

## DATASHEET

Level

# 76-81GHz FMCW Radar Level Sensor For Rivers, Dams, Lakes Water Application



### Description

PWL-R807/R808 is radar water level meter referring to Frequency Modulated Continuous Wave (FMCW) radar products that works at 76-81GHz. The maximum measuring range of the product can be 65m, and the blind area is 10cm. It's higher working frequency and a larger bandwidth, makes the measurement accuracy higher.

The product provides a bracket fixing method, and no on-site wiring is required, making installation convenient and easy.



### Features

- 76-81GHz FMCW radar
- Millimeter wave RF chip, higher signal-to-noise ratio, smaller blind area
- 5GHz working frequency bandwidth, higher resolution and precision
- Narrowest 6°antenna beam angle, less impact from interference in the installation environment
- IP67 protection level
- Integrated lens design, compact size.
- Support bluetooth debugging to facilitate the maintenance work

### **Specifications**

Model	PWL-R807, PWL-R808		
Frequency	76GHz ~ 81GHz, 5GHz FMCW bandwidth		
Measuring Range	0.1 m ~65m		
Accuracy	±1mm		
Beam Angle	6°		
Blind Zone	10cm		
Application	Water level at rivers, dams, lakes, underground pipe network		
Signal Output &Power Supply	PWL-R807: RS485 Modbus RTU 9~28 VDC		
	PWL-R808: 4-20mA/HART 14 ~28 VDC		
	PWL-R808: SDI-12 12 VDC		
Bluetooth	Only available for PWL-R808 4-20mA		
	Max range is 35m for with Bluetooth function, and available in 12m away from sensor		
Enclosure	PP / Stainless steel		
Antenna Type	Lens antenna		
Electrical Connection	Directly cable outlet		
Cable Length	10 meters (can be longer as requested)		
Recommend Cable	0.5mm <sup>2</sup>		
Process Temperature	<b>-30 ~ 75</b> ℃		
Process Pressure	Atmospheric		
Protection Level	IP68		
Installation Method	Threaded or by bracket (Bracket is along with shipment)		

## PWL-R808P (PP material)



80.60

18.00

1











- 43.00

21.00

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35.00 ---

35.00 -

48.00 -

PWL-R807P (PP material)

70.00 -

### Dimensions

- 33.00 -



### Installation





## **T-bracket Schematic Diagram**



### **Wiring Definition**

PWL-R807	RS485 Modbus RTU	
	Green	RS485A
	Yellow	RS485B
	Red	Vcc+
	Blue	Vcc-

PWL-R808	4-20mA/HART	
	Yellow	GND
	Red	Vcc+
	Blue	Vcc-

PWL-R808 SDI-12				
	Yellow	GND		
	Red	Vcc+		
	Blue	Serial Data		

\*\*Tell us which application / measuring range / signal output / working Temp. and pressure / what you wanna to realize, our sales engineer will recommend suitable model for you.