



Recorder



Flow



Pressure



Temp



Analyzer



Level

Datasheet

80G Radar Level Transmitter

SUP-WSR550

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Datasheet**80G Level Radar Transmitter
SUP-WSR550**

The 76-81GHz series products refer to frequency modulated continuous wave (FMCW) radar products operating at 76-81GHz, supporting four-wire and two-wire applications. The product has multiple models, the range can reach 120m, and the blind zone can reach 8 cm. Because of its higher operating frequency and shorter wavelength, it is especially suitable for solid applications. The working method of transmitting and receiving electromagnetic waves through the lens has unique advantages in high dust and harsh temperature environments (+200°C). The instrument provides flange or thread connection, which makes installation convenient and easy.

Applications

- Chemical industry
- Solids level measurement
- Sewage treatment
- Mining industry
- Paper and Pulp Industry
- Boiler Engineering
- Liquid and solid powder measure
- Acids, bases or other corrosive media

Features

- Range: M1-10m, M2-20m, M3-30M, M6-60m, MB-120m
- Can be used in stirring, steam, dust, crystallization occasions
- Abundant physical interfaces: 4~20mA (2 channels optional), HART,AUTBUS
- Fieldbus Foundation, ProfibusPA, NB-IoT, etc.
- Support Bluetooth debugging function
- Support low dielectric constant (less than 1.5) medium TBF tank bottom reflection measurement
- Support backlight display

**80G Level Radar Transmitter**

Principle

High-frequency microwave pulses issued by the guided wave radar propagate along detection components (steel cable or steel rod), meet the media to be measured, since the dielectric constant of the mutation, 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.

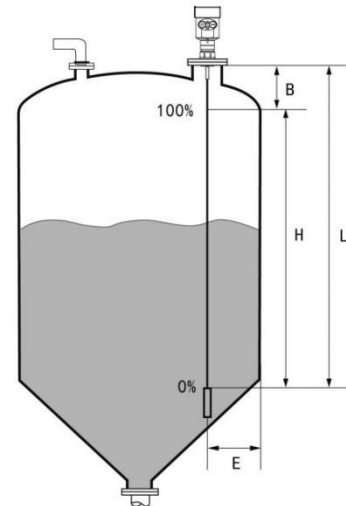
Explanation:

H--- Measuring range

L---Empty distance

B---The top of the blind

E---The minimum distance from the probe to the tank wall



--Blind spot is the minimum distance between the top of the highest material surface materials and measurement reference point.

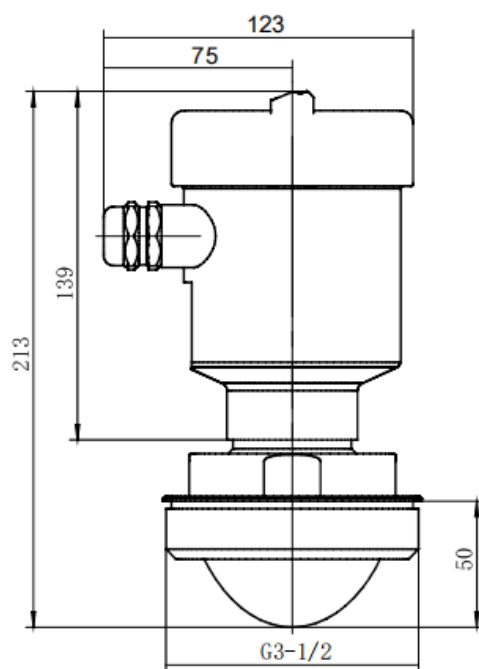
--The bottom of the blind refers to a distance near the very bottom of the cable can not be accurately measured.

--Between the top and bottom of the blind is blind effective measure distances.

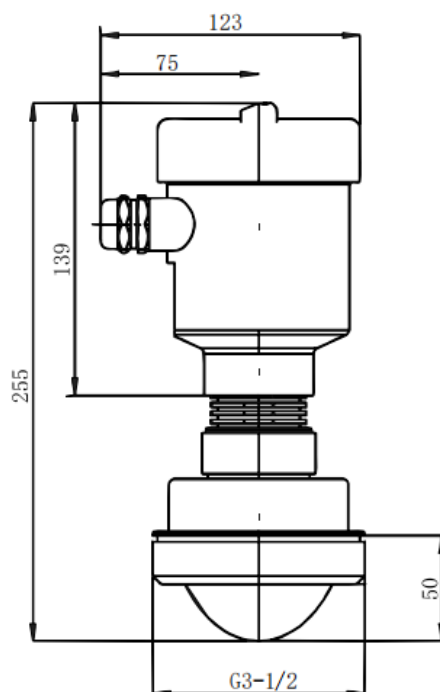
Note:

In order to ensure the accuracy of level measurement, the material should be located between the top and bottom of the blind the blind.

