



U Series

USR Series Medium- & Long-Range Ultrasonic Level Sensors



USR Series Ultrasonic Sensors for Medium and Long-Range Non-Contact Level Measurement

Madison Company has extended its line of ultrasonic sensors with the USR Series for medium- and long-range level measurement in both process and industrial applications.

Also available for the USR Series is a level controller for either a 110 VAC or 220 VAC (optional) power source, which is programmable with up to two set points. The 0-5 Volt output from the sensor is converted to inches and displayed. The controller can also be programmed with hysteresis and alarm delay options to match your process control range requirements.

Madison-Omni® models are also available for ultrasonic sensing and offer a self-contained display and alarm that are user programmable.

Features

- Microprocessor controlled
- Temperature compensated
- Target indicating LED for ease in installation (not featured in Omni models)
- 4-20 mA or 0-5 V outputs
- Several housing materials to choose from; specials can be quoted
- Madison-Omni® series has integrated user-programmable display and alarm

Applications

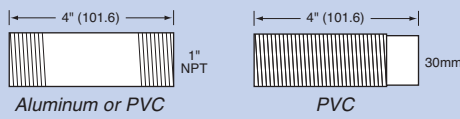
- Process
- Industrial

Specifications

USR3

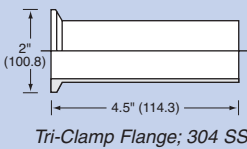
Range: 8" to 36" (20.3cm to 91.4cm)
 Resolution: 1/16" (1.588mm)
 Update Rate: > 30 per second
 (1 sec. rolling avg. standard)
 Accuracy: 0-5 V or 5-0 V $\pm 1\%$ full scale;
 4-20 mA or 20-4 mA $\pm 2\%$ full scale
 Operating Temperature:
 -40°C to 62.8°C (-40°F to 145°F)
 Operating Pressure: Ambient
 Operating Frequency: 200 KHz
 Operating Volts: 24 VDC (3-wire)
 Beam Angle: 14°
 Output Signal: 0-5 V, 5-0 V, 4-20 mA
 or 20-4 mA

Mechanical (USR3 & USR6 models):



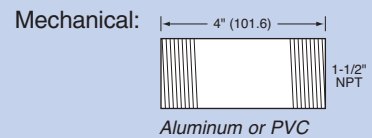
USR6

Range: 10" to 72" (25.4cm to 182.8cm)
 Resolution: 1/16" (1.588mm)
 Update Rate: > 20 per second
 (1 sec. rolling avg. standard)
 Accuracy: 0-5 V or 5-0 V $\pm 1\%$ full scale;
 4-20 mA or 20-4 mA $\pm 2\%$ full scale
 Operating Temperature:
 -40°C to 62.8°C (-40°F to 145°F)
 Operating Pressure: Ambient
 Operating Frequency: 120 KHz
 Operating Volts: 24 VDC (3-wire)
 Beam Angle: 12°
 Output Signal: 0-5 V, 5-0 V, 4-20 mA
 or 20-4 mA



USR12

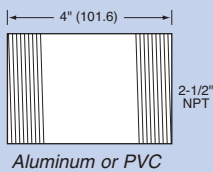
Range: 12" to 144" (30.5cm to 365.7cm)
 Resolution: 1/16" (1.588mm)
 Update Rate: > 10 per second
 (1 sec. rolling avg. standard)
 Accuracy: 0-5 V or 5-0 V $\pm 1\%$ full scale;
 4-20 mA or 20-4 mA $\pm 2\%$ full scale
 Operating Temperature:
 -40°C to 62.8°C (-40°F to 145°F)
 Operating Pressure: Ambient
 Operating Frequency: 75 KHz
 Operating Volts: 24 VDC (3-wire)
 Beam Angle: 15°
 Output Signal: 0-5 V, 5-0 V, 4-20 mA
 or 20-4 mA



USR25

Range: 18" to 300" (45.7cm to 762.0cm)
 Resolution: 1/8" (3.175mm)
 Update Rate: > 10 per second
 (1 sec. rolling avg. standard)
 Accuracy: 0-5 V or 5-0 V $\pm 1\%$ full scale;
 4-20 mA or 20-4 mA $\pm 2\%$ full scale
 Operating Temperature:
 -40°C to 62.8°C (-40°F to 145°F)
 Operating Pressure: Ambient
 Operating Frequency: 40 KHz
 Operating Volts: 24 VDC (3-wire)
 Beam Angle: 12°
 Output Signal: 0-5 V, 5-0 V, 4-20 mA
 or 20-4 mA

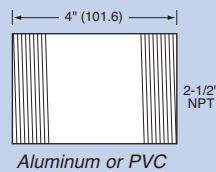
Mechanical:



USR35

Range: 18" to 420" (45.7cm to 1066.8cm)
 Resolution: 1/4" (6.350mm)
 Update Rate: > 10 per seconds
 (1 sec. rolling avg. standard)
 Accuracy: 0-5 V or 5-0 V $\pm 1\%$ full scale;
 4-20 mA or 20-4 mA $\pm 2\%$ full scale
 Operating Temperature:
 -40°C to 62.8°C (-40°F to 145°F)
 Operating Pressure: Ambient
 Operating Frequency: 40 KHz
 Operating Volts: 24 VDC (3-wire)
 Beam Angle: 12°
 Output Signal: 0-5 V, 5-0 V, 4-20 mA
 or 20-4 mA

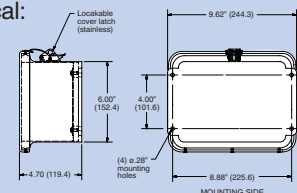
Mechanical:



USR Controller

Range: Refer to USR3, USR6, USR12
 or USR 25 sensors above
 Power: 110 VAC (220 VAC optional)
 Units Displayed: Programmable in
 inches from sensor(s)
 Relays: 1 or 2, 5 A SPDT
 Enclosure: NEMA 4 with hinged cover
 (specials available)
 Display: 0.56" green LED, 4-digit
 Set Point(s): Programmable, up to two
 Terminals: PCB screw-type connectors
 Hysteresis: Programmable in inches,
 \pm from setpoint
 Sensor Power: 24 VDC @ 50mA

Mechanical:



Refer to the Madison-Omni® ultrasonic sensors catalog page and chart for models and drawings.

All specifications are subject to change without notice.



Sensor solutions for today and the future™



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