

MRL-3300

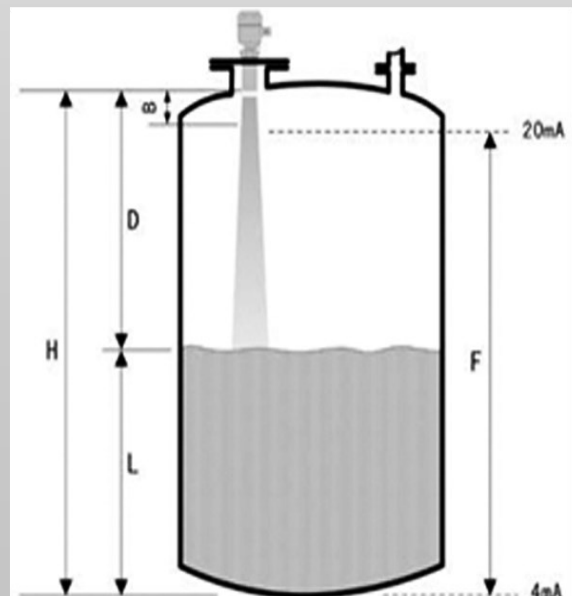
Marmonix Radar Level Transmitter Principle PDF

Overview:

This series Marmonix Guided wave Radar Level Transmitter Principle MRL-3300 adopted 26G high frequency radar sensor, the maximum measurement range can reach up to 70 meters. Antenna is optimized further processing, the new fast microprocessors have higher speed and efficiency can be done signal analysis, the instrumentation can be used for reactor, solid silo and very complex measurement environment.

Features

- Small antenna size, easy to install; Non-contact radar, no wear, no pollution.
- Almost no corrosion, bubble effect; almost not affected by water vapor in the atmosphere, the temperature and pressure changes.
- Serious dust environment on the high level meter work has little effect.
- A shorter wavelength, the reflection of solid surface inclination is better.
- Beam angle is small, the energy is concentrated, can enhance the ability of echo and to avoid Interference.
- The measuring range is smaller, for a measurement will yield good results.
- High signal-to-noise ratio, the level fluctuation state can obtain better performance.
- High frequency, measurement of solid and low dielectric constant of the best choice.



SPECIFICATION

Suitable for Medium	Solid material, Strong dust
Explosion-proof Grade	Exia IIC T6 Ga
Measuring Range	30 meters
Frequency	26 GHz
Temperature:	-40°C ~ 250°C
Measurement Precision	±15mm
Process Pressure	-0.1 ~ 0.1MPa
The signal Output	(4 ~ 20) mA/HART (Two wire/Four)RS485/Modbus
The Scene Display	Four digital LCD
Shell	Aluminum
Connection	Universal Flange
Protection Grade	IP67

MODEL SELECTION

License	
P	Standard (Non-explosion-proof)
I	Intrinsically safe (Exia IIC T6 Ga)
G	Intrinsically safe type, Flameproof (Exd (ia) IIC T6 Ga)
Process Connection / Material	
G	Thread G1½"A / Stainless Steel 304
N	Thread 1½" NPT / Stainless Steel 304
B	Flange DN80 / Stainless Steel 304
C	Flange DN100 / Stainless Steel 304
D	Flange DN125 / Stainless Steel 304
E	Flange DN150 / Stainless Steel 304
F	Flange DN200 / Stainless Steel 304
H	Flange DN250 / Stainless Steel 304
M	Flange DN80 / Cardan joint (Nickel plated carbon steel)
K	Flange DN100 / Cardan joint (Nickel plated carbon steel)
T	Flange DN125 / Cardan joint (Nickel plated carbon steel)
Z	Flange DN150 / Cardan joint (Nickel plated carbon steel)
W	Flange DN200 / Cardan joint (Nickel plated carbon steel)
V	Flange DN250 / Cardan joint (Nickel plated carbon steel)
Y	Special Custom-tailor
Antenna Type / Material	
B	Horn Antenna Φ46mm / Stainless Steel 304
C	Horn Antenna Φ76mm / Stainless Steel 304
D	Horn Antenna Φ96mm / Stainless Steel 304
Seal Up / Process Temperature	
V	Viton / (-40~150) °C
K	Kalrez / (-40~250) °C
Electronic Unit	
2	(4~20) mA / 24V DC / Two wire system
3	(4~20) mA / 24V DC / HART two wire system
4	(4~20) mA / 220V AC / Four wire system
5	RS485 / Modbus
Shell / Protection Grade	
L	Aluminum / IP67
G	Stainless Steel 304L/ IP67
Cable Line	
M	M 20x1.5
N	½" NPT
Field Display/The Programmer	
A	Belt
X	Without

Principle

Radar level transmitter antenna microwave pulse is narrow, the downward transmission antenna. Microwave exposure to the medium surface is reflected back again by the antenna system receives, sends the signal to the electronic circuit automatically converted into level signals (because the microwave propagation speed, electromagnetic wave to reach the target and the reflected back to the receiver this time is almost instantaneous).

Datum measurement:

Screw thread bottom or the sealing surface of the flange.

Note:

Make sure the radar level meter the highest level cannot enter the measuring blind area (Figure D shown below).