to 25 feet on liquids
 - X Up to 12 feet on solids
- x Easy to install
- x Simple set-up & calibration
- x Internal temperature compensation
- x Rugged PVDF (Kynar) transducer
- x Open channel flow characterization
- x Handheld calibrator - PC adaptor
- x PC calibration software included

The only

**10 Year
Warranty**

The longest in the industry!

2-wire Remote Level Transmitter Model L-5660-2R

Operating Range:

1 to 25 ft. (0.3 to 7.6 m) on liquids
1 to 12 ft. (0.3 to 3.0 m) on solids

Output: 4-20 mA (loop-powered)
600 ohms @ 24 VDC
150 ohms @ 12 VDC

Supply Voltage: 12 to 28 VDC (4-20 mA)

Total Current Draw: 4-20 mA

Response Time: Dependent on output ranges from 0.6 to 3 sec.

Resolution: 0.1 in. (2.5 mm)

Accuracy: ±0.25% of range

Adjustments: Through the handheld or a PC using L-5660-2HH

Frequency: 69 kHz

Calibration: Via L-5660-2HH

Operating Temperature:

Standard L-5660-2R -40 to 140°F
Hi Temp L-5660-2RH 15 to 212°F

Temperature Compensation: Internal

Operating Pressure: up to 3 Bar

Wiring Connection: 15 foot standard length
2-conductor shielded cable

Housing: PVDF (Kynar®) transducer housing;
PC/PBT upper housing

Mounting: 2" NPT standard
Tri-clamp (L-5660-2R-TC)

Transducer Type: Ceramic, PVDF faced

Ratings: NEMA 4X

Approvals: Model L-5660-2R-IS
Class I, Div. 1, Groups C & D;
Class I, Zone 0, AEx ia IIB, T3; IP65



Barrier: Stahl 9001/51-280-110-141 or equal

Handheld Calibrator - Adaptor Model L-5660-2HH

Display: 2 x 8 LCD

Key Pad: 5 dome switches

USB Interface: Built-in USB interface makes it possible to connect to a computer and make adjustments to the sensor

Supply Voltage: Internal 9 V battery or powered by USB port

Wiring: Two conductor pluggable terminal allows the handheld to be connected to the 4-20 mA loop

Specifications are subject to change without notice.

Operating Principles

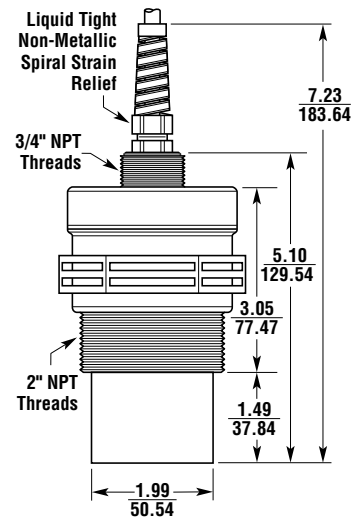
The operating principles of ultrasonic sensors are similar to those of radar. The sensor emits a burst of sound higher than the human ear can detect.

When the burst strikes a reflective surface, it is reflected back to the sensor. The sensor measures the time of flight of the burst to determine the distance to the surface.

Since air is the media through which the burst travels, any atmospheric conditions that vary the speed of sound in air changes the time it takes for the burst to return. The most common variable is temperature.

Princo's sensors incorporate microprocessor circuitry to compensate for such changes to provide accurate results. Users can also setup the sensor to filter out other factors, such as waves on the surface of a liquid or irregularities in a tank's shape to ensure reliable and accurate measurements.

Dimensions — in./mm



10-YEAR WARRANTY

All PRINCO level control instruments are backed by a 10-year warranty. PRINCO will repair or replace, at our option, any instrument that fails under normal use for up to 10 years after purchase.

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