

**New
Feature**

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



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FEATURES

S.S. 316L Face Material c/w Ferrule Mtg.
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

Temperature :
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

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 in-
dicates alarm at 20mA, blinking green indicates alarm
at 4 mA. Relay "ON" set point is adjustable using
communications software.

TECHNICAL SPECIFICATIONS

Range Code	Beam Angle	OPERATING RANGE	Resolution	Mounting
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 5A / 230 Vac

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./Wh.)

Optional Relay Cable -

5' - Belden #9493 : 3-18 AWG unshielded

- 1) Relay (optional) SPDT 5A /230Vac

Enclosure PVC-94V0

Ingress Protection: NEMA 6 (IP68)

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

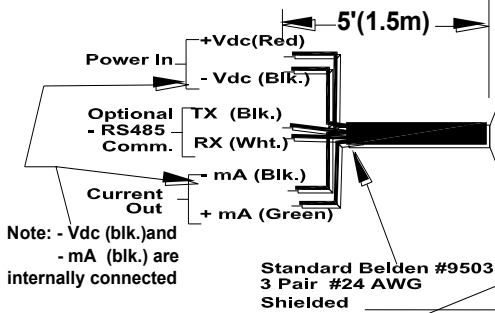
"Mini Sonic" Std. Mtg. Ultrasonic Transmitters Interconnection Diagram



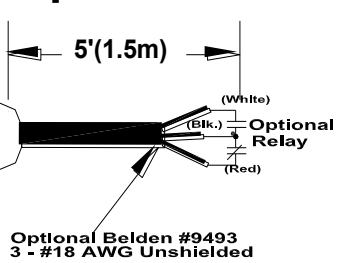
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Interconnection Diag.

Standard Cable

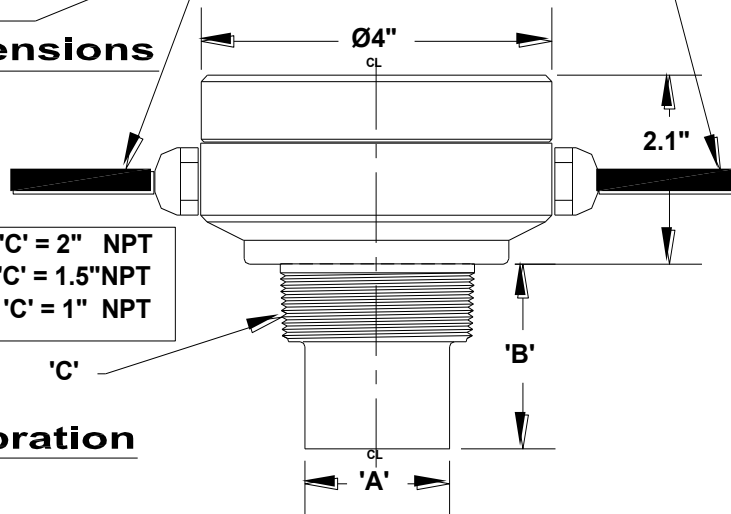


Optional Cable



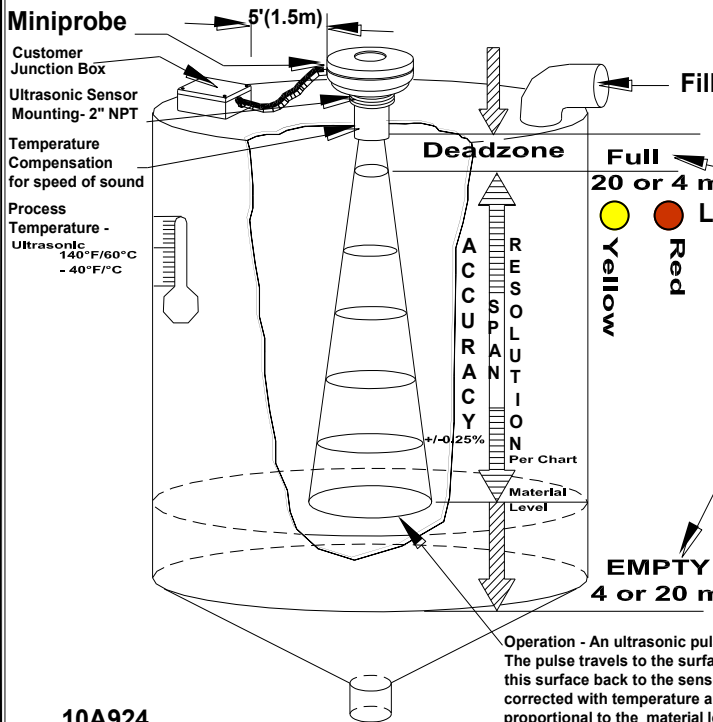
Calibration Switch

Mounting Dimensions



'A' - 70 KHz = 1.8" Ø 'B' = 2.2" 'C' = 2" NPT
- 81 KHz = 1.5" Ø 'B' = 2.0" 'C' = 1.5" NPT
- 148 KHz = 1.125" 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.

