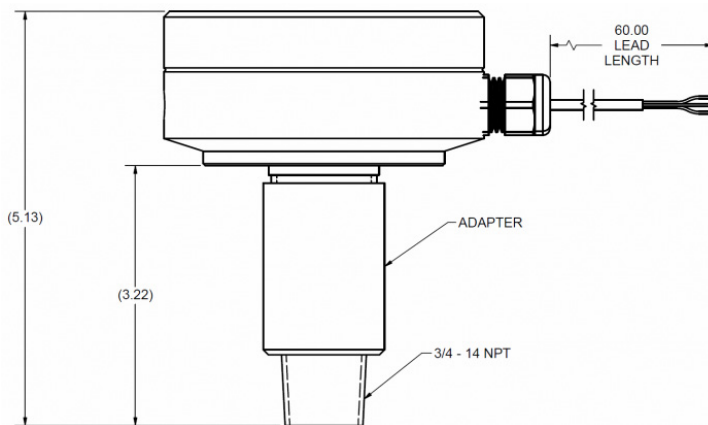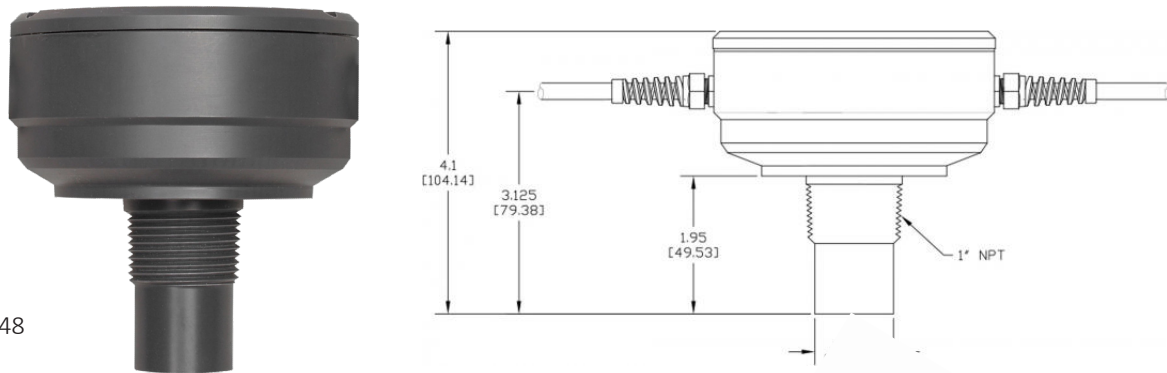**Madison**®

U3M-148

U3M-148-3/4

Applicable Industries

- General purpose for vented tanks with up to 6' of depth
- Dirty, sticky, and scaling liquid where non-contact sensing is preferred

Features

- Ultrasonic pulse technology
- Self-cleaning sensor face
- Push-button calibration or optional communication, field or bench programmable
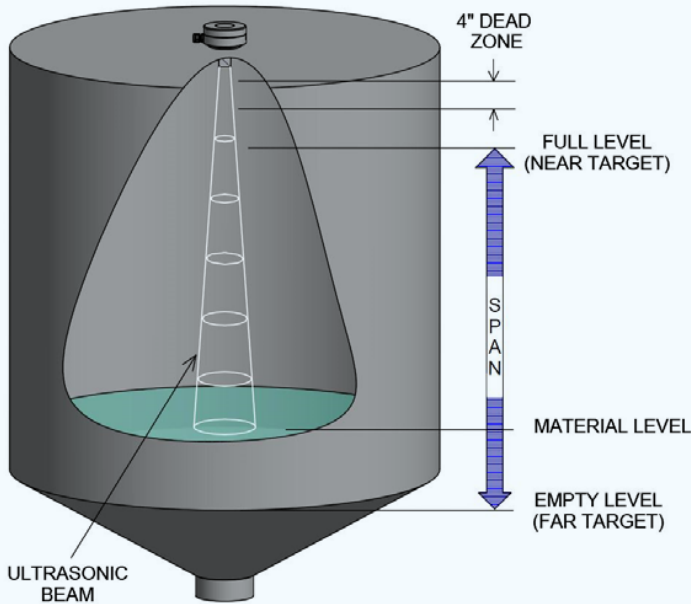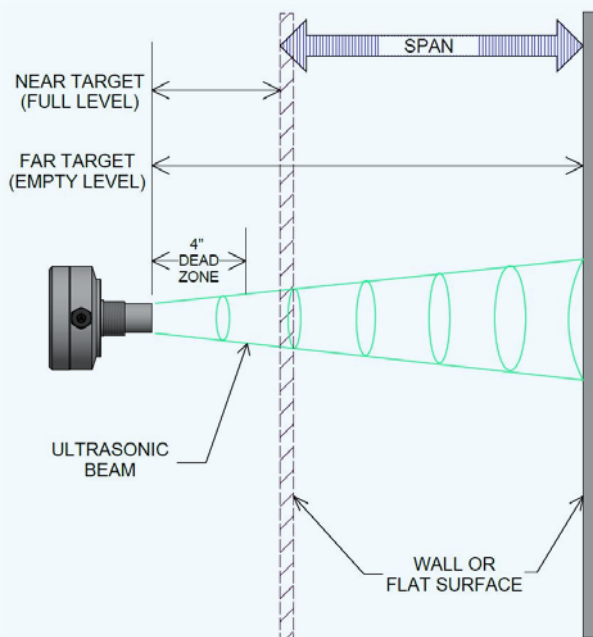- Temperature compensation

