

Product Catalogue



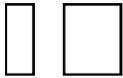


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Ultrasonic Non Contact Sensors



Measuring Principle - An ultrasonic pulse is transmitted from the ABM sensor . The pulse 25 - 148 KHz travels to the surface being monitored and is reflected off this surface back to the sensor face. The time of flight is divided in half, corrected with temperature and converted to an output current directly proportional to the material level . Due to sensor's dead band, don't get closer than minimum distance with material. ABM sensors monitor environmental conditions and adjust sensor's transmitters and receivers to match the sensors to any condition, to receive one echo only from measured material and to eliminate any false echoes. No other brands of level measurement devices offer this feature.

Applications -

Monitoring Liquid Levels - Page 5 & 6

To monitor Stable liquids with no gases or volatile surfaces.
Pick a sensor with the range for your application. This will determine the Frequency of your sensor. For corrosive applications the Sensor's material can be chosen that is compatible with the liquid.

Monitoring Solid Material Levels - Page 7 & 8

To monitor Solid material; the lower operating frequency helps to penetrate dusty atmosphere found in solids level storage vessels, tanks & bins. They are usually larger in size and require the larger and more powerful Transducers for reliable measurement.

High Temperature Applications - Page 9

To monitor applications with elevated temperatures sensor material selection is important. Special sensor design with Thermal isolation is required. Temperature in environment does not effect the ABM sensors performance, because of special and innovative construction of the sensor's drivers.

Sanitary Applications - Page 10

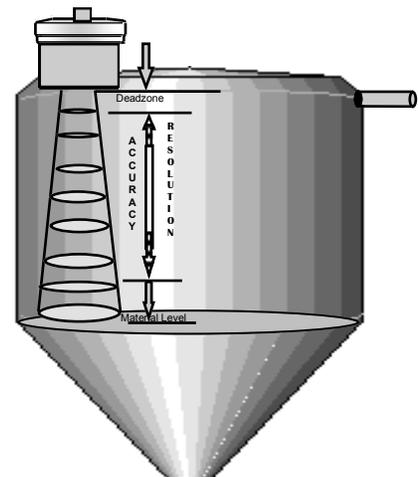
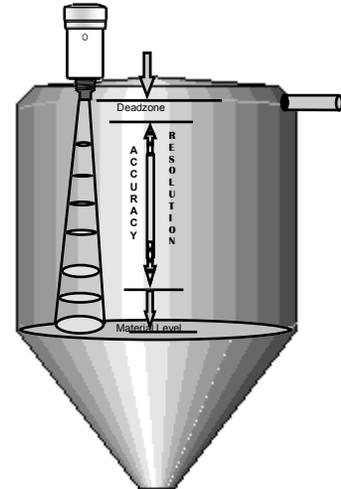
Monitoring sanitary applications with sanitary ferrule mounting sensors with continuous ultrasonic transmitter are available. ABM Offers 1 1/2" and 2" tri-clamp mounting. For the food industry the sensor's must withstand steam cleaning and be quickly removable and easy to re-install. For high pressure and /or temperature applications special material mtg. sensors are available.

Belt Conveyor and Motion Tracking Applications -

Monitoring fast moving objects is possible with the revolutionary " Fast Response Time Design". ABM Ultrasonic Sensors are the fastest response sensors in the market. This allows measurement of any solid material profile.

Ultrasonic Guided Contact Sensors - Page 11

Can be used on very narrow tanks, and also where no blanking inside tank is required.



Ultrasonic Non Contact Sensors



Overview

ABM Sensor	Max. Measuring Range -in Liquids (Solids x .5) Accuracy : +/- 0.1% Range (max.)	Mounting Fitting - Male thread	Temperature Range for Sensor	Pressure Rating @ Sensor Face					
ABMXXX-YYY Liquid Range to 50 Ft. - Sensor Frequency 148 KHz Sensor 081 " " 080 " " 070 " " 052 " "	 Sensor 148 KHz : 9 ft (0.4 m) " 081 " : 16 ft (4.9 m) " 080 " : 20 ft (6.1 m) " 070 " : 30 ft (9.1 m) " 052 " : 50 ft (15.2 m)	3.0 " / 1.0" NPT 3.0 " / 1.5" NPT 3.0 " / 2.0" NPT 3.0 " / 2.0" NPT 3.0 " / 2.0" NPT	PVC : - 40 -140 °F (-40 to 60°C) Teflon : - 40 - 266°F (-40 to 130°C) S.S.316L: - 40 - 266°F (-40 to 130°C)	PVC Max. 2 bar S.S.316L Max. 5 bar					
					Note - Sanitary Ferrule Mtg. Is available for all except 052				
					ABMXXX-YYY Liquids and Bulk Solids in all industries -Sensor Frequency 045 KHz Sensor 025 KHz Sensor	 Sensor 045 KHz : 60 ft (18.2 m) " 025 " : 90 ft (27.4 m)	3.0 " NPT 6.0 " / 1.0" NPT	PVC : - 40 -140 °F (-40 to 60°C) Teflon : - 40 - 266°F (-40 to 130°C) (for 45 KHz only)	PVC Max. 2 bar Teflon " "
					ABMXXX-YYY - Pipe	 Sensor 148 KHz : 9 ft (0.4 m) " 081 " : 16 ft (4.9 m) " 080 " : 20 ft (6.1 m) " 070 " : 30 ft (9.1 m) " 052 " : 50 ft (15.2 m) " 045 " : 60 ft (18.2 m)	3.0 " / 1.0" NPT 3.0 " / 1.5" NPT 3.0 " / 2.0" NPT 3.0 " / 2.0" NPT 3.0 " / 2.0" NPT 3.0" NPT	PVC : - 40 -140 °F (-40 to 60°C) Teflon : - 40 - 266 °F (-40 to 130°C)	PVC Max. 2 bar Teflon " "

Approvals - For ABM200/ABM300 Ultrasonic Sensors:

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

Ultrasonic Non Contact Sensors For Liquid Applications



Model - ABMXXX - YYYUC - HS

Applications -

This range of sensors are used in liquid applications such as Food & Beverage processing. It is also ideal for Water/ Wastewater due to their maintenance free nature, any build up on the Transducer face is being eliminated (continuously cleaned). False echoes from tanks walls are eliminated by automatic adjustment of power and sensitivity. Other ideal applications are Pharmaceutical and Chemical as the Sensors adapt to any condition automatically without user involvement.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- Self adjusting, Monitors inside tank's environment and adjusts power and sensitivity.
- Self cleaning due to its non contact measuring operation.
- One echo system for measured material. No list of hundreds of parameters to be downloaded.
- Enclosures are available in different materials to withstand any environment.
- Works At any Temperature.
- Fits to Any Mounting and no mounting influence even at very low temperatures.
- Sanitary mounting, 1 1/2" and 2" Tri-clamp very short blanking.

Technical data -

Measuring Range : 0.4 to 50 Ft (0.12 to 15.2 m)
 Temperature : PVC - 40 to 140°F (-40 to 60 °C)
 Teflon/ SS316L - 40 to 266°F (-40 to 130°C)
 Pressure Rating : 1 to 2 bar Std. Sensor for 5 bar SS316L Ferrule or
 Special Sensor (HP) in PVC Enclosure
 Mounting Thread : 1" - 6" NPT Male Thread (Std. Mtg. Sensors)

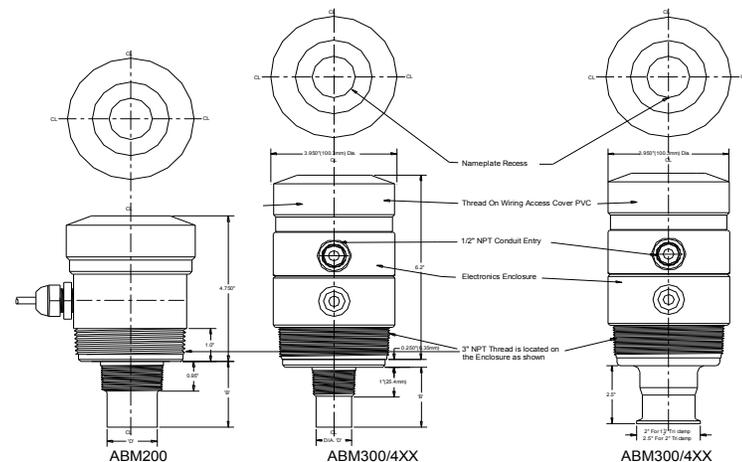
Catalogue # Ordering -

Supply Voltage:

XXX = 2 Wire (loop powered with HART)
 3 Wire 24 Vdc
 4 Wire 120 Vac or 230 Vac

Operating Frequency:

YYY = 148 — 148 KHZ
 080 — 80 KHZ
 081 — 81 KHZ
 070 — 70 KHZ
 052 — 52 KHZ



Operating Mode:

U = UL - Ultrasonic Sensor
 UM - Mini Sensor

Communication:

C = C4 - RS485
 C2 - RS232
 CH - Hart (2 Wire only)
 C0 - No Communications

PCB Housing Material:

H = PV — PVC Std. Enclosure Housing
 HP — PVC Special Enclosure Housing
 AL — Aluminum Enclosure Housing
 SS. — SS 316L Enclosure Housing

Sensor Material: Std. Thread Mtg. Sensor

S = PVC — PVC Sensor
 TEF — Teflon Sensor

Sanitary Mtg. Sensor: 316 SS. Tri-Clamp Mtg.

S15 — 1.5" Sanitary Sensor
 S20 — 2" Sanitary Sensor
 S15- HTP — 1.5" High Temp./High Pressure
 S20- HTP — 2" High Temp./High Pressure

Mini Ultrasonic Non Contact Sensors For Liquid Applications



Model - ABM300 - 148UMC4 - HS - R

Applications -

The ultrasonic Mini sensors are used in liquid applications such as Food & Beverage processing, and in small tanks such as barrels due to their mounting and maintenance free nature. Any build up on Transducer face is being eliminated (continuously cleaned). False echoes from tanks walls are eliminated by automatic adjustment of power and sensitivity. Other ideal applications are Pharmaceutical and Chemical as the Sensors adapt to any condition automatically without user involvement.



Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- Self cleaning due to its non contact measuring operation.
- One echo system for material. No list of hundreds of parameters to be downloaded.
- Very small enclosure, no need for big overhead.
- Works At any Temperature.
- Mounting 1" NPT with adaptor to 3/4" or 1/2" NPT.
- Mounting 1 1/2" or 2" Sanitary tri-clamp.
- Belt conveyors, with fast response measures material profile.
- Pump control, Alarm in models with Relay.
- Extremely short blanking.

Technical data -

Measuring Range : 0.4 to 6 Ft (0.12 to 1.8 m), custom design to 30 FT (9 m)
 Temperature : PVC - 40 to 140°F (-40 to 60°C)
 TEFLON / SS316L - 40 to 266°F (-40 to 130°C)
 Pressure Rating : 1 to 2 bar (Std. Sensor) for 5 bar (SS316L Ferrule)
 Mounting Thread : 1" NPT Male Thread



Mini Sanitary Sensor

Catalogue # Ordering -

Supply Voltage:

XXX = 3 Wire 24 Vdc

Operating Frequency:

YYY = 148 — 148 KHz (standard)
 080 — 80 KHz } custom
 070 — 70 KHz } design

Operating Mode:

U = UM - Mini Sensor

Communication:

C = C4 - RS485

Housing Material:

H = PV — PVC Enclosure Housing

Sensor Material: Std. Thread Mtg. Sensor

S = PVC — PVC Sensor

TEF — Teflon Sensor

Sanitary Mtg. Sensor: 316 SS. Tri-Clamp Mtg.

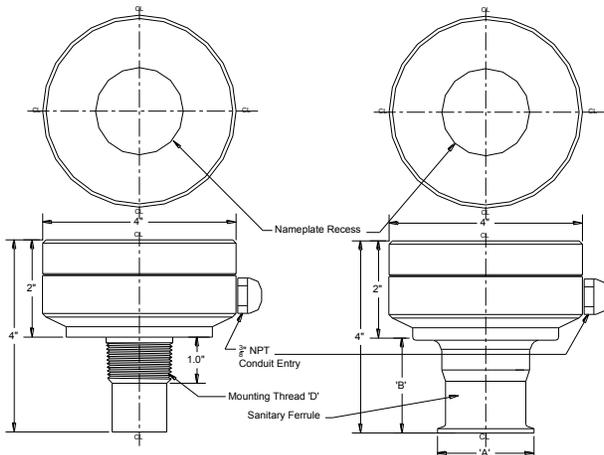
S15 — 1.5" Sanitary Sensor

S20 — 2" Sanitary Sensor

S15- HTP — 1.5" High Temp./High Pressure

S20- HTP — 2" High Temp./High Pressure

Relay: relay with a form C contact, 8A at 240 Vac



Mini Std. Mounting

ABM300- 148 NPT Mtg. Thread 1"
 ABM300- 080 NPT Mtg. Thread 2"
 ABM300- 070 NPT Mtg. Thread 2"

Mini Sanitary Mounting

ABM300/148/080/070
 'A' - 1 1/2" Ø = 1.978" 'B' - 2.17"
 'A' - 2" Ø = 2.516" 'B' - 2.31"

Ultrasonic Non Contact Sensors For Liquids and Solids Applications



Model - ABMXXX - 045VW - HS

Applications -

Solids/Liquids materials, liquids up to 60 Ft. tanks height, solids with low dust (plastic pellets) up to 50 FT, high dust up to 30 Ft.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- Works in any conditions, in narrow tanks.
- On materials with steep angle of repose.
- No dust influence.
- Works at any temperature (- 40°C to 130°C)
- Very short blanking.
- TEFLON, PVC transducer materials.
- No influence of mounting and tank's walls (self adjusting mode).

