

Datasheet

Radar Level Meter **RL100 - 80GHz**

Introduction

Radar technology is widely used to measure level in various applications. A radar level meter includes a transmitter with an inbuilt oscillator, a radar antenna, a receiver along with a signal processor and an operator interface. The operation of RL100 involves sending microwave beams emitted by a sensor to the surface of medium in a tank; The electromagnetic waves hitting the fluids surface returns back to the sensor which is mounted at the top of the tank or vessel. The time taken by the signal to return back i.e. time of flight is then determined to measure the level of medium in the tank



Characteristics

Measuring range up to 75m / 246 ft

Reliable performance

Drip-off antenna

Easy to mount and use

Operating frequency: 80GHz

Applications

Non-contact measurement

Aggressive liquids, solids

Power plant

Chemical processing

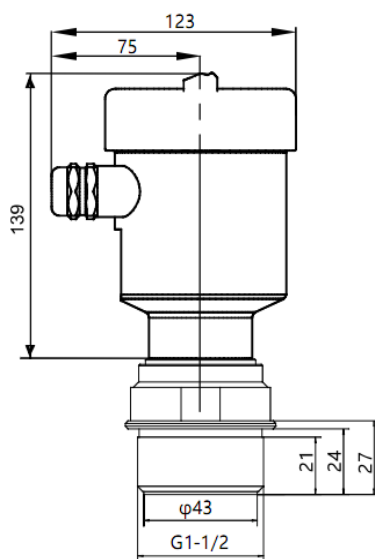
Food and beverage

Specifications

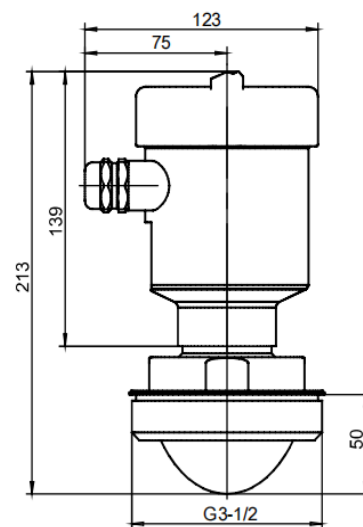
Measuring range	75m / 246ft
Operating frequency	80 GHz
Current output	4...20mA
Resolution	1mm
Non-linearity	0.3% of full span
Repeatability	0.3% of full span
Process temperature	-40...85°C / -40...185°F -40...200°C / -40...392°F (Optional)
Process pressure	-0.1...2Mpa / -14.5...290 psi
Protection class	IP67
material	Antenna: stainless steel 316L; PTFE Flange: stainless steel 316L Transmitter housing: aluminum Sealing between housing and cover: silicone rubber Display: PC (Polycarbonate) Wiring terminals: stainless steel
Beam angle	3° / 8°
Process connection	Flange / Thread
Power supply	24VDC
Electrical connection	M20 x 1.5
Operating voltage	20...36 VDC
Over voltage protection	Max. 36VDC
Power consumption	Max. 22.5mA

Dimensions in mm

Thread connection (Process temperature up to 85°C / 185°F)

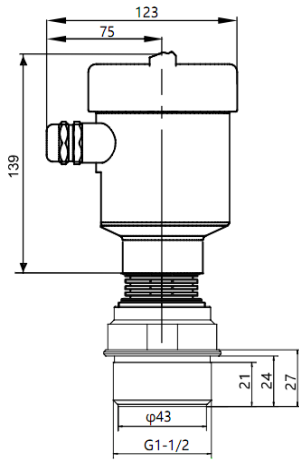


Thread: G1-1/2

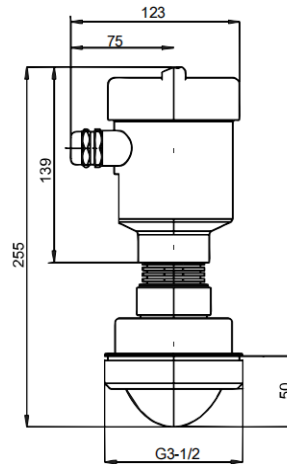


Thread: G3-1/2

Thread connection (High temperature up to 200°C / 392°F)

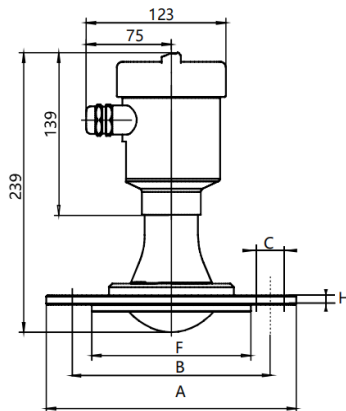


Thread: G1-1/2



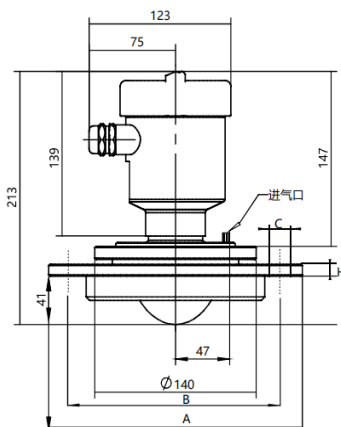
Thread: G3-1/2

Flange connection



Flange		φA	φB	φF	C
DN	Inch				
DN50	2"	165	125	102	4-φ18
DN65	2-1/2"	185	145	122	4-φ18
DN80	3"	200	160	138	8-φ18
DN100	4"	220	180	158	8-φ18
DN125	5"	250	210	188	8-φ18
DN150	6"	285	240	212	8-φ22
DN200	8"	340	295	268	12-φ22

Universal flange connection



Flange		φA	φB	φF	C
DN	Inch				
DN80	3"	200	160	138	8-φ18
DN100	4"	220	180	158	8-φ18
DN125	5"	250	210	188	8-φ18
DN150	6"	285	240	212	8-φ22
DN200	8"	340	295	268	12-φ22

Order Code

Example: RL100-30ABF50B150AM

1. RL100-

RL100- Radar level meter

2. Measuring range

10	0.08...10m / 0.26...33 ft
20	0.08...20m / 0.26...66 ft
30	0.08...30m / 0.26...98 ft
60	0.3...60m / 1...196 ft
75	0.8...75m / 2.6...246 ft

3. Output

A	4-20mA
B	4-20mA with HART

4. Power supply

D 24VDC

5. Beam angle

3	3 degree
8	8 degree

5. Process connection

F50	Flange DN50 / 2"
F65	Flange DN65 / 2-1/2"
F80	Flange DN80 / 3"
F100	Flange DN100 / 4"
F125	Flange DN125 / 5"
F150	Flange DN150 / 6"
F200	Flange DN200 / 8"
G112	Thread G1-1/2
N112	Thread NPT1-1/2
G3	Thread G3
N3	Thread NPT3

7. Process temperature

85	-40...85°C / -40...185°F
200	-40...200°C / -40...392°F

8. Process pressure

6	-0.1...0.6MPa / -14.5...87 psi
10	-0.1...1.0MPa / -14.5...145 psi
16	-0.1...1.6MPa / -14.5...232 psi
20	-0.1...2.0MPa / -14.5...290 psi

9. Electrical connection

M M20 x 1.5

10. Universal joint (Optional)

U Flanged universal joints