Material

- PVC-94V0

Part Numbers	Mount	Ingress Protection
U3M-148	1" NPT	NEMA 6 (IP68)
U3M-148-3/4	3/4" NPT	NEMA 4X (IP65)

Specifications

- Sensing range: 4" to 72"
- Adjustable Range: 0.33' to 6' (0.10m to 1.83m)
- Input Voltage: 12-30V DC, R load = (Vs-6)/24 mA
- Output: 4-20 mA
- Lead Wires: 60", 24 AWG, 3 pair; relay option requires 18 AWG, 3 conductor
- Accuracy: ±0.25% of Full Scale
- Resolution: 0.03" / 0.7mm
- Beam Angle: 12°
- Calibration: Push Button
- Temperature Range:-40 to 140°F / 40 to 60°C
- Max. Pressure: 72.5 psi
- Frequency: 148 kHz
- Temperature Compensation: Onboard the Sensor
- Approval: CE

Application Calibration

Benchtop Calibration

Calibration Instructions

- To calibrate your sensor prior to tank installation, simply point your sensor at a floor, wall or flat surface the appropriate distances to calibrate the Near and Far targets (see calibration below).
- 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 problem is setting 20mA & 4mA at the same target distance.

🔴 Red = 4mA   🟡 Yellow= 20mA

Calibration for 20-4mA
FULL 20mA (Near Target)

🟢 1. Pointed within range, the status LED will be green. Aim the sensor and set the appropriate distance for the Near target.

🟡 2. Push and hold the calibration button until LED turns yellow for 20mA. (~ 2 Seconds) Release button. When properly set, the LED will flash and return to green to acknowledge the calibration distance has been set.

EMPTY 4mA (Far Target)

🟢 3. With the status LED green, aim the sensor and set the appropriate distance for the Far target.

🔴 4. Push and hold the calibration button until LED turns Red for 4mA (~ 7 seconds). Release button. When properly set, the LED will flash and return to green to acknowledge the calibration distance has been set.