Technical data -

Measuring Range : 1.0 to 60 Ft (0.3 to 18.2 m)

Temperature : PVC - 40 to 140°F (-40 to 60°C),

TEFLON - 40 to 266°F (-40 to 130°C)

Pressure Rating : 1 to 2 bar Std.Sensor

Mounting Thread : 3" NPT Male Thread

Catalogue # Ordering -

Supply Voltage:

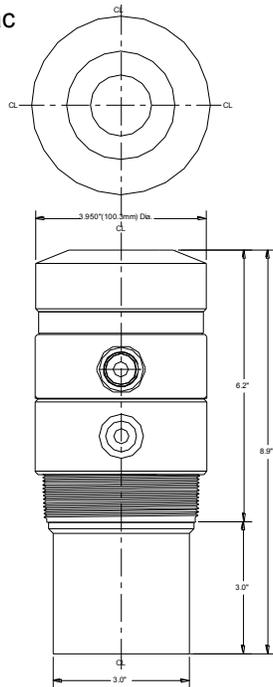
XXX = 2 Wire (loop powered with HART)

3 Wire 24 Vdc

4 Wire 120 Vac or 230 Vac

Operating Frequency:

YYY = 045 — 45 KHz



2/3/4 Wire 45 KHz Sensor



45 KHz Sensor

Operating Mode:

V = UL - Ultrasonic Sensor

Communication:

C = C4 - RS485

C2 - RS232

CH - Hart (2 Wire only)

C0 - No Communications

Housing Material:

H = PV — PVC Enclosure Housing

Sensor Material:

S = PVC — PVC Sensor

TEF — Teflon Sensor

Ultrasonic Non Contact Sensors For Solid Material Applications



Model - ABMXXX - 025VW - HS

Applications -

Solids/Liquids materials, liquids up to 100 Ft. tanks height, solids with low dust up to 80 FT (plastic pellets), high dust up to 50 Ft.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- Works in any conditions, narrow tanks.
- Very narrow radiating beam (it can work in narrow tanks, close to tank walls).
- No dust influence.
- Works on materials with steep angle of repose.
- Short blanking, self adjusting mode - no influence of mounting and tank's walls.



Technical data -

Measuring Range : 1.4 to 100 Ft (0.4 to 30 m)

Temperature : PVC - 40 to 140°F (- 40 to 60°C)

Pressure Rating : 1 to 2 bar Std.Sensor

Mounting Thread : 1" - 6" NPT Male Thread

Catalogue # Ordering -

Supply Voltage:

XXX = 2 Wire (loop powered with HART)

3 Wire 24 Vdc

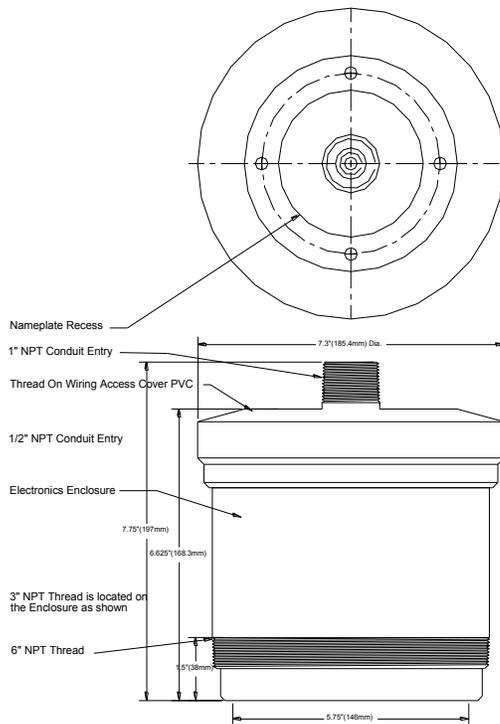
4 Wire 120 Vac or 230 Vac

Operating Frequency:

YYY = 025 — 25 KHz



25 KHz Sensor



2 3/4 Wire 25 KHz Sensor

Operating Mode:

V = UL - Ultrasonic Sensor

Communication:

C = C4 - RS485

C2 - RS232

CH - Hart (2 Wire only)

C0 - No Communications

Housing Material:

H = PV — PVC Enclosure Housing

Sensor Material:

S = PVC — PVC Sensor

Ultrasonic Non Contact Sensors with Remote Sensor for Liquids & Solids High Temp. Application



Model - ABMXXX - YYYULC - HS (TEF)

Applications -

These sensors with de-tachable TEFLON transducers operate in very high temperature environments for Liquids and Solids.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- Self adjusting monitors inside tanks environment and adjusts power and sensitivity.
- Self cleaning due to its non contact measuring operation.
- One echo system for measured material. No list of hundreds of parameters to be downloaded.
- Enclosures are available in different materials to withstand any environment.
- Works at very high temperatures.
- De-tachable TEFLON transducer with short blanking and narrow beam which can work on Liquids and Solids.
- very short blanking.

Technical data -

Measuring Range : 0.4 to 60 Ft (0.12 to 18 m)
 Temperature : Teflon - 40 to 266°F (-40 to 130°C)
 Pressure Rating : 1 to 2 bar Std.
 Mounting Thread : 1" - 2" NPT Male Thread

Electronics Housing

TEFLON Remote Sensor



Catalogue # Ordering -

Supply Voltage:

XXX = 2 Wire (loop powered with HART)
 3 Wire 24 Vdc
 4 Wire 120 Vac or 230 Vac

Operating Frequency:

YYY = 148 — 148 KHz
 080 — 80 KHz
 081 — 81 KHz
 070 — 70 KHz
 052 — 52 KHz
 045 — 45 KHz

Operating Mode:

V = UL - Ultrasonic Sensor

Communication:

C = C4 - RS485
 C2 - RS232
 CH - Hart (2 Wire only)
 C0 - No Communications

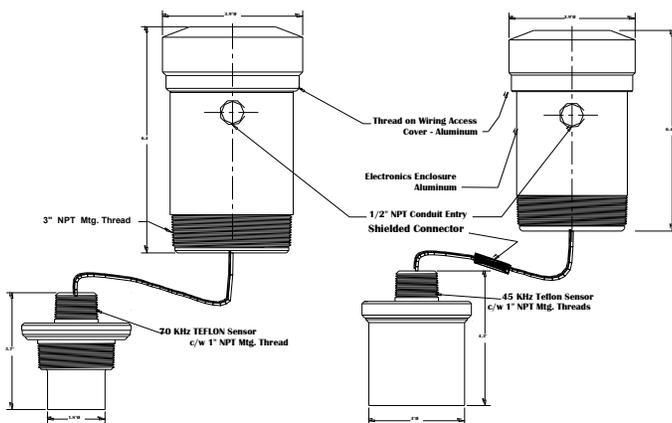
Housing Material:

H = PV — PVC Enclosure Housing
 AL — Aluminum Enclosure Housing
 S.S. — SS 316L Enclosure Housing

Sensor Material: Std. Thread Mtg. Sensor

S = TEF — Teflon Sensor

TEFLON Cable Length: As Required



Ultrasonic Sensor
c/w Remote 70 KHz Xducer.

Ultrasonic Sensor
c/w Remote 45 KHz Xducer.

Ultrasonic Non Contact Sensors For Sanitary Applications



Model - ABMXXX - YYYUMC4 - HS

Applications -

The Sanitary Sensors are used in liquid applications such as Food & Beverage processing. Where Food Grade Antenna and Mounting base are required. Also in small tanks such as barrels due to their mounting and maintenance free nature. Any build up on Transducer face is being eliminated (continuously cleaned). False echoes from tanks walls are eliminated by automatic adjustment of power and sensitivity. Other ideal applications are Pharmaceutical and Chemical as the Sensors adapt to any condition automatically without user involvement.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- Self cleaning due to its non contact measuring operation.
- One echo system for measured material. No list of hundreds of parameters to be downloaded.
- Works At any Temperature.
- Mounting 1 1/2" or 2" Sanitary tri-clamp.
- Extremely short blanking.

Technical data -

Measuring Range : 0.4 to 30Ft (0.12 to 9 m)
 Temperature :
 Std. Sanitary Sensor :- 40 to 140°F (- 40 to 60°C)
 No Steam Cleaning (CIP)
 SS316L Sanitary Sensor :- 40 to 266°F (- 40 to 130°C) for 1/2 Hr.
 Steam Cleaning. Removed sensor for longer Cleaning cycle ,recommended.
 Not for Continuous Operation
 Pressure Rating : 5 bar Max. using High Temperature and High Pressure Sensor
 Mounting : 1 1/2 " or 2" Tri -Clamp



3/4 Wire Sanitary Sensor



Mini Sanitary Sensor

Catalogue # Ordering -

Supply Voltage:

XXX = 2 Wire (Loop Powered)
 3 Wire 24 Vdc
 4 Wire 120 Vac or 230 Vac

Operating Frequency:

YYY = 148 — 148 KHZ
 081 — 81 KHZ
 080 — 80 KHZ
 070 — 70 KHZ

Operating Mode:

U = UL - Ultrasonic Sensor
 UM - Mini Sensor

Communication:

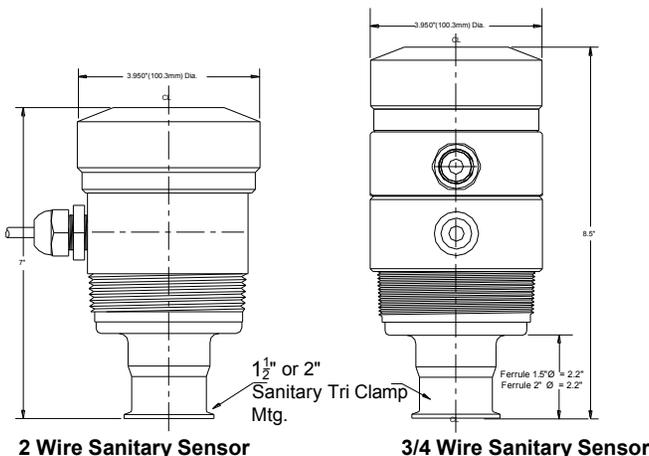
C = C4 - RS485
 C3 - RS232
 CH - HART
 C0 - No Communications

Housing Material:

H = PV — PVC Enclosure Housing
 AL — Aluminum Enclosure Housing

Sensor Material:

Sanitary Mtg. Sensor: 316 SS Tri-Clamp Mtg.
 S15 — 1.5" Std. Temp. PVC c/w SS316L Face
 S20 — 2" Std. Temp. PVC c/w SS316L Face
 S15- HTP — SS316L 1.5" High Temp./High Pressure
 S20- HTP — SS316L 2" High Temp./High Pressure



Ultrasonic Guided Contact Sensors For Liquid Applications



Model - ABMXXX - YYYVW - HS - Pipe

Applications -

ABM ultrasonic sensors due to advanced ultrasonic transducer designing, can propagate an ultrasonic wave inside Plastic or Metal pipes. Termination of 45° on the pipes allows perfect (no-mismatch) transition between pipe's environment and open space environment. All ABM non-contact sensors can be used to propagate the ultrasonic wave inside pipes. Pipe's I.D. has to be at least 1/4" inch bigger than the transducers nozzle. Ultrasonic with pipes are recommended for liquids in environment with obstacles such as a ladder, cross beams and wires.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- Works in any conditions, no influence of tank's environments.
- Very narrow radiating beam, the ultrasonic wave propagates inside the pipe.
- No waves/turbulences influence.
- Short blanking, self adjusting mode - no influence of mounting in small pipes.
- 45° pipe termination at any length inside tank.

