

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

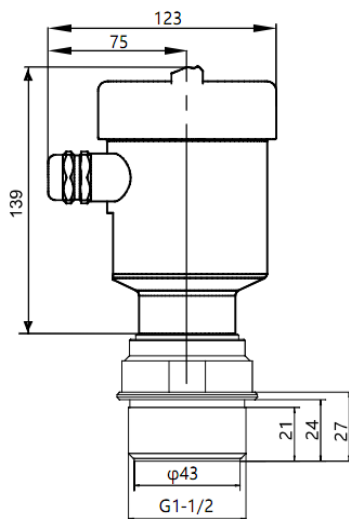
Food and beverage

Specifications

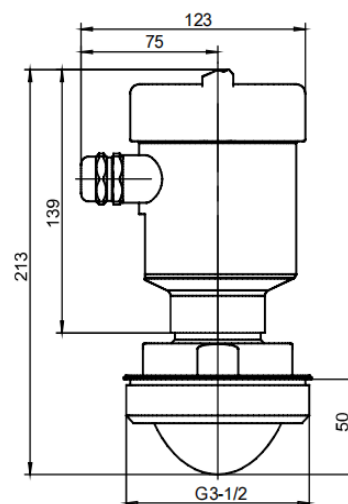
Measuring range	75m / 246ft
Operating frequency	80 GHz
Current output	4...20mA
Resolution	1mm
Repeatability	0.3% of full span
Process temperature	-40...85°C / -40...185°F -40...200°C / -40...392°F (Optional)
Process pressure	-0.1...2Mpa / -14.5...290 psi
Protection class	IP67
Material	Antenna: PTFE Flange: stainless steel 316L Transmitter housing: aluminum Sealing between housing and cover: silicone rubber Wiring terminals: stainless steel
Beam angle	1-1/2" thread connection or DN50 / DN65 flange connection: 8° 3-1/3" thread connection or DN80 and above flange connection: 3°
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
Ex-proof	Exd ia IICT6

Dimensions in mm

Thread connection

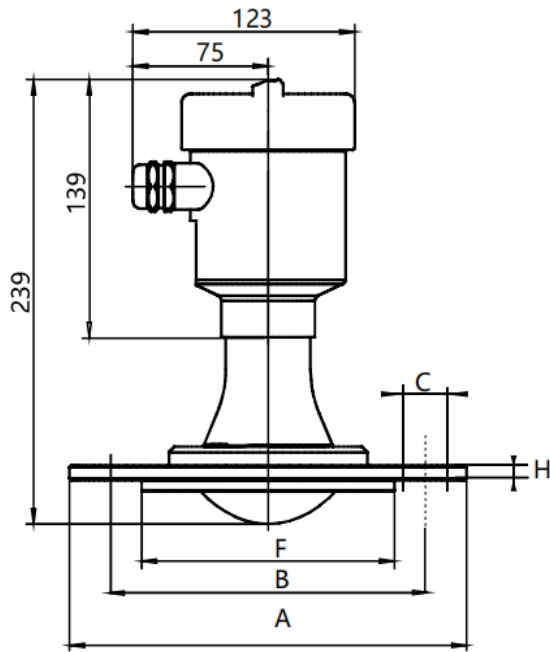


Thread: G1-1/2"



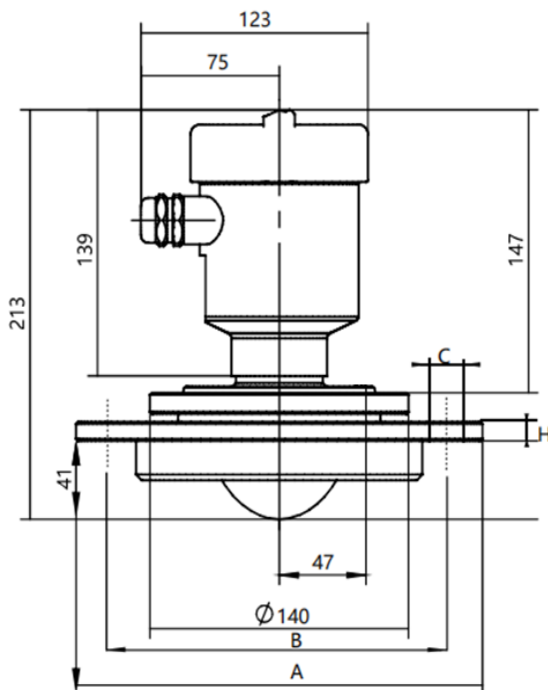
Thread: G3-1/2"

Flange connection



Flange		A	B	F	C
DN	Inch				
DN50	2"	165	125	102	4- 18
DN65	2-1/2"	185	145	122	4- 18
DN80	3"	200	160	138	8- 18
DN100	4"	220	180	158	8- 18
DN125	5"	250	210	188	8- 18
DN150	6"	285	240	212	8- 22
DN200	8"	340	295	268	12- 22

Universal flange connection



Flange		A	B	F	C
DN	Inch				
DN80	3"	200	160	138	8- 18
DN100	4"	220	180	158	8- 18
DN125	5"	250	210	188	8- 18
DN150	6"	285	240	212	8- 22
DN200	8"	340	295	268	12- 22

Order Code

Example: RL100-30ALFU100PSP

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. Antenna material

P PTFE

5. Process connection

FU50	Flange: DN50 (EN1092-1)
FU65	Flange: DN65 (EN1092-1)
FU80	Flange: DN80 (EN1092-1)
FU100	Flange: DN100 (EN1092-1)
FU125	Flange: DN125 (EN1092-1)
FU150	Flange: DN150 (EN1092-1)
FU200	Flange: DN200 (EN1092-1)

FA50	Flange: 2" ANSI Class 150 (ASME B16.5)
FA65	Flange: 2-1/2" ANSI Class 150 (ASME B16.5)
FA80	Flange: 3" ANSI Class 150 (ASME B16.5)
FA100	Flange: 4" ANSI Class 150 (ASME B16.5)
FA125	Flange: 5" ANSI Class 150 (ASME B16.5)
FA150	Flange: 6" ANSI Class 150 (ASME B16.5)
FA200	Flange: 8" ANSI Class 150 (ASME B16.5)
G112	1-1/2" G thread
N112	1-1/2" NPT thread
G312	3-1/2" G thread
N312	3-1/2" NPT thread

other connection on request

6. Flange type

N	Not applicable for thread connection
P	Standard flange
U	Universal flange

7. Process temperature

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

8. Ex-proof

P	Non-hazardous area
E	Hazardous area