DATA SHEET

Ultrasonic Sensors

U5098 Series

Madison's ultrasonic sensors reduce process variability and are unaffected by the target material's color, shape, or physical composition. They can be used indoors or outdoors, are low maintenance, and can be cost-effective in demanding applications.

Less waste, higher quality, and lowered costs for OEMs.

Applications

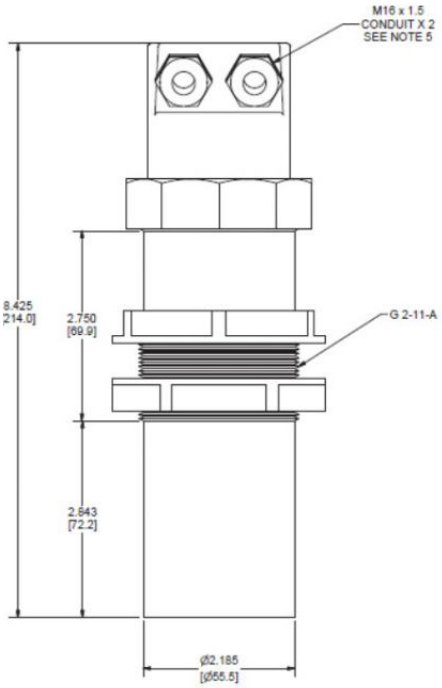
- Industrial and large tanks

Material

- Polypropylene

Specifications

- Material: Polypropylene
- Mounting: G 2" threads (fits 2" NPT)
- Power Draw: 2 watts
- Output: 4-20 mA
- Accuracy: ±0.2% max of Full Range
- Resolution: 0.04" / 1.02 mm
- Beam Angle: 10°
- Calibration: Push Button
- Communication: RS485 w/ MODBUS
- Temperature Range:-22 to 158°F /-30 to 70°C
- Max. Pressure: 72.5 psi
- Ingress Protection: IP66
- Programmable Relays (2): 3A@240V AC SPST NO
- Approval: CE



Part Numbers	Adjustable Range	Input Voltage
U5098-A120-019	0.8 to 19' / 0.25 to 6m	120V AC
U5098-A240-019	0.8 to 19' / 0.25 to 6m	240V AC
U5098-D024-019	0.8 to 19' / 0.25 to 6m	20- 30V DC
U5098-D024-032	1.3 to 32' / 0.4 to 10m	20- 30V DC

