

ABM 2 Wire Explosion Proof "Smart" Radar Level Transmitter

- 2 Wire Operation
- Power: 20 to 30 VDC
- Self Adjusting Tracking Radar
- Simple push-button calibration
- Output 4 - 20 mA / 20 - 4mA
- Communications with calibration,
- Diagnostics & data logging
- software Communication with "HART 7

HIGHLIGHTS

OPERATIONAL

Operation: Pulse Radar

Accuracy: +/- 0.1% of max. range

Frequency: 5.8 GHz or 6.3 GHz.

Loss of Echo

Current: Default 22mA , or 3.5 mA

Transmit Power: 50 uW average

Antenna:

Dielectric rod PP, & Optional rod PTFE

Horn 316 S.S. for very low dielectric

constant materials and short blanking

ELECTRICAL SPECIFICATIONS:

Power DC 16 to 30 VDC ,

R load max. = $(V_s - 14) / 25 \text{ mA}$

Output : 4-20 mA

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

Process:

Material Dielectric : $\epsilon_r > 2$

Pressure: 5 bar Max. 15-75 psi

Temperature: - Std. Sensor

PP Rod : - 40 to 140°F (- 40 to 60°C)

High Temp. Optional Sensor

PTFE Rod : - 40 to 350°F (- 40 to 177°C)

Teflon Temperature De-coupler Required

Process Connection: 1 1/2" NPT, 2" NPT

Enclosure: Aluminum or S.S. : Type 4/4X, NEMA 6 (IP68)

Conduit Entry: 1/2" NPT x 2

Approvals:

FM & CSA for Can. & US Explosion Proof

Class I, Div.1, Groups B, C, D:

Dust-Ignition Proof Enclosure for

Class II/III Div. 1, Groups E, F, G



Radar Range Code	RANGE In Liquids	RESOLUTION	MOUNTING
017	* - 17 ft. * - 5 m	0.08" 2.0 mm	2.0", 1 1/2" NPT **
033	* - 33 ft. * - 10 m	0.15" 3.9 mm	2.0", 1 1/2" NPT **
050	* - 50 ft. * - 15 m	0.22" 5.7 mm	2.0", 1 1/2" NPT **
100	* - 100 ft. * - 30 m	0.44" 11 mm	2.0", 1 1/2" NPT **
140	* - 140 ft. * - 42 m	0.62" 15.7 mm	2.0", 1 1/2" NPT **
240	* - 240 ft. * - 73 m	1.06" 26 mm	2.0", 1 1/2" NPT **

OPTIONAL

Antenna Extension : 6" or 8" Lengths
- Use only with Teflon Antenna

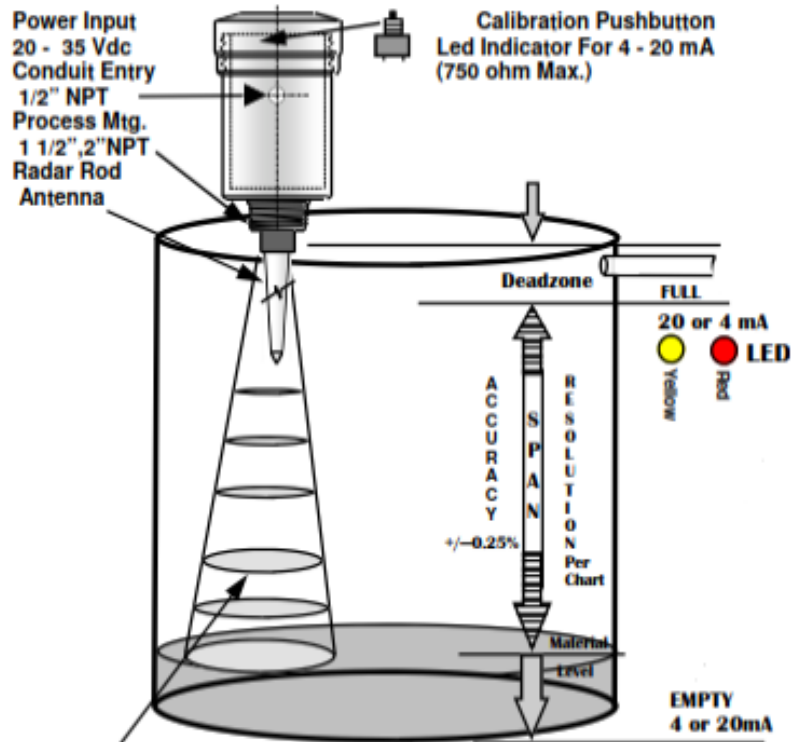
High Temperature Unit :
- 2" / 1 1/2" NPT Process Connection
- Teflon De-coupler threads on with 2" NPT Process Connection.



