

BABBITT

Ultrasonic Level Transmitter

Simple • Safe • Reliable

Performance & Reliability
GUARANTEED



Ultrasonic Level Transmitter

INDUSTRIES:

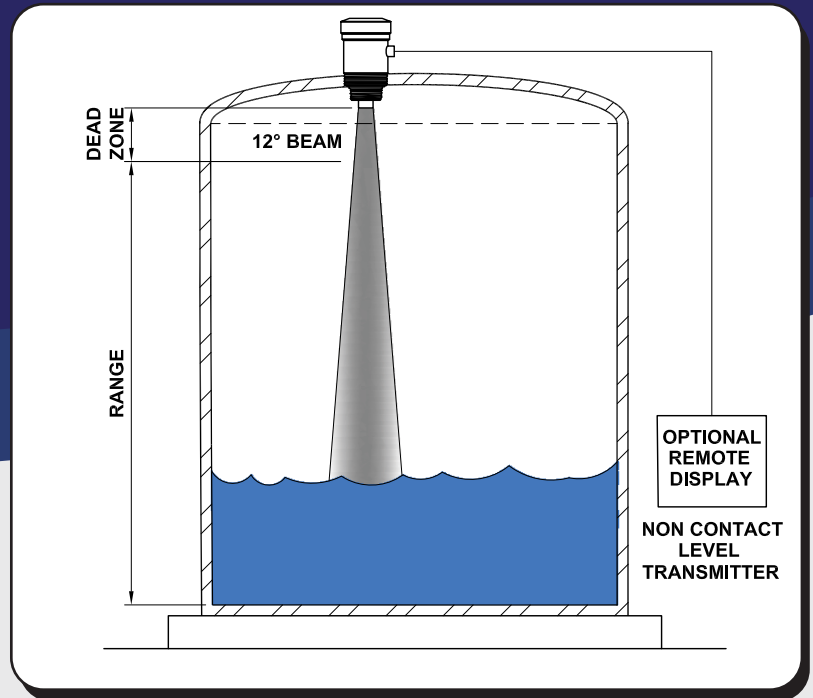
- Water/Wastewater
- Food & Beverages
- Oil & Gas
- Petrochemical
- Pharmaceutical

APPLICATIONS:

- Water without foam
- Liquids without methane, CO₂ and H₂S
- Water and solid mixtures
- Oil without H₂S
- Slurries and viscous fluids
- Inks and water based paint

FEATURES:

- Simple push button calibration
- Self-cleaning face eliminates condensation
- 4-20mA or 20-4mA output
- Optional communication – RS232, RS485 or HART
- Non-volatile memory-batteries not required
- Microprocessor based reliability
- Ignores peripheral obstructions



GENERAL

Ultrasonic Level Transmitters provide simple and reliable non-contact level measurement of liquids inside of a tank, sump or other container. These units are designed to be used in liquid applications that do not contain foam, fumes, vapors or other gases. The microprocessor-controlled circuit generates a pulse from the transducer face, which travels down to the fluid level and is reflected back. The transit time is measured and converted into a 4/20mA signal. Because the speed of sound changes with air temperature, each transducer has a built-in temperature sensor that compensates for air temperature inside the tank, thus increasing the accuracy of the output.

Our proprietary circuit automatically filters out false echoes that may be produced by peripheral obstructions in the tank. This unique feature allows the unit to work in a standpipe over the full range of operation. Each unit also features a self-cleaning face, which helps eliminate condensation.

CALIBRATION

All units come standard with simple, single push button calibration. Calibration can be performed one of three ways; either on a bench, with the factory provided software or inside the vessel by varying the liquid level. The zero and span are independent of one another and are fully adjustable over the range of the unit. All settings are stored in non-volatile memory. Calibration feedback is provided via a "green-yellow-red" LED.



