



RKL-12 Radar Liquid Level Transmitter

Overview

The radar water level transmitters series consists of 76-81GHz Frequency Modulated Continuous Wave (FMCW) radar devices, featuring a maximum measuring range of 65m and a blind zone of $\leq 10\text{cm}$. With its high operating frequency (76-81GHz), wide signal bandwidth, and superior measurement accuracy ($\pm 3\text{mm}$ typical), this product delivers enhanced performance. The included pre-configured mounting bracket eliminates the need for field wiring, ensuring quick and simple installation.

Features

FMCW (Frequency Modulated Continuous Wave) technology
5GHz working bandwidth, high precision, fine resolution
Non-contact measurement with minimal maintenance, unaffected by sediment or other factors
Continuous 24/7 operation, unaffected by temperature variations with strong anti-interference capability
Energy-saving design combining measurement operation and sleep mode Multiple interface modes are provided for easy access to platform systems
Easy installation

Applications

River water level measurement	Hydrographic surveying
Lake water level measurement	Environmental protection
Shallow water level measurement	

Technical Parameter

Item	Technical Specification
Range	100~65000mm
Output	RS485(Modbus-RTU)
Supply voltage	10-33VDC
Working frequency	76-81GHz
Accuracy	$\leq \pm 3\text{mm}$
Resolution	1mm
Ingress protection	IP68
Antenna type	Lens Antenna, $6^{\circ} \times 6^{\circ}$
Operating temperature	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
Housing material	Aluminum alloy
Installation method	Bracket
Cable length	10m default, customizable

