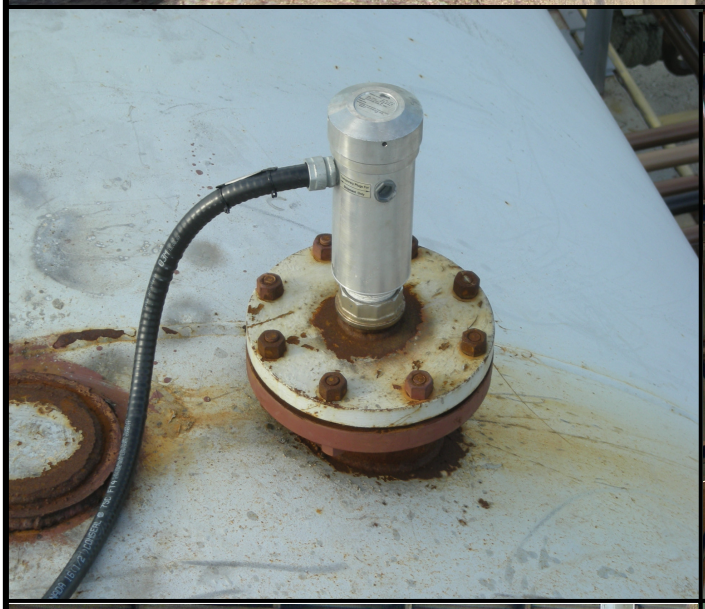
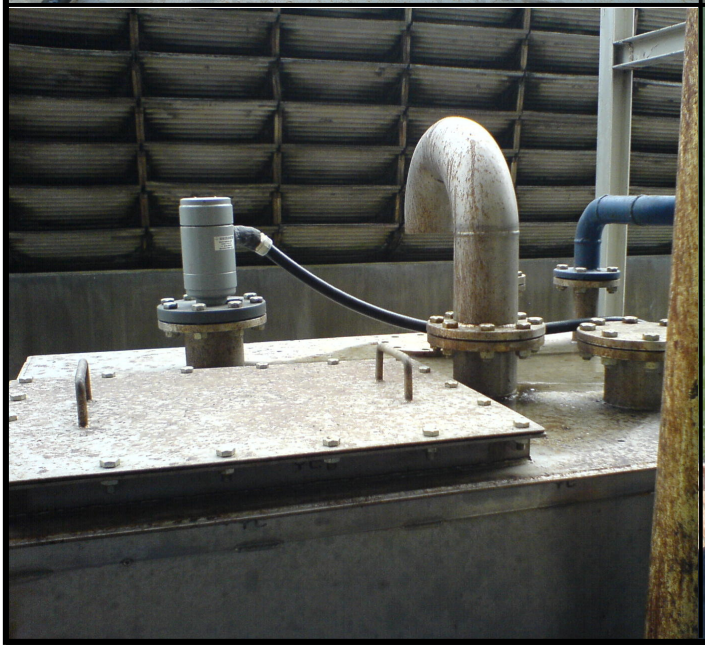
Product Catalogue





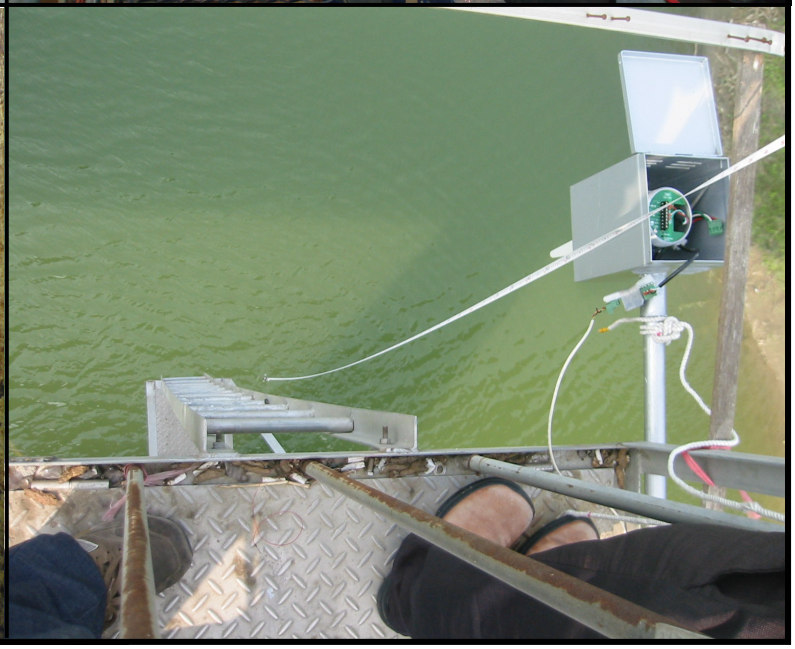


TABLE OF CONTENTS

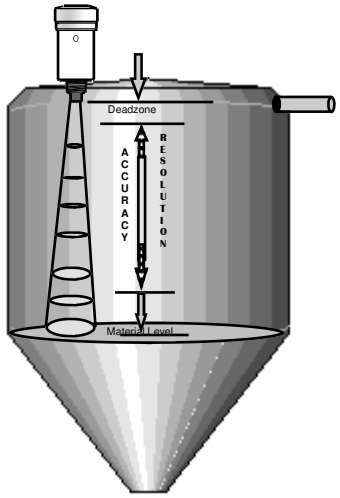
Ultrasonic Non Contact Sensors

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

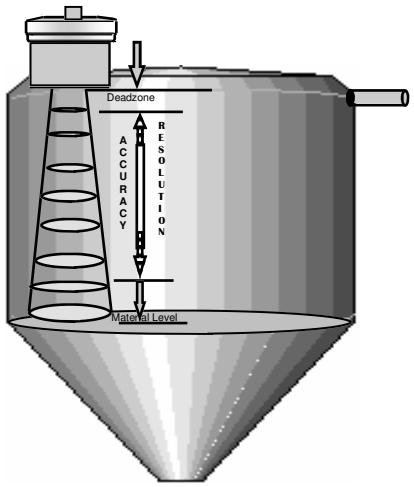
To monitor Solid material; the lower operating frequency helps to penetrate dusty atmosphere found in solids level storage vessels, tanks & bins. They are usually larger in size and require the larger and more powerful Transducers for reliable measurement.

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.

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 **Note - Sanitary Ferrule Mtg. Is available for all except 052**	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
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  Bulk Solids in Large containers -Sensor Frequency 025 KHz Sensor	Sensor 025 KHz : 100 ft (30 m)	6.0 " / 1.0" NPT	PVC : - 40 -140 °F (-40 to 60°C)	PVC Max. 2 bar
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 " "

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 (continously 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 involvment.

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 avaliable 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.

Mini Sensor 2 Wire Sensor 3/4 Wire Sensor

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

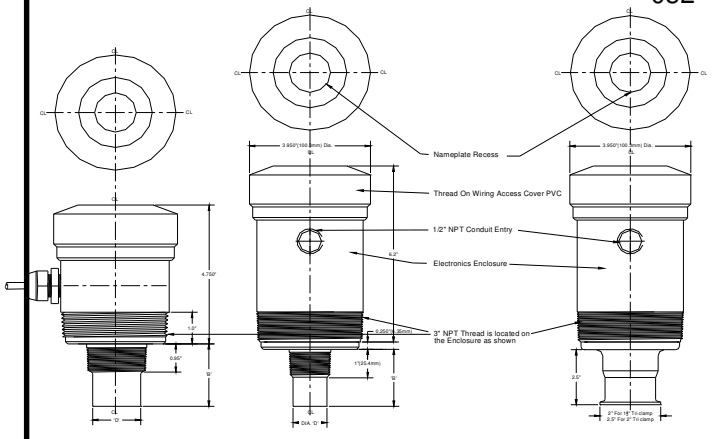
Operating Frequency:
YYY = 148 — 148 KHz
080 — 80 KHz
081 — 81 KHz
070 — 70 KHz
052 — 52 KHz

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



2 Wire Std. Mtg. 3/4 Wire Std. Mtg. Sensor 3/4 Wire Sanitary Sensor

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 (continously 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 involvment.