Teflon for High Temperatures

Standard ultrasonic sensors are constructed with PVC transducers and threads, rated to 140 F. Optional Teflon transducers and threads are available for operations up to 266 F. (See Page 4)



Harsh Chemical Environments

Various enclosure materials allow for installation in harsh, corrosive applications. Standard units are constructed entirely of PVC, however aluminum and stainless steel enclosures are available. (See Page 4)

Sanitary Mounting for Easy Cleaning

Sanitary connection models are a perfect solution for pharmaceutical, food and beverage or other hygienic applications. Sanitary units are available with either a 1.5" or 2" Tri-Clamp connection and a Teflon transducer, to allow for temperatures up to 266 F. An optional stainless steel, high temperature, high pressure model is available, for Clean In Place (CIP) operations up to 30 minutes. (See Page 4)



Specifications:

Electrical

115VAC/60Hz, 230VAC/50Hz
 12-30VDC or 2 Wire Loop Power
 4/20mA or 20/4mA,
 6.1uA resolution
 750 ohms,
 isolated w/ AC supply; non-isolated w/ DC supply
 0.125A/250V type 2AG

Mechanical

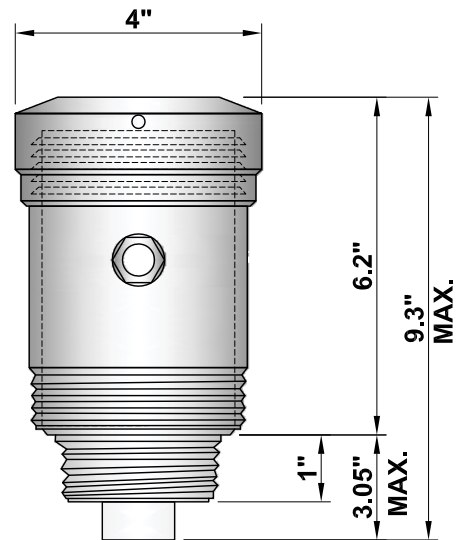
Process Entry: 1" NPT to 6" NPT (See Chart on Page 4)
 Conduit Entry: ½"NPT – plastic conduit
 Transducer: Standard PVC; (Optional) Teflon
 Standard PVC; (Optional) Aluminum and Stainless Steel

Environmental

Temperature: Standard PVC (-40 F to 140 F); Optional High Temp w/ Teflon Transducer (-40 F to 266 F)
 Standard (15 PSI Max.); Optional HTP Sanitary or special High Pressure sensor (5 BAR)
 Approvals: General Approvals CSA and FM; must have Aluminum enclosure

Operational

Dead Zone/Range: Depends on model, see chart
 +/- 0.25% of span
 Lost echo hold time: 30 seconds/output 22mA or 2mA – User programmable



Model Number	Operating Range	Operating Frequency	Resolution	Mounting Thread
25U	17" to 90'	25 KHz	0.41"	6" NPT
45U	12" to 60'	45 KHz	0.27"	3" NPT
52U	11" to 50'	52 KHz	.023"	3"/2" NPT
70U	10" to 30'	70 KHz	.013"	2" NPT
80U	8.5" to 20'	80 KHz	0.088"	2" NPT
81U	7" to 16'	81 KHz	0.07"	1.5" NPT
148U	5" to 9'	148 KHz	0.04"	1" NPT

Ordering Information:

BAB XXX - XXX ULC X - XX XXX - XXX

Power Supply Options:

- 200 = 2 Wire, Loop Power
- 300 = 3 Wire, 24 DC
- 400 = 4 Wire, 115VAC
- 430 = 4 Wire, 230VAC

Model Number

(See chart above)

Communication:

- 2 - RS232 (3 & 4 Wire)
- 4 - RS485 (3 & 4 Wire)
- H - HART 7 (2 Wire ONLY)

Body Material:

- PV - **Standard** – PVC
- SS - SS316L
- AL - Aluminum

Sensor Material:

- PVC - **Standard** – PVC Sensor (140 F)
- TEF - High Temp. Teflon Sensor (266 F)
- HTP - High Temp. & Pressure Sensor (266 F & 5 BAR)
- S15 - 1.5" Tri-Clamp PVC (148U & 81U ONLY)
- S20 - 2" Tri-Clamp PVC (148U, 81U, 80U & 70U)
- High Temp/Pressure Sanitary MTG. add HTP
- *** See Example 2 below **

Example # 1 - P/N - BAB200-70ULCH-PVPVC

Example # 2 – P/N – BAB300-148ULC2-ALS20-HTP

Distributed by:

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