

The Fastest 2 Wire Ultrasonic Transmitters ABM200- c/w HART 7 Standard and Sanitary Mtg.



FEATURES

- 1) Self adjusting, eliminates unwanted echoes.
- 2) Plug and play, only 4 mA and 20 mA calibration is needed.
- 3) Self cleaning no build-up on transducers faces.
- 4) The shortest blanking; range up to 100 Ft.
- 5) At least 3 updates per second (other brands offer one update per several seconds)
- 6) Temperature from - 40 C to 120°C.
- 7) Sanitary mounting available.
- 8) PVC, SS316L or TEFLON materials for transducers.
- 9) PVC, Aluminum or SS316L for electronics enclosures
- 10) The fastest "HART 7" Communication
- 11) Free communication software with diagnostics, Tools and graphics.



APPLICATIONS

- 1) Any liquids and solids.
- 2) Food and pharmaceutical.
- 3) High temperature applications.
- 4) Sanitary
- 5) Any slow or fast process, other brands are limited due to their slow response .

MECHANICAL

Conduit Entry : 1/2" NPT Hole
(PVC Conduit only for PVC Housing)
Enclosure : Aluminum - 94V0
: PVC or SS316L
Sensor : Standard - PVC,
High Temp. : Optional - Teflon (standard mtg. only)
HTP. (5 Bar) : S.S. (1 1/2" or 2" sanitary only)
Ingress Protection: NEMA 6 (IP68)

ENVIRONMENTAL

Temperature :
Electronics Enclosure :- 40 to 140°F (- 40 to 60°C)
Continuous Operation

PVC & Std. Sanitary Nozzle
:- 40 to 140°F (- 40 to 60°C)
Teflon Nozzle :- 40 to 266°F (- 40 to 130 °C)
S.S. HTP Sanitary :- 40 to 266°F (- 40 to 130°C)
for 1/2 Hr. Steam Cleaning.
Remove sensor for longer Cleaning cycle ,recommended.
Not for Continuous Operation.

Pressure Std. : 2 bar

Optional : 5 bar max. using HTP Sanitary Sensor or special HP- PVC Sensor.

Installation Category : Class II

ELECTRICAL SPEC.

Power ABM200	12 to 35 VDC 0.025 A max @ 24 Vdc
Output	4-20 mA Output 6 uA Resolution Optional Communications with "HART 7"

Approvals : Intrinsic Pending

FM(USA):

FM3810 (2005) Electrical Electronic Test, Measuring and Process Control Equipment

ANSI/NEMA 250 (1991) :Enclosures for Electrical Equipment

FM(CAN.):

CSA C22.2 No. 1010.1 (2004) Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use
- Part 1: General Requirements

CSA C22.2 No. 94 (2011) Special Purpose Enclosures

OPERATIONAL

Accuracy : +/-0.1% of Max. span
(in lab using 4- 20mA current output)
+/-0.25% of max. range (typically in field)

Response Time: Standard Unit 3 echo's / sec.

Loss of Echo : Programmable 1 to 4 min.

Calibration : Push-button or
"HART 7" Communication

Temperature Comp. : In transducer

Communications: on the following page.

CATALOGUE # - On the Web return to Home Page & Refer to Catalogue Number Structure for ordering Information.