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.

Mini Sanitary Sensor

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

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:

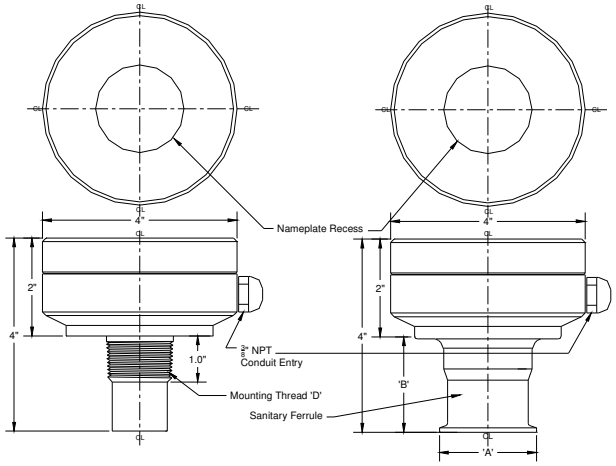
C = C4 - RS485

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℃ to 130℃)
- Very short blanking.
- TEFLON, PVC transducer materials.
- No influence of mounting and tank's walls (self adjusting mode).

Technical data -

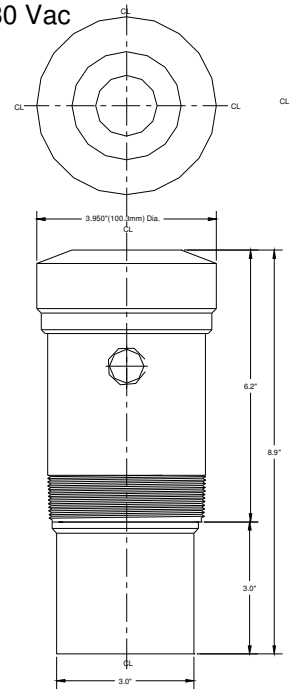
Measuring Range : 1.0 to 60 Ft (0.3 to 18.2 m)
Temperature : PVC - 40 to 140℉ (-40 to 60℃),
TEFLON - 40 to 266℉ (-40 to 130℃)
Pressure Rating : 1 to 2 bar Std.Sensor
Mounting Thread : 3" NPT Male Thread

45 KHz 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 = 045 — 45 KHz



2/3/4 Wire 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

25 KHz Sensor

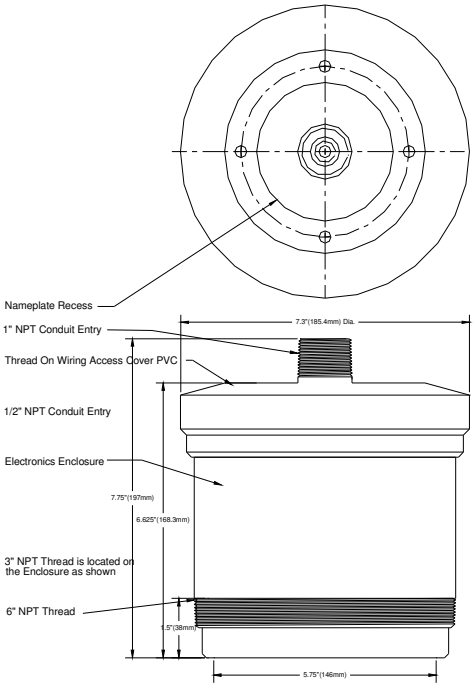
Catalogue # Ordering -

Supply Voltage:

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

Operating Frequency:

YYY = 025 — 25 KHz



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

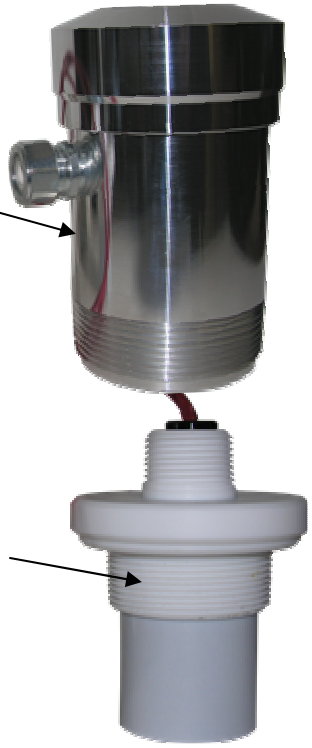
Sensor Material:

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 avaliable 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 amd 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

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

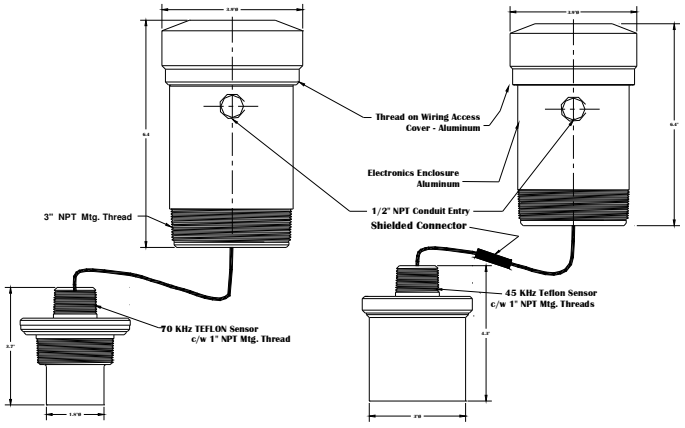
Operating Mode:
V = UL - Ultrasonic Sensor

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

3/4 Wire Sanitary Sensor

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 (continously 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 involvment.

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 HighPressure Sensor
Mounting :	1 1/2 " or 2" Tri –Clamp

Mini Sanitary Sensor

Catalogue # Ordering -

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

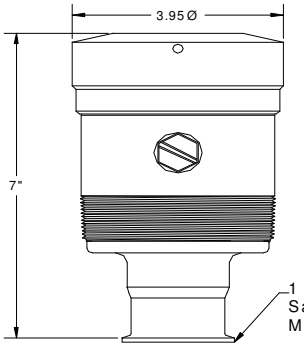
Operating Frequency:
YYY = 148 — 148 KHz
081 — 81 KHz
080 — 80 KHz
070 — 70 KHz

Operating Mode:
U = UL - Ultrasonic Sensor
UM - Mini Sensor

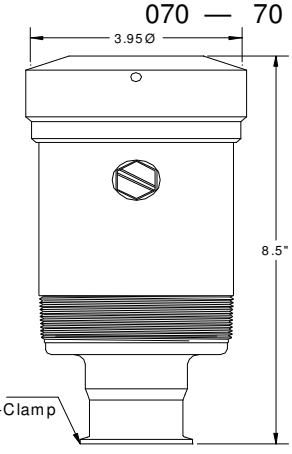
Communication:
C = C4 - RS485
C3 - RS232
CH - HART
C0 - No Communications

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



2 Wire Sanitary Sensor



3/4 Wire Sanitary Sensor

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-missmatch) 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 propogates 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:

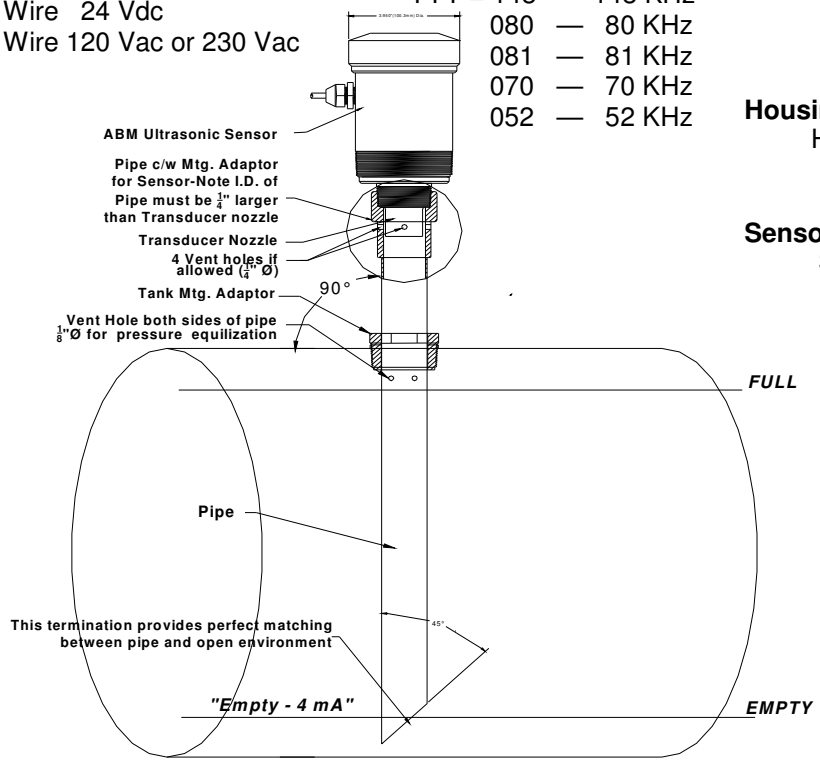
C = C4 - RS485
C2 - RS232
CH - Hart (2 Wire only)
C0 - No Communications

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

CATALOGUE NUMBER STRUCTURE - Ultrasonic Sensors

ABM	1) XXX	2) -XXX	3) YY	4) CX	5) - XX	6) YYY	- IP68	7) - XXXX	8) - Pipe

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.

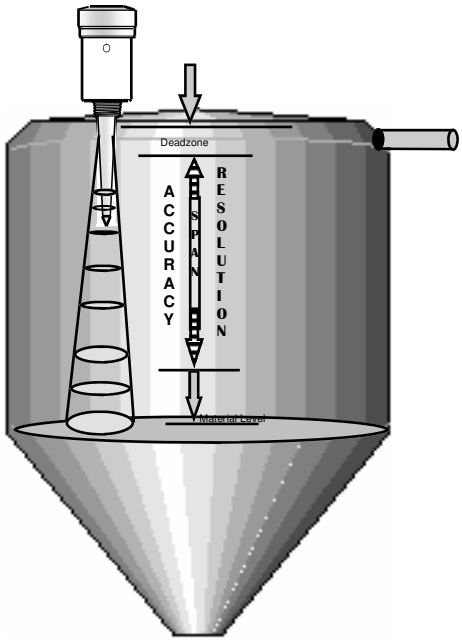
Note 1) ABM Code 200 = 12-28 Vdc
300 = 12-30 Vdc
400 = 115 Vac
430 = 230 Vac

*** 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 ($\varepsilon r < 10$), 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 - Page16

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

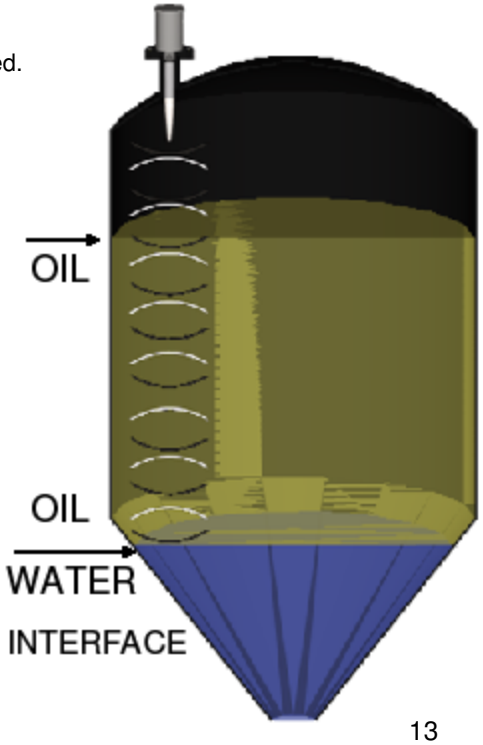
The Dual Frequency Radar is used to monitor levels of rivers and seas. The radar works even in dry seasons when there is no water in riverbeds.

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℃) 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 with-stand 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)	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)	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

Radar Non Contact Sensors
For Liquid Applications

Model - ABMXXX - YYYRC - 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 involvment.

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 avaliable 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.

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

Technical data -
Measuring Range : 0.9 to 240 Ft (0.27 to 73 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:
XXX = 2 Wire 20-35 Vdc
3 Wire 12-30 Vdc
4 Wire 120 Vac or 230 Vac

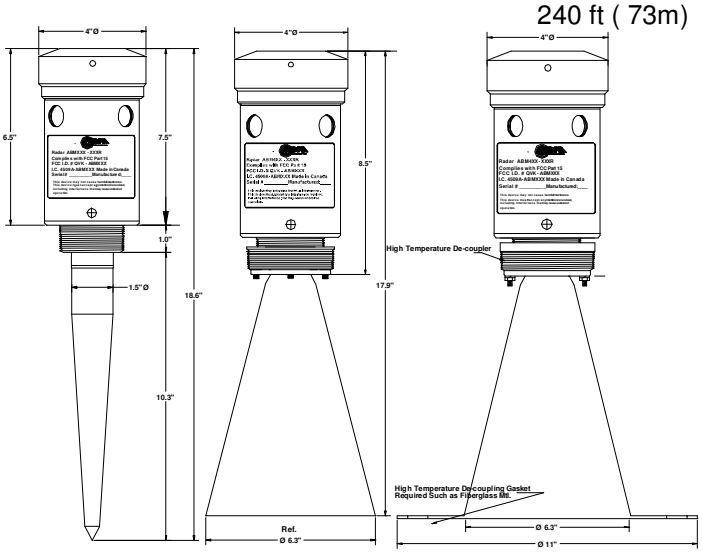
Maximum Range:
YYY = 017 ft (5m)
033 ft (10m)
050 ft (15m)
100 ft (30m)
140 ft (42m)
240 ft (73m)

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

Radar Non Contact Sensors
For Solids Applications

Model - ABMXXX - YYYRC - H A – SOLIDS

Applications -
Solid materials such as cement, coal, sand and plastics (powder, pellets)

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.
- Antenna build-up is automatically compensated to eliminate its effects.
- Enclosures are avaliable in different materials to withstand any environment
- Very narrow radiation beam which allows installation very close to tank's wall.
- Works at any Temperature
- Fit to any Mounting requirements

Technical data -
Measuring Range : 0.9 to 240 Ft (0.27 to 73 m)
Temperature : - 40 to 140°F (-40 to 60 °C) S.S. 316 Horn
Pressure Rating : 5 bar for all Radar except 2 bar for Sanitary Radar
Mounting Thread : 3" NPT Male Thread (Horn only)
Radar Horn antennas: HR6 - 6.3 GHz
HR5 - 5.8 GHz
Dual Frequency : 6.3 GHz and 26 GHz
Single Frequency : 26 GHz

Radar Std. Horn Radar Std. Exp.

