

New Feature

"Mini Sonic" Ultrasonic Transmitters - Standard & Sanitary Ferrule Mtg.



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FEATURES

S.S. 316L Face Material with Ferrule Mtg. The surface finish that is exposed to the process exceeds a No.4/Dairy finish (~18 micro inches)

- 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



Std. Teflon NPT Mtg. High Temp. Sensor (As Above)

Std. PVC 1" NPT Mtg. HighTemp. & Pressure Sensor S.S. Ferrule c/w S.S. Face

New! Fast Motion Detector
 10 echoes / sec. Or Higher

APPLICATIONS

Food and Beverages, Water, Pharmaceutical

ENVIRONMENTAL

- Electronics Enclosure :- 40 to 140°F(- 40 to 60°C) Continuous Operation
- Std. & Sanitary Nozzle :- 40 to 140°F(- 40 to 60°C)
- Teflon Std. Nozzle :- 40 to 266°F(- 40 to 130°C)
- PVC Sanitary: No Steam Cleaning (CIP)
- S.S. Sanitary : - 40 to 266°F(- 40 to 130°C) for 1/2 Hr. Ferrule Steam Cleaning. Removed sensor for longer Cleaning cycle ,recommended. Not for Continuous Operation
- Pressure : 5 bar Max.
- Installation Category: Class II

TECHNICAL SPECIFICATIONS

Range	Beam	OPERATING	Resolution	Mounting
052	12°	0.8 - 50 ft. 0.2 - 15 m	0.03" 0.7 mm	2.0" NPT
070	12°	0.8 - 33 ft. 0.2 - 10 m	0.03" 0.7 mm	2.0" NPT or 2" Ferrule
080	12°	0.8 - 20 ft. 0.2 - 6 m	0.03" 0.7 mm	2.0" NPT or 2" Ferrule
081	12°	0.6 - 16 ft. 0.18 - 4.9 m	0.07" 1.8 mm	1.5" NPT or 1.5"/ 2" Ferrule
148	12°	0.33 - 6 ft. 0.10 - 1.8 m	0.03" 0.7 mm	1.0" NPT or 1.5"/ 2" Ferrule

ELECTRICAL SPECIFICATIONS

Power DC	12 to 30 VDC , 0.07 A max @ 24 Vdc R load = (Vs — 6) / 24 mA
Output Optional	4-20 mA Output 6.1 uA resolution - communications port RS485 - Relay DPST 8A / 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: Standard Unit 2 - 3 echoes / sec.
: Std. with less damping 6 echoes / sec.
: Fast Protocol **I.R. 10 echoes / sec. Or More ** 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.

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) SPDT 8A /230Vac
- Enclosure PVC-94V0
 Ingress Protection: NEMA 6 (IP68)

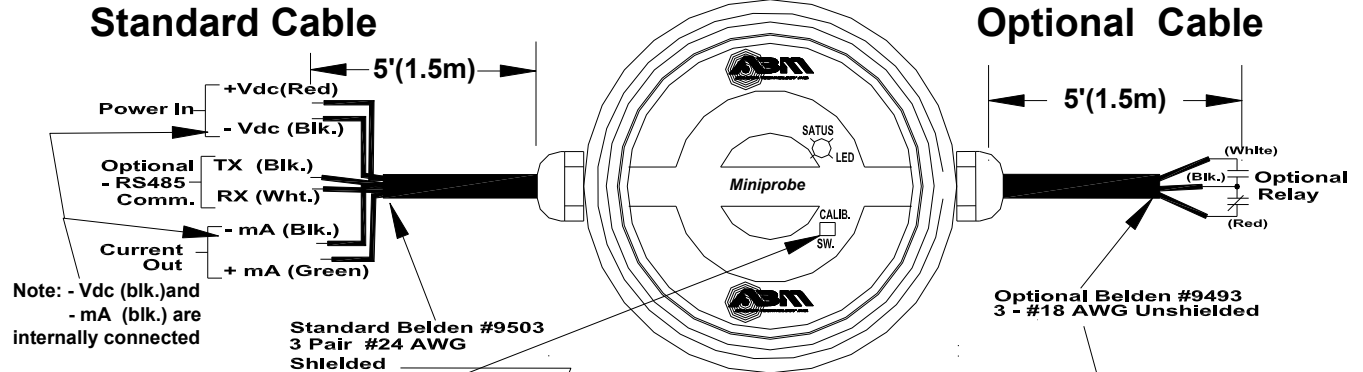
Catalogue # - On the Web return to Home page & Refer to Catalogue Numbering for Order Information.₁