Technical data -

Measuring Range : 0.4 to 50 Ft (0.12 to 15.2 m)

Temperature : PVC - 40 to 140°F (- 40 to 60°C)

TEFLON - 40 to 266°F (- 40 to 130°C)

Pressure Rating : 1 to 2 bar Std. Sensor

Mounting Thread : 1" - 3" NPT Male Thread



Catalogue # Ordering -

Supply Voltage:

XXX = 2 Wire (loop powered with HART)

3 Wire 24 Vdc

4 Wire 120 Vac or 230 Vac

Operating Frequency:

YYY = 148 — 148 KHz

080 — 80 KHz

081 — 81 KHz

070 — 70 KHz

052 — 52 KHz

Operating Mode:

V = UL - Ultrasonic Sensor

UM - Mini Ultrasonic

Communication:

C = C4 - RS485

C2 - RS232

CH - Hart (2 Wire only)

C0 - No Communications

Housing Material:

H = PV — PVC Enclosure Housing

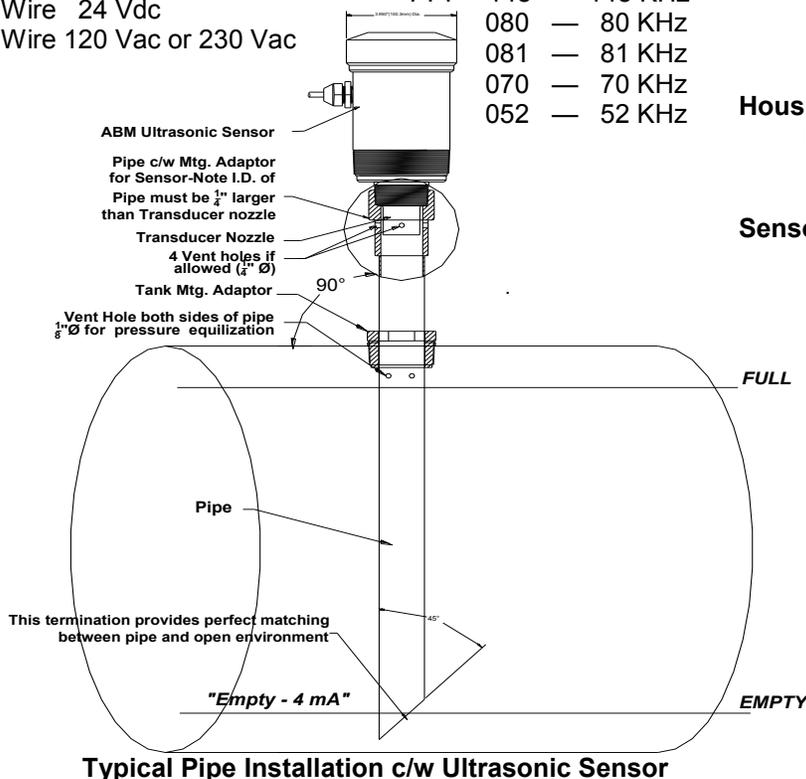
AL — Aluminum Enclosure Housing

SS — SS316L Enclosure Housing

Sensor Material: Std. Thread Mtg. Sensor

S = PVC — PVC Sensor

TEF — Teflon Sensor



Typical Pipe Installation c/w Ultrasonic Sensor

Ultrasonic Non Contact and Contact Sensors



CATALOGUE NUMBER STRUCTURE - Ultrasonic Sensors

ABM	1) XXX	2) -XXX	3) YY	4) CX	5) - XX	6) YYY	- IP68	7) - XXXX	8) - Pipe
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- 1) Supply Voltage - 200/300/400/430 (Note #1)
- 2) Ultrasonic Frequency - 148/081/080/070/052/045/025 (KHz)
- 3) Operating Mode - UL (Ultrasonic)/UM (Mini Ultrasonic)
- 4) Communications - 4 (RS485)/ 2 (RS232)/ 0 (None)/ H (Hart - 2 Wire only)
- 5) Electronics Body Material - PV (PVC)/ AL (Aluminum)/ SS (stainless steel)
- 6) Transducer Sensor Material - PVC (PVC)/ TEF (Teflon)* STM / S15 (Sanitary Mtg.)
/S20 (Sanitary Mtg.)/S15-HTP / S20-HTP (High Temp./Press. San.) / HP (PVC High Pressure)
- X) Ingress Protection - IP68 for Submersible
- 7) Swivel Aiming Mount / Flange Mounting - AIM3 (Swivel Mounting)
- 8) Pipe Mtg.

Note 1) ABM Code 200 = 12-30 Vdc
 300 = 12-30 Vdc
 400 = 115 Vac
 430 = 230 Vac

* STM = Standard Thread Mounting Sensors

Radar Non Contact Sensors



Measuring Principle - An electromagnetic pulse is transmitted from the ABM sensor. The pulse 5.8 - 26 GHz carrier Frequency travels to the surface being monitored and is reflected off this surface back to the sensor face. The time of flight is divided in half, and converted to an output current directly proportional to the material level. In case of low dielectric materials ($\epsilon_r < 10$), electromagnetic wave penetrates materials. In this case "Low Dielectric Material" has to be on. The ABM radar is a one echo sensor, it adjusts its power and sensitivity to receive one echo from measured material and to eliminate any false echoes. This feature gives radar extremely narrow radiation beam (like a laser) This is not offered by any other brands.

Applications -

Liquid Levels Measurement - Page 15

To monitor liquids with vapors, gases or volatile surfaces. Pick a Radar Unit with the range for your application. For corrosive applications the Antenna material can be chosen that is compatible with the liquid.

Monitoring Solid Material Levels - Page 16

To monitor Dusty Solids and Powder materials the higher 26GHz frequency and dual frequencies help to penetrate the dusty atmosphere found in solids level storage vessels, tank & bins. They are usually larger in size and require the Self Adjusting Tracking Radar for accurate measurement.

Outdoor Flood Monitoring - Page 17

The Dual Frequency Radar is used to monitor levels of rivers and seas. The radar works even in dry seasons when there is no water in riverbeds.

Oil- water non contact Radar Interface Detector (RID) - Page 18

To monitor with non-contact oil-water interface and top of oil. The 4- 20 mA current output shows both levels.

High Temperature Applications - Page 19

To monitor applications with elevated temperatures Antenna material selection is Important and Special Mounting De-coupler design with Thermal isolation is required. Temperature in environment does not effect the ABM Radar performance. For very high temperature (above 200°C) horn with bottom flange is recommended.

Sanitary Applications - Page 20

Monitoring sanitary applications with Sanitary Ferrule Mounting Food Grade Antenna's are available. For the food industry the Antenna must withstand steam cleaning and be quickly removable and easily re-installed.

Explosion Proof Applications - Page 21

For Measurement in areas Classified as Hazardous (Class I Div. I) such as Gases, Petrochemical, Vapors and Dust. These Areas require containment of Atmosphere.

Crane anti-collision Systems - Page 22

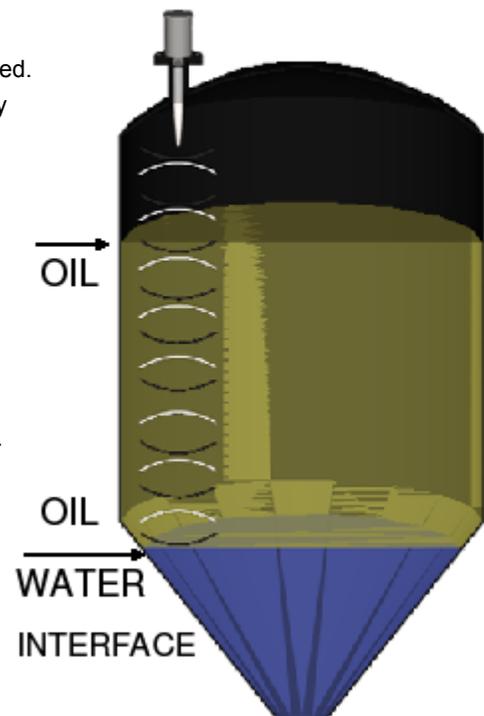
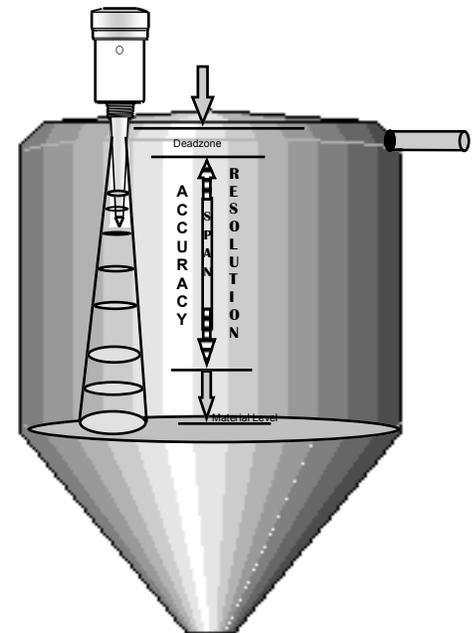
To maintain a safe working distance between two cranes operating on same track.

Fuel Efficiency for Ship Applications - Page 23

Measurement of wave profiles, to control optimal vessel trimming.

Contact Level Measurement - Page 24/25

For contact liquid measurement the ABM Radar with metal pipes, aircraft cable or rods is offered ask technical support for drawings and pictures.



Radar Non Contact and Contact Sensors



Overview

ABM sensor	Max. Measuring Range -in Liquids (Solids x .5) Accuracy : +/- 0.1% Range (max.)	Mounting Fitting - Male thread	Temperature Range for Radar	Pressure Rating @ Rod Antenna
ABMXXX-YYY Liquid Range to 240 Ft. - Radar Frequency R6 - 6.3 GHz R5 - 5.8 GHz 	017 - 17' (5m) 033 - 33' (10m) 050 - 50' (15m) 100 - 100' (30m) 140 - 140' (42m) 240 - 240' (73m) 340 - 340' (103.6m)	1.5"/2.0" NPT Std./Exp. Radar 2.0" NPT 26 GHz Radar High Temp Radar 3" NPT for 6 GHz with horn	PP Rod : - 40 to 176 °F (-40 to 80°C) Teflon " : - 40 to 350°F (-40 to 177°C) With De-coupler	Max. 5 bar 15-75 psi Without De-coupler
ABMXXX-YYY Bulk Solids in all industries -Dual Frequency Radar & 26 GHz Radar 	Radar 050 ft. (15 m) " 100 ft. (30 m) " 140 ft. (42 m) " 240 ft. (73 m) " 340ft. (103.6m)	2.0 " NPT for 26 GHz with 5" Horn 3.0 " NPT for dual Freq. with 6" Horn	6" Horn : - 40 to 140 °F (- 40 to 60°C) 6" Horn : - 40 to 350°F (- 40 to 177°C) With De-coupler 5" Horn : - 40 to 140 °F (- 40 to 60°C)	6" Horn Max. 5 bar
ABMXXX-YYY Petrochemical, Oil water Interface - Radar Frequency R6 - 6.3 GHz 	Radar 017 - 17' (5m) 033 - 33' (10m) 050 - 50' (15m) 100 - 100' (30m)	1.5"/2.0" NPT	P.P. Rod :- 40 to 140 °F (-40 to 60°C) PTFE Rod:- 40 to 400 °F (-40 to 204°C) With De-coupler	Max. 5 bar 15 - 75 psi Without De-coupler
ABMXXX-YYY, Radar with rod Liquids with Foam, gases and Vapours - Radar Frequency R6 - 6.3 GHz R5 - 5.8 GHz 	Radar 017 - 17' (5m) 033 - 33' (10m) 050 - 50' (15m)	2.0"/3.0" NPT	PTFE Launcher :- 40 to 400 °F (-40 to 204°C)	Max. 5 bar 15 - 75 psi
ABMXXX-YYY, Radar with pipe Liquids with Foam, gases and Vapours - Radar Frequency R6 - 6.3 GHz R5 - 5.8 GHz 	Radar 017 - 17' (5m) 033 - 33' (10m) 050 - 50' (15m)	2.0"/3.0" NPT	PTFE Point Antenna :- 40 to 400 °F (-40 to 204°C)	Max. 5 bar 15 - 75 psi
ABMXXX-YYY, Radar with cable Liquids with Foam, gases and Vapours - Radar Frequency R6 - 6.3 GHz R5 - 5.8 GHz 	Radar 017 - 17' (5m) 033 - 33' (10m) 050 - 50' (15m)	2.0"/3.0" NPT	PTFE Launcher :- 40 to 400 °F (-40 to 204°C)	Max. 5 bar 15 - 75 psi

Approvals - For ABM200/ABM300 Microwave Sensors:

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

Radar Non Contact Sensors For Liquid Applications



Model - ABMXXX - YYRC - H A - LIQUIDS

Applications -

This range of sensors are used in liquid applications such as Food & Beverage processing. It is also ideal for Water / Wastewater due to their maintenance free nature. Other ideal applications are Pharmaceutical and Chemical as the Radar adapts to any condition automatically without user involvement.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- Self adjusting, Monitors inside tanks environment and adjusts power and sensitivity, to receive one echo only.
- All false echoes are automatically eliminated.
- Antenna build-up is automatically compensated for to eliminate its effects.
- Enclosures are available in different materials to withstand any environment.
- Very narrow radiation beam which allows user installation very close to tank's wall.
- Fit to any Mounting requirements.
- Works at any Temperature.
- Very High Temperature Applications with TEFLON antenna, Thermal De-coupler and SS Horn with bottom flange for Asphalt Applications.
- 2 - Wire Radar's Measuring Period @ 20 mA = 1 echo / 36 msec.

