



Recorder



Flow



Pressure



Temp



Analyzer



Level

Datasheet

Radar Level Transmitter

SIN-RD906

Sinomeasure

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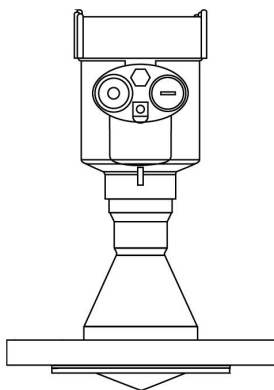
Tel: 86-13336194863

E-mail: info@sinomeasure.com

www.sino-measure.com

Datasheet**Radar Level Transmitter
SIN-RD906**

The 90 Series sensor is a 26 GHz high-frequency radar level measurement instrument, with a maximum measuring range of up to 80 m. The antenna has been further optimized, and the new high-speed microprocessor enables faster signal analysis and processing, allowing the instrument to be applied to a wide range of strongly corrosive liquid measurements.

Standard Type

Applications: Hygienic liquid storage tanks; strongly corrosive containers

Measuring Range: 20m

Process Connection: Flange

Medium Temperature: $(-40\sim 80)^{\circ}\text{C}$

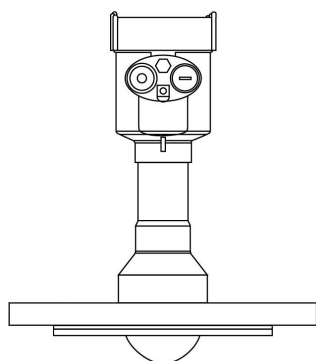
Process Pressure: $(-0.1\sim 0.3)$ MPa

Accuracy: $\pm 10\text{mm}$ (at a measuring range of 10 m)
 $\pm 15\text{mm}$ (at a measuring range of 20 m)

Protection Rating: IP67

Frequency Range: 26GHz

Signal Output: $(4\sim 20)$ /HART (two-wire / four-wire)
RS485/Mod bus

Filled Type

Applications: Hygienic liquid storage tanks; strongly corrosive containers

Measuring Range: 20m

Process Connection: Flange

Antenna: Filled Antenna

Medium Temperature: $(-40\sim 200)^{\circ}\text{C}$

Process Pressure: $(-0.1\sim 2.5)$ MPa

Accuracy: $\pm 10\text{mm}$ (at a measuring range of 10 m)
 $\pm 15\text{mm}$ (at a measuring range of 20 m)

Protection Rating: IP67

Frequency Range: 26GHz

Signal Output: $(4\sim 20)$ /HART (two-wire / four-wire)
RS485/Mod bus

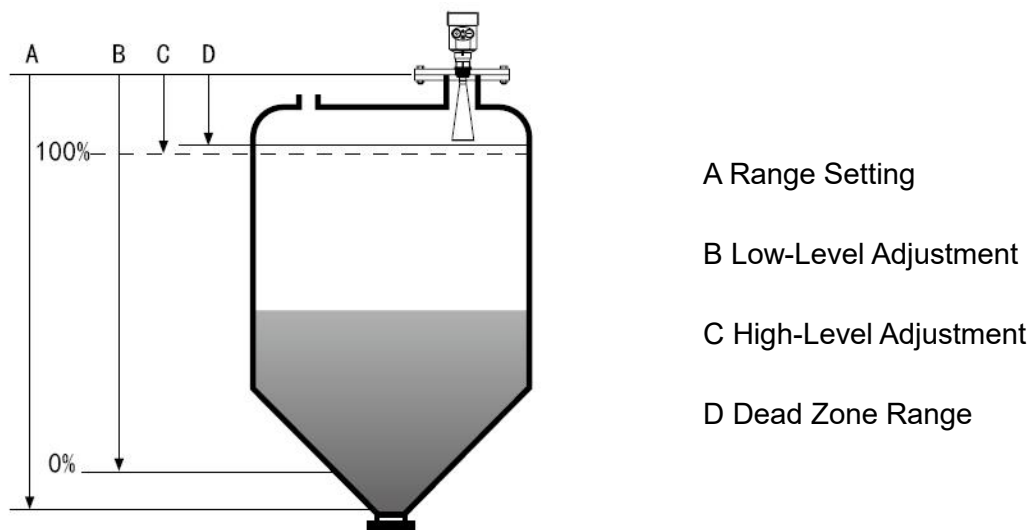
Features

- Compact antenna size, easy to install; non-contact radar, no wear, no contamination.
- Virtually unaffected by corrosion and foam; minimal influence from vapor, temperature, and pressure variations in the atmosphere.
- Reliable performance even in heavy dust environments.
- Shorter wavelength provides improved reflection on inclined solid surfaces.
- Narrow beam angle ensures concentrated energy, enhancing echo reception while reducing interference from obstacles.
- Smaller measuring dead zone enables accurate measurement in small tanks.
- High signal-to-noise ratio ensures superior performance even under fluctuating process conditions.
- High frequency makes it the optimal choice for measuring solids and low-dielectric constant media.