"Mini Sonic" Std. Mtg. Ultrasonic Transmitters Interconnection Diagram



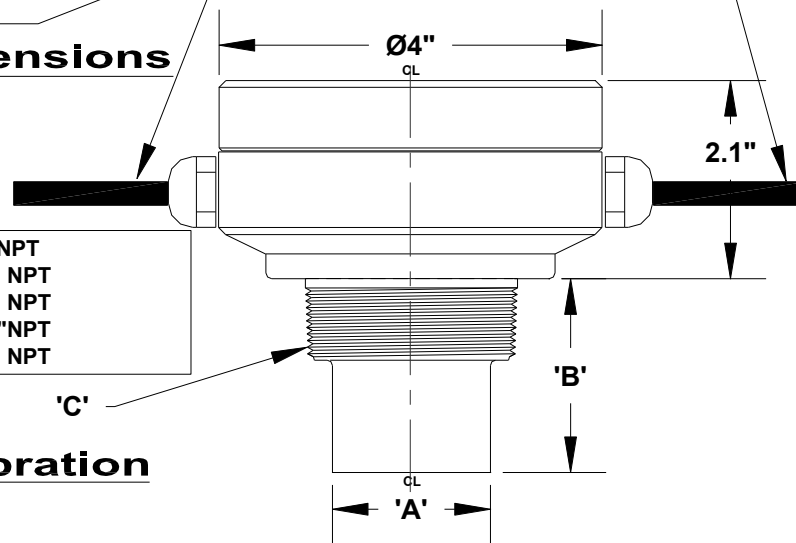
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Interconnection Diag.

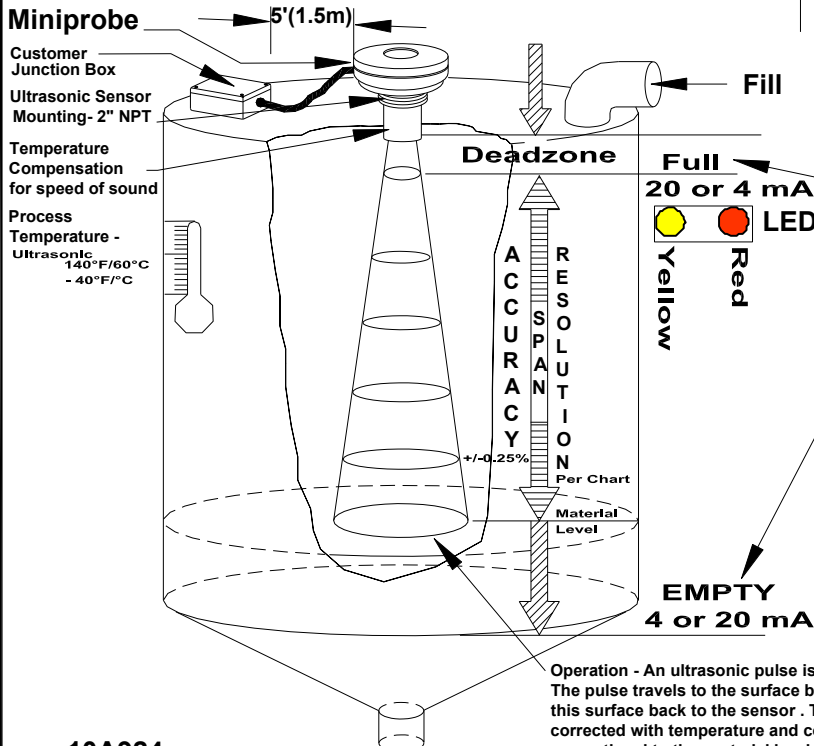


Mounting Dimensions

'A' - 52 KHz = 2" Ø	'B' = 2.75"	'C' = 2" NPT
- 70 KHz = 1.8" Ø	'B' = 2.2"	'C' = 2" NPT
- 80 KHz = 1.8" Ø	'B' = 2.2"	'C' = 2" NPT
- 81 KHz = 1.5" Ø	'B' = 2.0"	'C' = 1.5" NPT
- 148 KHz = 1 1/8" Ø	'B' = 1.95"	'C' = 1" NPT



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.