Technical data -

Measuring Range : 0.9 to 340 Ft (0.27 to 103.6 m)

Temperature : PP -40 to 176°F (-40 to 80°C)

Teflon PTFE -40 to 350°F (-40 to 177°C)

Pressure Rating : 5 bar for all Radar except 2 bar for Sanitary Radar

Mounting Thread : 1.5" - 3" NPT Male Thread

Catalogue # Ordering -

Supply Voltage:

Maximum Range:

XXX = 2 Wire 20-30 Vdc

3 Wire 12-30 Vdc

4 Wire 120 Vac or 230 Vac

YYY = 017 ft (5m)

033 ft (10m)

050 ft (15m)

100 ft (30m)

140 ft (42m)

240 ft (73m)

340 ft (103.6m)

Operating Frequency:

R = R6 6.3 GHz

R5 5.8 GHz

R2 26 GHz

Communications:

C = 4 - RS485

2 - RS232

H - Hart

Housing Material:

H = A L — Aluminum Enclosure Housing

S S — SS316L Enclosure Housing

Antenna:

A = APP — Polypropylene Rod Antenna

ATE — TEFLON Rod Antenna

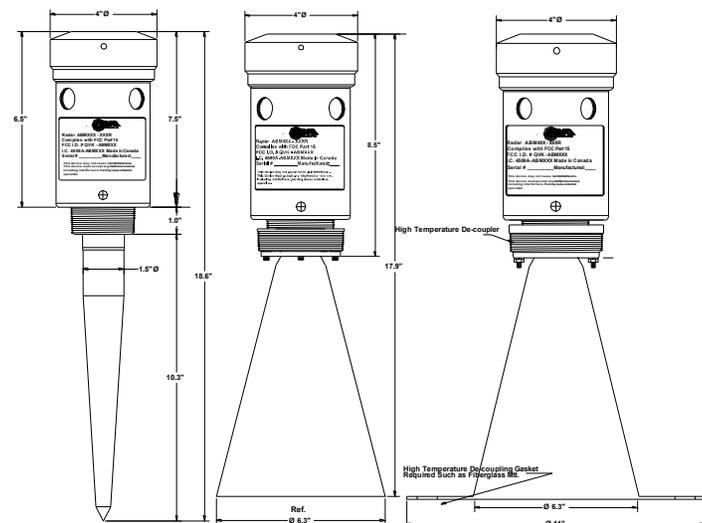
ATL — TEFLON Rod Antenna with built-in extension, good for up to 6" long metal standpipe of 3" ID or greater

HTE — High Temp. Radar, TEFLON Rod Antenna

HR6 — SS316L Std. 6" horn

HT6 — High Temp. Radar, Std. 6" SS316L horn

HT6-BF — Very High Temp. Radar, 6" SS316L horn with bottom flange



Radar Std. Radar Std. & Horn Radar c/w HT6 Bottom Flange



**Antenna Extension ATL Radar 6 GHz
- 6" and 8" with Rod Ant. Ext.**

Radar Non Contact Sensors For River and Sea Water Level Measurement



Model - ABMXXX - YYYRC - H A - Solar Panel

Applications -

Dual frequency radar is used to measure level of rivers and sea waters, and also for water control.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- No problem with false echoes from mounting.
- Extremely Low Power Consumption from solar panels.
- Booting time is very short.
- Good reading from dry riverbeds.
- No rain influence.
- No wind and temperature influence.
- Very narrow radiation beam which rejects the shores.

Technical data -

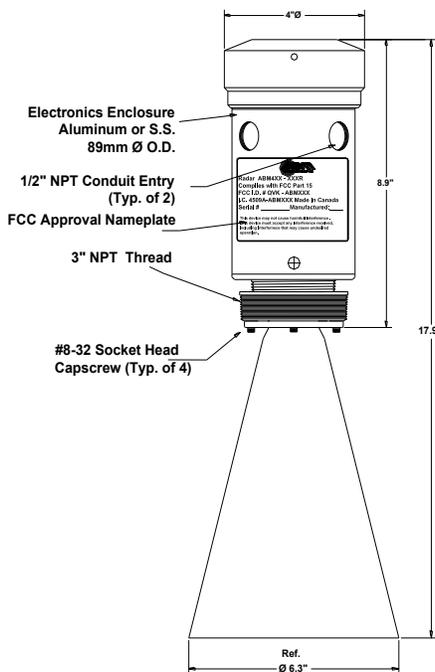
Measuring Range : 0.9 to 340 Ft (0.27 to 103.6 m)
 Temperature : PP - 40 to 176°F (- 40 to 80°C) Antenna Material
 Teflon PTFE - 40 to 350°F (- 40 to 177°C) Antenna Material
 Pressure Rating : 5 bar for all Radar except 2 bar for Sanitary Radar
 Mounting Thread : 2" - 3" NPT Male Thread
 Radar Horn Antenna : HR6 - 6.3 GHz
 Dual Frequency : HR6 - 6.3 GHz and 26 GHz



Catalogue # Ordering -

Supply Voltage:

- XXX = 2 Wire 20-30 Vdc
- 3 Wire 12-30 Vdc
- 4 Wire 120 Vac or 230 Vac



Radar Dual Freq. c/w 6" Horn - HR6

Maximum Range:

- YYY = 017 ft (5m)
- 033 ft (10m)
- 050 ft (15m)
- 100 ft (30m)
- 140 ft (42m)
- 240 ft (73m)
- 340 ft (103.6m)

Operating Frequency:

R = R6R2 6.3 GHz and 26 GHz

Communications:

- C = 4 - RS485
- 2 - RS232
- H - HART

Housing Material:

- H = A L — Aluminum Enclosure Housing
- S.S. — SS316L Enclosure Housing

Antenna:

- A = APP — Polypropylene Rod Antenna
- ATE — TEFLON Rod Antenna
- HTE — High Temp. Radar, TEFLON Rod Antenna
- HR6 — SS316L Std. 6" horn
- HT6 — High Temp. Radar, Std. 6" SS316L horn
- HT6-BF—Very High Temp. Radar, 6" SS316L horn with bottom flange

Radars Non Contact Sensors For Oil Water Interface Detection



Model - ABM300 - YYYRC - H A - RID

Applications -

This is the only non-contact radar that detects top of oil and oil-water interface when oil is free of water.

Principle of Operation -

When the radar is turned ON and oil is free of water, the radar gets a reflection from the OIL-WATER interface that gives current output proportional to the OIL-WATER interface level.

The echo from the OIL-WATER interface is masked and the radar is forced to go to higher power to detect echo from top of OIL. The output current is proportional to OIL level.

Special parameter in software changes alternation time between top of OIL and OIL-WATER interface.

In case of Water in the OIL the radar does not penetrate oil and shows the current output proportional to the top of Oil. When heat is applied and separation happens and the radar starts showing two current values; one from top of OIL and another one from OIL-WATER interface.



Benefits -

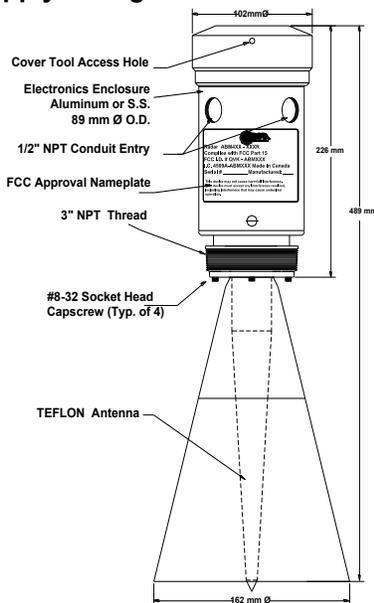
- Enclosures are suitable for IP68 environmental conditions.
- Approved for Hazardous Environments.
- Non - contact method, it doesn't require any maintenance as in the case of contact methods (build-up on sensing elements).

Technical data -

- Measuring Range : 0.9 to 340 Ft (0.27 to 103.6 m)
- Temperature : PP Rod - 40 to 140°F (- 40 to 60°C) Antenna Material
- De-coupler & Teflon : - 40 to 350°F (- 40 to 177°C) Antenna Material
- Pressure Rating : 5 bar (without De-coupler)
- Mounting Thread : 1 1/2" - 2" NPT Male Thread, 3" NPT with Horn Antenna
- Radar Frequency : R6 - 6.3 GHz

Catalogue # Ordering -

Supply Voltage: XXX = 3 Wire 12-30 Vdc



Radars Exp. 6GHz c/w 6" Horn c/w Rod Antenna

Maximum Range :

- YYY = 017 ft (5m)
- 033 ft (10m)
- 050 ft (15m)
- 100 ft (30m)
- 240 ft (73m)
- 340 ft (103.6m)

Operating Frequency:

- R = R6 6.3 GHz
- R5 5.8 GHz

Communications:

- C = 4 - RS485
- 2 - RS232

Housing Material:

H = A L — Aluminum Enclosure Housing

Antenna:

- A = APP — Polypropylene Antenna
- TEF — TEFLON Antenna
- HR6 — SS316L Std. 6.3 GHz 6" horn

Radar Non Contact Sensors

For High & Very High Temperature Applications



Model - ABMXXX - YYYRC - H A - PIPE

Applications -

Extremely high temperature applications such as molten metal.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- ABM Standard non-contact radar platform with 1 1/2" or 2" metal pipe and standard 6" horn can be used.
- All features of the ABM non-contact radar are included.

Technical data -

Measuring Range : 0.9 to 100 Ft (0.27 to 30 m)
 Temperature : at the antenna has to be below 1500°C
 Note: above 200°C Horn c/w Bottom flange is recommended
 Pressure Rating : 5 bar for all Radar
 Mounting Thread : 1.5" or 2" NPT Male Thread
 Radar Horn Antenna: HT6 - 6 GHz c/w 2" - 3" NPT TEFLON De-coupler
 Frequency : 5.8 GHz and 6.3 GHz

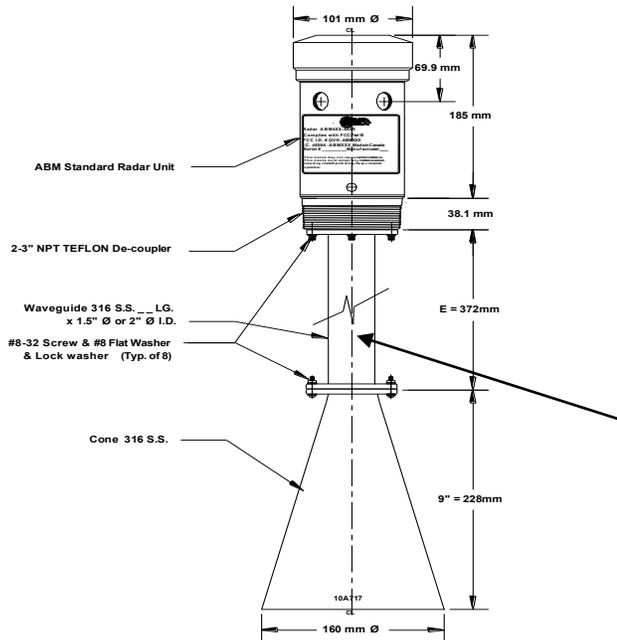
Catalogue # Ordering -

Supply Voltage:

XXX = 2 Wire 20-30	YYY = 017 ft (5m)
3 Wire 12-30 Vdc	033 ft (10m)
4 Wire 120 Vac or 230 Vac	050 ft (15m)
	100 ft (30m)

Maximum Range:

XXX = 2 Wire 20-30	YYY = 017 ft (5m)
3 Wire 12-30 Vdc	033 ft (10m)
4 Wire 120 Vac or 230 Vac	050 ft (15m)
	100 ft (30m)



Operating Frequency:

R = R6 6.3 GHz
 R5 5.8 GHz

Communications:

C = 4 - RS485
 2 - RS232
 H - Hart

Housing Material:

H = A L — Aluminum Enclosure Housing
 SS — SS316L Enclosure Housing

Note - Models with Straight or Bent pipe are available



Radar Std. High Temp. c/w 6" Horn - HR6

Radars Non Contact Sensors For Sanitary Applications



Model - ABMXXX - YYYRC - H A - SAN

Applications -

This range of sensors are used in liquid applications such as Food & Beverage processing. Where Food Grade Antenna and Mounting base are required. Other ideal applications are Pharmaceutical and Chemical as the Radar adapts to any condition automatically without user involvement.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- Self adjusting Monitors inside tank's environment and adjusts its power and sensitivity to receive one echo only.
- Enclosures are available in different materials to withstand any environment
- Very narrow radiation beam which allows installation very close to tank's wall.
- Works at any Temperature



Technical data -

Measuring Range : 0.9 to 50 Ft (0.27 to 15 m)
 Temperature : - 40 to 400°F (- 40 to 204°C)
 Pressure Rating : 2 bar
 Mounting : 2" TEFLON Tri-Clamp with Integral Antenna
 Radar Frequency : 5.8 GHz and 6.3 GHz

Catalogue # Ordering -

Supply Voltage:

XXX = 2 Wire 20-30 Vdc
 3 Wire 12-30 Vdc
 4 Wire 120 Vac or 230 Vac

Maximum Range :

YYY = 017 ft (5m)
 033 ft (10m)
 050 ft (15m)

Operating Frequency:

R = R6 6.3 GHz
 R5 5.8 GHz

Communications:

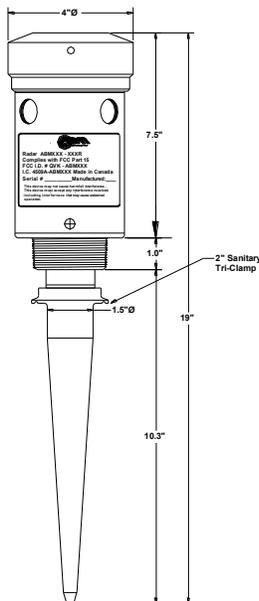
C = 4 - RS485
 2 - RS232
 H - HART

Housing Material:

H = A L — Aluminum Enclosure Housing
 SS — SS316L Enclosure Housing

Antenna:

A = S20 — TEFLON Rod Antenna with
 2" Sanitary Tri clamp Mounting



Radars C/W Sanitary 2" Antenna

Radars Non Contact Sensors For Explosion Proof Applications



Model - ABMXXX - YYYRC - H A - EXP

Applications -

This is the non-contact radar used for Liquids with vapours and gases and also solids with dust that requires EXP. Certification.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- Approved for Hazardous Class I, Div. 1 Environments.
- Self adjusting Monitors inside tank's environment and adjusts its power and sensitivity to receive one echo only.
- Antenna build-up is automatically compensated to eliminate its effects.
- Enclosures are available in different materials to withstand any environment
- Very narrow radiation beam which allows installation very close to tank's wall.
- Works at any Temperature

Technical data -

Measuring Range : 0.9 to 240 Ft (0.27 to 73 m)
 Temperature : PP Rod - 40 to 140°F (- 40 to 60°C) Antenna Material
 De-coupler & Teflon : - 40 to 400°F (- 40 to 204°C) Antenna Material
 Pressure Rating : 5 bar (without De-coupler)
 Mounting Thread : 1 1/2" - 2" NPT Male Thread, 3" NPT with Horn Antenna
 Radar Frequency : 5.8 GHz and 6.3 GHz



Radars c/w Thermal De-coupler

Catalogue # Ordering -

Supply Voltage: XXX = 2 Wire 20-30 Vdc
 3 Wire 12-30 Vdc

Maximum Range :

YYY = 017 ft (5m)
 033 ft (10m)
 050 ft (15m)
 100 ft (30m)
 240 ft (73m)

Operating Frequency:

R = R6 6.3 GHz
 R5 5.8 GHz

Communications:

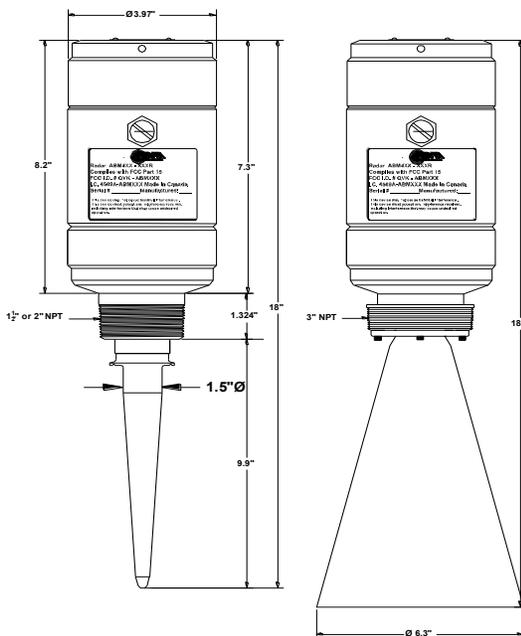
C = 4 - RS485
 2 - RS232
 H - HART

Housing Material:

H = A L — Aluminum Enclosure Housing
 SS — 316L Stainless Steel Housing

Antenna:

A = APP — Polypropylene Rod Antenna
 ATE — Teflon Rod Antenna
 HTE — High Temp. Radar, TEFLON Rod Antenna
 HR6 — SS316L Std. 6" horn
 HT6 — High Temp. Radar, SS316L Std. 6" horn



Radars Exp.

Radars Exp. c/w 6" Horn

Radar Non Contact Sensors For Crane anti- collision system



Model - ABMXXX - YYRC - HA - CRANE

Applications -

ABM provides crane anti-collision systems based on two radar units operating at 6GHz and 26GHz. Both radar units offer very fast response (a few updates per second). Maximum distance between the radar units can be up to 240ft (73m). Both units use horn type antennas and they are water-proof (IP68). Relay controllers can be connected to the Radar units current outputs or RS485 communications ports.



Standard 6 GHz Radar



26 GHz Radar

Benefits -

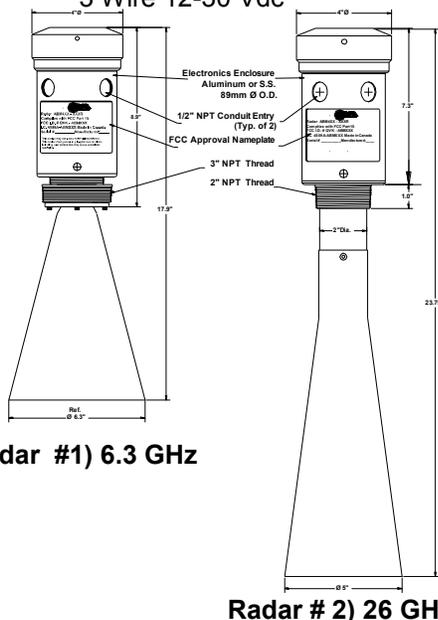
- Enclosures are suitable for IP68 environmental conditions.
- Self cleaning due to its non contact measuring operation.
- One echo system from wanted target. No list of hundreds of parameters to be downloaded.
- No wind, no rain, no snow influence.
- Extremely short blanking.

Technical data -

Measuring Range : 0.9 to 340 Ft (0.27 to 103.6 m)
 Temperature : PP Rod - 40 to 140°F (- 40 to 60°C) Horn
 De-coupler & Teflon : - 40 to 400°F (- 40 to 204°C) Antenna Material
 Pressure Rating : 5 bar (without De-coupler)
 Mounting Thread : 3" NPT with Horn Antenna
 Radar Frequency : Radar #1- 6.3 GHz, Radar #2 - 26GHz

Catalogue # Ordering -

Supply Voltage: XXX = 2 Wire 20-30 Vdc
 3 Wire 12-30 Vdc



Radar #1) 6.3 GHz

Radar # 2) 26 GHz

Maximum Range :

YYY = 017 ft (5m)
 033 ft (10m)
 050 ft (15m)
 100 ft (30m)
 240 ft (73m)
 340 ft (103.6m)

Operating Frequency:

Radar #1 R = R6 6.3 GHz
 Radar #2 R2 26 GHz

Communications:

C = 4 - RS485

Housing Material:

H = A L — Aluminum Enclosure Housing
 SS — 316L Stainless Steel Housing

Antenna:

A = HR6 — SS316L Std. 6" horn
 HR5 — Aluminum Horn 5" horn

Radar Non Contact Sensors For Fuel Efficiency for Ship Applications



Model - Model ABMXXX - YYYRC - H A – Ship

Applications -

ABM Radar In SS enclosure and SS horn antenna with fast or standard protocols (4 to 30 updates per second) is used to measure ocean wave profiles to save at least 5% fuel of ships. The “importance of optimal trimming” it is a well known fact that vessel trim has an important effect on fuel efficiency. Measurement of waves profiles is a very critical parameter to do saving on fuel.

Benefits -

- Reduce fuel costs and emissions of CO2 and other harmful gases are also reduced.
- Easy to install and easy to use, ABM radar eliminates all false echoes from ships construction.
- Enclosures are suitable for IP68 environmental conditions.
- SS316L enclosure is not effected by sea conditions.

Technical data -

Measuring Range : 1 Ft to 340 Ft (0.3 to 103.6 m)
 Pressure Rating : 5 bar for all Radar
 Mounting Thread : 1.5”, 2” or 3” NPT
 Frequency : 6.3 GHz and 5.8 GHz

Catalogue # Ordering -

Supply Voltage:

XXX = 3 Wire 12-30 Vdc

Maximum Range:

YYY = 017 ft (5m)
 033 ft (10m)
 050 ft (15m)
 100 ft (30m)
 140ft (43m)
 240ft (73m)
 340ft (103.6m)

Operating Frequency:

R = R6 6.3 GHz
 R5 5.8 GHz

Communications:

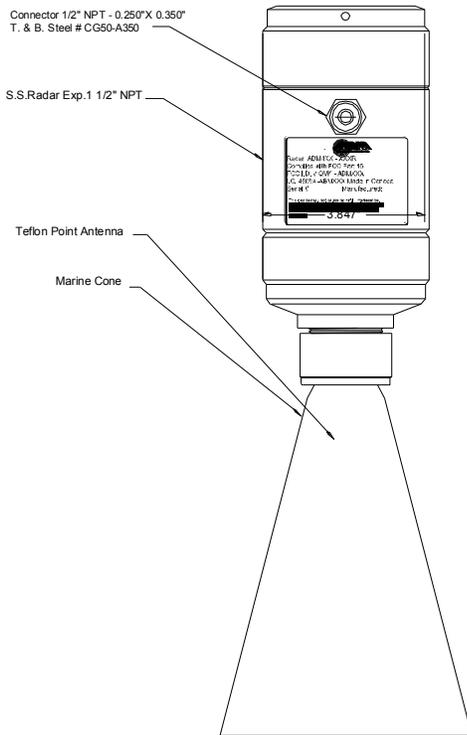
C = 4 - RS485
 2 - RS232

Housing Material:

H = S.S. — SS316L Enclosure Housing

Antenna :

A = HR6 — SS316L Std. 6” horn



Radar SS Exp. c/w SS Horn

Radar Contact Sensors For Stilling Well Applications



Model - ABMXXX - YYYRC - H A - Pipe Stilling well

Applications -

Horizontal Tanks with oil, gasoline and other liquids with vapours.

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- ABM Standard non-contact radar platform with 1 1/2" copper pipe (2" and 3" Pipe can also be used) works as a stilling well to contain vapours.
- All features of the ABM non-contact radar are included.

Technical data -

Measuring Range : 27" to 96" (0.68. to 2.4 m)
 Temperature : Teflon PTFE – 40 to 350°F (-40 to 177°C) Antenna Material
 Pressure Rating : 5 bar for all Radar
 Mounting Thread : 1.5" or 2" NPT Male Thread
 Frequency : 6.3 GHz and 5.8 GHz

Catalogue # Ordering -

Supply Voltage:

XXX = 2 Wire 20-30 Vdc
 3 Wire 12-30 Vdc
 4 Wire 120 Vac or 230 Vac

Maximum Range:

YYY = 8 ft (2.4m)

Operating Frequency:

R = R6 6.3 GHz
 R5 5.8 GHz

Communications:

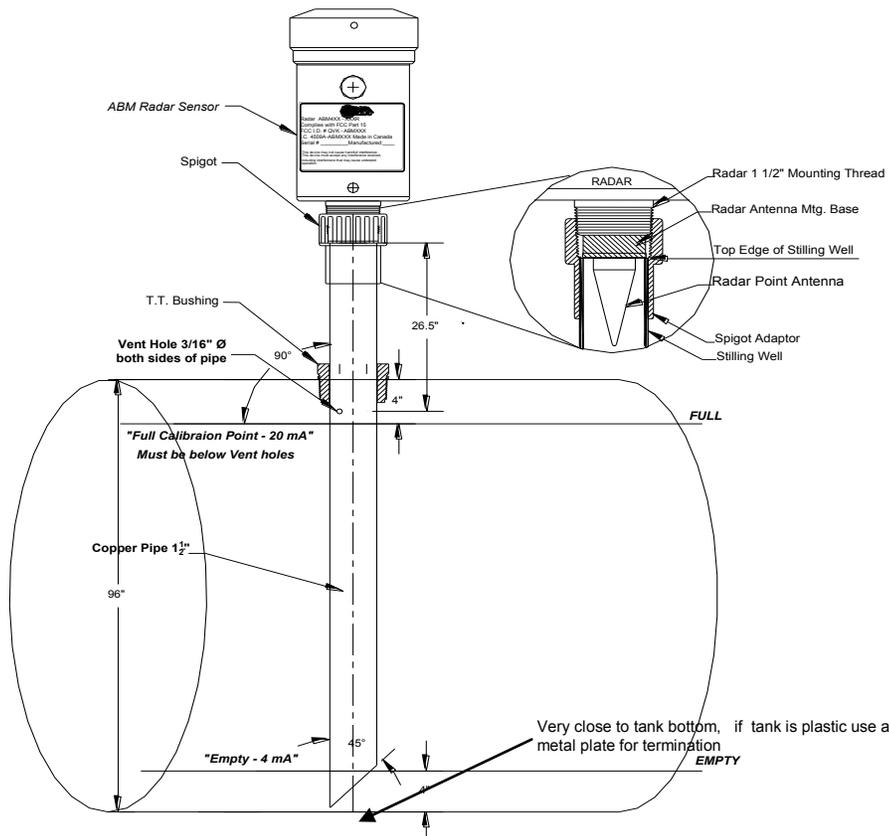
C = 4 - RS485
 2 - RS232
 H - Hart

Housing Material:

H = AL — Aluminum Enclosure Housing
 S.S. — SS316L Enclosure Housing

Antenna :

A = ATL TEFLON Launcher Antenna



Radar Storage Tank Stilling Well Installation

Radar Contact Sensors For Guided Wave Radar Sensor Applications



- Model - Model #1 ABMXXX - YYYRC - H A - CABLE**
- Model #2 ABMXXX - YYYRC - H A - ROD**
- Model #3 ABMXXX - YYYRC - H A - PIPE**

Applications -

Any liquids such as conductive, non-conductive, with foam, gases & vapours.
In very narrow tanks, tanks with obstacles, cross beams.

Note -1) For radar with pipe guide metal tank's bottom okay, in case of plastic tank use a metal plate within a very close distance to pipes end (not farther than 2 inches)

Benefits -

- Enclosures are suitable for IP68 environmental conditions.
- ABM non-contact radar can be used as guided wave radar along wire, rods or inside metal pipes.
- Self adjustment of power and sensitivity is still applied.