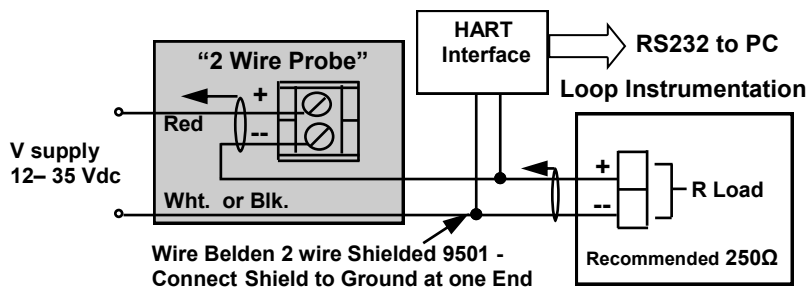
TECHNICAL SPECIFICATIONS

Range Code	Beam Angle	OPERATING RANGE In Liquids	Resolution	Mounting
025	6°	1.4 - 100 ft. 0.40 - 30 m	0.41" 10 mm	6.0"/1.0" NPT 7.3"Ø x 7.6" H
045	9°	1.0 - 60 ft. 0.30 - 18.2 m	0.27" 6.8mm	3.0" NPT 3.0"Ø x 3.0" H
052	12°	0.9 - 50 ft. 0.27 - 15.2 m	0.23" 5.7mm	3.0"/ 2.0" NPT 2.0"Ø x 2.7" H
070	12°	0.8 - 30 ft.	0.13"	3.0"/ 2.0" NPT
080	12°	0.7 - 20 ft. 0.21 - 6.1 m	0.088" 2.2 mm	3.0"/ 2.0" NPT 1.8"Ø x 2.25" H
081	12°	0.6 - 16 ft. 0.18 - 4.9 m	0.07" 1.8 mm	3.0"/ 1.5" NPT 1.5"Ø x 2.1" H
148	12°	0.4 - 9 ft. 0.12 - 2.7 m	0.04" 0.98 mm	3.0"/ 1.0" NPT 1.1"Ø x 2.0" H

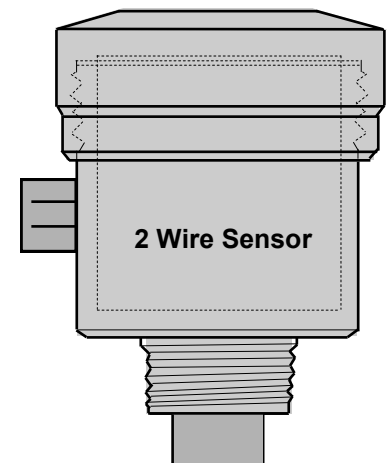
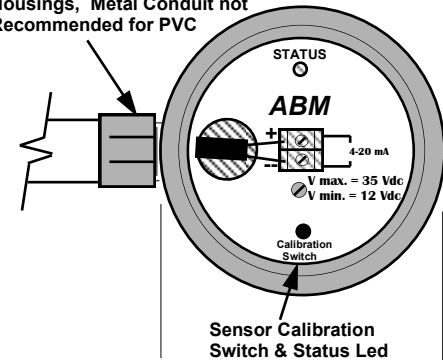
2 Wire Ultrasonic Transmitter User Instruction Manual



Fig. # 1 - "2 Wire Sensor" Wiring Connection

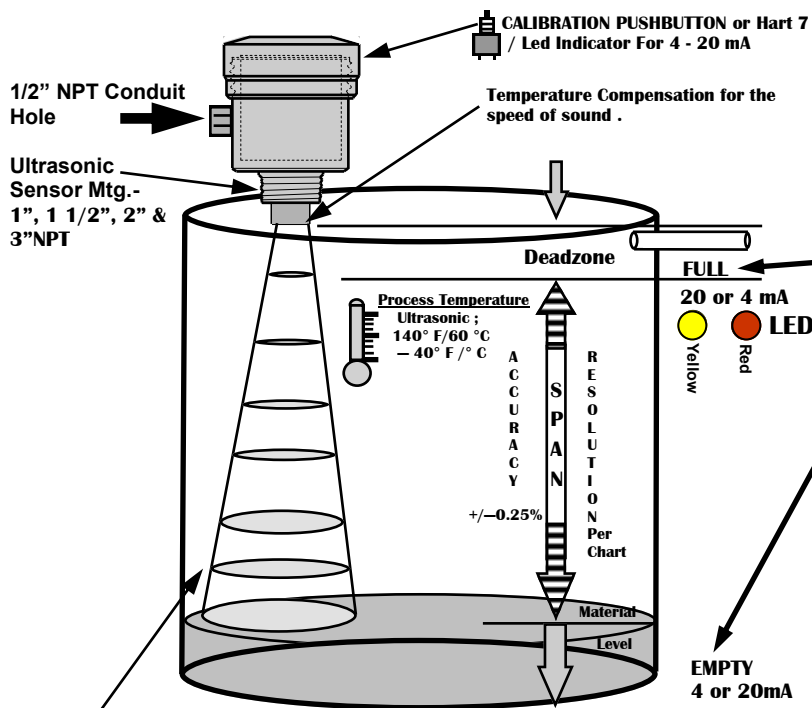


1/2" PVC Conduit Only for PVC Housings, Metal Conduit not Recommended for PVC



Typical Installation

- 1) DIRECT MOUNTING ULTRASONIC SENSOR -SIMPLY THREAD SENSOR DIRECTLY INTO METAL OR PLASTIC NOZZLE.



