



Radar Level Meter Catalogue



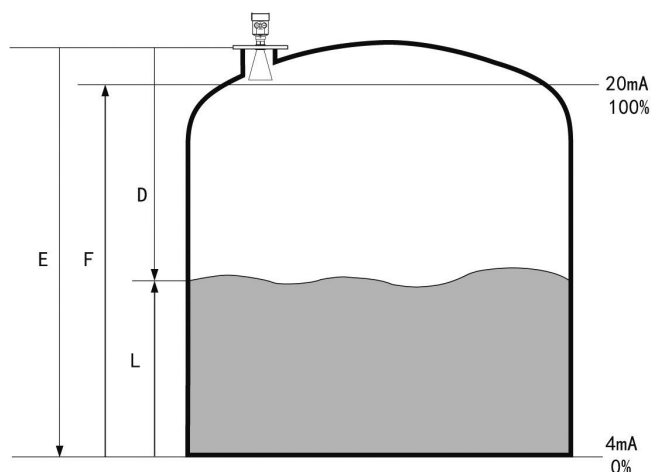


ATRD800 Series Intelligent Radar Level Meter

Measurement Principle:

Antenna system to launch and microwave receiving energy is very low, very short pulse. Radar waves travel with the speed of light. The running time can be through the electronic components are converted into a signal. Measurement of this special time extension method can realize stable, accurate in a very short period of time.

Even if the condition is very complex, the presence of false echo, with the latest micro-processing technology and debugging software also can analyze the level echo accurately.



Microwave antenna to receive the reflected pulse and transmitted to the electronic circuit, a microprocessor to signal processing, to identify the micro pulse generated on the material surface echo. Echo recognition is completed by the pulse system, the accuracy can reach millimeter level. From the material surface distance between D and T pulse is proportional to the time travel:

$$D = C \times T / 2$$

Where C is the speed of light

Because of the air tank is a known distance E, L:

$$L = E - D$$

By setting the empty tank height E (= zero), the full height of F (= full scale) and some application parameters, application parameters automatically makes the instrument to measure the environment. 4 - 20mA with a corresponding output.



● Application:

6G radar level gauge is suitable for liquid, paste, granule and block material level and non-contact measurement, suitable for changes in temperature, pressure big; there is an inert gas and volatile. The measurement method of microwave pulse, can work normally in the industrial frequency band range. The beam energy is low, can be installed on all kinds of metal, non-metallic container or pipe, no harm to human body and environment.

Product Introduction

● ATRD 801



Suitable for Medium: Liquid, slightly corrosive liquid
Explosion-proof Grade: Exia IIC T6 Ga/ Exd ia IIC T6 Ga
Measuring Range: 20m
Aerials: The Rod Antenna (PP/PTFE)
Frequency: 6 GHz
Temperature: (-40 ~ 130) °C
Measurement Precision: ±10mm
Process Pressure: (-0.1 ~ 0.3) MPa
The signal Output: (4 ~ 20) mA/HART
The Scene Display: Four LCD
Power Source: Two-wire (DC24V)
Four-wire (DC24V/AC220V)
Repeatability: ± 1mm
Shell: Aluminum
Connection: Flange (optional) / Thread

● ATRD 802



Suitable for Medium: Liquid, especially for corrosive liquid
Explosion-proof Grade: Exia IIC T6 Ga/ Exd ia IIC T6 Ga
Measuring Range: 20m
Aerials: The Rod Antenna (PTFE)
Frequency: 6 GHz
Temperature: (-40 ~ 180) °C
Measurement Precision: ± 10mm
Process Pressure: (-0.1 ~ 4) MPa
The Signal Output: (4 ~ 20) mA/HART
The Scene Display: Four LCD
Power Source: Two-wire (DC24V)
Four-wire (DC24V/AC220V)
Repeatability: ± 1mm
Shell: Aluminum
Connection: Flange (optional)



● **ATRD 803**



Suitable for Medium: Liquid, especially with pressure and Volatile

Liquid

Explosion-proof Grade: Exia IIC T6 Ga/ Exd ia IIC T6 Ga

Measuring range: 35m

Aerials: The Horn Antenna

Frequency: 6 GHz

Temperature: (-40 ~ 250) °C

Measurement Precision: $\pm 10\text{mm}$

Process Pressure: (-0.1 ~ 4) MPa

The Signal Output: (4 ~ 20) mA/HART

The Scene Display: four LCD

Power Source: Two-wire (DC24V)

Four-wire (DC24V/AC220V)