Catalogue # Ordering -

Supply Voltage:
XXX = 2 Wire 20-35 Vdc
3 Wire 12-30 Vdc
4 Wire 120 Vac or 230 Vac

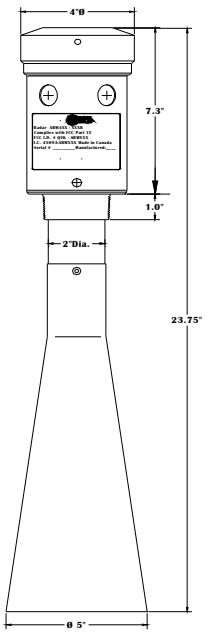
Maximum Range:
YYY = 017 ft (5m)
033 ft (10m)
050 ft (15m)
100 ft (30m)
140 ft (42m)
240 ft (73m)

Operating Frequency:
R = R6 R2, 6.3 GHz/26 GHz
R2 26 GHz
R5 5.8 GHz

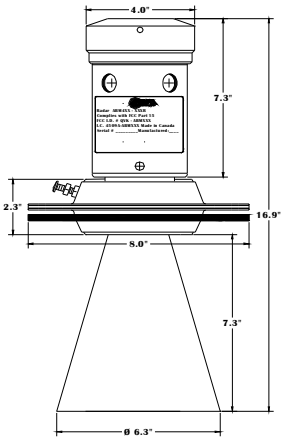
Communications: C = 4 - RS485
2 - RS232
H - Hart

Housing Material:
H = AL — Aluminum Enclosure Housing
SS — SS316L Enclosure Housing

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



Radar 26 GHz c/w 5" Horn



Radar Dual Freq. c/w Aimer /6"

Radar Non Contact Sensors
For River and Sea Water Level Measurement

Model - ABMXXX - YYYRC - H A - Solar Panel

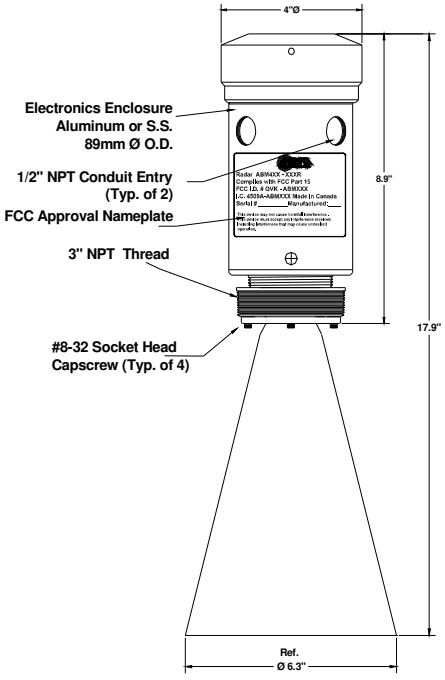
Applications -
Dual frequency radar is used to measure level of rivers and sea waters, and also for water control.

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 240 Ft (0.27 to 73 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 20-35 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)

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

Radar 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 -

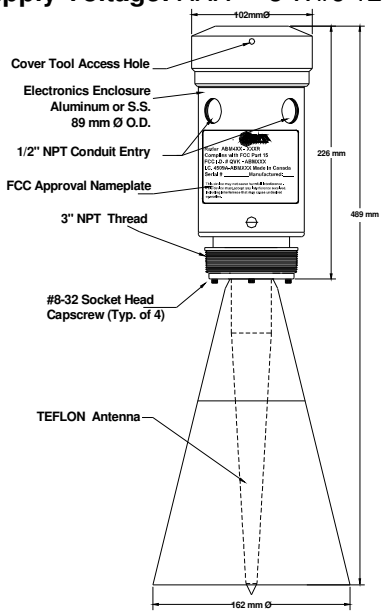
- Enclosures are suitable for IP68 environmental conditions.
- Approved for Hazardous Environmments.
- Non - contact method, it doesn't require any maintenance as in the case of contact methods (build-up on sensing elements).

Technical data -

Measuring Range : 0.9 to 100 Ft (0.27 to 30 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



Radar 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)

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℃
Note: above 200℃ 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
3 Wire 12-30 Vdc
4 Wire 120 Vac or 230 Vac

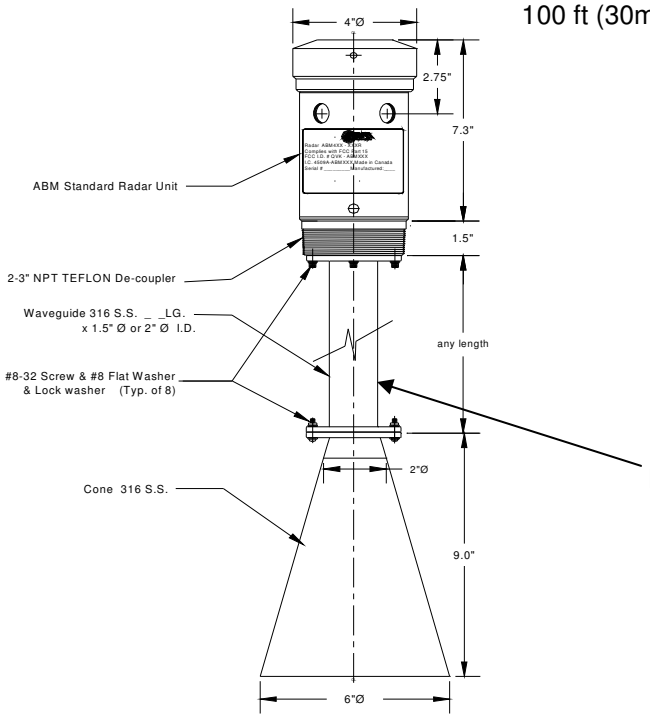
Maximum Range:
YYY = 017 ft (5m)
033 ft (10m)
050 ft (15m)
100 ft (30m)

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

Antenna:
A = HT6 — SS316L 6.3 GHz 6” Horn
HT6-BF—Very High Temp. Radar, 6” SS316L horn with 6” ANSI bottom flange, and High Temp. de-coupling gasket required



Note – Models with Straight or Bent pipe are available

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

Radar 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 involvment.

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 avaliable in different materials to withstand any environment
- Very narrow radiation beam which allows installation very close to tank's wall.
- Works at any Temperature

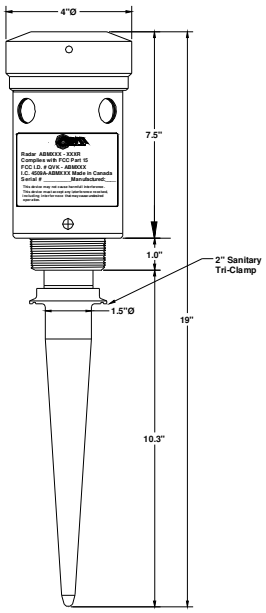
Technical data -

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 Intregral Antenna
Radar Frequency : 5.8 GHz and 6.3 GHz

Catalogue # Ordering -

Supply Voltage:

XXX = 2 Wire 20-35 Vdc
3 Wire 12-30 Vdc
4 Wire 120 Vac or 230 Vac



Radar C/W Sanitary 2" Antenna

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

Radar Non Contact Sensors
For Explosion Proof Applications

Model - ABMXXX - YYYRC - H A – EXP

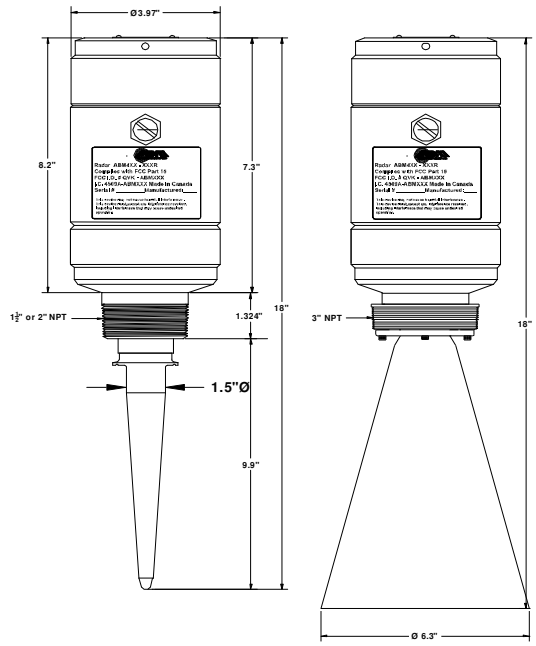
Applications -
This is the non-contact radar used for Liquids with vapours and gases and also solids with dust that rquires EXP. Certification.

Benefits -
- Enclosures are suitable for IP68 environmental conditions.
- Approved for Hazardous Class I, Div. 1 Environmments.
- 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 avaliable in different materials to withstand any environment
- Very narrow radiation beam which allows installation very close to tank's wall.
- Works at any Temperature

Radar c/w Thermal De-coupler

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

Catalogue # Ordering -
Supply Voltage: XXX = 2 Wire 20-35 Vdc
3 Wire 12-30 Vdc



Radar Exp. **Radar Exp. c/w 6"Horn**

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

Radar Non Contact Sensors
For Crane anti- collision system

Model - ABMXXX - YYYRC - 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 ouputs or RS485 communictions ports.