Antenna Extension

Typical Installation

1) Radar unit must be installed into metal fitting with the antenna pointing downward.



Operation - electromagnetic pulse is transmitted from the ABM sensor . The pulse travels to the surface being monitored and is reflected off this surface back to the sensor . The time of flight is divided by 2 and converted to an output signal directly proportional to the material level .

Optional Display

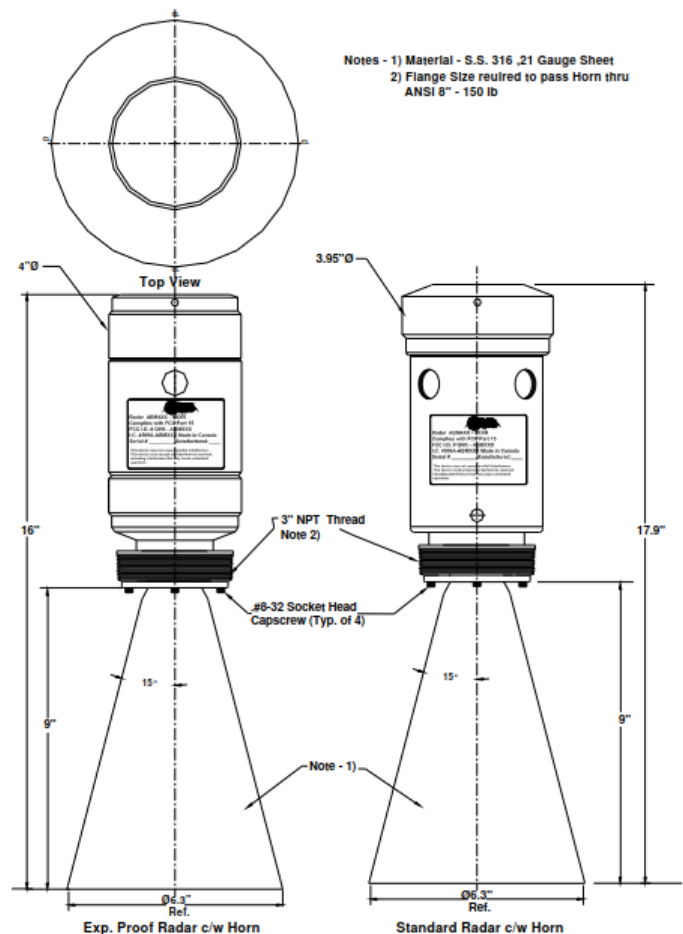
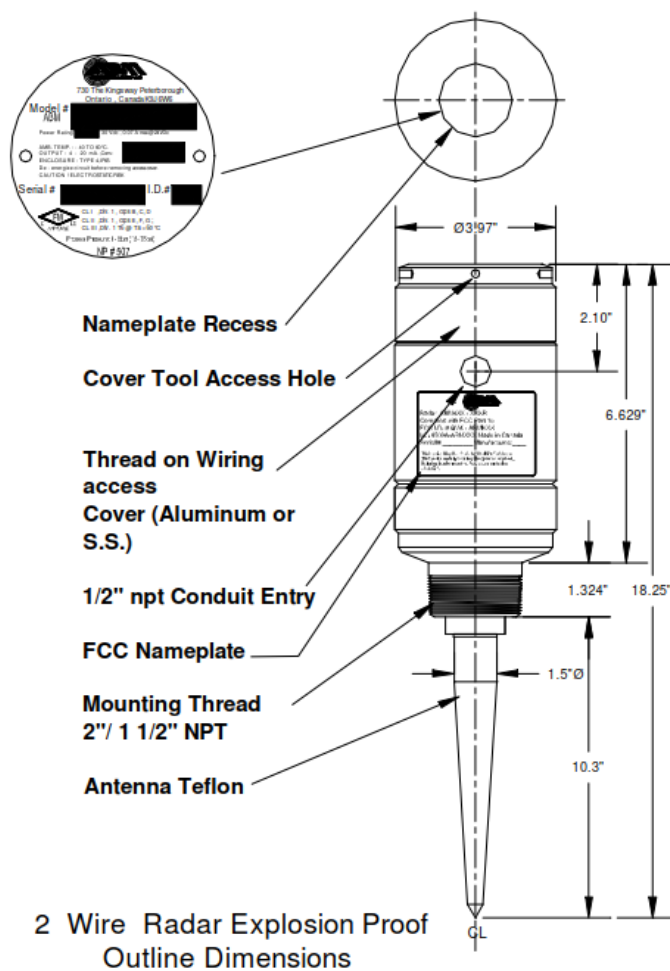
Code LPD-PM

Display - 4 1/2 Digit LCD 1/2" (12.7mm)