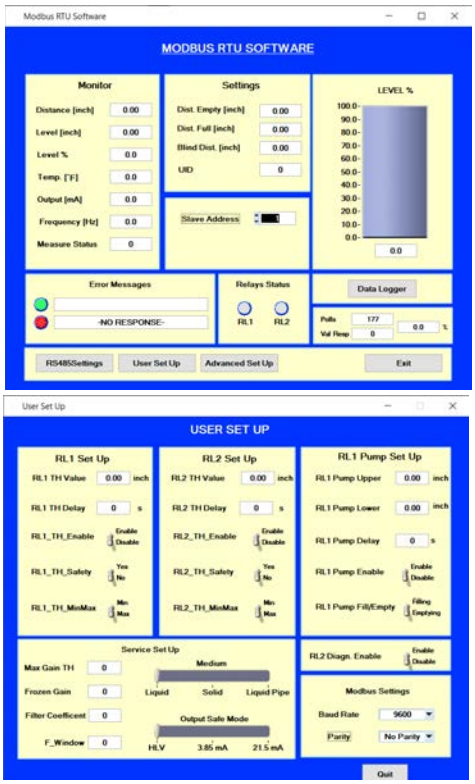
Operation

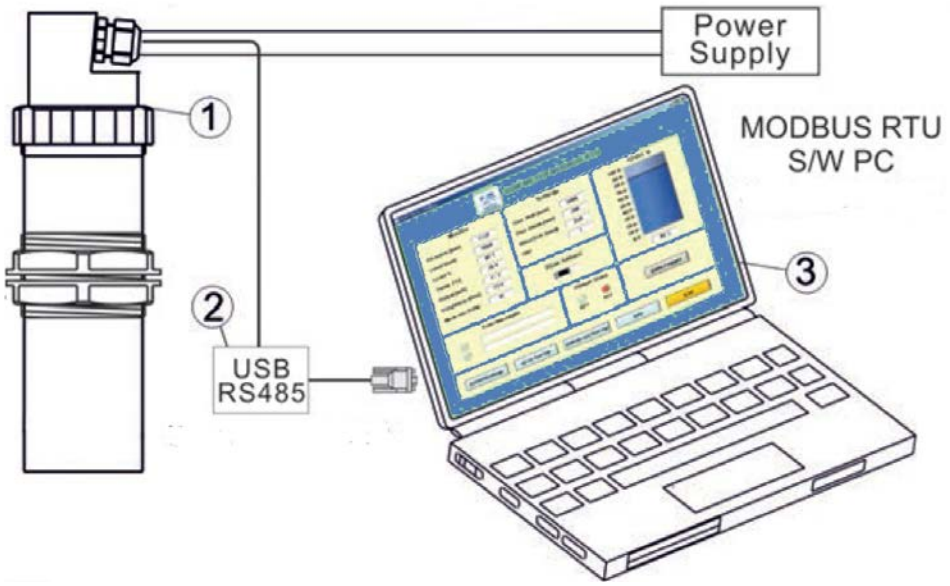
Ultrasonic sensors work on the basic principle of sound waves (mechanical energy) to determine material level.

The sensor emits a high frequency pulse above human hearing (20-20 KHz). The ultrasonic transducer, in transmit mode, generates a high-pressure sound wave (similar to a loudspeaker) that propagates to a target and then reflects back from the products surface (echo). The transducer then switches to receiver mode (similar to a microphone) to listen for the reflected wave (echo). The reflected wave is then converted to an electrical signal that is converted to give the distance to a specific target.

The changing distance to a target is converted to a linear 4mA to 20mA current output to provide continuous level measurement. Ultrasonic sensors can be easily programed, on site via push button programming, or by PC, for different application heights within their range.

The communications software allows viewing and setting the transducers operation parameters.

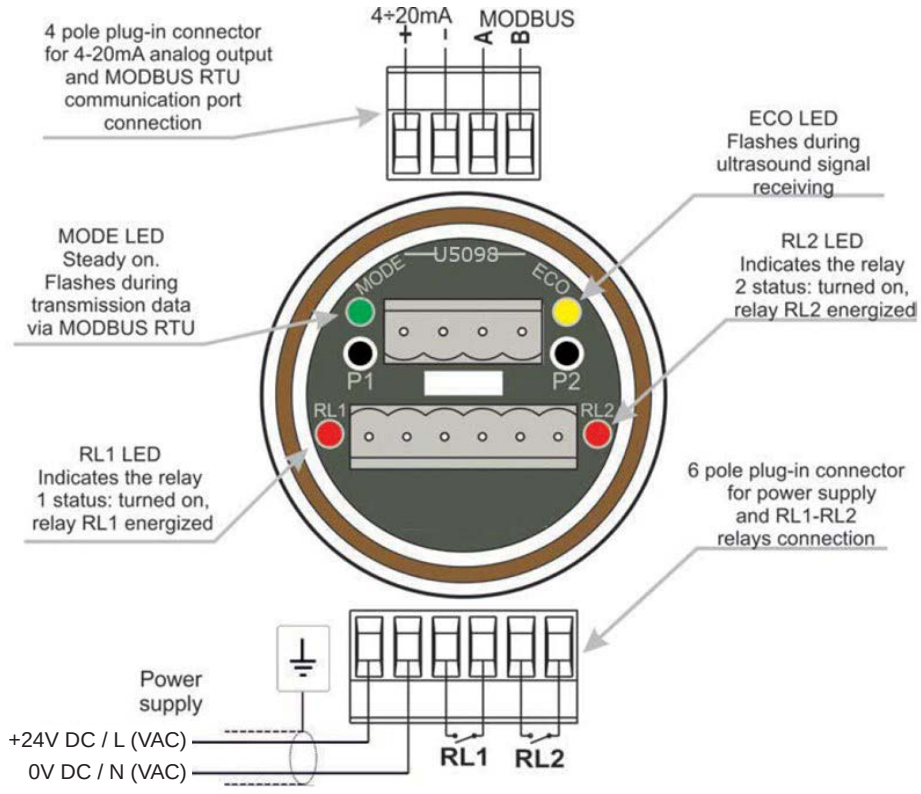




1. U5098 Ultrasonic Sensor

2. Optional RS-485 to USB converter module. Required if PC doesn't have RS-485 port. USB Converter module readily available online.

3. Included MODBUS RTU Software (P/N 035-M00011)



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