

# THREE-WIRE ULTRASONIC LEVEL TRANSMITTER

LVU-301



- ✓ 8° Beam Allows Application in Restricted Environments
- ✓ All Plastic Construction
- ✓ LED Digital Display Indicates Level in Inches or Centimeters
- ✓ Pushbutton Calibration For All User Set Points
- ✓ Built-In 10A Relay May Be Configured For Alarm or Automatic Fill/Empty Operations
- ✓ Fail-Safe Relay Logic Provides Echo and Power Loss Safety

## APPLICATION

The three-wire ultrasonic level transmitter is the compact solution for non-contact continuous level measurement in process vessels, storage tanks and open channels. The transmitter also features a built-in 10A relay which can be configured as an alarm on a single set point or latched on two different set points for automatic fill or empty operations. Industrial and municipal liquid examples include sodium hydroxide, wastewater, resin, wax, liquor and bleach.

An ultrasonic sound wave is pulsed eight times per second from the base of the transducer. The sound wave reflects against the process medium below and returns to the transducer. The microprocessor based electronics measure the time of flight between the sound generation and receipt, and translates this figure into the distance between the transmitter and process medium below.

## APPLICATION VARIABLES

	Variable	Yes	No
Liquid	Foam		✓
	Conductive	✓	
	Non-conductive	✓	
	Δ Conductivity	✓	
	Contact		✓
	Non-contact	✓	
	Clean	✓	
	Dirty	✓	
	Non-coating	✓	
	Vapors		✓
	Δ Gas Density		✓
	Vacuum		✓
	Ambient pressure	✓	
	Low Pressure	✓	
Medium pressure		✓	

## SPECIFICATIONS

**Range:** 0.2 to 7.5 m (0.5 to 24.5')  
**Accuracy:** ±0.25% of span  
**Resolution:** 3 mm (0.125")  
**Frequency:** 50 kHz  
**Pulse Rate:** 8 pulses/second  
**Blocking Distance:** 15.2 cm (6") minimum  
**Display Type:** 4 segment LED  
**Display Units:** Inch/cm  
**Supply Voltage:** 14 to 36 Vdc  
**Consumption:** 200 mA  
**Current Flow:** Source/sink  
**Signal Output:** 4 to 20 mA, 12 to 36 Vdc  
**Signal Averaging:** Fast/slow  
**Calibration:** Pushbutton  
**Relay Current:** 10 A  
**Relay Output:** 250 Vac, 10A, ½ hp, SPDT  
**Relay Indication:** ON/OFF status  
**Fail-Safe Diagnostic:** Relay reverts to safe position  
**Temperature Rating:** -40 to 60°C (-40 to 140°F)  
**Temperature Compensation:** Automatic over entire range



LVU-303 shown smaller than actual size.

**Pressure Rating:** 30 psi @ 25°C, derated @ 1.667 psi per °C above 25°C  
**Enclosure Rating:** NEMA 4X (IP65)  
**Enclosure Material:** Polypropylene  
**Transducer Material:** PVDF  
**Mounting Threads:** 2 NPT  
**Dimensions:** 71 D x 159 mm H (2.8 x 6.3")

## To Order

Model No.	Description
LVU-303	Ultrasonic three-wire transmitter, sourcing (4 to 20 mA)
LVU-301	Ultrasonic three-wire transmitter, sinking (4 to 20 mA)

## Accessories

Model No.	Description
LVCN-51	Continuous relay controller with LED display

Comes complete with operator's manual.

The sourcing transmitter provides internal 4 to 20 mA excitation and should be used with a sinking device. The transmitter with sinking output requires external excitation or should be used with a sourcing device, such as the LVCN-51 continuous relay controller.

**Ordering Example:** LVU-303, ultrasonic, three-wire transmitter, sourcing (4 to 20 mA), CE approved.