Repeatability: $\pm 1\text{mm}$

Shell: Aluminum

Connection: Flange (optional)

● **ATRD 804**



Suitable for Medium: Solid particles or block material,

And it is not suitable for solid powder

Explosion-proof Grade: Exia IIC T6 Ga/ Exd ia IIC T6 Ga

Measuring Range: 35m

Aerials: The Horn Antenna

Frequency: 6 GHz

Temperature: (-40 ~ 250) °C

Measurement Precision: $\pm 20\text{mm}$

Process Pressure: (-0.1 ~ 0.1) MPa

The Signal Output: (4 ~ 20) mA/HART

The Scene Display: Four LCD

Power Source: Two-wire (DC24V)

Four-wire (DC24V/AC220V)

Repeatability: $\pm 1\text{mm}$

Shell: Aluminum

Connection: Cardan Flange (optional)



● ATRD 805



Suitable for Medium: Liquid, especially suitable for low dielectric constant, sticky, with mixing liquid

Explosion-proof Grade: Exia IIC T6 Ga/ Exd ia IIC T6 Ga

Measuring Range: 30m

Aerials: The Horn Antenna

Frequency: 6GHz

Temperature: (-40 ~ 250) °C

Measurement Precision: $\pm 10\text{mm}$

Process Pressure: (-0.1 ~ 4) MPa

The Signal Output: (4 ~ 20) mA/HART

The Scene Display: Four LCD

Power Source: Two-wire (DC24V)

Four-wire (DC24V/AC220V)

Repeatability: $\pm 1\text{mm}$

Shell: Aluminum

Connection: Flange (optional)

● ATRD 806



Suitable for Medium: Solid, especially suitable for high temperature conditions

Explosion-proof Grade: Exia IIC T6 Ga/ Exd ia IIC T6 Ga

Measuring Range: 15m

Aerials: The Horn Antenna

Frequency: 6 GHz

Temperature: (-40 ~ 400) °C

Measurement Precision: $\pm 20\text{mm}$

Process Pressure: (-0.1 ~ 0.1) MPa

The Signal Output: (4 ~ 20) mA/HART

The Scene Display: Four LCD

Power Source: Two-wire (DC24V)

Four-wire (DC24V/AC220V)

Repeatability: $\pm 1\text{mm}$

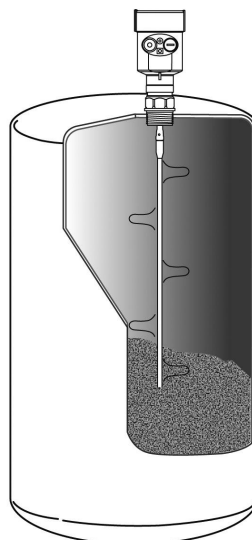
Shell: Aluminum

Connection: Flange (optional)



ATRD700 Series Guided Wave Radar Level Meter

Measurement Principle



High-frequency microwave pulses issued by the transmitter propagate along detection components (steel cable or steel rod), meet the media to be measured, since the dielectric constant of the media changes, cause reflections, a portion of the pulse energy is reflected back. Transmit pulse and the reflected pulse is proportional to the distance and the time interval measured media.

Features:

As a result of advanced microprocessor and unique echo processing technology, guided wave radar level meter can be used in a variety of complex conditions.

Because of the type of process connections and detection components, making 70X Series Guided Wave Radar Level Meter is suitable for a variety of complex conditions and applications. Such as: high temperature, high pressure and low dielectric constant media.

Pulsed work, guided wave radar level instruments transmit power is very low, can be installed in a variety of metals, non-metallic container, no harm to humans and the environment.



Product Introduction

● ATRD 701



Suitable for Medium: Liquid, solid powder
Application: Liquid and solid powder measure,
complicated process conditions
Explosion-proof Grade: Exia IIC T6 Ga/Exd ia IIC T6 Gb
Measuring Range: 30m
Frequency: 500MHz-1.8GHz
Antenna: Single cable or single rod antenna
Accuracy: $\pm 10\text{mm}$
Process Temperature: ($-40 \sim 250$) $^{\circ}\text{C}$
Process pressure: ($-0.1 \sim 4$) MPa
Signal output: ($4 \sim 20$) mA/HART
The Scene Display: Four LCD/Can be programmed
Power Source: Two-wire (DC24V)
Four-wire (DC24V/AC220V)
Shell: Aluminum /Plastic
Connection: Flange (optional) / Thread