Calibration: 4 -20 or 20 -4 mA Output - use Push-button FULL — Calibrate 20 mA or 4mA (Set Near Target)

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

EMPTY— Calibrate 4 mA or 20 mA (Set Far Target)

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

LOSS OF ECHO—22mA or 3.5 mA

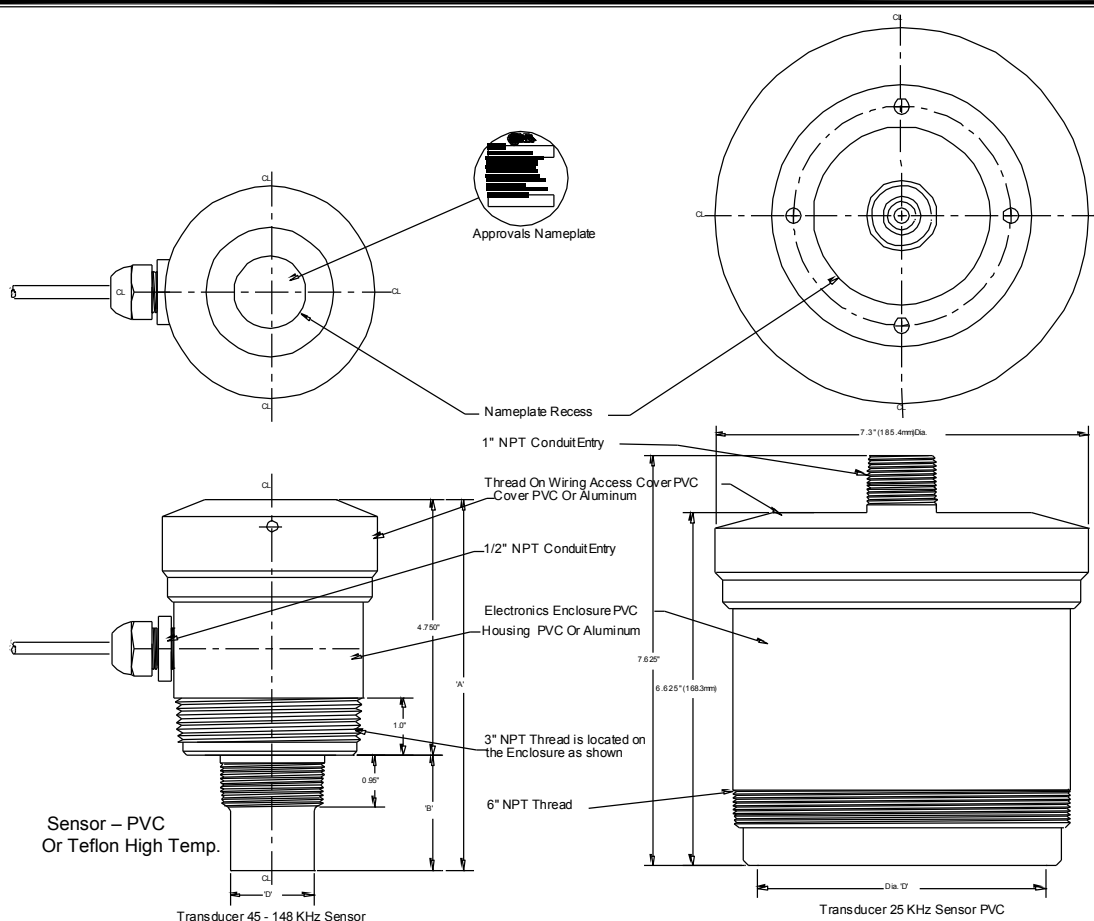
1. To choose 22mA press and hold button until the light goes off—2 flashes
2. To choose 3.5mA press and hold button until the light goes off—1 flash

- Or use HART 7 (Fig. #1)

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 and converted to an output signal directly proportional to the material level .

