

# LOOP POWERED AND FOUR-WIRE ULTRASONIC LEVEL TRANSMITTERS



LVU1506-LP (above) and  
LVU1502-LP (left), shown  
smaller than actual size.

## LVU1501 Series



- ✓ 0.3 to 7.6 m (1 to 25') Range
- ✓ Exclusive VSS Sensor Sense™ with 3/4 NPT Mounting
- ✓ Programmable Zero and Span Through BCD Switches
- ✓ Direct Replacement of Capacitance System
- ✓ Intrinsically Safe and Explosion Proof Rating with 316LSS Sensor, PTFE, Sensors
- ✓ STD Near Zone Varies from 152.4 to 305 mm (6 to 12")

The LVU1500-LP Series Two-Wire ("Four-Wire" for four wire unit), non-contact continuous level transmitter, is easy to program, can be used in hazardous locations, and offers unique stainless steel and 3/4 NPT sensors. It is a great choice for sanitary, hazardous, dirty, corrosive or high purity processes. The 4 to 20 mA output is compatible with all control systems and updates quickly making the LVU1500 Series the right choice for fast filling processes.

The LVU1500 Series is plug-and-play. Digital signal processing, and automatic temperature compensation eliminates all adjustment except zero and span. Zero and span calibration is set directly in inches using digital switches and requires no power. The rugged epoxy coated aluminum enclosure survives where plastic enclosures fail.

### Operation

The sensor is mounted on the top of the tank. The electronics generate an electronic signal that is converted by the sensor to ultrasonic pulses that are transmitted through air space.

At the liquid/air interface, the pulses are reflected back to the sensor. These echoes are received by the microprocessor in the electronics, which samples the echoes and calculates the level in the tank.

A continuous output of 4 to 20 mA (isolated) adjustable in increments of 1"/0.1" over entire span is provided to satisfy a number of applications. Programming is done through a pair of BCD switches.

## SPECIFICATIONS

**Range:** 0.3 to 7.6 m (1 to 25')

**Output Accuracy:** 0.25% of full scale

**Repeatability:**

**Four Wire:** 3.2 mm (1/8") typical

**Loop Power:**

± 0.13 mm (± 0.005") typical

**Input Power:**

**Four Wire:** 24 Vdc

**Loop Power:** 18 Vdc to 36 Vdc

**Two Wire:** Loop Power

**Output Signal:**

**Four Wire:** 4 to 20 mA DC (isolated),  
2 to 10 Vdc

**Loop Power:** 4 to 20 mA DC (isolated)

**Lost Echo Indicator:**

**Four Wire:** LED Flashes

**Two Wire:** LED Flashes and output  
at 22.0 mA

**Temperature Compensation:**

Automatic over full range of sensor  
operating temperature

**Controls:** Programmable zero and span,  
height & distance-mode through BCD  
switches increments of 25 mm (1") up to  
7.6 m (300"), increments of  
2.5 mm (0.1") up to 2.5 m (99.9")

**Temperature Range:**

**Sensor:** -29 to 82°C (-20 to 180°F)

**Electronics:** -29 to 77°C (-20 to 170°F)

**Sensor Pressure Rating:**

**316LSS:** 17.2 bar (100 psig)

**ETFE:** 6.9 bar (40 psig)

**Sensor Construction:**

ETFE or 316 LSS or PTFE

**Electronics Enclosures:**

**NEMA-4/7 Explosion-Proof:**

Class I, Divisions 1 or 2 Groups B,  
C & D, Class II, Divisions 1 and 2,  
Groups E, F & G, Class III Cenelec

**Mounting:** 3/4"

**NPT and Sanitary:** Up to 3 m (10')

**2 NPT:** Up to 6 m (20')



LVU1506, shown  
smaller than actual size.

## To Order

Model No.	Liquid Range mm (inch)	Sensor Length mm (inch)	Sensor	Mounting
<b>Loop Powered</b>				
LVU1501-LP	150 to 3000 (5.9 to 118)	254 (10)	316LSS	3/4 NPT
LVU1502-LP	150 to 3000 (5.9 to 118)	254 (10)	316LSS	Sanitary 1"
LVU1503-LP	150 to 3000 (5.9 to 118)	254 (10)	316LSS	Sanitary 1 1/2"
LVU1504-LP	150 to 3000 (5.9 to 118)	50.8 (2)	PTFE	3/4 NPT
LVU1505-LP	150 to 3000 (5.9 to 118)	50.8 (2)	PTFE	Sanitary 1"
LVU1506-LP	150 to 3000 (5.9 to 118)	25.4 (1)	ETFE	3/4 NPT
LVU1508-LP	300 to 7600 (11.8 to 299)	254 (10)	316LSS	2 NPT
<b>Four Wire</b>				
LVU1501	150 to 3000 (5.9 to 118)	254 (10)	316LSS	3/4 NPT
LVU1502	150 to 3000 (5.9 to 118)	254 (10)	316LSS	Sanitary 1"
LVU1504	150 to 3000 (5.9 to 118)	50.8 (2)	PTFE	3/4 NPT
LVU1505	150 to 3000 (5.9 to 118)	50.8 (2)	PTFE	Sanitary 1"
LVU1506	150 to 3000 (5.9 to 118)	25.4 (1)	ETFE	3/4 NPT
LVU1508	300 to 7600 (11.8 to 299)	254 (10)	316LSS	2 NPT

## Accessories

Model No.	Description
CNI3233	1/2 DIN controller
DPI32	1/2 DIN panel meter
70A-1	Continuous tone alarm
PSR-24S	24 Vdc regulated power supply, 90 to 264 Vac supply

Comes complete with operator's manual.

**Ordering Examples:** LVU1502-LP, loop powered transmitter with 1" sanitary fitting.

LVU1504, four wire transmitter with 3/4 NPT fitting.