26G thread type long horn

RRF

Radar level transmitter

The principle of radar level transmitter is that the microwave is transmitted to the measured object, and the echo wave returned from the target is comparedwith the wave transmitted to determine the change of the target object. It is widely applied for level measurement of kinds of medium in vessels, storage tanks and feed bins. The measurement is not affected by the process pressure, temperature or the physical features of the medium. It is a kind of non contact measurement.

Product Series

26G Threaded connections short horns

26G universal flange connection type long horn

26G Flange connection type composite antenna

26G Threaded connection type long horn

26G Threaded connection paraboloid type

26G thread connection rod type

Product Series

6.8G Guided wave pipe flange connection

6.8G High temperature flange connection type short horn

6.8G Flange connection type short horn

6.8G Guided wave pipe flange connection

6.8G Threaded rod type

6.8G Flange connection rod type

Wave guide flange connection coaxial pipe

Guided wave single pole type screw thread connection

Guided wave anti-corrosion type flange connection

Guided wave threaded connection type high temperature and high pressure

Wave guide flange connection cable type

Wave guide flange connection double line type

Characteristics and advantages

Have a blind spot, high precision, two wire system technology, it is the differential pressure meter, magnetostriction, rf admittance, a good substitute for magnetic flap instrument.

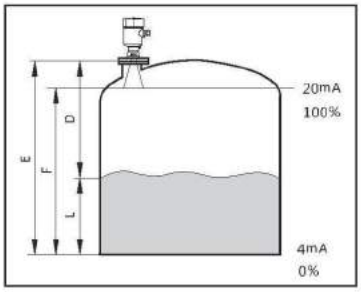
- Not subject to influence of pressure change, vacuum, temperature change, inert gas, smoke and steam/vapour etc..
- Easy installation, robust and durable and free of maintenance.
- HART or PROFIBUS-PA communication protocol and foundation fieldbus protocol, simple and convenient calibration, easily realize at-site calibrating operation via digital LCD and realize simple configuration setting and program via software RRFPF.
- Sensitive measurement and speedy update.
- Suitable for high-temperature working condition, where the temperature can be up to 200° C. When adopting high-temperature extension antenna, it can achieve 350° C.

Product Application

RRF1 series Radar Level Measurement is applicable to non-contact continuous measurement of liquid, sizing agent and granule. Adopts microwave pulse measurement and is able to work normally within the range of industrial frequency waveband. The beam energy is very low and it can be mounted inside of various metal or non-metallic vessels or tubes, without harm to human body and the environment.

Working Principle

Extreme short microwave pulse that emits low energy is transmitted and received via antenna system. Radar wave runs at a light speed. The running time can be converted into level signal by the electronic components. One special way to extend time can ensure a steady and accurate measurement within very short time. Even in a very complicated working condition where fault echo exists, the latest micro-process technology and debugging software can precisely analyze out the level echo.



Input

The antenna receives the reflective microwave pulse and transmits it to electronic circuit and the microprocessor processes this signal and identifies the echo produced by the microwave on the object surface. Correct echo signal identification is accomplished by intelligent software and the accuracy can be up to mm grade. Distance surface-D from the object is direct proportion to the time travel of pulse T: $D=C\times T/2$. C is the speed of light. Due to the distance of the empty tank is known, the object level L : L=E-D

Output

Input the height of empty tank-E (=Zero), height of full tank (=Full scale) and some application parameters to do setting. The application parameter will automatically accommodate the measurement to the measuring environment. Corresponding 4-20mA to output.

Remark: This product can take special customization.