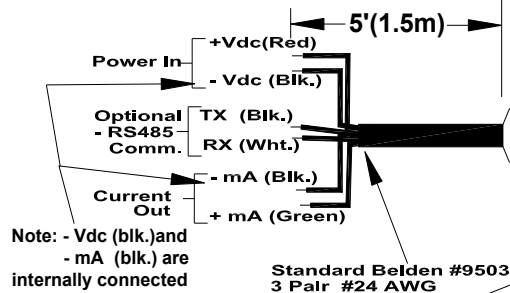
"Mini Sonic" Sanitary Mtg. Ultrasonic Transmitters Interconnection Diagram



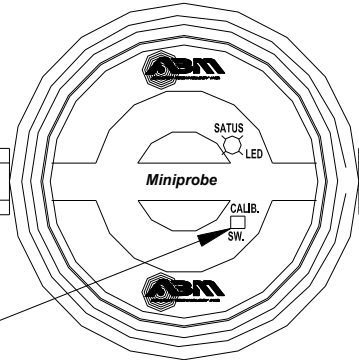
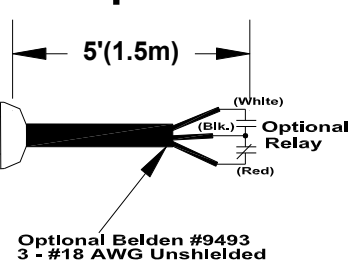
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Interconnection Diag.

Standard Cable

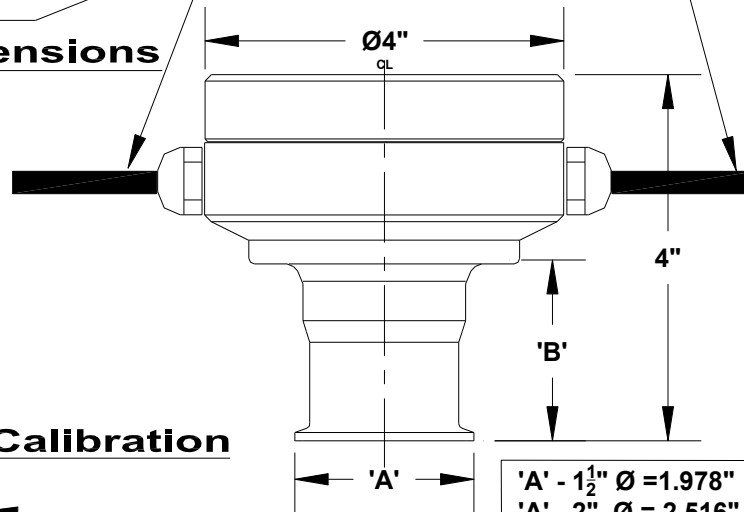


Optional Cable

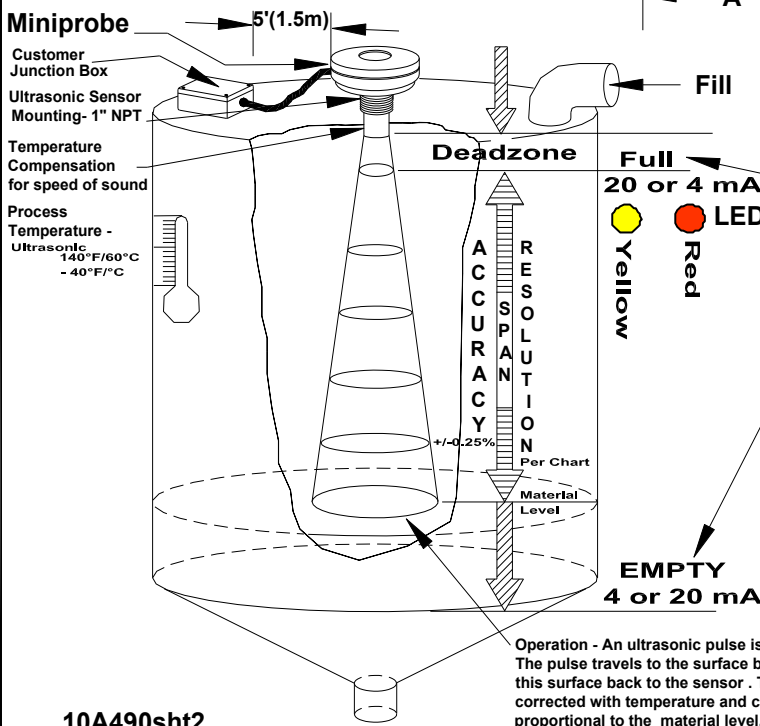


Calibration Switch

Mounting Dimensions



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.