Radar Level Transmitter

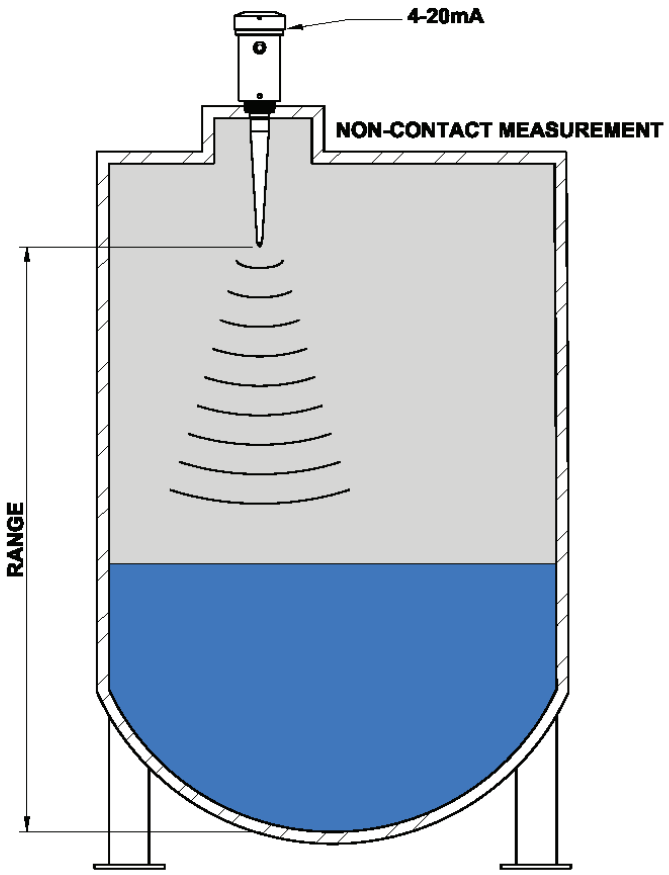
BABBITT INTERNATIONAL

Level Controls & Systems

Radar Level Transmitter

FEATURES:

- Simple calibration and setup
- 4-20mA or 20-4mA output
- Non-volatile memory-batteries not required
- Automatically adjust for most tank conditions
- Optional communication – RS232, RS485 or HART
- Low Dielectric Mode for low dielectric liquids
- PLC compatible (Modbus RTU)
- NEMA 6/IP68 Enclosure Rating
- PC Calibration, diagnostic and data logging software



APPLICATIONS:

- Liquids with foam, gases (CO2,methane) and other fumes
- Highly corrosive liquids such as acids, caustics and solvents
- High temperature applications up to 350F such as asphalt
- Slurries
- Processes under vacuum
- Diesel crude oil
- Sanitary applications

INDUSTRIES:

- Water/Wastewater
- Food and Beverage
- Chemical/Petrochemical
- Oil and Gas
- Paint and Pigment
- Bulk Liquid Storage
- Flammable/Corrosive Liquid Storage

GENERAL

Radar level transmitters provide simple and reliable non-contact level measurement of fluids in a metal tank. The microprocessor-controlled electronics transmit a 6.3 GHz electromagnetic pulse down to the fluid's surface, which is then reflected back to the antenna. The "round trip" time of flight is measured then calculated to determine the fluid level inside the container. Pulsed Radar units can "see through" environments such as foams, fumes and vapors that would normally interfere with ultrasonic type sensors.

Our proprietary software senses and analyzes the amplitude and shape of the received echoes. This enables the units automatic gain control to track the process level as well as eliminate false echoes from unwanted obstructions such as standpipes or tank walls. The dielectric constant of a material is important to the proper operation of Radar units. Each unit features a “Low Dielectric Mode” enabling it to work with materials having a dielectric constant greater than 2, such as oils and other non-conductive liquids.

CALIBRATION

A single push-button is used to set the zero and span and makes calibration simple. The zero and span are independent of one another and are fully adjustable over the range of the unit. 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 factory provided calibration software enables diagnostics, data logging and access to special calibration features.

