

# “Mini Sonic” Ultrasonic Transmitters- Standard Mtg.



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## FEATURES

Standard 5 feet of interconnection cable  
Simple push-button calibration  
Output 4- 20 mA / 20- 4 mA  
Built-in temperature compensation  
Optional High Level Alarm relay  
dual pole output 5A/230 Vac  
Optional RS485 communications with  
calibration, diagnostics and data  
logging software  
PLC compatible  
Three Wire Operation

## APPLICATIONS

Food and Beverages  
Water  
Pharmaceutical

## Mounting Options

Mounting Adaptors Available:  
1”- 3/4” NPT or 1”- 1/2” NPT

## ENVIRONMENTAL

Temperature : - 40 to 140°F(- 40 to 60°C) PVC Body  
Pressure : 1 –10 bar  
Installation Category : Class II

## MECHANICAL

### Std. Interconnection Cable :

- 5’- Belden #9503 : 3 Pair-24AWG
- 1) Supply : 12 - 30 Vdc 1 pair shielded (Red/Blk.)
- 2) Output : 4 - 20 mA 1 Pair shielded (Blk./Green)
- 3) Comm.:RS485 (optional) 1 Pair Shielded (Blk./Wht.)

### Optional Relay Cable :

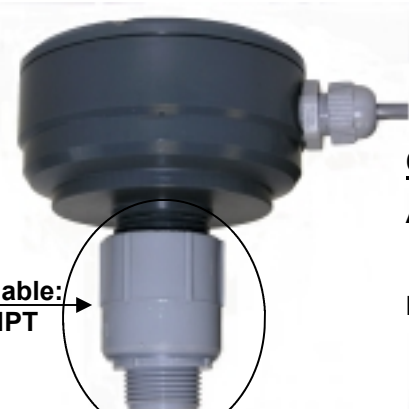
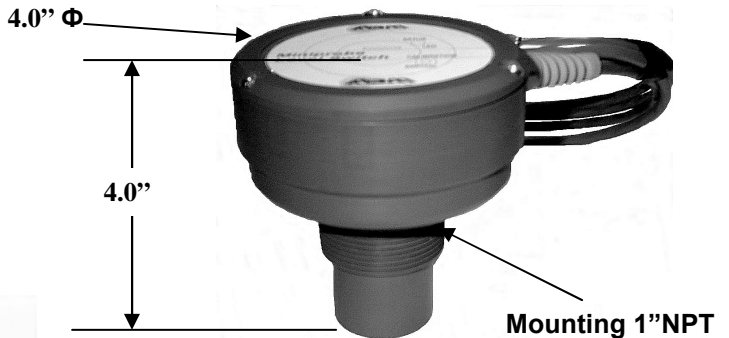
- 5’- Belden #9493 : 3-18 AWG unshielded
- 1) Relay (optional) DPST 5A /230Vac

### Enclosure : PVC-94V0

Ingress Protection : NEMA 4X (IP65)

## ELECTRICAL SPECIFICATIONS

<b>Power DC</b> ABM300	12 to 30 VDC , 0.07 A max @ 24 Vdc R load = (Vs — 6) / 24 mA
<b>Output</b>	4-20 mA Output 6.1 uA resolution
<b>Optional</b>	- communications port RS485 - Relay DPST 5A / 230 Vac



## OPERATIONAL

**Accuracy** : +/-0.10% of max. range  
(in lab using 4-20 Ma current output)  
+/-0.25% of max. range (typically in field)

**Response Time:** Std. Unit 2 - 3 echo’s / sec.  
: Std. with less damping 6 echo’s / sec.  
: Fast Protocol \*\* I.R. 10 - 30 echo’s /sec.  
\*\* IF Required

**Beam Angle** : 10 - 12 degree at -3dB

**Loss of Echo** : Programmable from 1 min. to 4 min.  
(Default = 1 min.) 22mA or 2 mA output

**Temp. Comp.** : In transducer

**Calibration** : Push-button or programmable  
via optional communications port

**Diagnostics** :(Echo Profile) via communications port

**High Level Alarm 5A.** Relay has hysteresis and delay of 5% of the tank height, this can be adjusted using Communications software. Relay’s state changes at 20mA calibration point or at 4 mA calibration point. To switch the above “push-button” or “communication software” can be used . Using push-button press and hold until the light goes off. Continuous green light indicates alarm at 20mA ,blinking green indicates alarm at 4 mA. Relay “ON” set point is adjustable using communications software.

**CATALOGUE #** - On the Web return to Home Page & refer to Catalogue Number Structure for Ordering information. In Product Documentation refer to page 3.