Principle

The radar level antenna emits a narrow microwave pulse, which is transmitted downward through the antenna. When the microwave contacts the surface of the measured medium, it is reflected back and received again by the antenna system. The signal is then transmitted to the electronic circuit, where it is automatically converted into a level signal. (Since the propagation speed of microwaves is extremely fast, the time taken for the electromagnetic wave to reach the target and return to the receiver is almost instantaneous.)



The measurement reference surface is the thread base or the sealing surface of the flange.

Note: When using the radar level transmitter, it is essential to ensure that the maximum material level does not enter the measuring dead zone (as shown in area D in the diagram).

Parameters	
Enclosure	
Enclosure and Cover Seal	Silicone Rubber
Enclosure Window	Polycarbonate
Grounding Terminal	Stainless Steel
Supply Voltage	
Standard Type	(16~26) V DC
Power Consumption	max. 22.5mA/1W
Permissible Ripple	- <100Hz: $U_{ss} < 1V$ - (100~100K) Hz: $U_{ss} < 10mV$
Cable Parameters	
Cable Entry/Plug	1 × M20×1.5 Cable Entry 1 × M20×1.5 Blind Plug
Terminal Blocks	Conductor Cross-Section 2.5 mm ²
Output Parameters	
Output Signal	(4~20) mA
Communication Protocol	HART
Resolution	1.6μA Current output remains unchanged
Fault Signal	20.5mA 22mA 3.9mA
Integration Time	(0~36) s, adjustable
Dead Zone	At antenna end
Maximum Measuring Distance	80m
Microwave Frequency	26GHz
Communication Interface	HART Communication Protocol
Measurement Interval	Approx. 1 s (depending on parameter settings)
Adjustment Time	Approx. 1 s (depending on parameter settings)
Display Resolution	1mm
Ambient Temperature	-20℃~80℃ (Instrument operates normally at -40 ℃ to -20 ℃, display may show abnormal)
Storage and Transport Temperature	(-40~100) ℃
Process Temperature (at antenna)	(-40~250) ℃
Pressure	Max. 4MPa
Vibration Resistance	Mechanical vibration 10 m/s ² , (10~150) Hz

