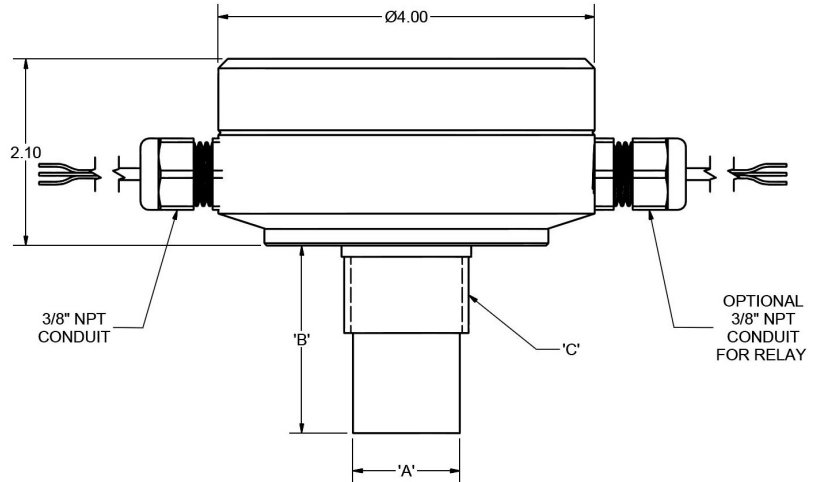




Sensing Solutions since 1959

Installation and Maintenance

U3M-148 Ultrasonic Sensors



Specifications	
Model	U3M-148
Beam Angle	12°
Range	0.33 - 9 ft.
Resolution	0.03"
Temperature Electronic Enclosure	- 40 to 140°F
Pressure	5 Bar
Ingress Protection	NEMA 6 (IP68)
Input Power	12 - 30 VDC
Output	4 - 20 mA
Cable	5' - 24AWG
Mounting	1.0" NPT
Option	
-S15 (Sanitary)	1.5" Ferrule
-S20 (Sanitary)	2" Ferrule
-3/4 (Adapter) ¹	3/4" Adapter
-HTP (High Temp & Pressure Nozzle)	-40 to 266°F
-485 (Communication)	RS-485
-R (Relay) ²	SPDT 8A@230VAC

DIMENSION			
Model	A	B	C
U3M-148	1.125"Ø	1.95"	1" NPT

1. Not available with S15, S20, HTP option.
2. Includes 5' - 18AWG Cable.

Madison Company, Inc.
27 Business Park Drive
Branford, CT 06405

ISO 9001 Certified

203-488-4477 or 800-466-5383
info@madisonco.com
www.madisonco.com

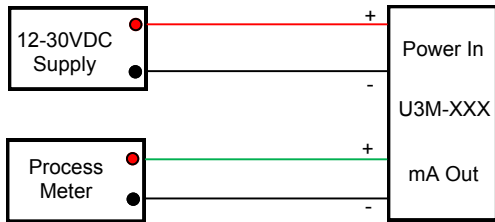
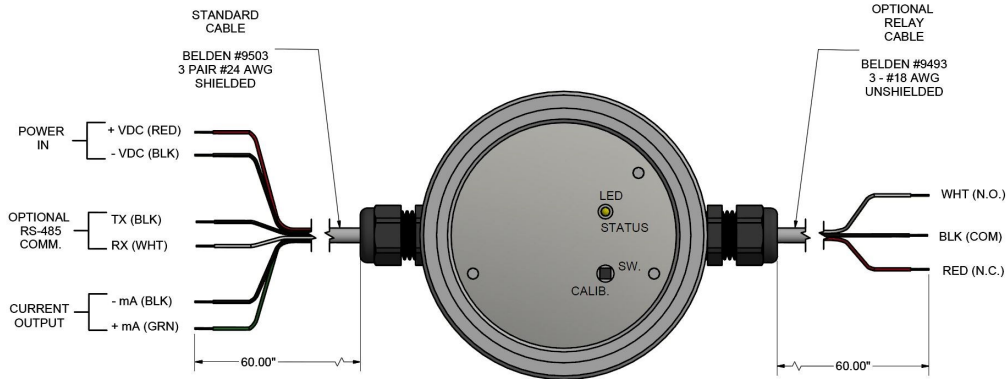




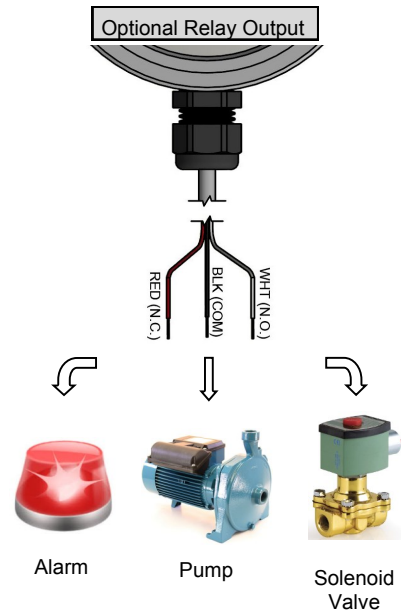
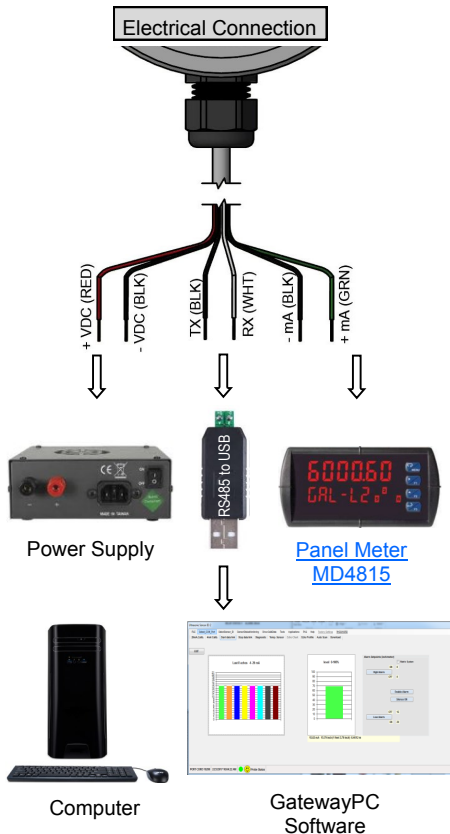
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U3M-148 Ultrasonic Sensors