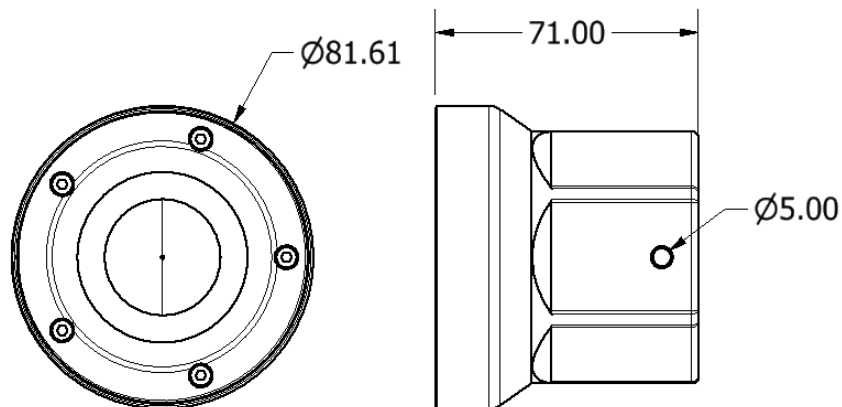


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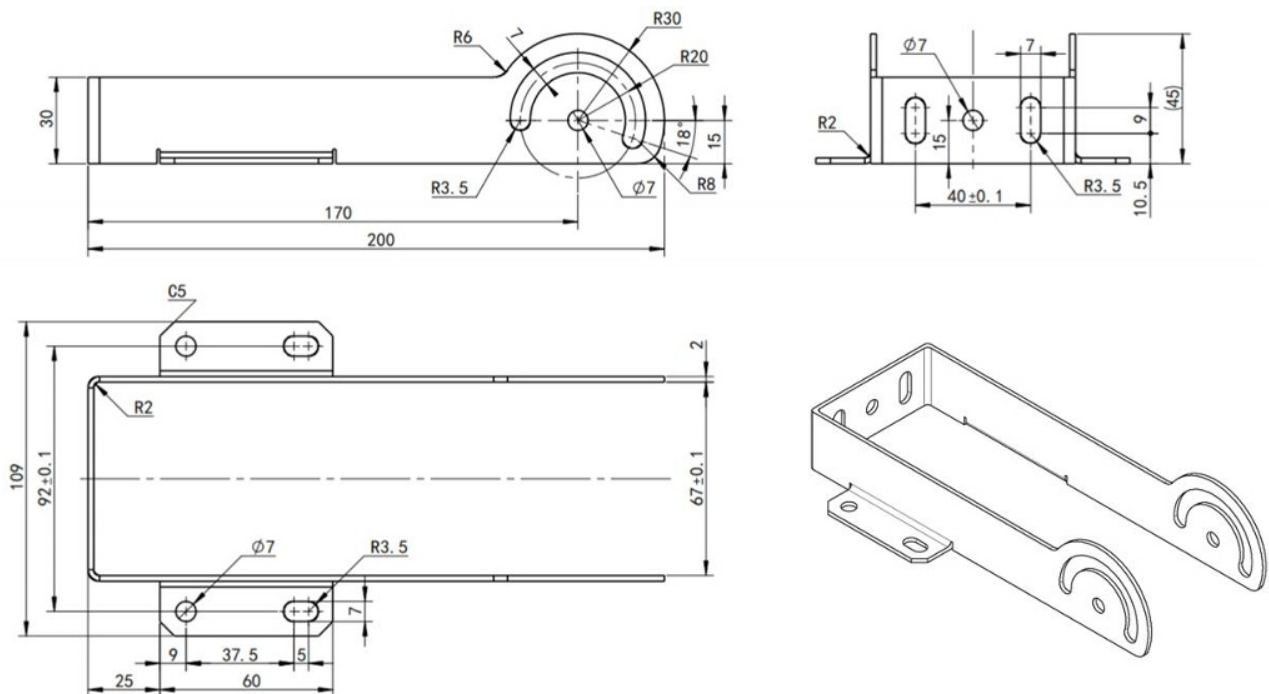
Dimension

Unit:mm

Sensor:



Bracket:



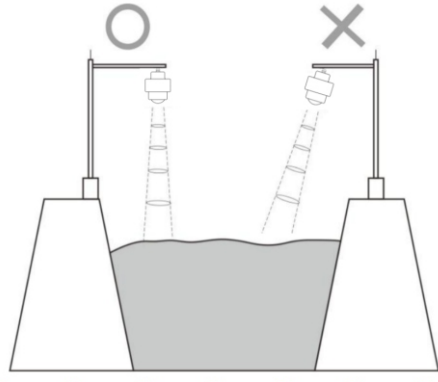


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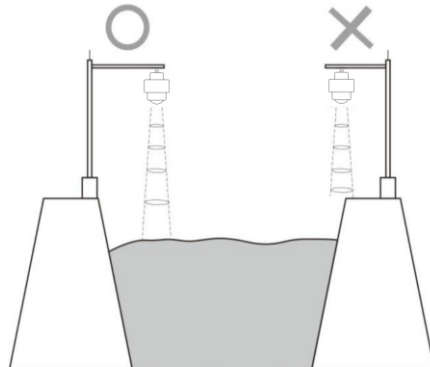
Mounting

Two points to pay attention to during installation: (1) Ensure that the instrument is perpendicular to the water surface; (2) Prevent the transmitting beam from illuminating interfering objects and generating false echoes. See the following points for typical working conditions:

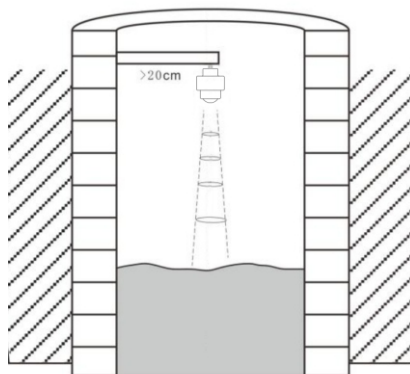
- Ensure that the water level gauge is installed perpendicular to the water surface. Inclination will weaken the amplitude of the received signal and affect the normal ranging.



- Ensure that there are no interfering objects within the beam range, such as the riverbank.



- The instrument shall be installed at least 20cm away from the side wall, and the underground pipe network shall be installed as close to the center of the well as possible, otherwise the well wall is prone to generate interference signals, affecting the measurement and judgment.



Revision time	Reviser	Current Version	Remarks
20250718	Echo	V5.0	