2 Wire Standard Mount Level Measurement Sensors Outline Dimensional Dtl.

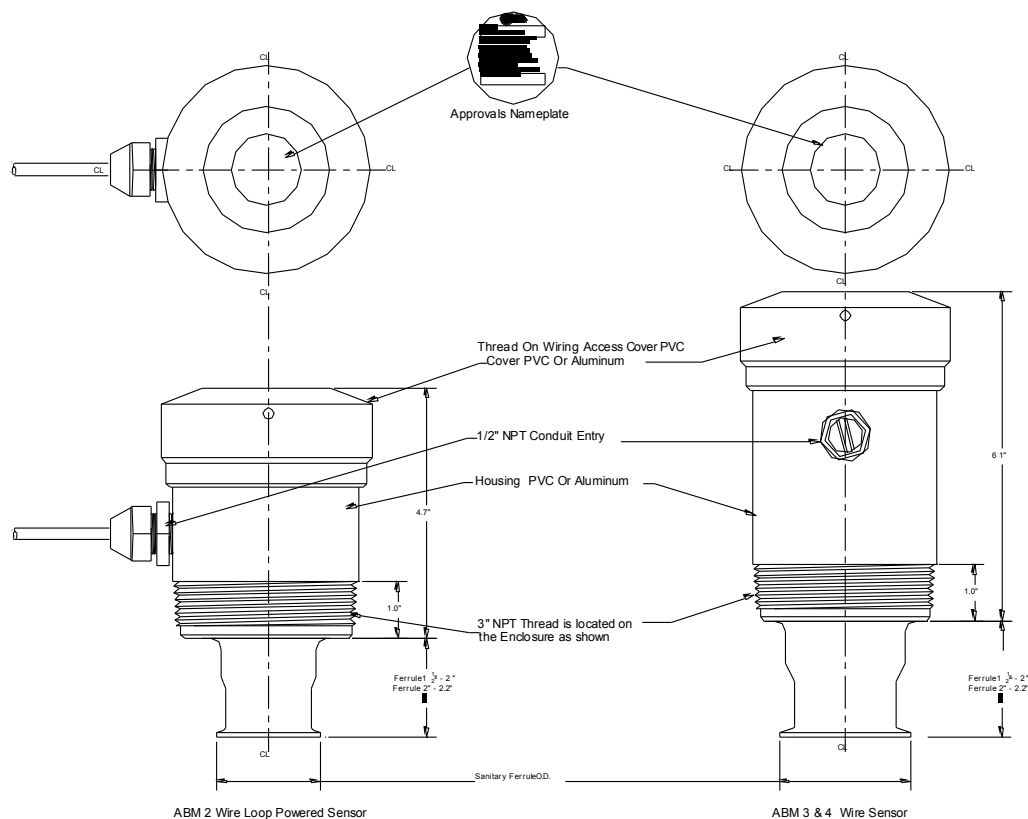
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Model #	Operating Range	Operating Frequency	Mounting Thread NPT	Dimension 'A'	Dimension 'B'	Dimension 'D'
ABM200-025UL	90' (27.4m)	25 KHz	6"/1"	7.625"(194mm)	N/A	5.75"(146mm)
ABM200-045UL	60' (18.2m)	45 KHz	3"	7.75"(197mm)	3.0"(76.2mm)	3.0"(76.2mm)
ABM200-052UL	50' (15.2m)	52 KHz	3"/2"	7.8"(198mm)	3.05"(77.5mm)	2.2"(55.9mm)
ABM200-070UL	30' (9.1m)	70 KHz	3"/2"	7.0"(178mm)	2.25"(57.2mm)	1.8"(45.7mm)
ABM200-080UL	20' (6.1m)	80 KHz	3"/2"	7.0"(178mm)	2.25"(57.2mm)	1.8"(45.7mm)
ABM200-081UL	16' (4.9m)	81 KHz	3"/1.5"	6.85"(174mm)	2.1"(53.3mm)	1.5"(38.1mm)
ABM200-148UL	9' (2.7m)	148 KHz	1"	6.75"(172mm)	2.0"(50.8mm)	1.1"(27.9mm)

2 ,3 & 4 Wire Sanitary Ultrasonic Sensors Outline Dimensional Dtl.