DIMENSIONS

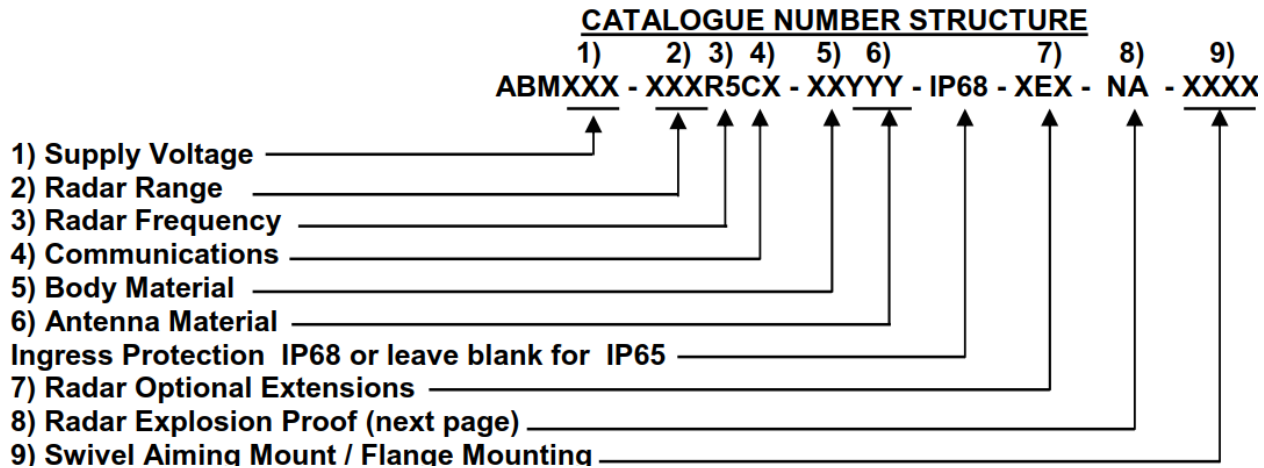
Sensor with Horn Antenna



2,3 & 4 Wire Radar Level Sensor with Horn Outline Detail

Catalogue Numbering Structure

- Standard "Smart" Radar Sensors



ABM Code

1) Supply Voltage:	AC 115V	- 400
	AC 230V	- 430
	DC 12-30V	- 300
Loop Powered	DC 16-30V	- 200

2) Range:

Radar Range	ABM Code
* - 17 Ft	
* - 5 m	017
* - 33 Ft	
* - 10 m	033
* - 50 Ft.	
* - 15 m	050
* - 100 Ft.	
* - 30 m	100
* - 140 Ft.	
* - 42 m	140
* - 240 Ft.	
* - 73 m	240

ABM Code

3) Radar Frequency :	6.3 GHz	- R6
	5.8 GHz	- R5
	26 GHz	- R2
Mini radar	26 GHz	- M2

ABM Code

4) Communications :	RS485	- 4
	RS232	- 2
	HART 7	- H

ABM Code

5) Body Material :	
Radar Std. Aluminum	- AL
Radar Anodized Al.	- AN
Radar Optional 316 S.S.-	- SS

6) Antenna Material Radar :

		<u>ABM Code</u>
Standard	- Antenna Polypropylene	- APP
Optional	- Antenna Teflon	- ATE
	- High Temp. Teflon	- HTE (c/w De-coupler) Includes Teflon antenna and 1 1/2" - 2" NPT Teflon De-coupler.
Sanitary Mtg.-	2" Tri clamp	- S20 <i>PTFE Teflon Material</i>
Horn	- 2" Dia. Horn	- HR2 (26GHz Only)
Horn	- 4" Dia. Horn	- HR4 (used for 6 GHz & 26 GHz flood monitoring)
Horn	- 5" Dia. Horn	- HR5 (used for 26 GHz as extension for HR2)
Horn	- 6" Dia. Horn	- HR6 (used for 6 GHz radar)
Horn	- 6" Dia. High Temp.	- HT6 (used for 6 GHz radar ,see note below)
Horn	- 2" Dia. ,5"Dia. High Temp.	- HT2,HT5 (used for 26 GHz ,see note below)
	Note - High temperature radar units with horns use 2" to 3" NPT Teflon De-coupler.	
Mounting Adaptors		- TD2 1.5" to 2" Teflon De-coupler
		- TD3 2" to 3" Teflon De-coupler

Process Connection: 2" NPT Code H20

7) <u>Radar Optional:</u>	Antenna Built in Extension 1.5"	- ATL	} use with Teflon antennas only
	Antenna Extension Teflon 6"	- AE6	
	Antenna Extension Teflon 8"	- AE8	
	Radar Interface Detector	- RID	

8) Explosion Proof : Radar Explosion Proof Class 1 Div. 1 ABM300 - XXXYYCX- XYYYY - AEX - EXP