Standard 6 GHz Radar

26 GHz Radar

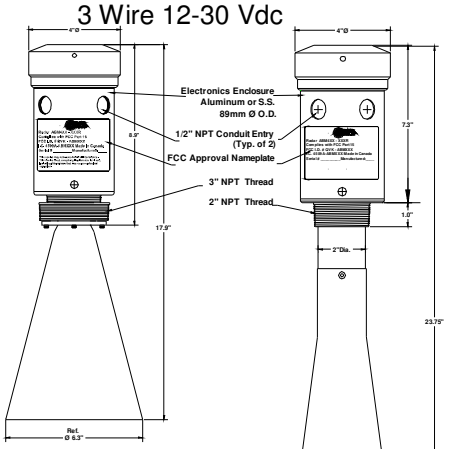
Benefits -
- Enclosures are suitable for IP68 environmental conditions.
- Self cleaning due to its non contact measuring operation.
- One echo system from wanted target. No list of hundreds of parameters to be downloaded.
- No wind, no rain, no snow influence.
- Extremely short blanking.

Technical data -

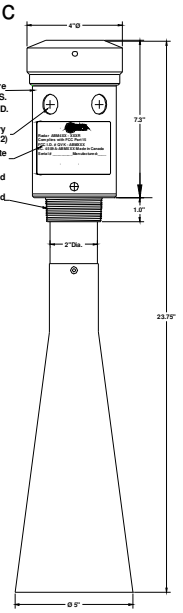
Measuring Range :	0.9 to 240 Ft (0.27 to 73 m)
Temperature : PP Rod	- 40 to 140°F (- 40 to 60°C) Horn
De-coupler & Teflon :	- 40 to 400°F (- 40 to 204°C) Antenna Material
Pressure Rating :	5 bar (without De-coupler)
Mounting Thread :	3" NPT with Horn Antenna
Radar Frequency :	Radar #1– 6.3 GHz, Radar #2 - 26GHz

Catalogue # Ordering -

Supply Voltage: XXX = 2 Wire 20-35 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)

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. Mearsurment of waves profiles is a very critical paramter to do saving on fuel.

Benefits -

- Reduce fuel costs and emissions of CO2 and other harmfull 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 240 Ft (0.3 to 73 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:

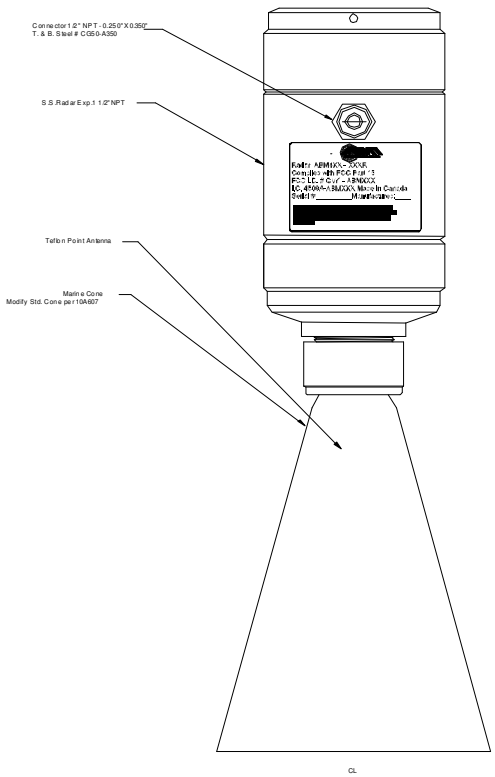
YYY = 017 ft (5m)
033 ft (10m)
050 ft (15m)
100 ft (30m)
140ft (43m)
240ft (73m)

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

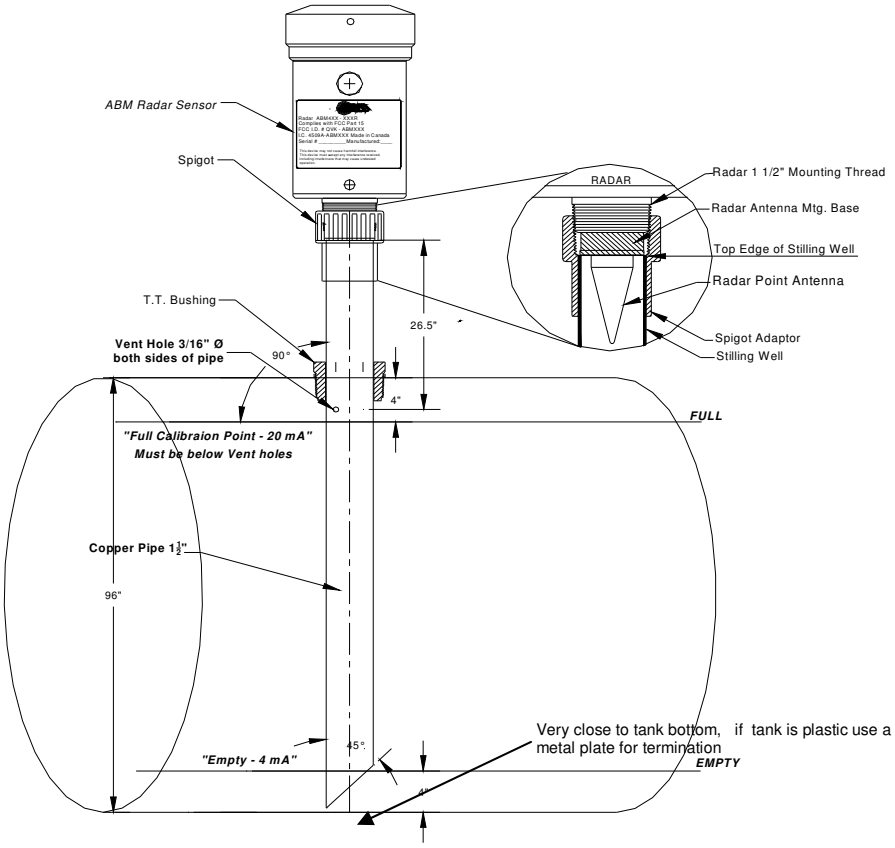
Maximum Range:
YYY = 8 ft (2.4m)

Operating Frequency:
R = R6 6.3 GHz
R5 5.8 GHz

Communications: C = 4 - RS485
2 - RS232
H - Hart

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

Antenna :
A = ATL TEFLON Launcher Antenna

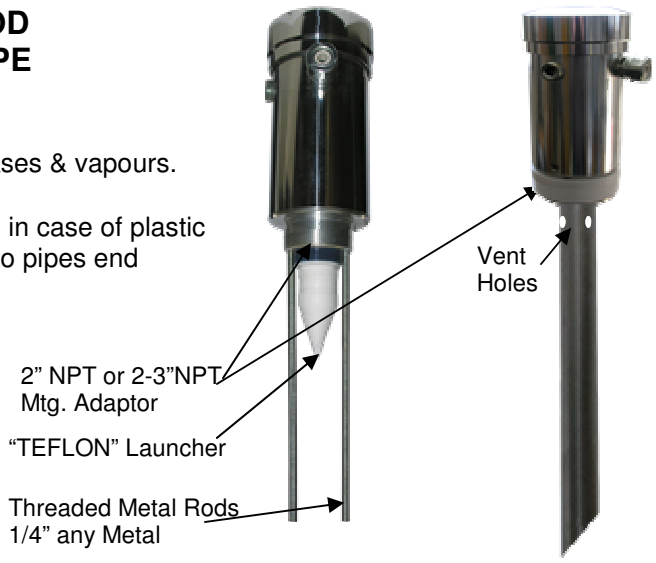


Radar Storage Tank Stilling Well Installation

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 lquids 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)