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Classified Hazardous Areas

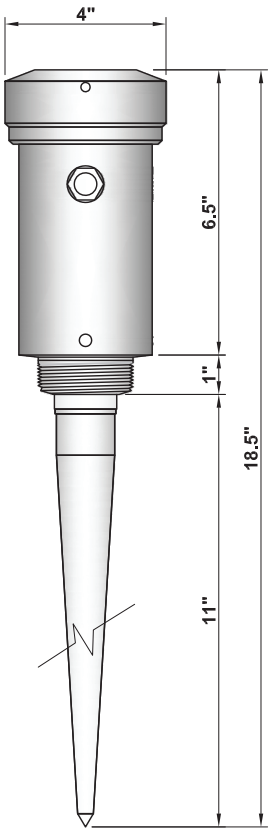
Explosion Proof models bring the reliability of Non-Contact Radar level measurement to Class 1 Div. 1 hazardous locations. (See Page 4)

Sanitary Mounting for Easy Cleaning

Sanitary units are perfect for food and beverage, pharmaceutical, or other hygienic applications. Sanitary units have a Teflon rod antenna, 2” sanitary ferrule with Teflon Tri-Clamp connection and are rated to 400 F/2 BAR. (See Page 4)

High Temperature & High Pressure Models

Teflon De-couplers (threads) can be added to allow for temperatures up to 350 F. Optional High pressure units rated to 70 BAR (1000 PSI) are also available. (See Page 4)



Specifications:

Electrical

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

Mechanical

Process Entry:	2” NPT
Conduit Entry:	½” NPT
Antenna:	Teflon
Enclosure:	Standard Aluminum; (Optional) Stainless Steel
Ingress Protection:	NEMA 6 (IP68)

Environmental

Temperature:	Electronics (-40 F to 140 F) Standard Teflon Antenna (-40 F to 266 F) (Optional) Teflon Ant. And Teflon De-Coupler (-40 F to 350 F)
Pressure:	Standard 75 PSI Max. (Optional) 1000 PSI – 70 bar – without de-coupler
Approvals:	Standard Units - FCC Part 15 – Low communication Device; General Approvals for CSA and FM Explosion Proof Units – FM and and CSA for Can. & US Explosion Proof Class I, Div.1, Groups B, C, D: Dust-Ignition Proof Enclosure for Class II/III Div. 1, Groups E, F, G

Operational

Range:	17 to 240 feet -Depends on model
Accuracy:	(Lab Test) +/- 0.01% of max range (In field) +/- 0.25% of max range
Frequency:	Standard 6.3 GHz (Optional) 5.8 GHz
Transmitter Power:	50uW average
Lost echo hold time:	30 seconds/output 22mA

Model Number	Operating Range	Resolution	Mounting Thread
017R	17’	0.08”	2” NPT
033R	33’	0.15”	2” NPT
050R	50’	.022”	2” NPT
100R	100’	.044”	2” NPT
140R	140’	.062”	2” NPT
240R	240’	1.06”	2” NPT

Ordering Information:

ABM XXX - XXX – **R** 6 **C** X – XX XXX – XXX

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

Model Number
(See chart above)

Frequency:
6 – 6.3GHz - **Standard**
5 – 5.8GHz

Communication:
2 – RS232 - **Standard** (3 & 4 Wire)
4 – RS485 (3 & 4 Wire)
H – HART 7 (2 Wire Only)

Body Material:
AL – Aluminum - **Standard**
SS – 316 Stainless Steel

Antenna Material:
ATE – Antenna Teflon – **Standard** (266 F)
HTE – High Temp. Teflon Antenna c/w de-coupler (350 F)
ATP – High Pressure Teflon Antenna (266 F & 70 BAR)
S20C20– Sanitary Mtg. 2” Tri-Clamp PTFE Teflon (400 F)

Additional Options:
AE6 – Antenna Extension 6” Teflon
AE8 – Antenna Extension 8” Teflon
EXP – Explosion Proof

Example 1 - P/N ABM300-050-R6C2-ALATE-EXP

Example 2 - P/N ABM200-033-R6CH-SSHTE

Distributed by:

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