● ATRD 702



Suitable for Medium: Liquid,
especially corrosive liquids
Application: Acids, bases or other corrosive media
Explosion-proof Grade: Exia IIC T6 Ga/Exd ia IIC T6 Gb
Measuring Range : 20m
Frequency: 500MHz-1.8GHz
Antenna: Full PTFE sealing cable type or rod antenna
Accuracy: $\pm 10\text{mm}$
Process Temperature: ($-40 \sim 200$) $^{\circ}\text{C}$
Process pressure: ($-0.1 \sim 4$) MPa
Signal output: ($4 \sim 20$) mA/HART
The Scene Display: Four LCD/Can be programmed
Power Source: Two-wire (DC24V)
Four-wire (DC24V/AC220V)
Shell: Aluminum /Plastic
Connection: Flange (optional) / Thread



● **ATRD 703**



Suitable for Medium: Solid powder
Application: Cement silo powder measure;
Ash powder measure
Explosion-proof Grade: Exia IIC T6 Ga/Exd ia IIC T6 Gb
Measuring Range : 30m
Frequency: 500MHz-1.8GHz
Antenna: Double cable type antenna
Accuracy:±10mm
Process Temperature: (-40 ~ 150) °C
Process pressure: (-0.1 ~ 4) MPa
Signal output: (4 ~ 20) mA/HART
The Scene Display: Four LCD/Can be programmed
Power Source: Two-wire (DC24V)
Four-wire (DC24V/AC220V)
Shell: Aluminum /Plastic
Connection: Flange (optional) / Thread

● **ATRD 704**



Suitable for Medium: Liquids, particularly low dielectric
constant liquid
Application: Measuring deionized water,
deoxygenated water and other liquids
Explosion-proof Grade: Exia IIC T6 Ga/Exd ia IIC T6 Gb
Measuring Range : 6m
Frequency: 500MHz-1.8GHz
Antenna: Coaxial tube type antenna
Accuracy:±5mm
Process Temperature: (-40 ~ 250) °C
Process pressure: (-0.1 ~ 4) MPa
Signal output: (4 ~ 20) mA/HART
The Scene Display: Four LCD/Can be programmed
Power Source: Two-wire (DC24V)
Four-wire (DC24V/AC220V)
Shell: Aluminum /Plastic
Connection: Thread / Flange (optional)



● ATRD 705



Suitable for Medium: Liquids, especially high temperature and pressure environment of liquid

Application: Sealed cans,

greater pressure liquid measurement

Explosion-proof Grade: Exia IIC T6 Ga/Exd ia IIC T6 Gb Measuring

Range: 15m

Frequency: 500MHz-1.8GHz

Antenna: Single cable or single rod antenna

Accuracy: $\pm 10\text{mm}$

Process Temperature: ($-200 \sim 400$) $^{\circ}\text{C}$

Process pressure: ($-0.1 \sim 40$) MPa

Signal output: ($4 \sim 20$) mA/HART

The Scene Display: Four LCD/Can be programmed

Power Source: Two-wire (DC24V)

Four-wire (DC24V/AC220V)

Shell: Aluminum /Plastic

Connection: Thread / Flange (optional)



ATRD900 Series 26GHz High Frequency Radar Level Meter

Measurement Principle

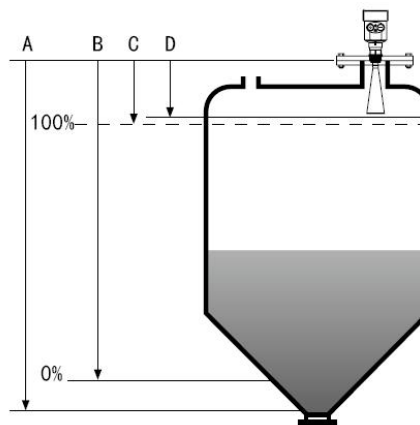
Radar level transmitter antenna microwave pulse is narrow, the downward transmission antenna. Microwave exposure to the medium surface is reflected back again by the antenna system receives, sends the signal to the electronic circuit automatically converted into level signals (because the microwave propagation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

A Range set

B Low adjustment

C High

D Blind area



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).

● The characteristics of 26G radar level meter:

- 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.