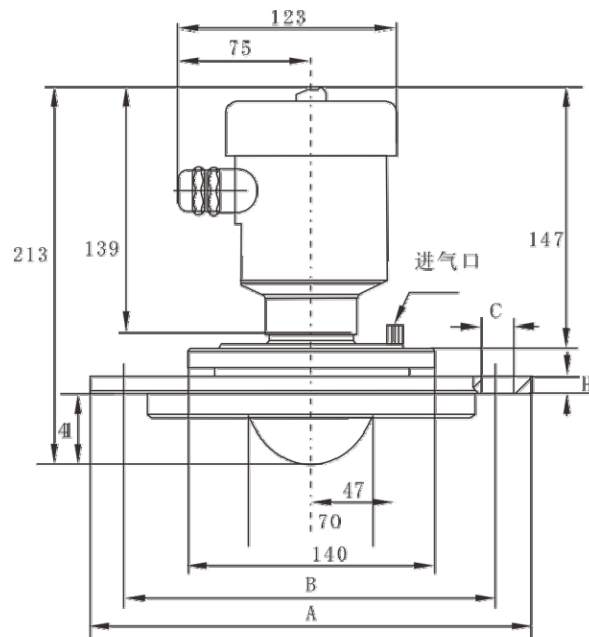
Parameters	
Transmit frequency	76GHz~81GHz
Range	0.08 m ~10m; 0.08~20m; 0.08 m ~30m; 0.3 m~60m;
Accuracy	Liquid: ±2mm; Solid: ±5mm
Measurement interval	Fastest 100ms
Beam angle	3°/8°/20°
Dielectric constant range	≥2
Power supply	15~28VDC; 220VAC
Communication	MODBUS, HART
Signal output	4~20mA or RS-485
Fault output	3.8mA, 4mA, 20mA, 21mA, hold
On-site operation/programming	128×64 dot matrix display/4 buttons; configurable host computer setting software
Industrial temperature/humidity	T0:-40~85°C/humidity≤95%RH; T1:-40~200°C; T2:-40~500°C; T3:-40~1000°C
Shell material	Aluminum alloy, stainless steel
Process connection	Pipe thread/universal flange/anti-corrosion flange/sanitary chuck/quartz isolation flange
Process pressure	-0.1~2MPa
Dimension	φ 100*270mm
Connection	M20*1.5
Recommended wire	AWG18 or 0.75mm ²
Ingress protection	IP67
Mounting method	Thread or flange

Dimension

Normal temperature pipe threaded connection

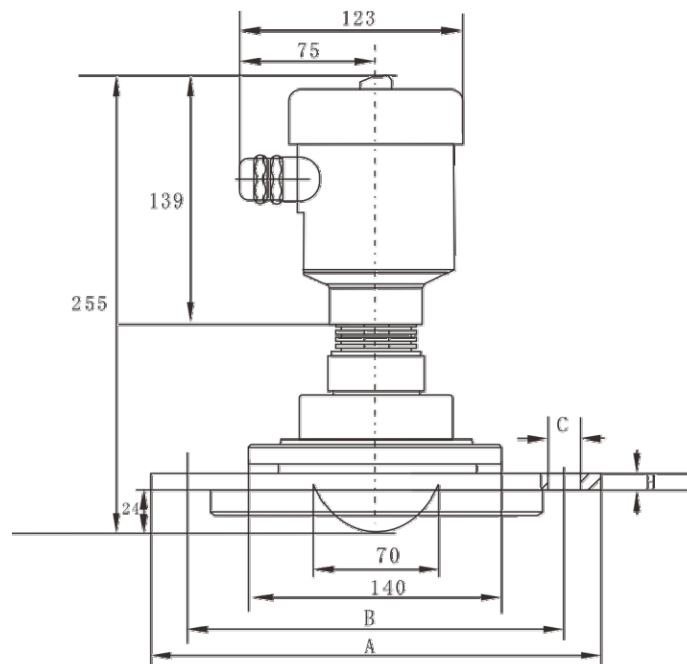


Note: This model needs to be equipped with a high temperature version of the electronic module
High temperature (-40...200°C) pipe thread connection



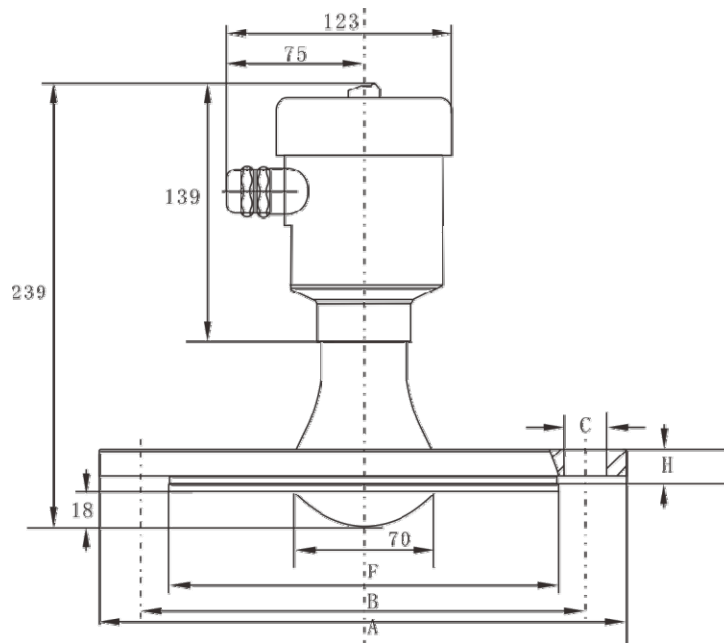
	A	B	C	H
DN80	φ 190	φ 150	4- φ 18	15
DN100	φ 210	φ 170	4- φ 18	15
DN125	φ 240	φ 200	8- φ 18	17
DN150	φ 265	φ 225	8- φ 18	17
DN200	φ 320	φ 280	8- φ 18	19