Radar c/w Threaded Rod Guide **Radar c/w Pipe Guide**

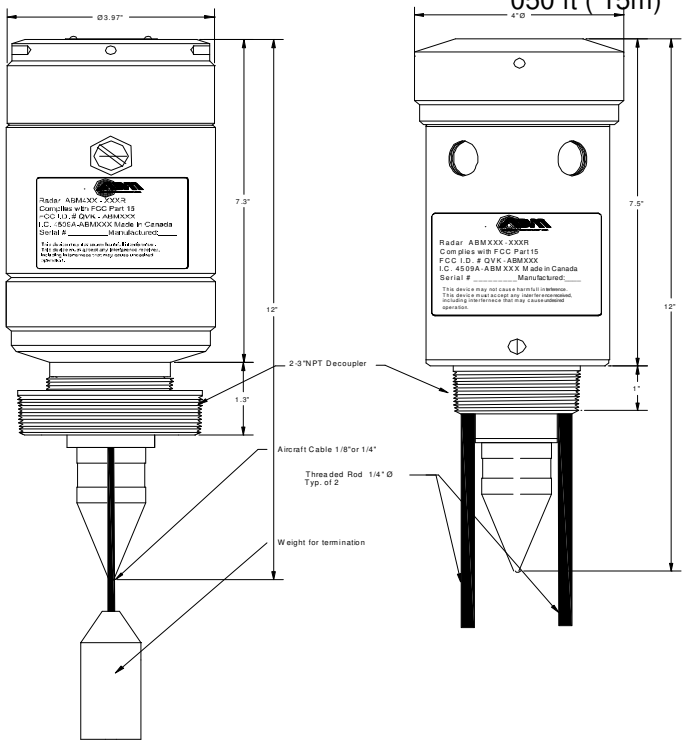
Benefits -
- Enclosures are suitable for IP68 environmental conditions.
- ABM non-contact radar can be used as guided wave radar along wire, rods or inside metal pipes.
- Self adjustment of power and sensitivity is still applied.

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 20-35 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)



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

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

CATALOGUE NUMBER STRUCTURE - Radar Sensors

ABM	1) XXX	2) -XXX	3) YY	4) CX	5) -XX	6) YYY	- IP68	- XXXX	8) - XXX	9) - XXXX	10) - xxxxx

1) Supply Voltage - 200/300/400/430 (Note #1)

2) Range - 017/033/050/100/140/240 (Feet)

3) Radar Frequency - R6(6.3) /R5(5.8)/R2(26) GHz
R6R2(6.3 and 2 GHz)

4) Communications - 4 (RS485)/ 2 (RS232)/ 0 (None)/ H (Hart - 2 Wire only)

5) Body Material - AL (Aluminum)/AN (Anodized Al.)/SS (316 S.S.)

6) Antenna Material - APP (Polypropylene)/ ATE (Teflon)/ S20 (2" Tri- clamp Mtg.)/
HR4 (6 &26 GHz)/ HR5 (26 GHz Ext.)/ HR6 (6 GHz)

X) Ingress Protection - IP68 for Submersible

7) Antenna Options - ATL (1.5" Ant. Ext.)/ AE6 (6" Ant. Ext.)/ AE8 (8" Ant. Ext.)

8) Explosion Proof - EXP Hazardous Environment Class I, Div. I Groups B, C & D.

9) Mounting Options - AIM3 (8" O.D. 3" NPT Mtg. Hole)

10) Rod, Cable, Pipe

Note 1) ABM Code 200 = 16-30 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.

Relay Controller
Model - #ABMXXX – 6RCON

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.

CATALOGUE # - Ordering

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

- **430 - 230 Vac**
- **400 - 115 Vac**
- **300 - 12-30 Vdc**
- **3 Three Relays**
- **6 Six Relays**

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

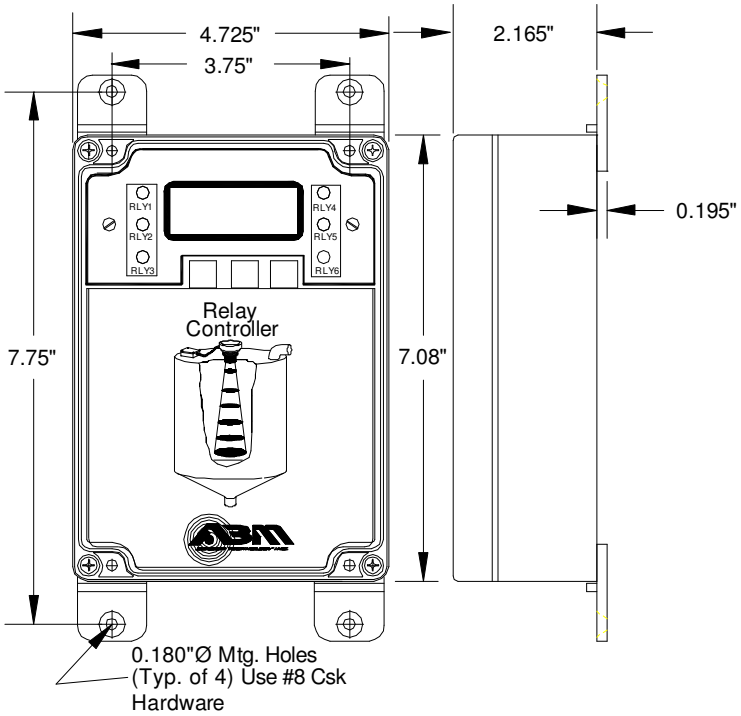
Environmental:
Temperature: - 5 to 122°F (-20 to 50°C)
Humidity : 0 to 95% Non-Condensing

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

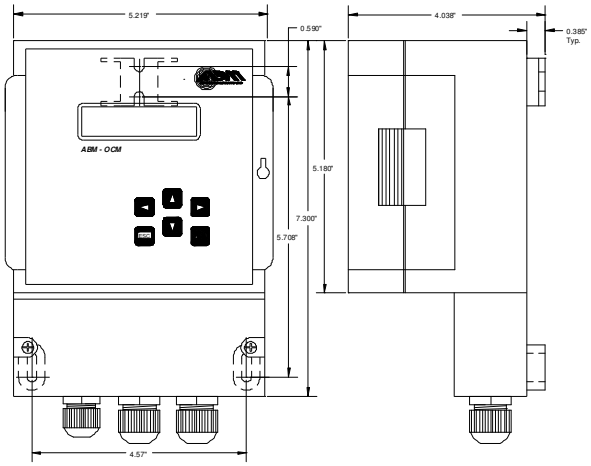
OCM Enclosure

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 (continously 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 avaliable 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.



OCM Enclosure Outline

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)

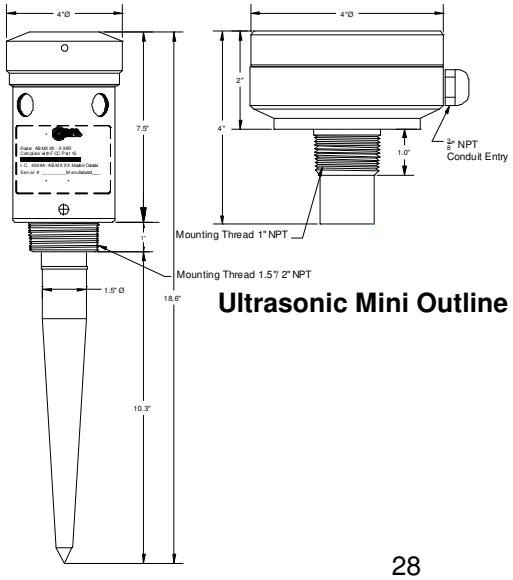
Display : 2 x 16 Digits

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

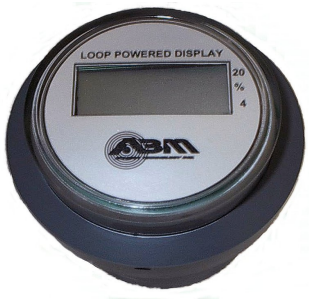


Ultrasonic Mini Outline

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-XM-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

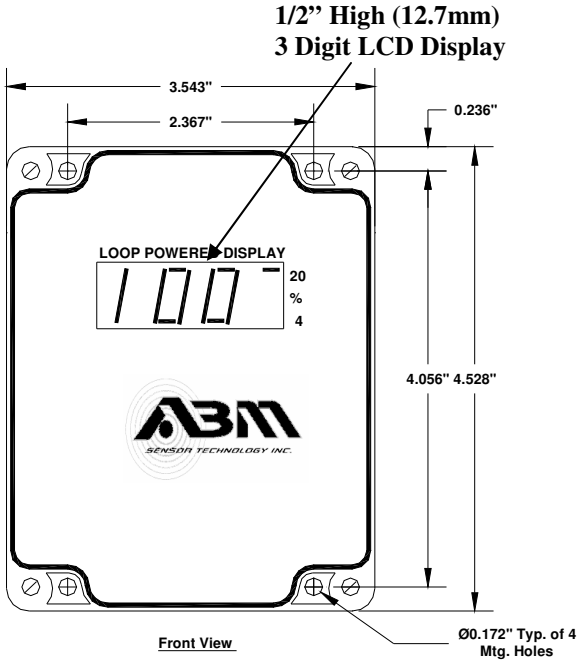
Maximum current: 150 mA
Display Range :
Normal : 100%@ 20mA - 3% to + 112%
0%@ 4mA

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.

