



Special characteristics

- Measuring range: 0.08m~10m / 0.08m~20m / 0.08m~30m / 0.3 m ~ 60m
- Power : (15~28)VDC or 220VAC
- Power consumption: $\leq 2W$

Features

- 76-81 GHz FMCW radar, 120m max range, near-zero blindzone
- 4-wire & 2-wire supported, ideal for dusty/high-temp solids
- Built-in rich algorithm, stable output with fast agitator

Measuring principle

FK-WSR450 is a high-performance FMCW radar for reliable solid level measurement.



Recorder



Flow



Temp



Analyzer



Level



Pressure

The series is FMCW radar operating at 76-81 GHz, which has a maximum measuring range of 120m and nearly zero blindzone. It supports 4-wire and 2-wire applications. Higher operating frequency and shorter wavelength make it ideal for solid applications, including those with extreme dust and high temperature. Built-in rich algorithm ensure stable output even in the application with fast agitator.

Preferred areas of use are



solid applications, including those with extreme dust and



high temperature, fast agitator

Material and test

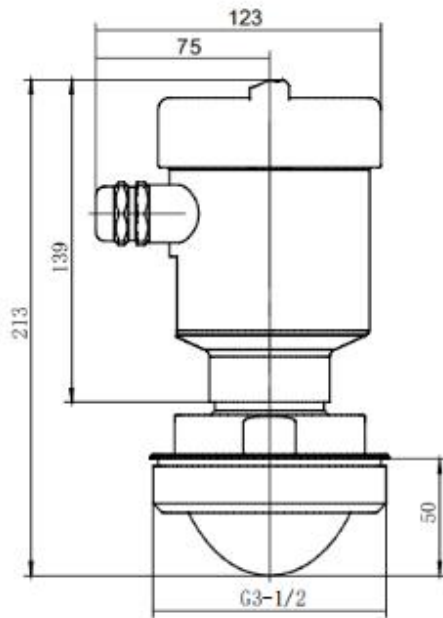


Parameters

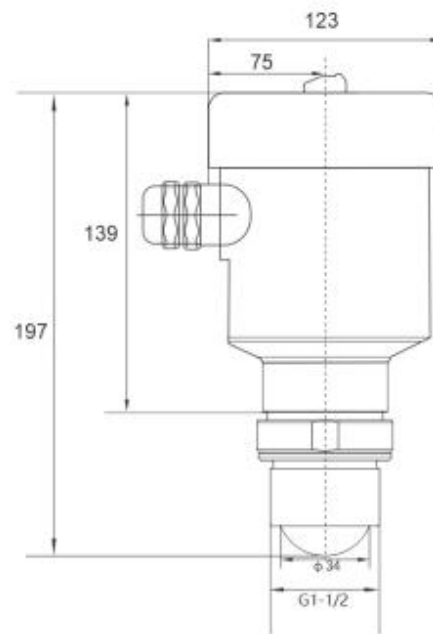
Measured variable	Level / Distance
Frequency	76GHz ~ 81GHz, 5GHz FMCW bandwidth
Measuring range	0.08m~10m / 0.08m~20m / 0.08m~30m / 0.3 m ~ 60m
Accuracy	Liquid measurement: $\pm 2\text{mm}$ Solid measurement: $\pm 5\text{mm}$
Resolution	Display resolution: 1 mm Distance resolution [1]: 3cm
Beam angle	$3^\circ / 8^\circ$
Minimum measured dielectric constant	≥ 2
Power	(15~28)VDC or 220VAC
Power consumption	$\leq 2\text{W}$
Communication	MODBUS HART/Series
Signal output	(4 ~ 20)mA or RS-485
Fault output	3.8mA, 4mA, 20mA, 21mA, hold
Humidity	$\leq 95\% \text{RH}$
Process temperature	T0: $-40 \sim 80^\circ\text{C}$; T1: $-40 \sim 150^\circ\text{C}$;
Process pressure	(-0.1~2) MPa

■ Dimension

Unit: mm



G3 1/2 thread



G1 1/2 thread

Fig.1 Thread connection with 3° beamwidth (normal temperature)

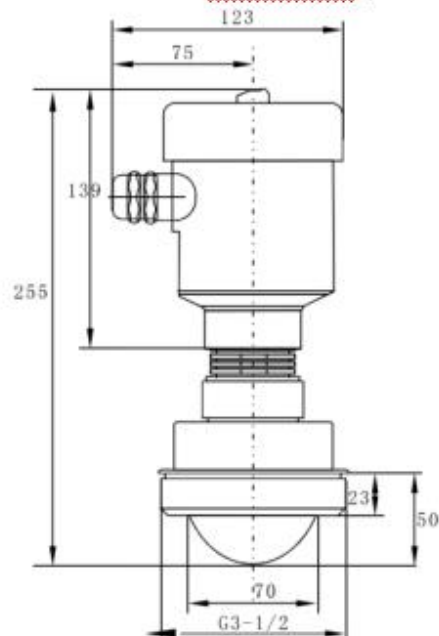


Fig.2 Thread connection with 3° beamwidth (high temperature)

■ Ordering Code

[illegible]

Connection Material									(PTFE), 304SS
	2								Polytetrafluoroethylene (PTFE), 316LSS
	3								Polytetrafluoroethylene (PTFE)
	9								Others
Heat Resistance Temperature		TC							-40-80℃
		TF							-40-150℃
		XX							Others
Electrical Interface, Housing Material and Protection Level		WH							M20×1.5 Cable Gland, Aluminum Alloy, IP67
		XX							Others
Accessories			EJ						Plastic ABS blower
			EM						Mounting Bracket 304SS