## TECHNICAL SPECIFICATIONS

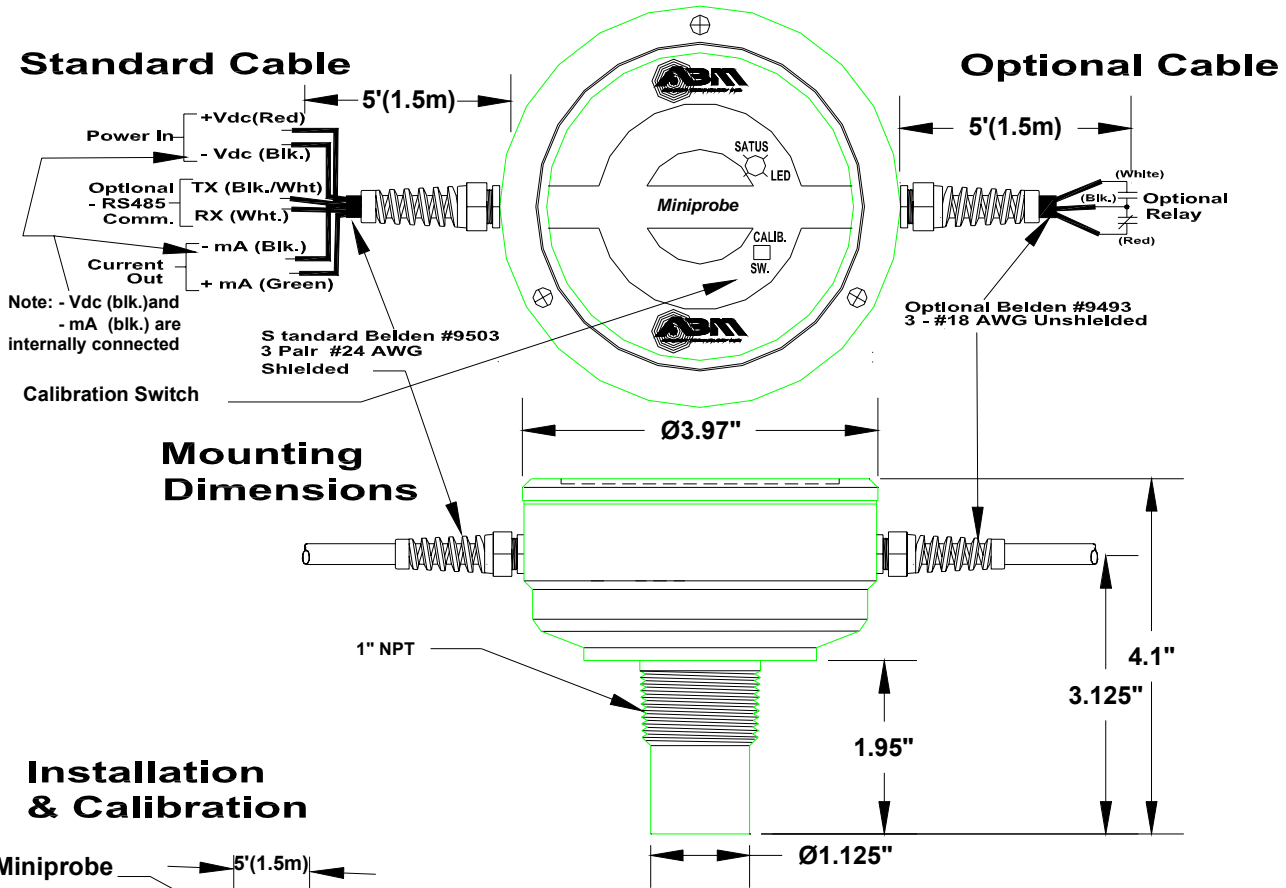
Range Code	Operating Range in Liquids	Resolution	Mounting NPT
148	0.33 - 6 ft. 0.10 - 1.8 m	0.03” 0.7 mm	1”

# Interconnection Diagram For "Mini Probe"

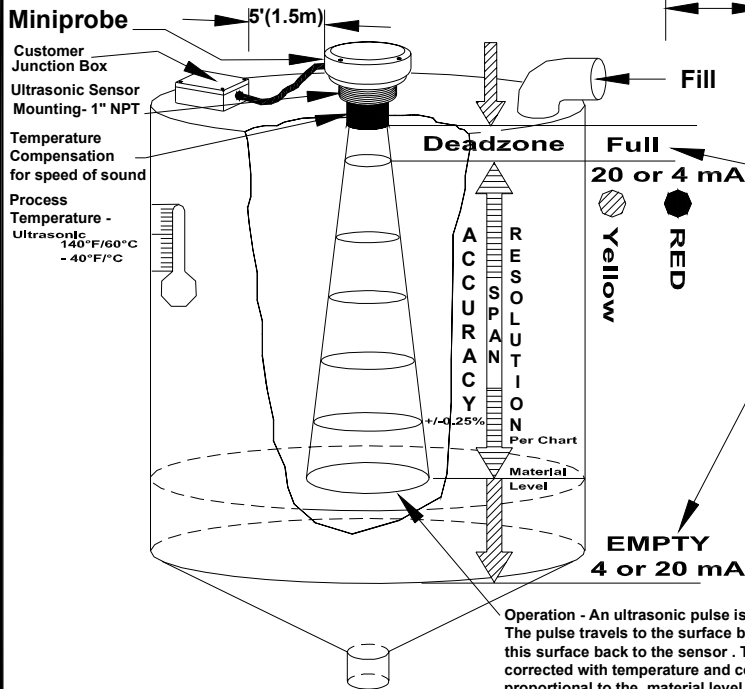


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## Interconnection Diag.



## Installation & Calibration



### Calibration - 4-20 or 20-4 mA Output

- FULL - Calibration 20 mA or 4 mA (Set Near Target)**
1. Calibration mode LED colour is Green.
  2. Push button and hold until LED turns Yellow (20mA) or push button and hold until LED turns Red (4 mA).
  3. Release button, observe LED flashes to acknowledge the calibration.

### EMPTY - Calibrate 4mA or 20mA (Set Far Target)

1. Calibration mode LED colour is Green.
2. Push button and hold until LED turns Red (4mA) or push button and hold until LED turns Yellow (20ma).
3. Release button, observe LED flashes to acknowledge the calibration.

Operation - An ultrasonic pulse is transmitted from the ABM sensor. The pulse travels to the surface being monitored and is reflected off this surface back to the sensor. The time of flight is divided by 2, corrected with temperature and converted to an output signal directly proportional to the material level.