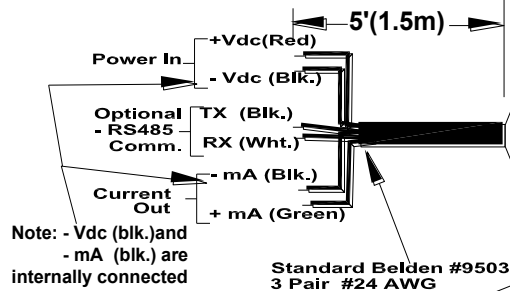
"Mini Sonic" Sanitary Mtg. Ultrasonic Transmitters Interconnection Diagram



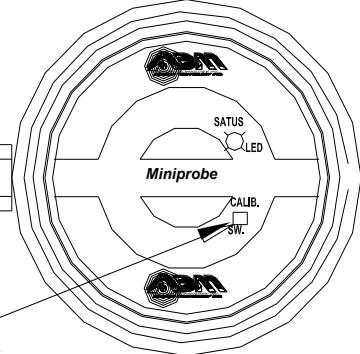
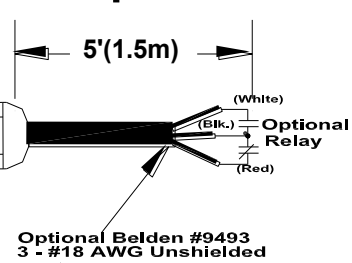
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Interconnection Diag.

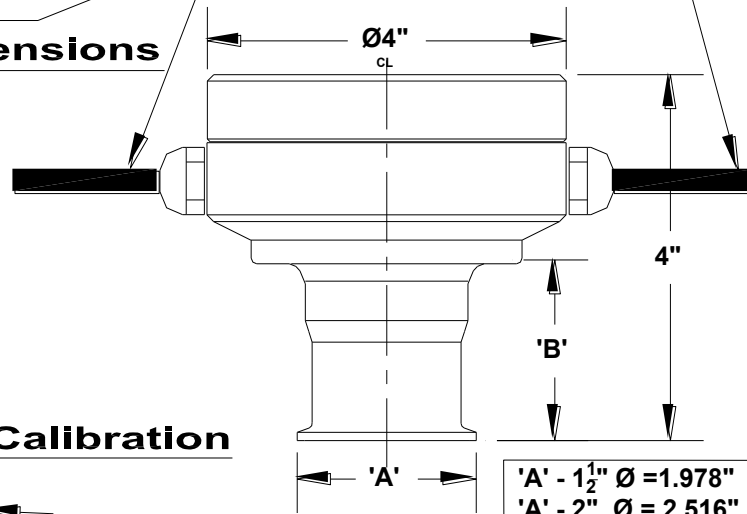
Standard Cable



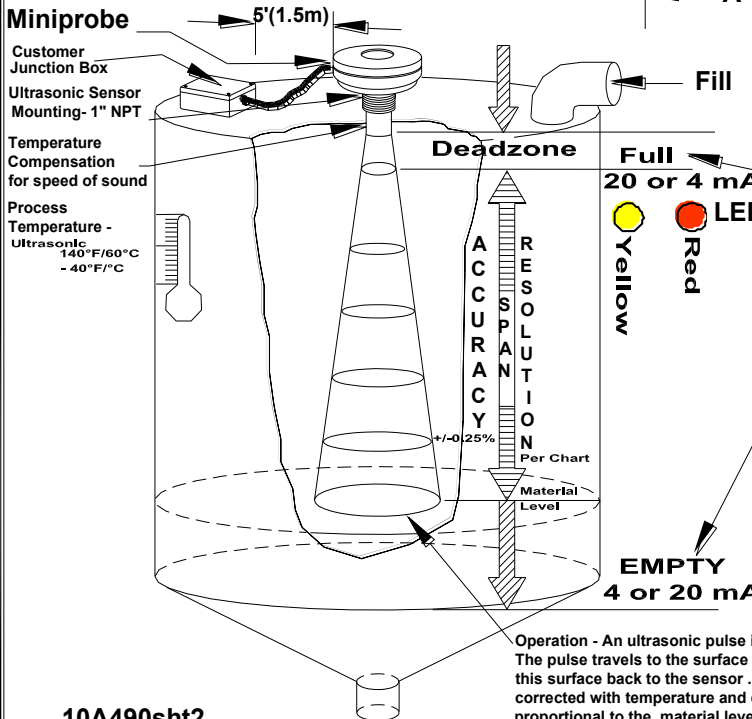
Optional Cable



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.