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Model #	Operating Range	Operating Frequency	Sanitary Ferrule O.D.	
			1 1/2"	2"
ABMXXX-070	30' (9.1 m)	70 KHz	N/A	2.5"
ABMXXX-080	20' (6.1 m)	80 KHz	N/A	2.5"
ABMXXX-081	16' (4.9 m)	81 KHz	1.9"	2.5"
ABMXXX-148	9' (2.7 m)	148 KHz	1.9"	2.5"

Catalogue Numbering Structure

- Ultrasonic Sensors



CATALOGUE NUMBER STRUCTURE

1) 2) 3) 4) 5) 6) 7)
ABMXXX - XXXYYCX - XXYYY - IP68 - XXXX

- 1) Supply Voltage
2) Ultrasonic Frequency
3) Operating Mode
4) Communications
5) Body Material
6) Transducer Sensor Material
Ingress Protection IP68 or leave blank for IP65
7) Swivel Aiming Mount / Flange Mounting

ABM Code
1) Supply Voltage: AC 115V - 400
AC 230V - 430
DC 12-30V - 300
Loop Powered DC 12-28V - 200
Eg. ABM400-148ULC0-PVS15
ABM 115volt 148KHz ultrasonic probe no communications
PVC body & Sanitary Nozzle 1.5" Tri clamp mounting

2) Frequency/Range:

Freq.	Ultrasonic Range	ABM Code
25KHz	1.4' - 90 ft. 0.40 - 27.4 m	025
45KHz	1.0' - 60 ft. 0.30 - 18.2 m	045
52KHz	0.9' - 50 ft. 0.27 - 15.2 m	052
70KHz	0.8' - 30 ft. 0.24 - 9.1 m	070
80KHz	0.7' - 20 ft. 0.21 - 6.1 m	080
81KHz	0.6' - 16 ft. 0.18 - 4.9 m	081
148KHz	0.4' - 9 ft. 0.12 - 2.7 m	148

Sanitary Mounting Option
Available

ABM Code

3) Operating Mode : Ultrasonic Probe - UL
Miniprobe UM - UM

ABM Code
4) Communications : RS485 - 4
HART - H
None - 0

5) Body Material : **ABM Code**
Ultrasonic Standard PVC - PV
Ultrasonic High Temperature CPVC - CP
Optional Ultrasonic Aluminum - AL

ABM Code
6) Sensor Material Ultrasonic: Standard - Sensor PVC - PVC
Optional - High Temp. Teflon - TEF
Sanitary Mtg. Std. Temp. - 2" Tri clamp PVC - S20 For High Temp. / Pressure Sanitary Mtg. add - HTP
- 1.5" Tri clamp PVC - S15 For High Temp. / Pressure Sanitary Mtg. add - HTP

ABM Code
Miniprobe Mounting Adaptor: Optional PVC 1" - 3/4" NPT - A34
Optional PVC 1" - 1/2" NPT - A12

ABM Code
Miniprobe Optional :Relay Ultrasonic - REL
Ultrasonic Optional :Sensor High Temp. & Pressure - HTP

7) Swivel Aiming Mount : 8" O.D., 7.0" Bolt Circle - 6 @ 1/4" Dia. Holes C/W 3" Sensor Mtg. Hole - AIM3
Flange Mount : 9" O.D., 7.5" Bolt Circle - 6 @ 3/4" Dia. Holes C/W 6" Sensor Mtg. Hole - FLA6
9" O.D., 7.5" Bolt Circle - 6 @ 3/4" Dia. Holes C/W 3" Sensor Mtg. Hole - FLA3

A) Relay Controller :ABM XXX XRCON - TST — "Tank Strapping Table" 33 Point
3 Three Relays
6 Six Relays
AC/DC Power Code per #1 above.

Loop Powered Display : LPD - XX - 02
Code: Probe Mount - PM or Wall Mount - WM

B) Open Channel Meter : ABM XXX OCM
AC/DC Power Code per #1 above.

C) For special custom orders please call directly Tel. (705) 740-2010

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