———————————— *OR* ————————————
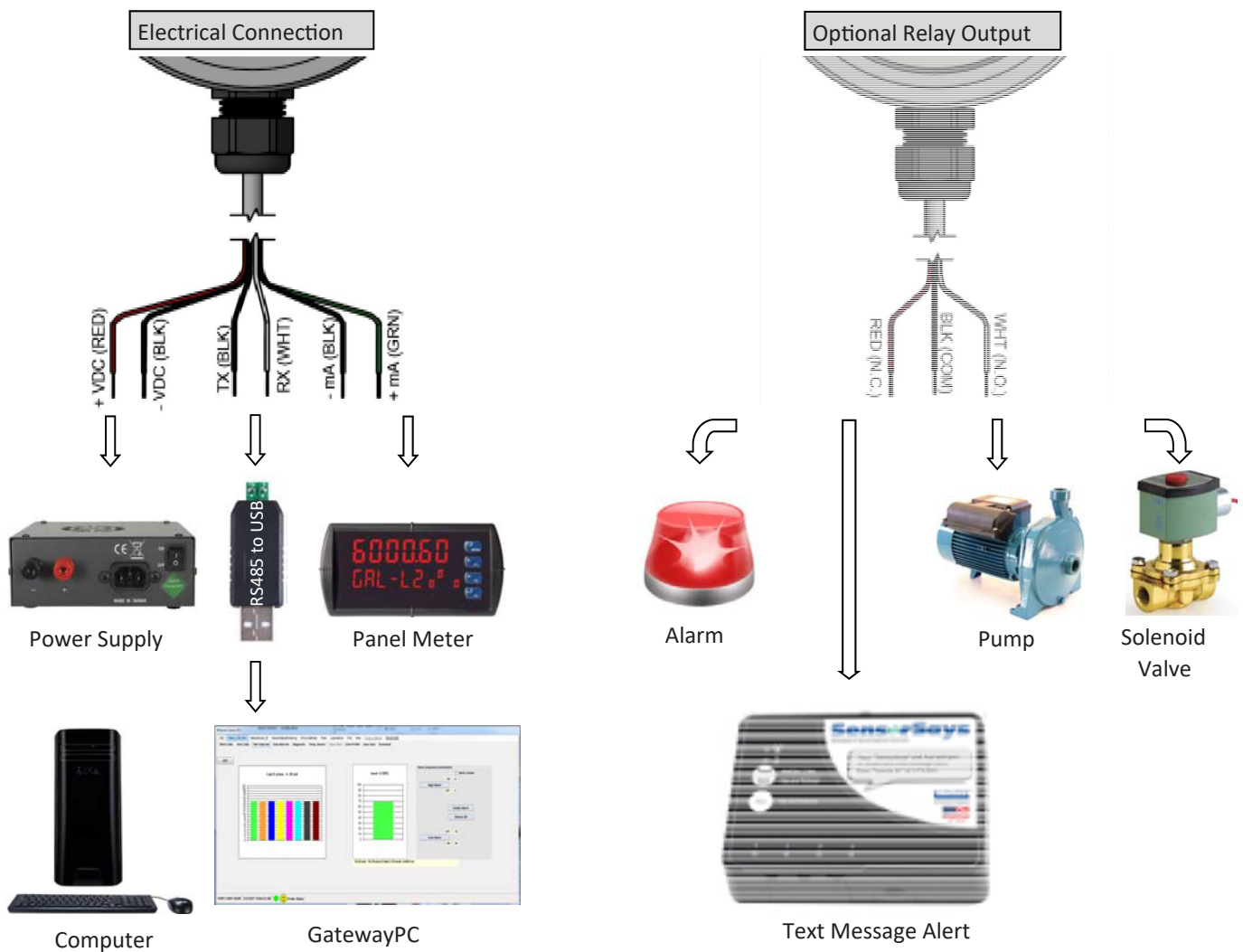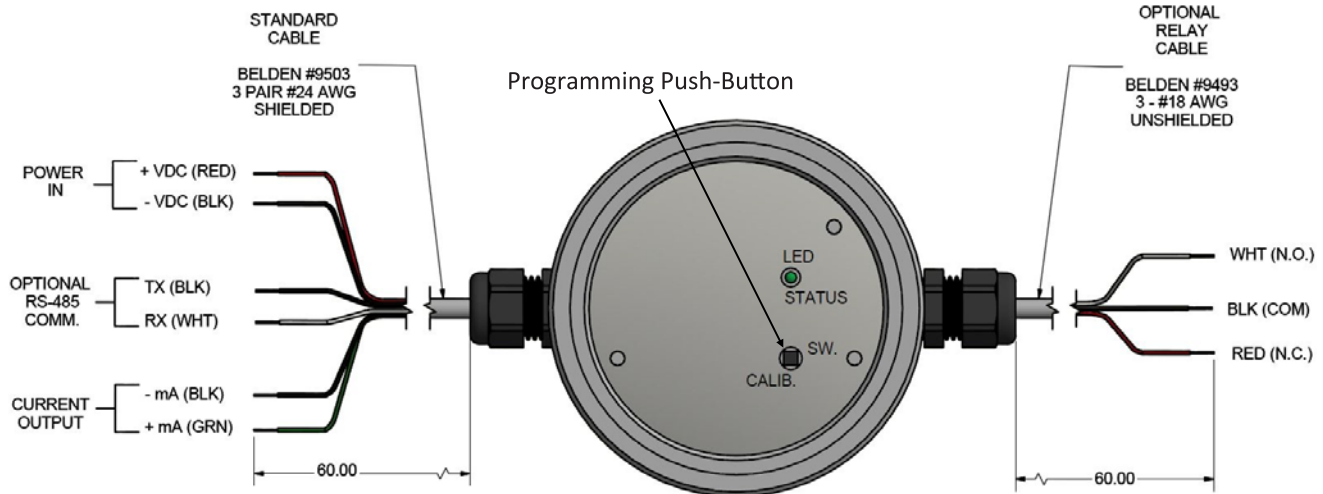
Calibration for 4-20mA
FULL 4mA (Near Target)

🟢 1. Pointed within range, the status LED will be green. Aim the sensor & Set the appropriate distance for the Near target.

🔴 2. Push and Hold the calibration button until LED turns red for 4mA (~ 7 seconds). Release button. When properly set, the LED will flash and return to green to acknowledge the calibration distance has been set.

EMPTY 20mA (Far Target)

🟢 3. With the status LED green, aim the sensor and set the appropriate distance for the Far target.

🟡 4. Push and Hold the calibration button until LED turns yellow for 20mA (~ 2 seconds). Release button. When properly set, the LED will flash and return to green to acknowledge the calibration distance has been set.

Wiring Configurations

STANDARD CABLE
BELDEN #9503
3 PAIR #24 AWG
SHIELDED

Programming Push-Button

OPTIONAL RELAY CABLE
BELDEN #9493
3 - #18 AWG
UNSHIELDED

POWER IN
+ VDC (RED)
- VDC (BLK)

OPTIONAL RS-485 COMM.
TX (BLK)
RX (WHT)

CURRENT OUTPUT
- mA (BLK)
+ mA (GRN)

LED STATUS

SW. CALIB.

WHT (N.O.)
BLK (COM)
RED (N.C.)

60.00

60.00

Electrical Connection

+ VDC (RED)
- VDC (BLK)
TX (BLK)
RX (WHT)
- mA (BLK)
+ mA (GRN)

Power Supply

RS485 to USB

Panel Meter

6000.60
GAL-L2

Computer

GatewayPC

Optional Relay Output

RED (N.C.)
BLK (COM)
WHT (N.O.)

Alarm

Pump

Solenoid Valve

Text Message Alert

Not responsible for any typographic errors. Specifications are subject to change without notice. MAC_013_C 012023