Technical data -

Measuring Range : 2 Ft to 50 Ft (.6 to 15 m)
Pressure Rating : 5 bar for all Radar
Mounting Thread : 2" or 3" NPT Male Thread
Frequency : 6.3 GHz and 5.8 GHz

Catalogue # Ordering -

Supply Voltage:

XXX = 2 Wire 20-30 Vdc
3 Wire 12-30 Vdc
4 Wire 120 Vac or 230 Vac

Maximum Range:

YYY = 017 ft (5m)
033 ft (10m)
050 ft (15m)

Operating Frequency:

R = R6 6.3 GHz
R5 5.8 GHz

Communications:

C = 4 - RS485
2 - RS232
H - Hart 7

Housing Material:

H = A L — Aluminum Enclosure Housing
S.S. — SS316L Enclosure Housing

Cable Material:

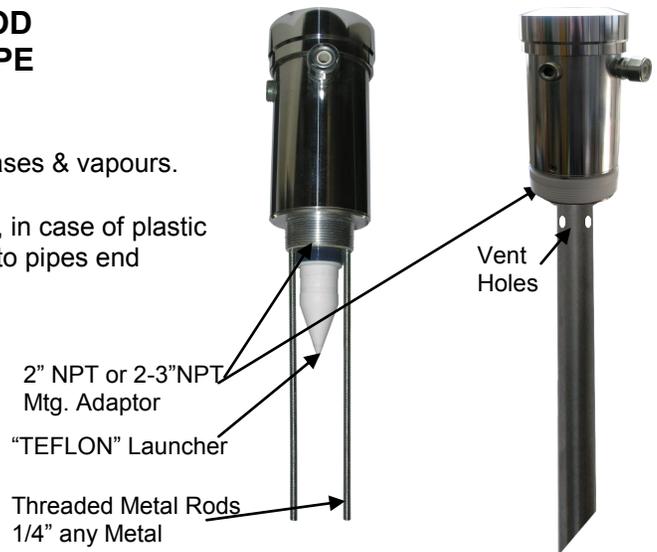
SS316 Aircraft Cable

Rod Material: any material

Metal Pipes: any material,
seamless recommended

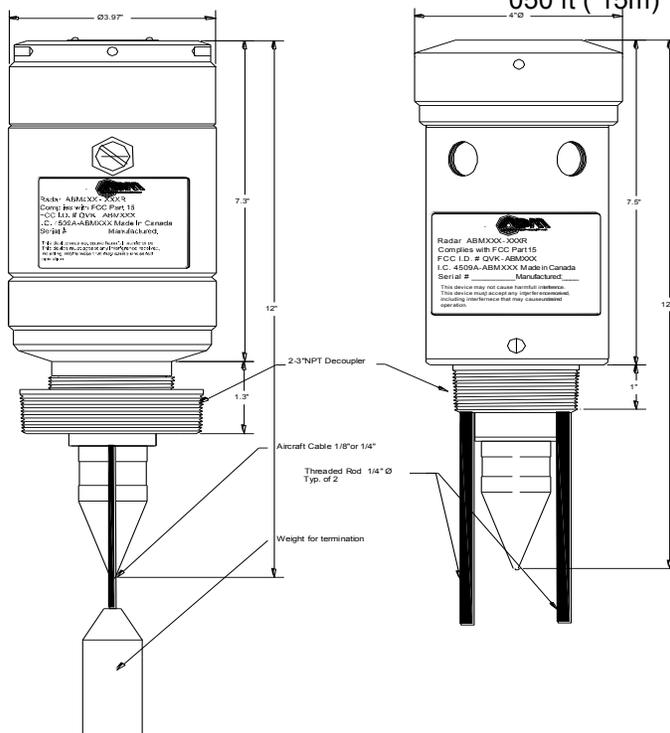
Antenna :

A = ATE TEFLON Rod Antenna
ATL TEFLON Launcher Antenna



Radar c/w Threaded Rod Guide

Radar c/w Pipe Guide

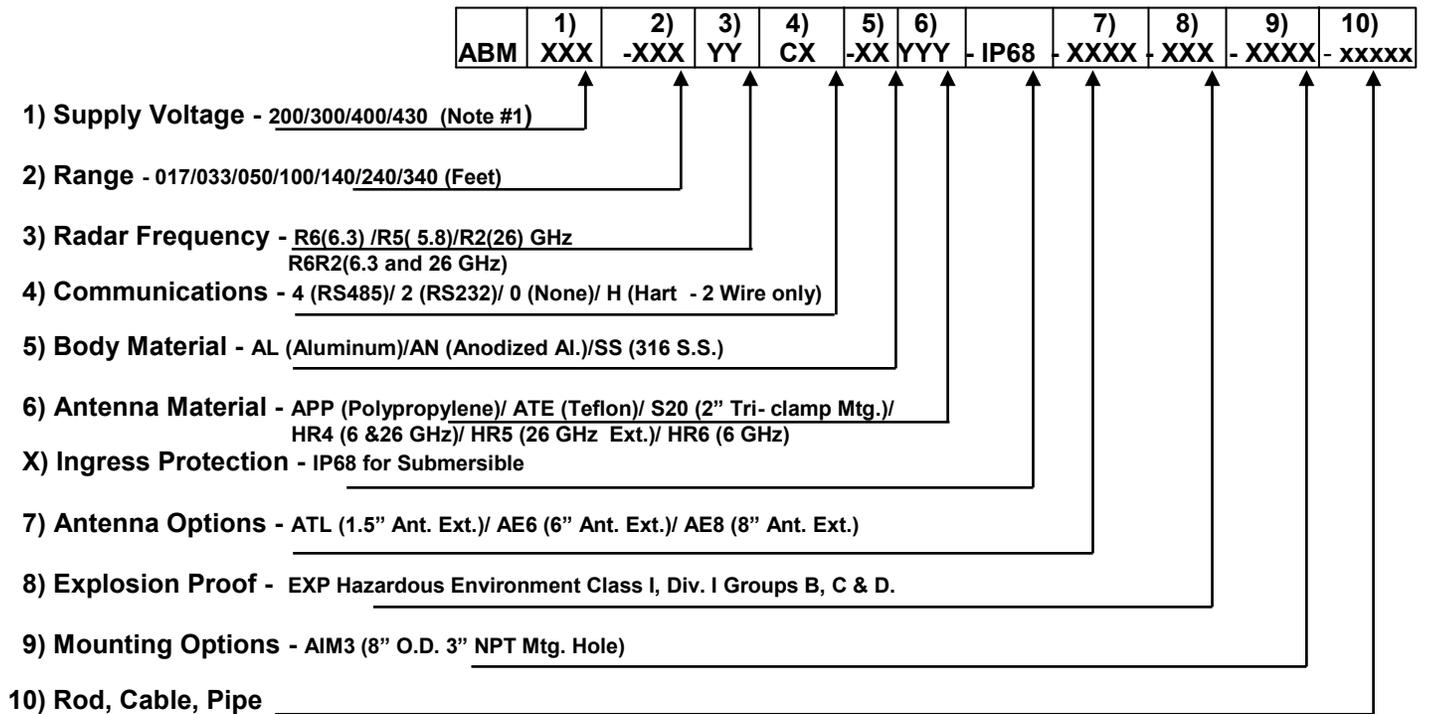


Radar Exp. c/w Cable Guide Radar Std. c/w Threaded Rod Guide

Radar Non Contact and Guided Sensors



CATALOGUE NUMBER STRUCTURE - Radar Sensors



Note 1) ABM Code 200 = 20-30 Vdc
 300 = 12-30 Vdc
 400 = 115 Vac
 430 = 230 Vac

Relay Controller



Model - ABMXXX - YRCON

Applications - To control pumps and for alarms. To display tank level in % and also volume or mass using Tank Strapping Table.

FEATURES. The ABM Relay Controller provides a simple and low cost means of monitoring radar and ultrasonic level measurement devices and controlling pumps and alarms according to the level measured. The controller has one input to measure 4-20mA current from a level transducer and provide 24 VDC to a level device. Current is displayed as a percentage. There are two settings: 4mA=100% and 20mA=0% or 4mA=0% and 20mA=100%. The setting is made with a movable link on the circuit board.

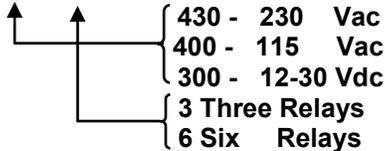
The controller has the option of Three or Six Relays as required for the application, which can be set to control pumps or alarms. The transducer current and set points, which are programmed into the controller, independently, for each relay control the relay operations.



Relay Controller
Model - #ABMXXX - 6RCON

CATALOGUE # - Ordering

#ABMXXX - YRCON -TST ← 33 Point "Tank Strapping Table"



Specification

Power: AC version 120V or 240V, 50/60Hz, 6VA
DC version 12- 30V, 0.25A

Mechanical:
Enclosure: Polycarbonate UL94-2
Ingress Protection : Nema 4X, IP66 Wall Mount

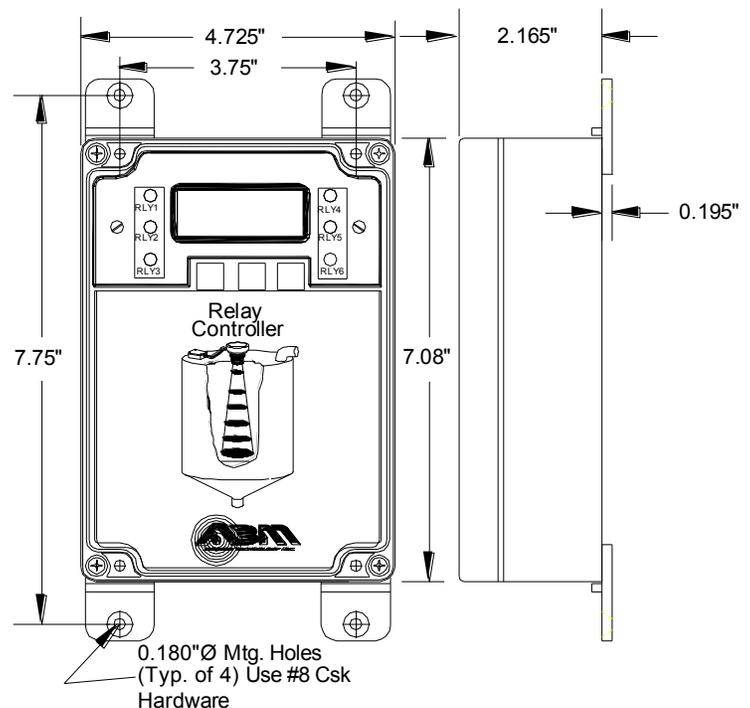
Environmental:
Temperature: - 5 to 122°F (-20 to 50°C)
Humidity : 0 to 95% Non-Condensing

Inputs:
Resistance : 10 Ohm
Current : 0 to 25mA (max. overload 70mA)

Outputs:
Display :Range +112% (21mA) to -14% (0mA)
100%= 20mA, 0%= 4mA
or 0%= 20mA, 100%= 4mA
>22mA = LOE (Loss of Echo)
DC Supply: 24V, 100mA (AC version)

Model 3RCON :Three Relays - 2 relays each with a form A normally open contact
- 1 relay with a form C contact.
Contact rating: 8A at 240 VAC non-inductive

Model 6RCON :Six Relays - 4 relays each with a form A normally open contact
- 2 relay with a form C contact.
Contact rating: 8A at 240 VAC non-inductive



Relay Controller Enclosure

OCM - Open Channel Meter



Model - ABM-OCM-2- OPEN CHANNEL METER

Applications -

OCM Controller measures liquid level and calculates, flow rate for all different types of Flumes, and Weirs. It is ideal for Water/ Wastewater due to their maintenance free nature, any build up on the Mini transducer face is being eliminated (continuously cleaned). It is also capable of operating on Liquids with foam on surface with the use of ABM Radar measuring sensor.

Benefits -

- OCM Controller's enclosure is suitable for IP65 environmental conditions.
- Self adjusting ABM sensor eliminates false echoes.
- Sensors are available in different materials to withstand any environment
- Very narrow radiation beam of sensor allows installation very close to flumes wall.
- Works at any Temperature
- No rain influence.
- No wind and temperature influence.
- ABM sensors are connected to OCM controller using RS485 in Modbus RTU protocol.

