

NON-CONTACT ULTRASONIC LEVEL TRANSMITTER/SWITCH



LVU30A Series



- ✓ Low-Cost
- ✓ Analog or Setpoint Switched Output
- ✓ Plug and Play Setup—No Targets Needed
- ✓ Easy Setup Software for Windows® (Included)
- ✓ Built-In Temperature/Sound Speed Compensation
- ✓ Up to 32 Sensors on RS485 Multi-Drop Loop

The LVU30A Series of CE and RoHS compliant low-cost ultrasonic sensors produce detection ranges from as close as 178 mm (7") to greater than 4 m (13'). Incorporating enhanced state-of-the-art ultrasonic technology, the sensors provide precision non-contact distance measurement for factory automation or industrial process control. The LVU30A series of sensors stand out over all other systems because of their affordability, extraordinary ease of operation, genuinely user-friendly software, versatility in user-controlled outputs, and the ability to be set up without using a target. They transmit narrow beam sound pulses at a user-selected rate (software triggered), the process returns echoes, and various outputs depending on the position of the target and programming parameters.

SPECIFICATIONS

(Typical at 24 Vdc, 22°C, 24 Vdc and 50% RH)

Ultrasonic Frequency:

- LVU32A: 150 kHz
- LVU33A: 95 kHz nominal

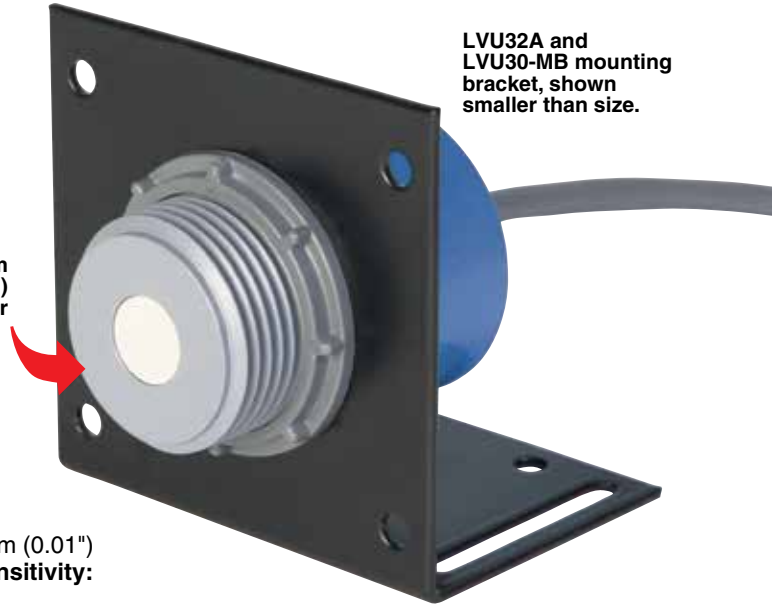
System Beam Angle:

8 degrees conical

Range:

- LVU32A: 178 mm to 2.2 m (7" to 7')
- LVU32A-E/E-I: 178 mm to 2.7 m (7" to 9')
- LVU33A: 305 mm to 4.0 m (1 to 13')
- LVU33A-E/E-I: 200 mm to 5.5 m (1" to 18')

29 mm
(1.13")
diameter



LVU32A and LVU30-MB mounting bracket, shown smaller than size.

Resolution: 0.25 mm (0.01")
Echo Detection Sensitivity: User selectable
Power Required: 12 to 24 Vdc (reverse polarity protected), 30 mA, typical with power spike protection
Output Impedance: 100 Ω for both modes of operation
Proportional Mode (Analog Output)
Zero and Span Voltages: Programmable from 0 to 10.25 Vdc (default: 0 to 10.0 Vdc) 4 to 20 mA ("-I" models)
Loss of Echo Voltage: Programmable from 0 to 10.25 Vdc (default: 10.25 Vdc)
Zero to Span Current: 4 to 20 mA ("-I" models)
Response Time: 60 ms
Resolution: 1-bit
Setpoint Voltages: 0 or 10.25 Vdc
Setpoint Hysteresis (Programmable): 0 to 75%
Response Time: < 1 ms
Sampling Rate (Programmable): 0.1 to 20 Hz in 0.1 Hz increments (default: 10 Hz)
Target Distance Averaging
Rolling Average: From 1 to 32 samples

Boxcar Average: From 1 to 1024 samples (default: 1 sample)
Loss-of-Echo Time-Out: From 1 to 254 consecutive samples missed before time-out (factory default: 1 sample)
Housing Material: PVC
Connection: 1 NPT
Transducer Surface: Custom PPA
Cable: Shielded 5 conductor, PVC jacket, 22 AWG, 800 mm (72") pigtail [user-extendable for RS485 communication to 1500 m (5000')]
Operating Temperature: -40 to 70°C (-40 to 158°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Relative Humidity: 0 to 95%, non-condensing
Enclosure Rating: NEMA 6 (IP68)
Programming Requirements
Communications Converter: RS232 (or USB)/RS485 with automatic send data control (Windows 10, 8, 7 Vista and XP SP3)

To Order

Model No.	Description
LVU32A	Ultrasonic sensor 2.13 m (7') span, 150 kHz V out
LVU32A-E	Enhanced ultrasonic sensor 2.7 m (9') span, 150 kHz V O
LVU32A-E-I	Enhanced ultrasonic sensor 2.7 m (9') span, 150 kHz V I
LVU33A	Ultrasonic sensor 4 m (13') span, 95 kHz V out
LVU33A-E	Enhanced ultrasonic sensor 5.5 m (18') span, 95 kHz V O
LVU33A-E-I	Enhanced ultrasonic sensor 5.5 m (18') span, 95 kHz V I
LVU30-MB	Optional mounting bracket
LVU30-SW	Programming software available free from OMEGA
OM-CONV-USB	RS232 to USB interface converter

Comes complete with operator's manual and lock nut.

Ordering Examples: LVU32A, ultrasonic level transmitter/switch, LVU30-MB, mounting bracket. LVU33A, ultrasonic level transmitter/switch.