Normal temperature universal flange structure

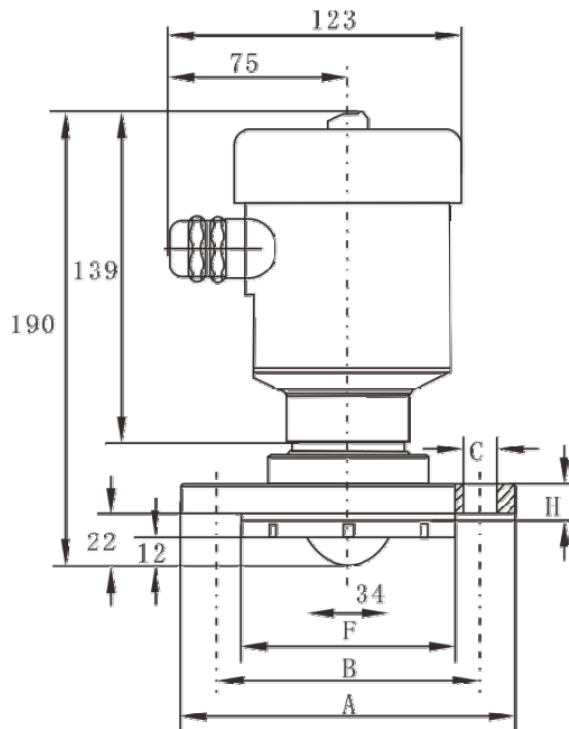


	A	B	C	H
DN80	φ 190	φ 150	4- φ 18	15
DN100	φ 210	φ 170	4- φ 18	15
DN125	φ 240	φ 200	8- φ 18	17
DN150	φ 265	φ 225	8- φ 18	17
DN200	φ 320	φ 280	8- φ 18	19

High temperature (-40...200°C) universal flange structure



	A	B	C	F	H
DN80	φ190	φ150	4-φ18	φ128	18
DN100	φ210	φ170	4-φ18	φ148	18
DN125	φ240	φ200	8-φ18	φ178	20
DN150	φ265	φ225	8-φ18	φ202	20
DN200	φ320	φ280	8-φ18	φ258	22



	A	B	C	F	H
DN50	φ140	φ110	4-φ14	φ90	16
DN100	φ160	φ130	4-φ14	φ110	16

Normal temperature anti-corrosion flange structure

Ordering code

SUP-WSR550-A-10-A2-LB-1-TC-EJ							Description
SUP-WSR550	-	-	-	-	-	-	
Medium	A						Liquid
	B						Solid Powder
Measurement Range	10						10m
	20						20m
	30						30m
	60						60m
	XX						Others
Output and Power Supply	A2						Two-wire 4-20mA+HART
	SE						4-20mA+RS485, 24VDC (Only measurement range>10 can be selected.)
	B3						Two-wire 4-20mA+HART+Bluetooth
	B5						4-20mA+RS485+Bluetooth, 24VDC (Only measurement range>10 can be selected.)
	B4						Two-wire 4-20mA+HART+Bluetooth, 220VAC (Dual Chamber Casing)
	B6						4-20mA+RS485+Bluetooth, 220VAC (Only measurement range>10 can be selected,Dual Chamber Casing)
Thread Type	LB						G1 1/2 Thread (Only measurement range ≤ 20m can be selected, only liquids can be measured, and only heat-resistant up to 80 °C can be selected)
	LE						G3 1/2 Thread
	FP						HG/T20592 PN16 DN50 (Only measurement range<30m can be selected, and only heat-resistant 80 °C can be selected.)
	FQ						HG/T20592 PN16 DN80
	FR						HG/T20592 PN16 DN100
	FS						HG/T20592 PN16 DN125
	FT						HG/T20592 PN16 DN150
	FU						HG/T20592 PN10 DN80 Universal Flange (Flange Thickness 12mm)
	FV						HG/T20592 PN10 DN100 Universal Flange (Flange Thickness 12mm)
	FW						HG/T20592 PN10 DN150 Universal Flange (Flange Thickness 14mm)
	XX						Others (Minimum Universal Flange DN65)
Antenna and Thread Type Material					1		Polytetrafluoroethylene (PTFE), 304SS
					2		Polytetrafluoroethylene (PTFE), SS316L
					3		Polytetrafluoroethylene (PTFE) (It is optional for normal pressure, while universal flange is not available.)
					9		Others

High Temperature Resistance	TC	-40-80°C
	TF	-40-150°C
	XX	Others
Accessories	EJ	Plastic ABS Blower (Only G3 1/2 thread and universal flanges are available.)
	EM	Mounting Bracket 304SS