Specification

Power : AC version 120V or 240V, 50/60Hz, Max. Current : 0.2 A

Accuracy of Flow : 3 to 5%

Programming : Keypad with 6 Keys (2 x 3 matrix)

Display : 2 x 16 Digits

Mechanical :

Enclosure: ABS UL94-2
Ingress Protection : Nema 4X , IP65 Wall Mount

Environmental:

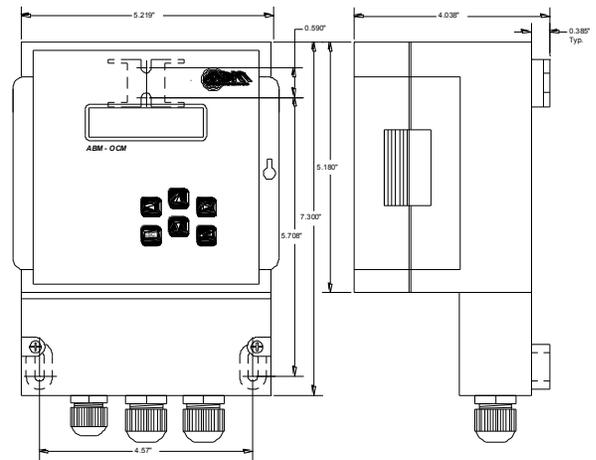
Temperature: - 40 to 140°F (- 40 to 60°C)
Humidity : 0 to 95% Non-Condensing

Outputs: 4 - 20 mA (max. load 750 Ω)

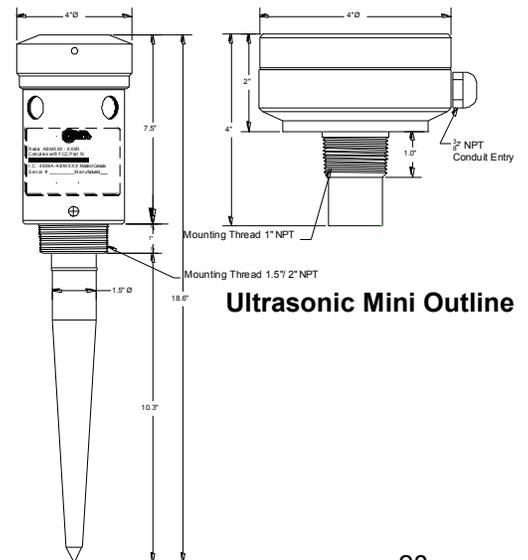
Three Relays - 2 relays Programmable each with a form A normally open contact
- 1 relay Alarm with a form C contact.
Contact rating: 5A at 240 VAC non-inductive



OCM Enclosure



OCM Enclosure Outline



Ultrasonic Mini Outline

Radar Outline

Readout Loop Powered Display



Model - LPD - PM - 02
LPD - WM - 02

Applications - To display level in %, Meters, Feet, Gallons, Liters



Model - #LPD-PM-02
Loop Powered Display - Probe Mount



Model - #LPD-WM-02
Loop Powered Display - Wall Mount

FEATURES - #LPD-XX-02 Programmable Display for Meters, Feet and User Defined Units

The ABM Display, Model LPD-XX-02 current loop powered display indicates the percentage full or empty of the tank whose level is being monitored by a sensor with a 4-20 Ma output. The display can also be calibrated in Meters, Feet or User Defined units. The display can be changed to indicate 100% at 4mA or 20mA by simply moving an internal link. The display is packaged in a compact NEMA 4X enclosure which can be wall mounted or probe mounted.

Catalogue #LPD-XX-02

↑
 WM - wall mount
 PM - probe mount

Specification:

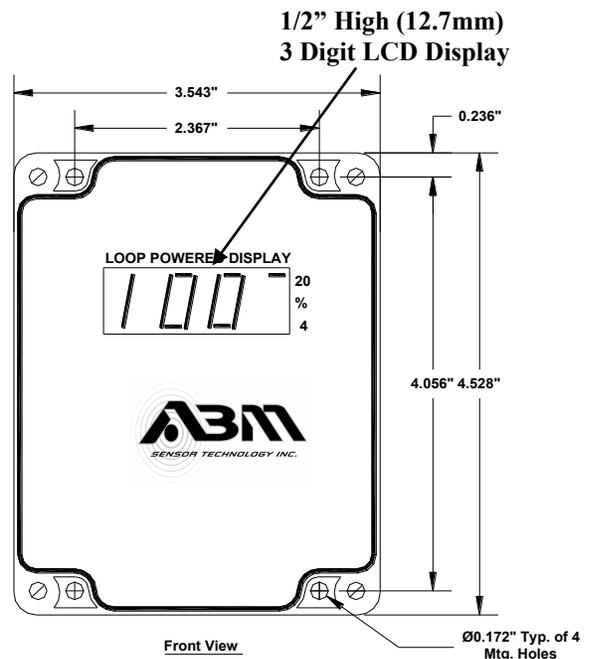
- Display** : - 4 1/2 Digit LCD 1/2"(12.7mm) High
- Temperature**: - 40 to 140°F (-40 to 60°C)
- Voltage Drop**: 0.95V @ 20mA
- Accuracy** : Reading +/-0.5%
- Humidity** : 0 - 95% Non-Condensing
- Range** : 3.5 mA to 22mA
- Maximum current**: 150 mA
- Display Range** :
 - Normal** : 100% @ 20mA - 3% to + 112%
 - 0% @ 4mA
 - Reverse** : 100% @ 4mA - 12% to +113%
 - 0% @ 20mA
 - 22mA and above = LOE (Loss of Echo)

Mechanical:

- Enclosure** : Polycarbonate UL94-2
- Ingress Protection**: Nema 4X, IP66 Wall Mount

Refer to Catalogue Number above for ordering Information.

Enclosure Outline:



Level Measurement Sensors Mounting Peripherals



Flange Mounted Ball Aimer



1\" - 3/4\" & 1\" - 1/2\" NPT
Mounting Adaptor

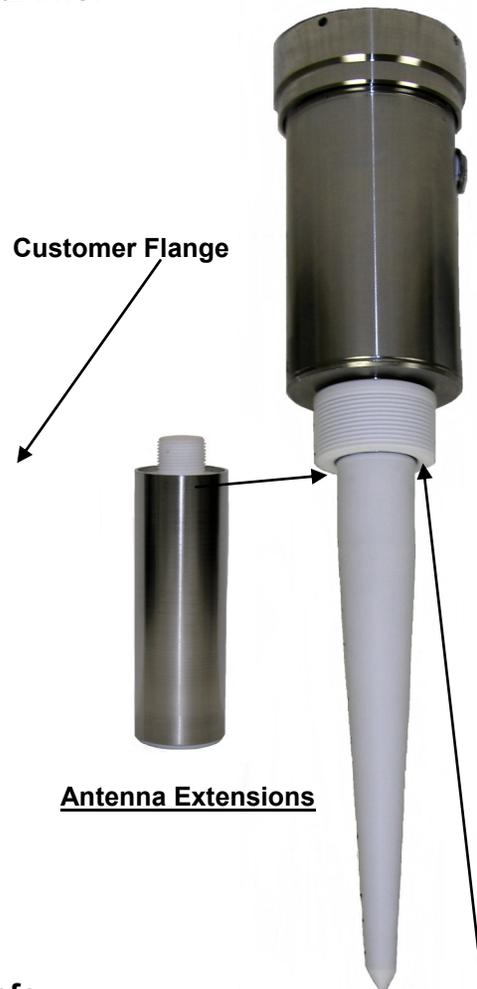


PVC Thread on Flanges

Ultrasonic Sensors - Refer to page 31 for Dimensional info.



S.S. Flanges & S.S. Horns



Antenna Extensions

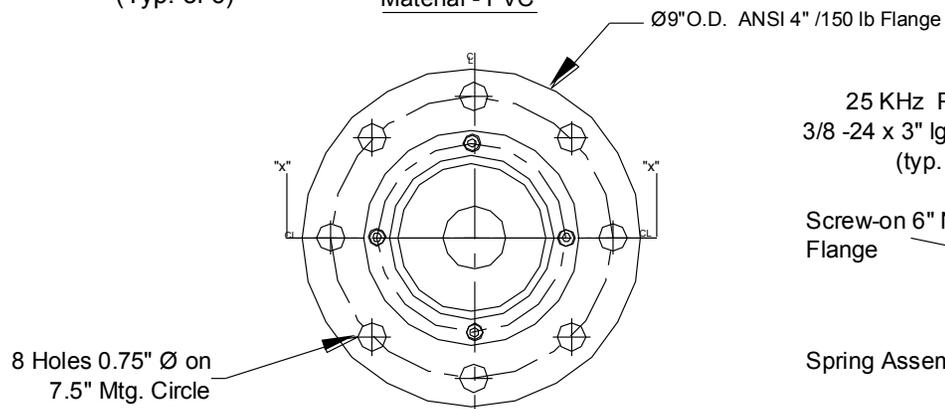
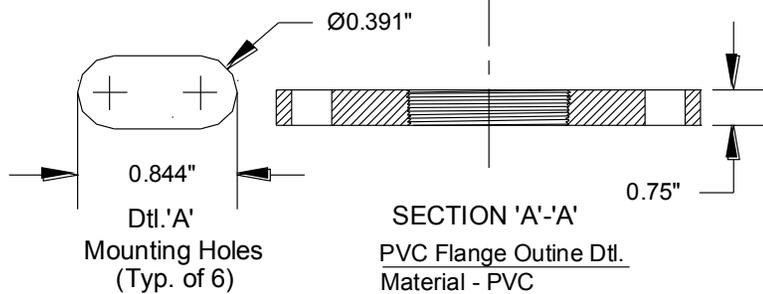
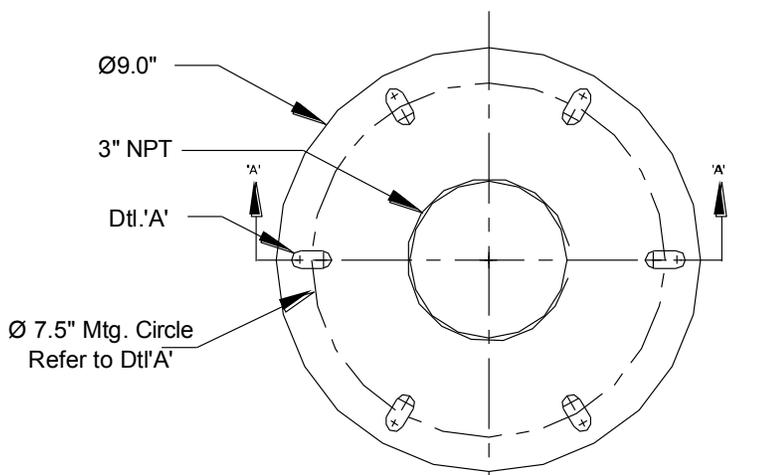
Radar Sensors - Refer to page 32 for Dimensional info.

High Temperature Mounting Adaptor

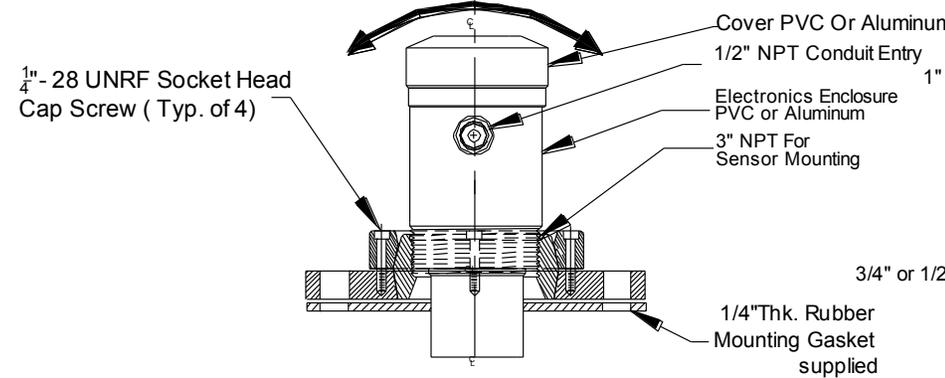
3 / 4 Wire Ultrasonic Transmitters and ABM Aimer Dimensional Dtl .



