

JFR483 Radar Wave Level Gauge



INTRODUCTION

The JFR4 radar wave level meter is a smart, non-contact solids level-measuring instrument that uses 80GHz high-frequency. The antenna is further enhanced for optimal processing. The new, fast microprocessor can perform signal analysis and processing at a faster rate, ideal for level measurement of solids in storage tanks and silos.

Provides RS-485 digital signals and emits 4~20mA analog signals, which can be easily connected to back-end extension applications.

The product is dustproof and waterproof, suitable for outdoor or industrial environments, and can be used for industrial level measurement of solids in barrels and tanks, and other environmental applications.

WORKING PRINCIPLE

The radar level gauge transmits a continuous radar wave signal from the antenna. This signal is a frequency-modulated continuous wave (FMCW). There is a frequency difference between the continuous wave emitted from the radar level gauge antenna and the echo returned from the surface of the object. The frequency difference is proportional to the distance between the antenna and the surface of the object. After receiving the echo, the electronic components are processed using a unique high-precision algorithm, the Fast Fourier Transform (FFT), which enables the instrument to accurately measure the height of the liquid level.

SCOPE OF APPLICATION

Used for monitoring and measuring material levels in tanks in industrial, food, cement plants and other fields.

- Flour, cement powder, and other materials.

SPECIFICATIONS

Medium	Solids
Measurement range	35m/85m
Frequency	80GHz
Antenna type	Lens antenna (75D)
Power supply	24VDC
Power consumption	Two-wires/four-wires: Max.0.54W
Blind spot	0.15m/0.2m
Resolution	1.6 uA
Accuracy	±1mm
Analog output	4-20mA
Digital communication	RS485
Beam angle	3°
Operating temp. range	-40~120°C

Antenna material	φ75mm PTFE
Operating pressure	Atmospheric pressure
Fault output	20.5mA ; 22mA ; 3.9mA
Damping time	0~100s adjustable
Cover window	PC
Cover seal material	Fluorine rubber
Cover material	Aluminum/IP67 (two-wire type) Double-cavity aluminum /IP67 (four-wire type)
Cable inlet	M20*1.5(cable outer diameter:6~9mm) Blind plug 20*1.5
Weight	4 kg (Depends on the process connection)
Shock resistance	Mechanical vibration 10m/s ²

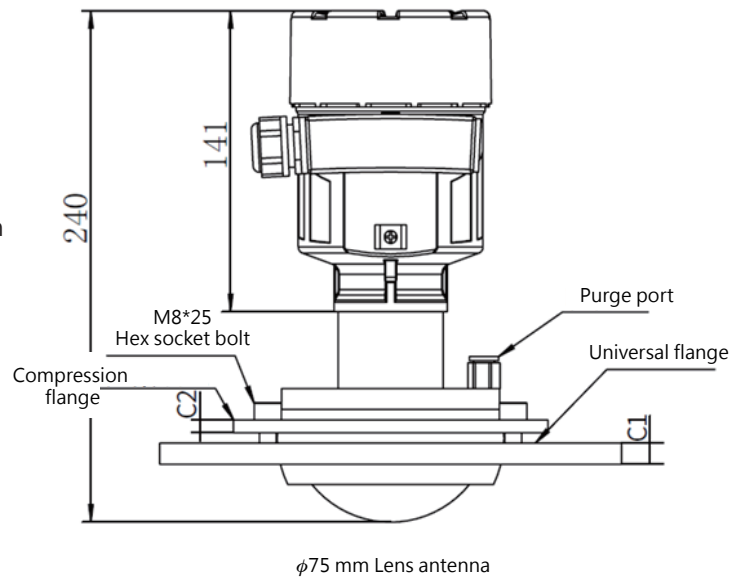


FEATURES

- Non-contact measurement, no wear and tear, and no pollution.
- Small antenna size, easy to install.
- Short wavelength, reflects well on inclined surfaces.
- The measurement blind spot is small, therefore particularly effective on the measurement of small storage tanks.
- The beam angle is small, the energy is concentrated, and the echo ability is enhanced, making it conducive in avoiding interfering objects.
- Unaffected by temperature and pressure changes.
- The real level echo can also be accurately read in a dusty environment.
- High signal-to-noise ratio, even in the case of fluctuations.
- The 80GHz frequency is the best choice for measuring solid and low dielectric constant media, achieved with the medium under test.
- Measurement of material working conditions with electrical constant ≥ 1.8 .

APPEARANCE SIZE

(unit: mm)



ORDER INFORMATION

JFR48300 - ⁰⁹ **H0B** ¹³ ¹⁴ ¹⁵ ¹⁶ ¹⁷ ¹⁸ **AC** ²¹ ²³ **AA**

⁰⁹ Measuring distance

D : 35m

E : 85m

Connection size

¹³ ¹⁴

Flange connection

AK : JIS-FF

AO : ANSI-FF

AS : DIN-FF

¹⁵ ¹⁶

B7 : 4"

E5 : DN100

¹⁷ ¹⁸

42 : 10Kg/cm²

48 : 150Lbs

58 : PN16

²¹ Output/Input

A : 4~20mA / 24V DC Two-wire

C : 4~20mA / 24V DC Four-wire

E : RS485 / Modbus(Housing/Ingress Protection, choose C)

²³ Housing/Ingress Protection

C : Aluminium/IP67(Ps. Two-wire)

D : Double cavity aluminum/IP67(Ps. Four-wire)