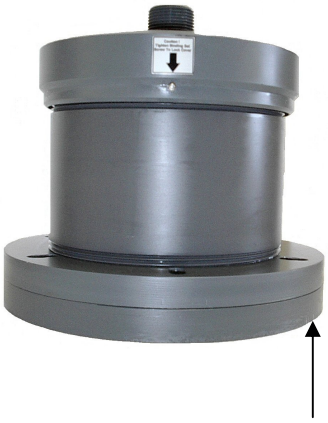
Enclosure Outline:



Level Measurement Sensors
Mounting Peripherals

Flange Mounted Ball Aimer

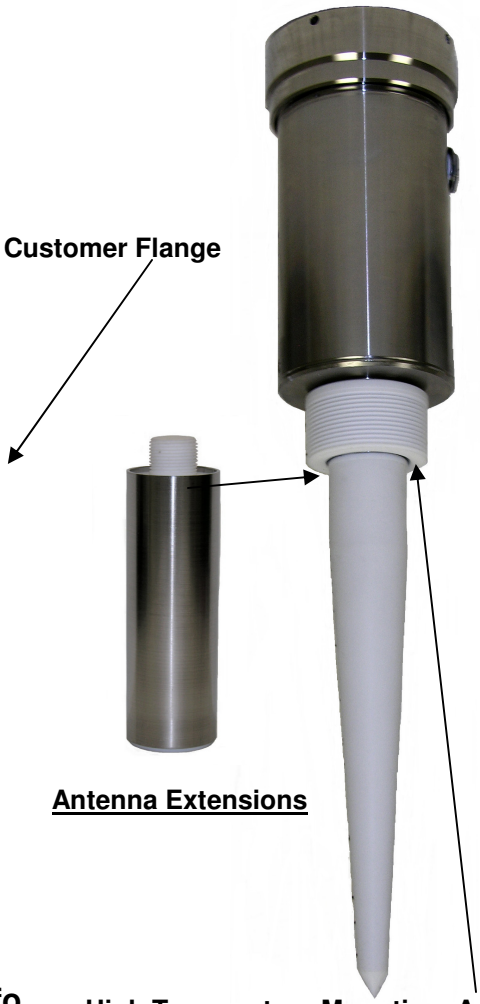
1”- 3/4” & 1” -1/2” NPT
Mounting Adaptor



PVC Thread on Flanges

Ultrasonic Sensors - Refer to page 28 for Dimensional info.