Specification parameters

Medium	Liquid / Solid / slurry
Measuring range	5~70m
Output	4~20Ma / HART / RS485 / Modbus
Process connection	Thread, Flange, Universal type flange
Process temperature	-40~400℃
Process pressure	-0.1~40MPa
Accuracy	±3mm
Frequency range	26GHz
Explosion protection grade	Exia IIC T6 / IP68

Debugging

RRF do the debugging through 3 ways:

1. By displaying the adjustment module GPM.

2. Through RRFPF debugging software.

3. Through the handheld programming Hart.

GPM

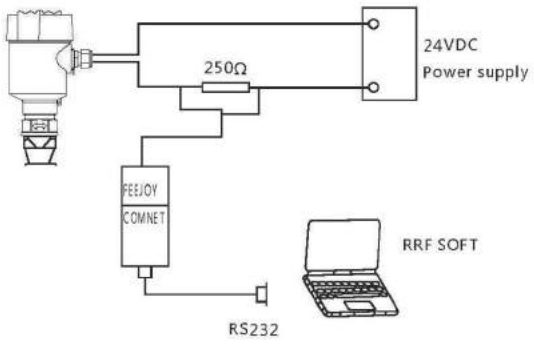
The programming module (GPM)

GPM programmer has six buttons and a liquid crystal display, can **adjust the menu display and parameter setting. Its function is** equivalent to an analysis

RRFPF Software adjust

No matter it is 4~20mA/HART signal output or Profibus Pa signal output, Radar sensor can be adjusted through software. Adopting RRFPF software to adjust, RRF requires an instrument of CONNECTCAT driver. The software and CONNECTCAT driver can be ordered as accessories.

When using software to make adjustment, 24VDC voltage should be given to radar instrument. At the same time, a 250Ω resistor should be added to the front end of HART adaptor. If the voltage **supply instrument is integrated HART resistor(internal resistance 250Ω), there is no need to add an extra external resistor. At this** time, HART adaptor can be connected with 4~20mA in parallel.



Product Selection

RRF1 : 26G high frequency smart radar level transmitter; RRF2 : waveguide radar level transmitter;
RRF3 : 6.8G frequency smart radar level transmitter

Product Series

P: standard type(non-explosion proof) signal output: 4-20mA with HART; I: EXIaIIC T6,signal output: 4-20mA with HART;
SI: EXiaIIC T6+marine license, output: 4-20mA with HART

Explosion-proof

1: Standard type; 2: Split 3M cable type; 3: Custom made

Structure

A: -40~120℃; B: -40~150℃; C: -40~250℃; D: -40~400℃

Process temperature

Pls select the correct specifications according to below chart.

Process connection

Flange/thread type size

E: 1-1/2'' (40A)	I: 4'' (100A)
F: 2'' (50A)	J: 5'' (125A)
G: 2-1/2''(65A)	K: 6'' (150A)
H: 3'' (80A)	S: Custom made

Flange/thread specification

L: 5kg/cm²	U: PNO.6 (6Bar)
M: 10kg/cm²	V:PN1.0 (10Bar)
N: 150Lbs	W: PN1.6 (16Bar)
O: 300Lbs	X: PN2.5 (25Bar)
P: PT	Y: PN4.0 (40Bar)
Q: PF	Z: PN6.3 (63Bar)
F: NPT	S: Custom made
T: GAS	

Signal output

1: 4~20mA two wires; 2: 4~20mA four wires; 3: 4~20mA/Hart two wires;
4: 4~20mA/Hart four wires; 5: RS485/Modbus

Detector type

1: Trumpet type; 2: Compound antenna type; 3: Paraboloid type; 4: Stick type;
5: Waveguide type; 6: Coaxial tube type; 7: Simple lever type;
8: High temperature&pressure type; 9: Single-cable type; 0: Dual-cable type

Corrosion resistance

Y: Yes;N : No

Housing material

Housing/protection level/Antenna protection level
S : Plastic/IP66/IP67
A : Aluminium alloy/IP68

Cable input

M : M20×1.5; N : 1/2 NPT;
A : 2×M20×1.5; B: 2×1/2 NPT

Site display

A : With; X: Without

Programming device

B: With; X: Without

Measuring range

Unit (mm)

RRF □	-□□	□	□	-□□	-□	□	□	□	□	□	□	-□□□□

Brent Adler
Technologies Inc.
Ul-Lee 94, 30-10 Krakow
Malopolskie, Poland.
Ph: +48 (12) 6358954
Fax: +48 (12)6372027
Email: info@brentadler.com

Subsidiary:
No.15, xinlong Road, Haizhou Economic Development Zone,
Lianyungang China.
Ph: +86 518 85340102
Fax: +86 518 85382182