ELECTRICAL SPECIFICATION	
POWER DC	12-30VDC, 0.07A Max @ 24VDC $R_{LOAD} = (V_s - 6) / 24mA$
OUTPUT	4-20mA, 6.1uA Resolution



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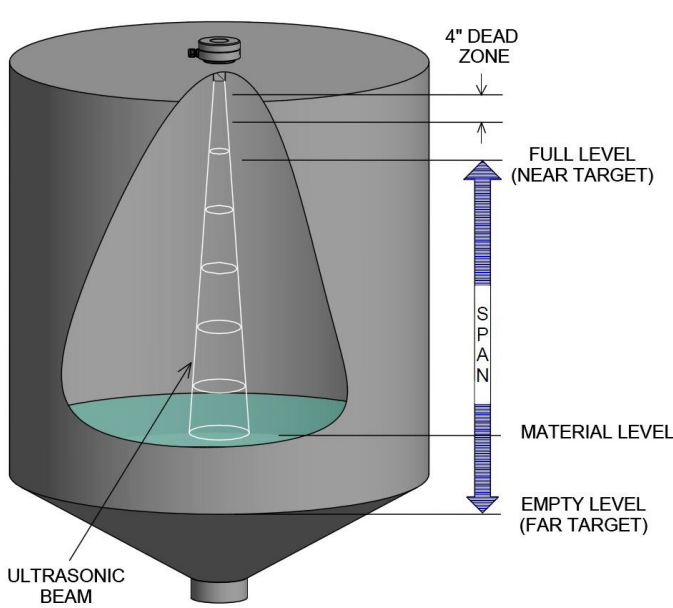
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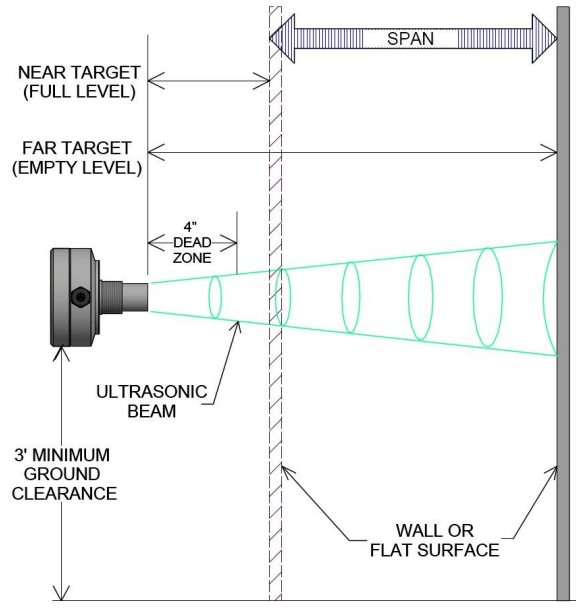


Installation and Maintenance

U3M-148 Ultrasonic Sensors



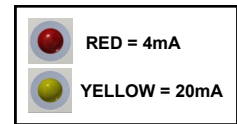
In Application Calibration



Out Of Application Calibration



NOTES:

- If the Full Level (Near Target) is set to 20mA, then the Empty Level (Far Target) must be set to 4mA.
- If the Full Level (Near Target) is set to 4mA, then the Empty Level (Far Target) must be set to 20mA.
- Most common issue is setting 20mA & 4mA to same target. Unit will not function properly if this is the case.
- Sensor can be pointed at wall, floor, or solid object to do calibration.





CALIBRATION: 20-4mA

FULL 20mA (Near Target)

1. Power on sensor. STATUS LED should be Green. Set near target (Full Level). Aim sensor to near target. 
2. Push and hold Calibration Button until LED turns YELLOW (20mA). Approximately 2 seconds. Release button. LED should flash and return to Green to acknowledge the calibration. If not repeat step 1. 



OR

EMPTY 4mA (Far Target)


3. STATUS LED should be Green. Set far target (Empty Level). Aim sensor to far target. 
4. Push and hold Calibration Button until LED turns RED (4mA). Approximately 7 seconds. Release button. LED should flash and return to Green to acknowledge the calibration. If not repeat step 3. 

CALIBRATION: 4-20mA

FULL 4mA (Near Target)

1. Power on sensor. STATUS LED should be Green. Set near target (Full Level). Aim sensor to near target. 
2. Push and hold Calibration Button until LED turns RED (4mA). Approximately 7 seconds. Release button. LED should flash and return to Green to acknowledge the calibration. If not repeat step 1. 

EMPTY 20mA (Far Target)

3. STATUS LED should be Green. Set far target (Empty Level). Aim sensor to far target. 
4. Push and hold Calibration Button until LED turns YELLOW (20mA). Approximately 2 seconds. Release button. LED should flash and return to Green to acknowledge the calibration. If not repeat step 3. 