Product Introduction

● ATRD 901



Application : All kinds of corrosive liquid
Measuring Range : 10 meters
Process Connection : Thread, Flange
Medium Temperature : $-40^{\circ}\text{C} \sim 130^{\circ}\text{C}$
Process Pressure : $-0.1 \sim 0.3 \text{ MPa}$
Accuracy : $\pm 5 \text{ mm}$
Protection Grade : IP67
Frequency Range : 26GHz
Signal Output : 4... 20mA/HART (Two-wire / Four)
RS485/ Modbus
Explosion-proof Grade : Exia II C T6 Ga
Exd ia II C T6 Gb

● ATRD 902



Application : Liquid
Measuring Range : 30 meters
Process Connection : Thread, Flange
Medium Temperature : $-40^{\circ}\text{C} \sim 250^{\circ}\text{C}$
Process Pressure : $-0.1 \sim 4.0 \text{ MPa}$
Accuracy : $\pm 3 \text{ mm}$
Protection Grade : IP67
Frequency Range : 26GHz
Signal Output : 4... 20mA/HART (Two-wire / Four)
RS485/ Modbus
Explosion-proof Grade : Exia II C T6 Ga
Exd ia II C T6 Gb



● **ATRD 903**



Application : Solid material, Strong dust
easy to crystallize, condensation occasion
Measuring Range : 70 meters
Process Connection : Universal Flange
Medium Temperature : $-40^{\circ}\text{C} \sim 250^{\circ}\text{C}$
Process Pressure : $-0.1 \sim 0.1 \text{ MPa}$
Protection Grade : IP67
Accuracy : $\pm 15\text{mm}$
Frequency Range : 26GHz
Signal Output : 4... 20mA/HART (Two-wire / Four)
RS485/ Modbus
Explosion-proof Grade : Exia II C T6 Ga
Exd ia II C T6 Gb

● **ATRD 904**



Application : Solid material, Strong dust,
easy to crystallize, condensation occasion
Measuring Range : 80 meters
Process Connection : Universal Flange
Medium Temperature : $-40^{\circ}\text{C} \sim 250^{\circ}\text{C}$
Process Pressure : $-0.1 \sim 0.1\text{MPa}$
Accuracy : $\pm 15\text{mm}$
Protection Grade : IP67
Frequency Range : 26GHz
Signal Output : 4... 20mA/HART (Two-wire / Four)
RS485/ Modbus
Explosion-proof Grade : Exia II C T6 Ga
Exd ia II C T6 Gb



A yellow industrial valve assembly, likely a ball valve, is shown. It features a yellow upper body with two grey-handled actuators. The valve is mounted on a stainless steel flange with eight bolt holes, which is attached to a tall, conical stainless steel base.

Application : Hygienic liquid storage,
Corrosive container

Measuring Range : 20 meters

Process Connection : Flange

Medium Temperature : -40°C ~ 150°C

Process Pressure : -0.1 ~ 0.1MPa

Accuracy : $\pm 3\text{mm}$

Protection Grade : IP67

Frequency Range : 26GHz

Signal Output : 4... 20mA/HART (Two-wire / Four)
RS485/ Modbus

Explosion-proof Grade : Exia IIC T6 Ga
Exd ia IIC T6 Gb



26GHz Radar Level Meter for Water Conservancy Industry

Features:

- Radar level meter adopts a recommended industry emission frequency of 26GHz, so it has beam angle is small, concentrated energy, has stronger anti-interference ability and greatly improves the precision and reliability of measurement.
- Small antenna size, easy to install and dustproof cover antenna protection device.
- Light weight about 1KG, easy to install.
- The measurement range of up to 70 meters, covering a large reservoir water level measurement.
- With a variety of output circuit interface and data acquisition system.
- The pulse working mode, radar level meter transmit power is very low, no harm to human body and environment.

● ATRD 908



Application: Rivers, Lakes, Shoal

Measuring Range: 30 meters

Process Connection: Thread G1½ A" /Frame /Flange

Temperature: -40 °C ~ 100 °C

Process Pressure: Normal pressure

Precision: ± 3mm

Frequency Range: 26GHz

Protection Grade: IP67 / IP65

Power Supply: DC (6 - 24V) / Four-wire

The Signal output: 4-20mA Hart, RS485 / Modbus Protocol

The Scene Display: Optional

Shell: Aluminum / Plastic



● **ATRD 909**



Application: Rivers, Lakes, Shoal

Measuring Range: 70 meters

Process Connection: Thread G1½ A" /Frame /Flange

Temperature: -40 °C ~ 100 °C

Process Pressure: Normal pressure

Precision: ± 3mm

Frequency Range: 26GHz

Protection Grade: IP67 / IP65

Power Supply: DC (6 - 24V) / Four-wire

The Signal output: 4-20mA Hart, RS485 / Modbus Protocol

The Scene Display: Optional

Shell: Aluminum / Plastic