Wiring

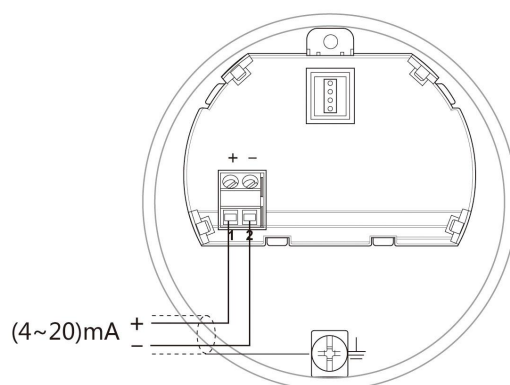


Figure 1 24V Two-Wire Wiring Diagram

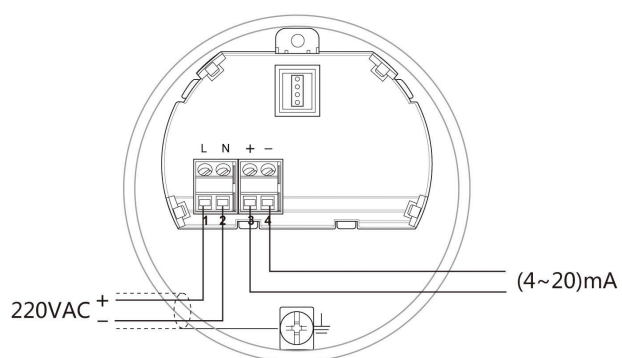


Figure 2 220V Four-Wire Wiring Diagram

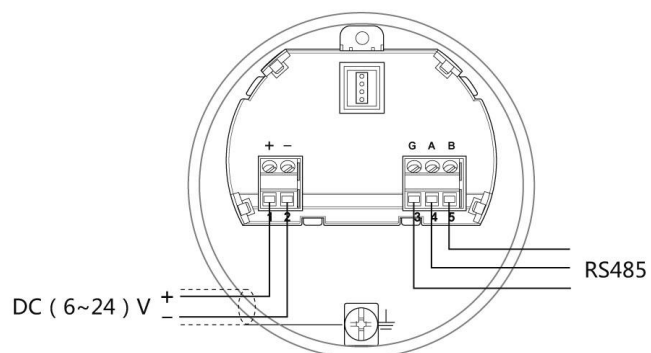


Figure 3 24V RS485/Modbus Wiring Diagram

Dimension

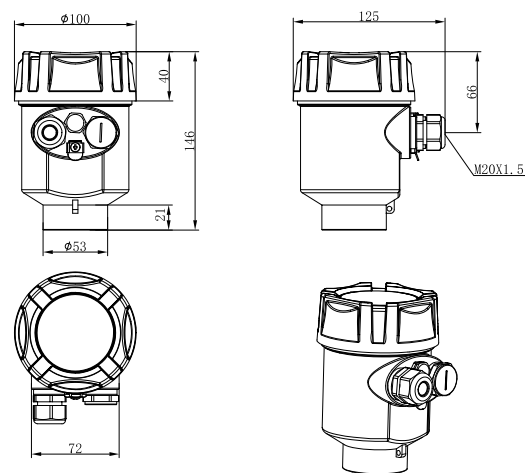


Figure 4 Housing Dimensions

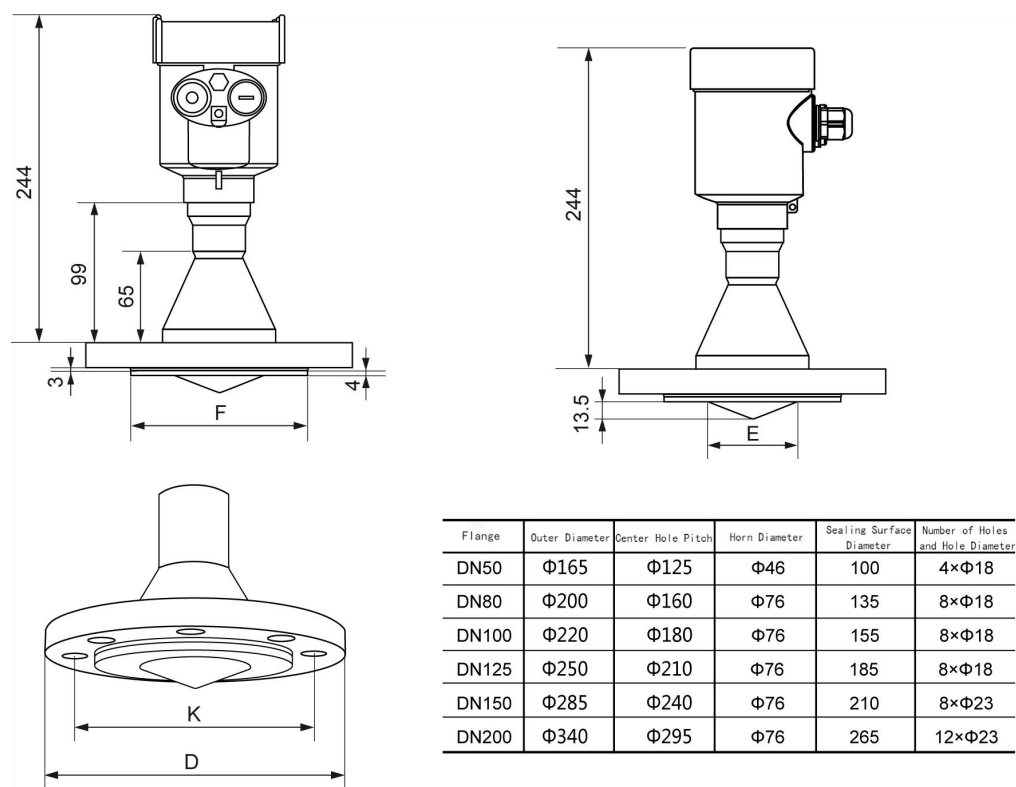


Figure 5 RD906 Standard Model

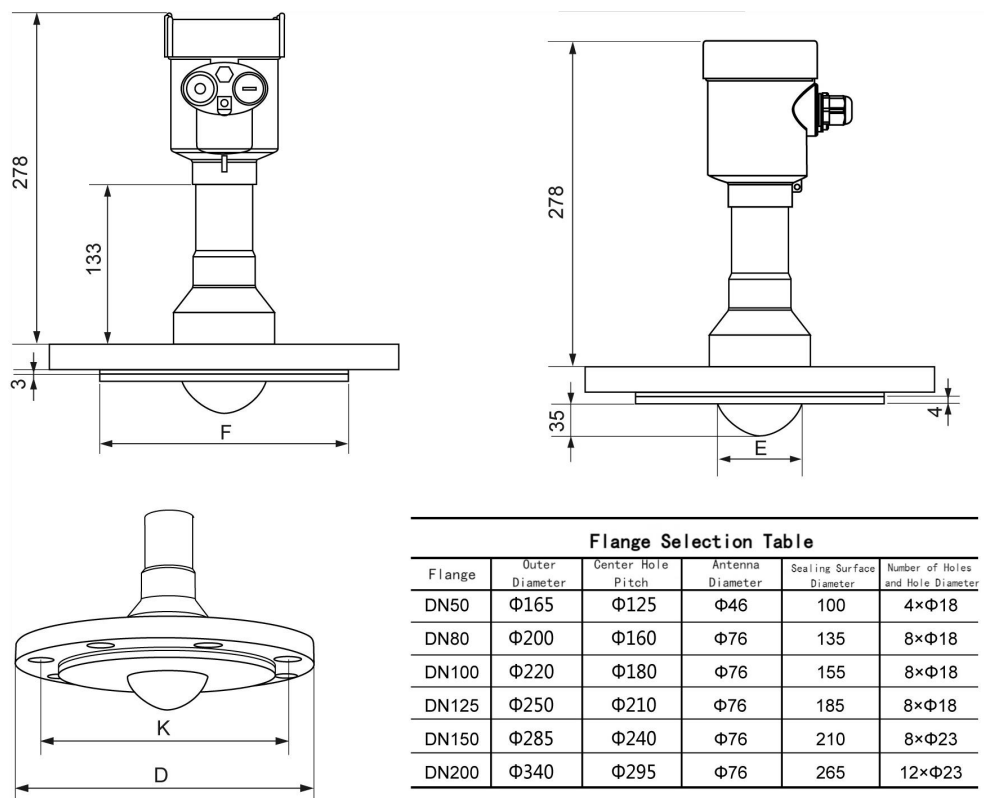


Figure 6 RD906 Filled Model

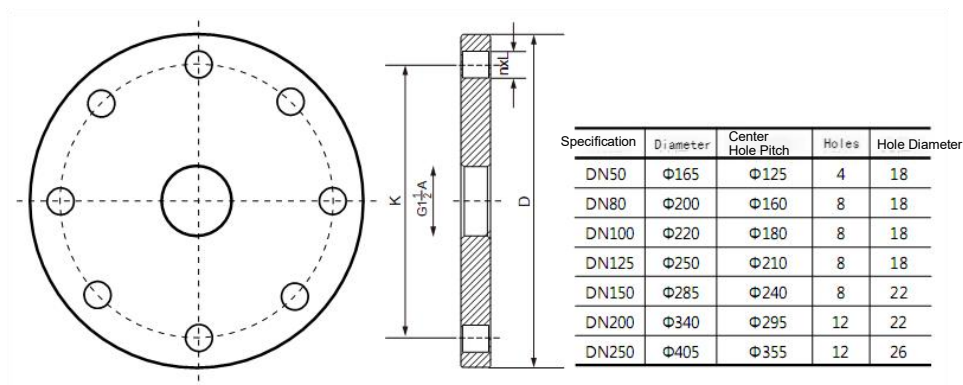


Figure 7 Flange Dimensions

Ordering code

SIN-RD906 -A-05-PC-A2-PR-TC-WH-00									Description
SIN-RD906	-	-	-	-	-	-	-	-	
Measuring Medium	A								Liquid
Measuring Range	05								5m
	10								10m
	15								15m
	20								20m
	XX								Others
Antenna Type	PC								Hollow Cone Antenna 304SS/PTFE
	PD								Solid Sphere Antenna 304SS/PTFE
Output and Power Supply	A2								2-Wire 4-20mA+HART
	SC								4-20mA+HART, 24VDC
	R2								RS485, 24VDC
	XX								Others
Process Connection	PR								HG/T20592 PN16 DN50 304SS/PTFE
	PT								HG/T20592 PN16 DN80 304SS/PTFE
	PV								HG/T20592 PN16 DN100 304SS/PTFE
	PH								HG/T20592 PN16 DN125 304SS/PTFE
	PX								HG/T20592 PN16 DN150 304SS/PTFE
	PS								HG/T20592 PN16 DN50 316LSS/PTFE
	PU								HG/T20592 PN16 DN80 316LSS/PTFE
	PW								HG/T20592 PN16 DN100 316LSS/PTFE
	PN								HG/T20592 PN16 DN125 316LSS/PTFE
	PY								HG/T20592 PN16 DN150 316LSS/PTFE
	XX								Others
Heat Resistance Temperature	TC								-40-80℃
	TR								-40-120℃
	XX								Others
Electrical Interface, Housing Material, and Protection Rating							WH		M20×1.5 Cable Gland, Aluminum Alloy, IP67
Explosion-proof Options								00	None
								E4	CNEX Ex db II C T6 Gb