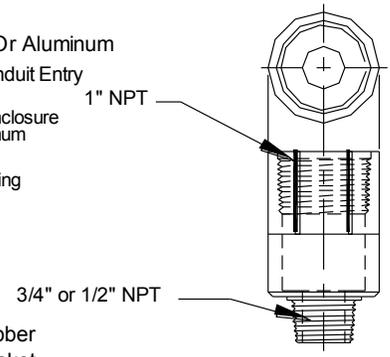
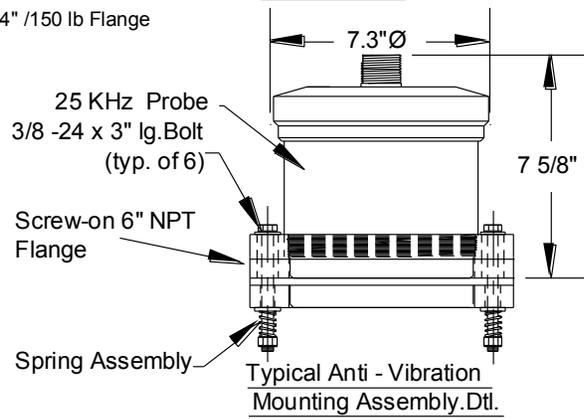
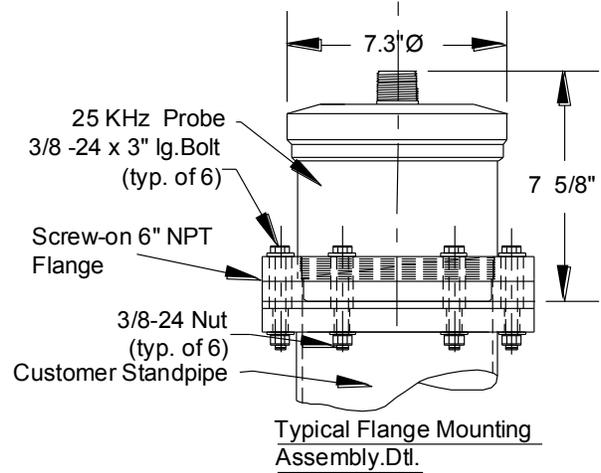
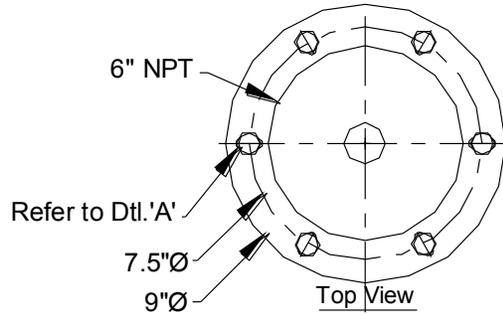
730 The Kingsway Peterborough , Ont. K9J6W6 Canada
 Tel. (705) 740 - 2010 Web: www.abmsensor.com
 Fax.(705) 740 - 2563 E-mail: info@abmsensor.com



Aim As Required



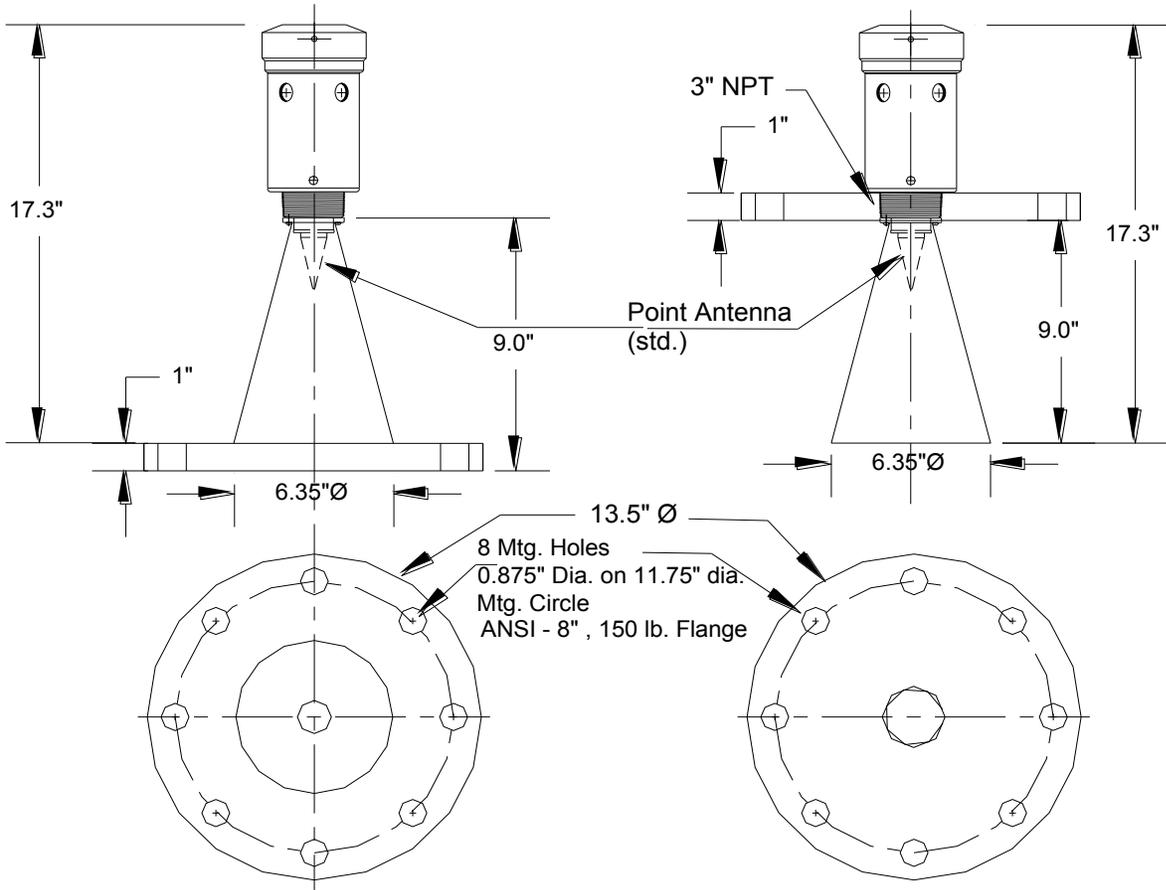
Section 'X'-'X' ABM Aimer Flange Mount
 Maximum Angle 15° Off Perpenpicular



148 KHz Probe Mounting
 Adaptor Outline Dtl.

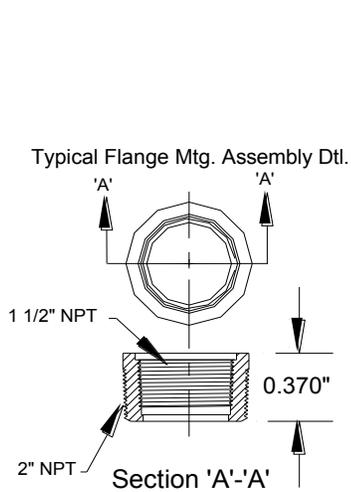
10A998P1

Radar Sensors Mounting Peripherals

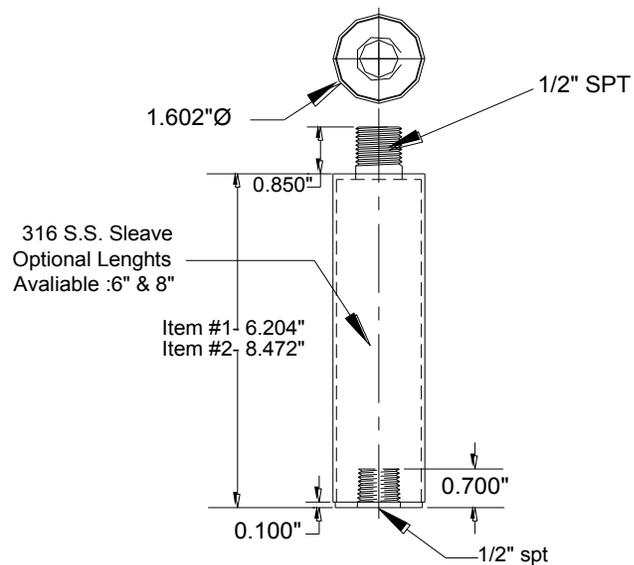


Radar Flange Mounted External Horn

Radar Flange Mounted Internal Horn



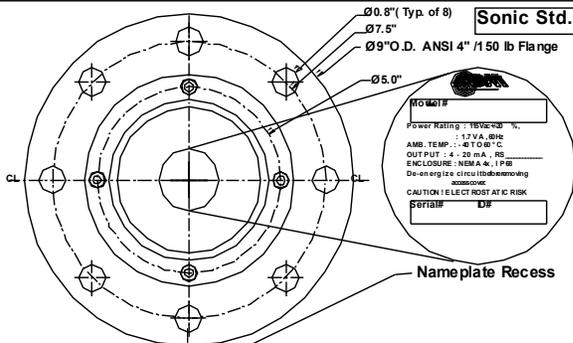
High Temperature Mounting Adaptor



Antenna Extension

New Product

ABM Aimer Outline Dimensional Dtl. for Sonic & Radar Sensors



Sonic Std. c/w Aimer

Sonic Sensor or Radar Sensor

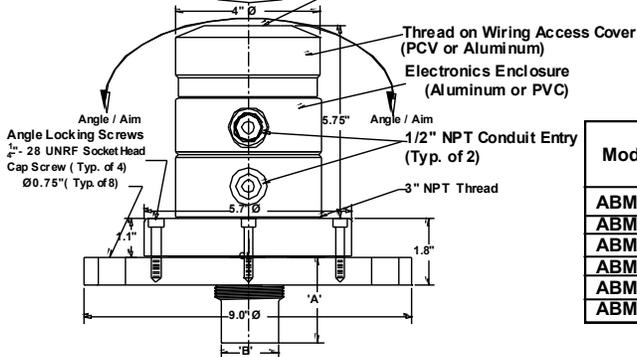
ABM Aimer



ABM Aimer

Power Rating : 16Vdc @ 0.5%
 : 12Vdc @ 0.5%
 AMB. TEMP. : 40 TO 100° C
 OUTPUT : 4 - 20 mA, RS
 ENCLOSURE : NEMA 4, IP65
 De-energize circuit before servicing
 CAUTION: SELECT ROSET AT RISK
 SERIAL#

Nameplate Recess



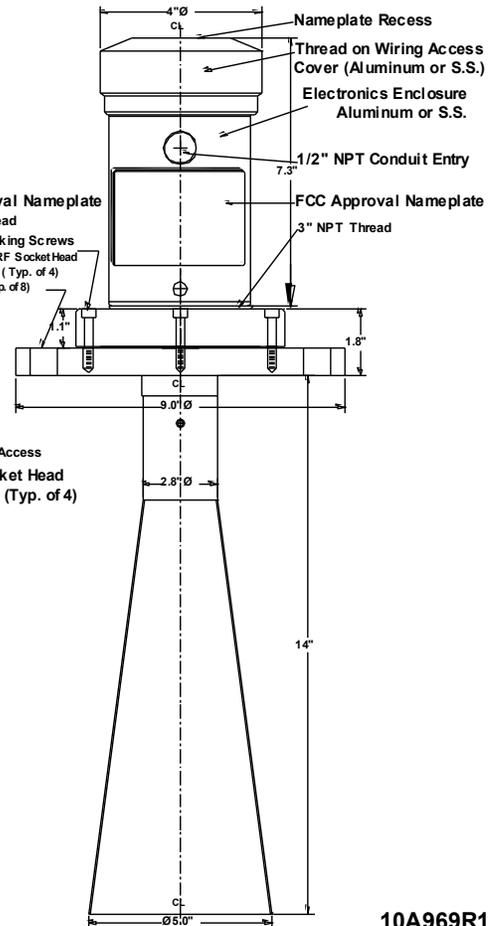
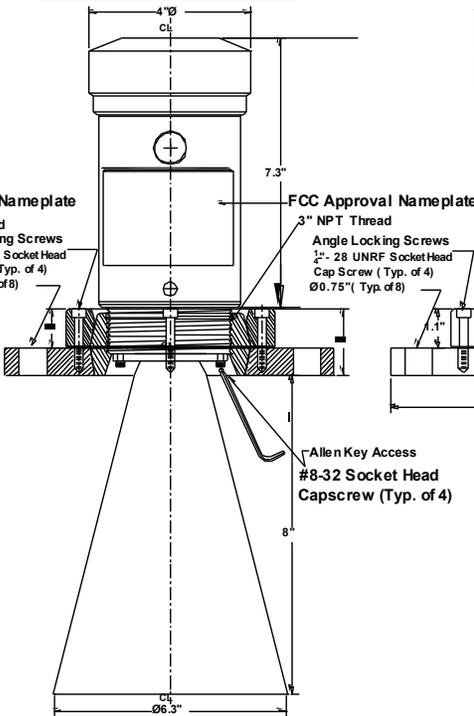
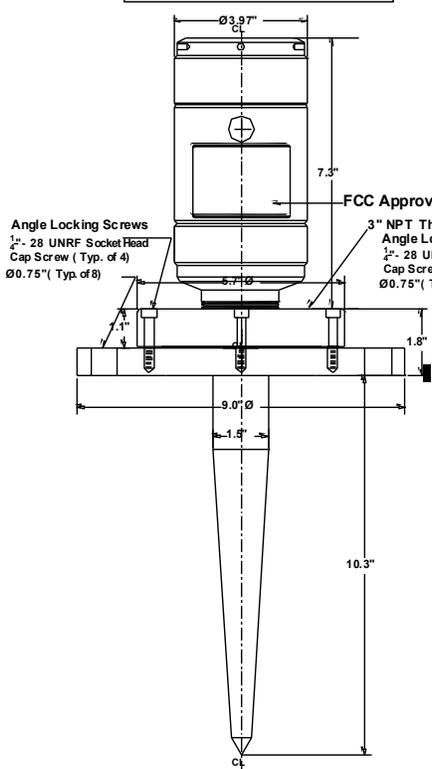
Model #	Operating Range	Operating Freq.	Dimension 'A'	Dimension 'B'
ABM_00-045UL	60'(18.2m)	45 KHz	3.0"(76.2mm)	3.0"(76.2mm)
ABM_00-052UL	50'(15.2m)	52 KHz	3.05"(77.5mm)	2.2"(55.9mm)
ABM_00-070UL	30'(9.1m)	70KHz	2.25"(57.2mm)	1.8"(45.7mm)
ABM_00-080UL	20'(6.1m)	80KHz	2.25"(57.2mm)	1.8"(45.7mm)
ABM_00-081UL	16'(4.9m)	81KHz	2.1"(53.3mm)	1.5"(38.1mm)
ABM_00-148UL	9'(2.7m)	148KHz	2.0"(50.8mm)	1.1"(27.9mm)

Sonic Sensors Outline Dimension's

Radar Exp. 5 GHz/6.3 GHz c/w Antenna & Aimer

Radar Std. 5 GHz/6.3 GHz c/w Horn & Aimer

Radar Std. 26 GHz c/w Horn & Aimer



10A969R1