S.S. Flanges & S.S. Horns

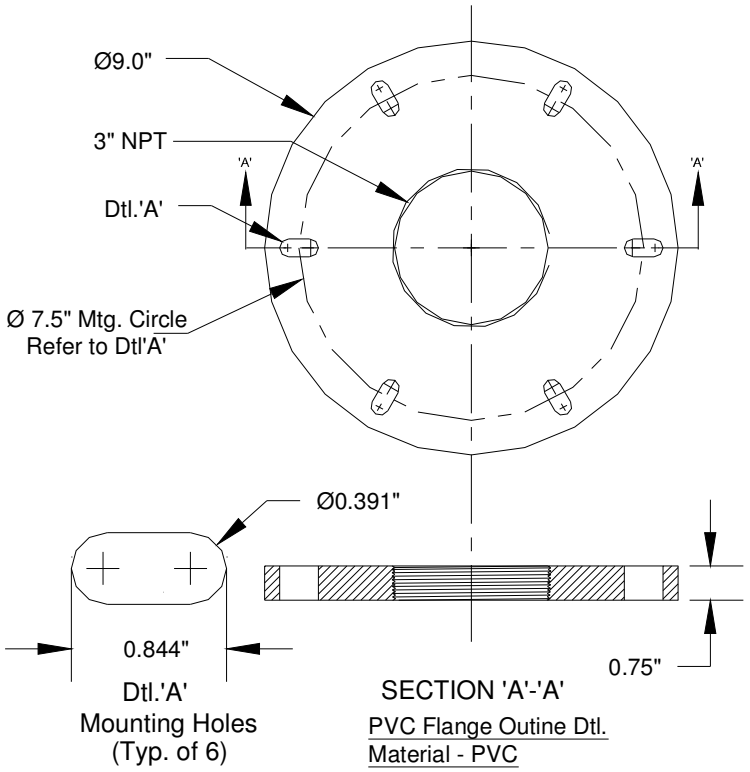


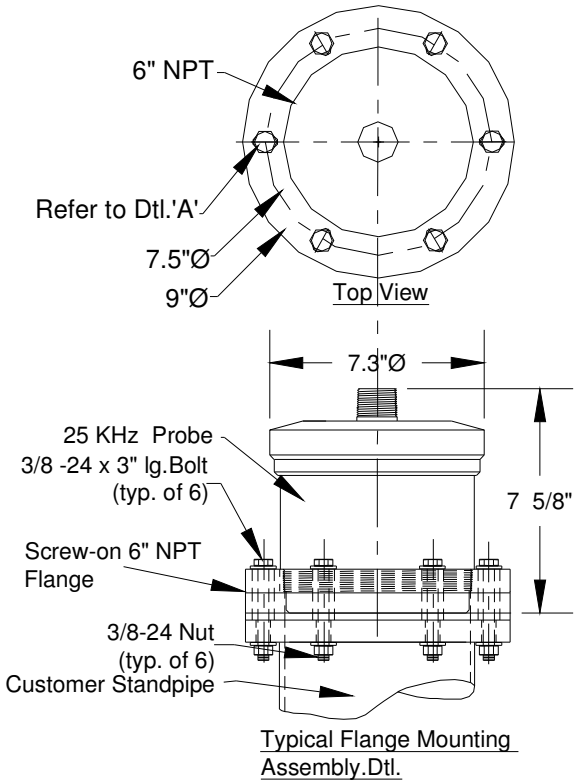
Antenna Extensions

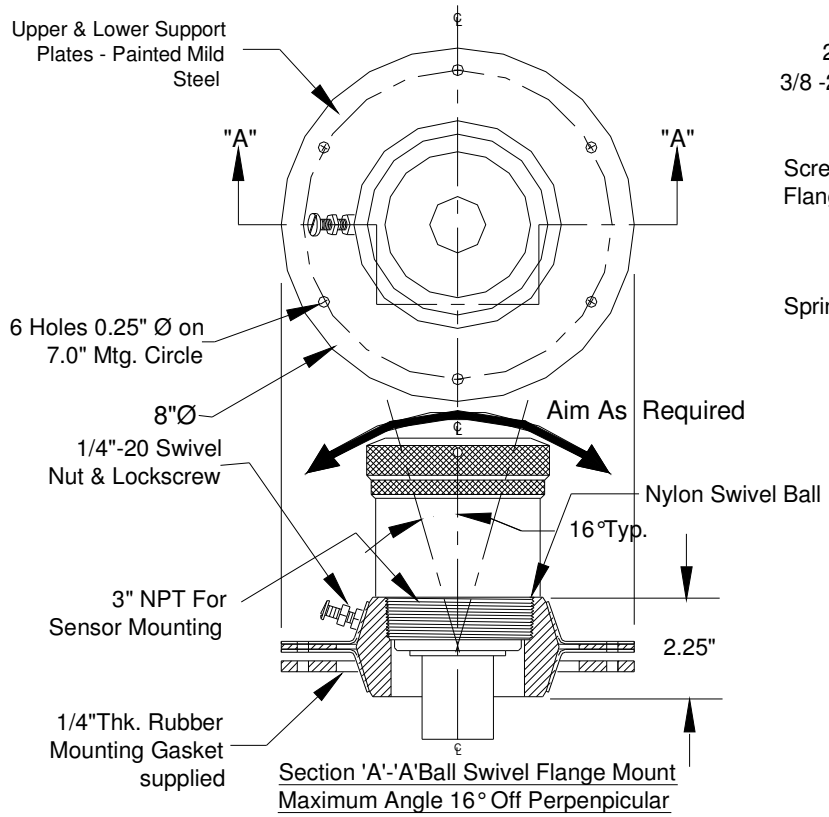
High Temperature Mounting Adaptor

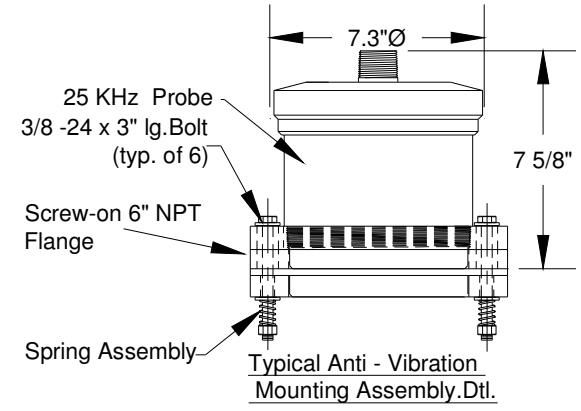
Radar Sensors - Refer to page 29 for Dimensional info.

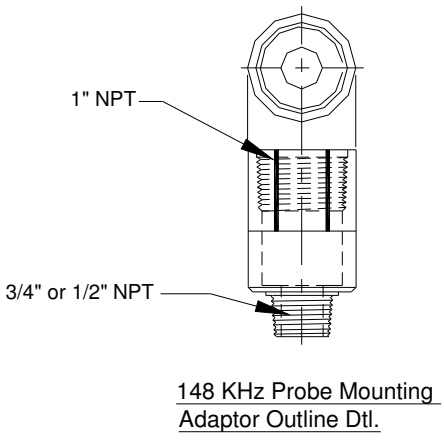
Ultrasonic Sensors Mounting Peripherals



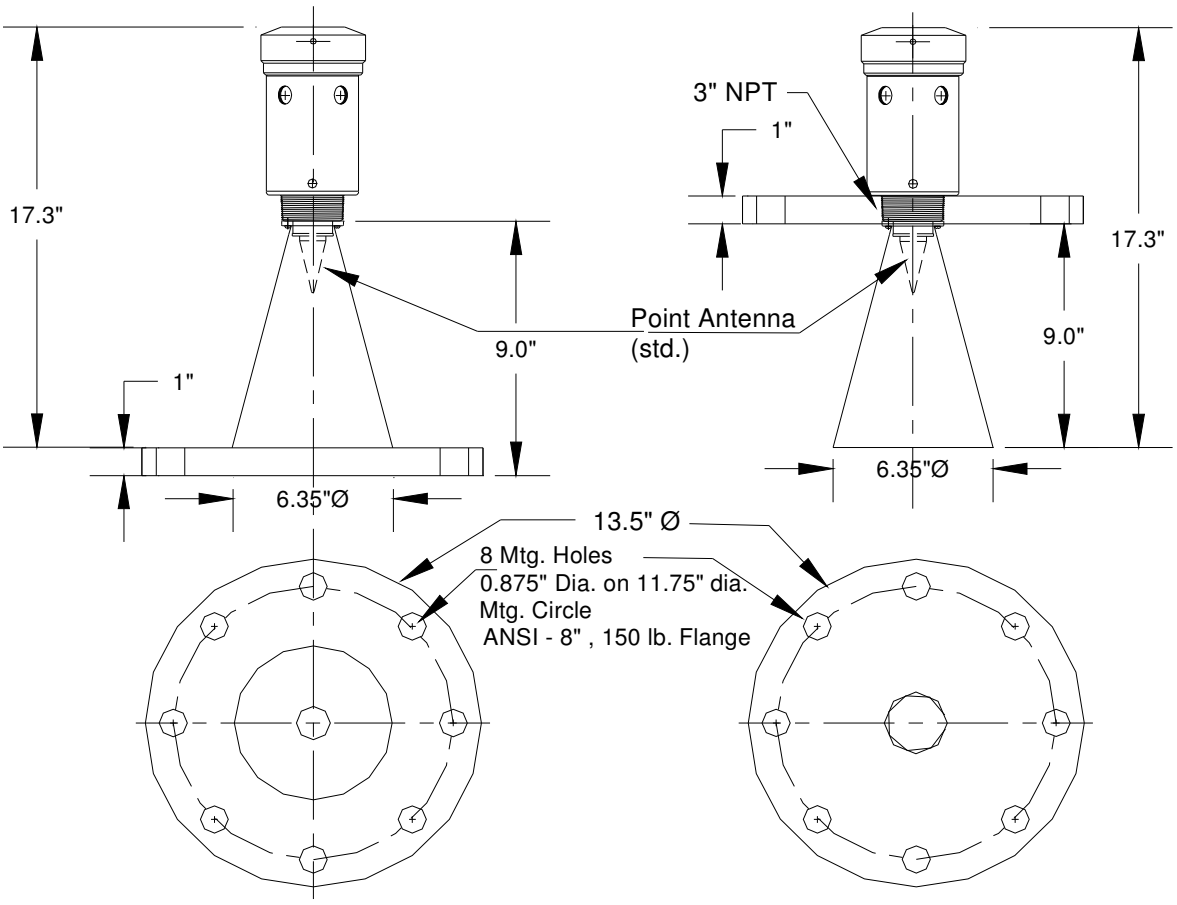






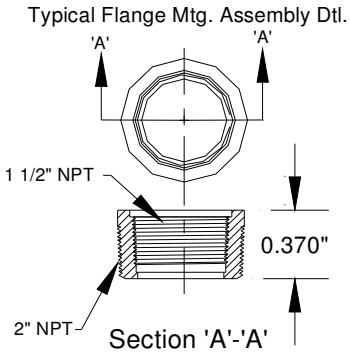


Radar Sensors Mounting Peripherals

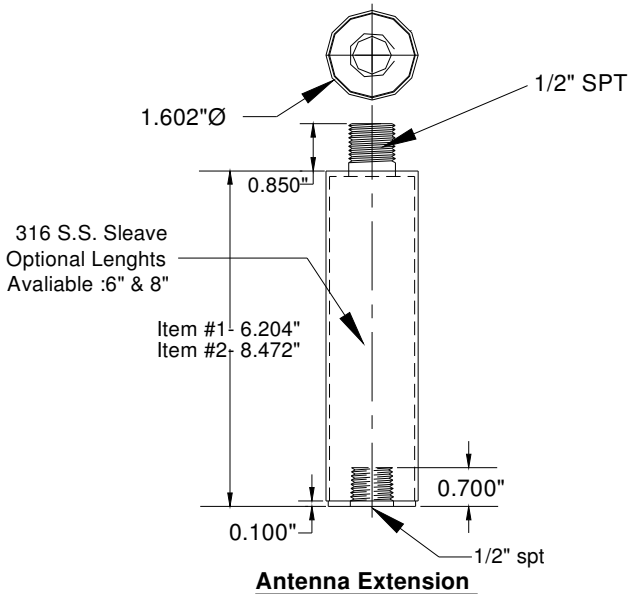


Radar Flange Mounted External Horn

Radar Flange Mounted Internal Horn



High Temperature Mounting Adaptor



Antenna Extension