

FRM5000 Radar Water Level Meter

FEATURES

- Millimeter wave RF chip enables more compact RF architecture, higher signal-to-noise ratio and smaller blind area.
- 5GHz working bandwidth enables the product to have higher measurement resolution and accuracy.
- The narrowest antenna beam angle is 6°, the interference in the installation environment has less impact on the instrument, and the installation is more convenient.
- Integrated lens design, compact size.
- Display control and water level gauge adopt separate design, which can be customized.
- Low power consumption operation, service life more than 3 years.
- Bluetooth debugging of mobile phones is supported to facilitate the maintenance work of field personnel (supported in subsequent versions).



OVERVIEW

FRM5000 Radar level gauge series products refer to frequency modulated continuous wave (FMCW) radar products operating at 76-81GHz. The maximum range of the product can reach 65m, and the blind zone is within 10cm. Because of its higher working frequency, larger bandwidth and higher measurement accuracy. The product provides the fixing method of the bracket, without the need for field wiring, making the installation convenient and simple.

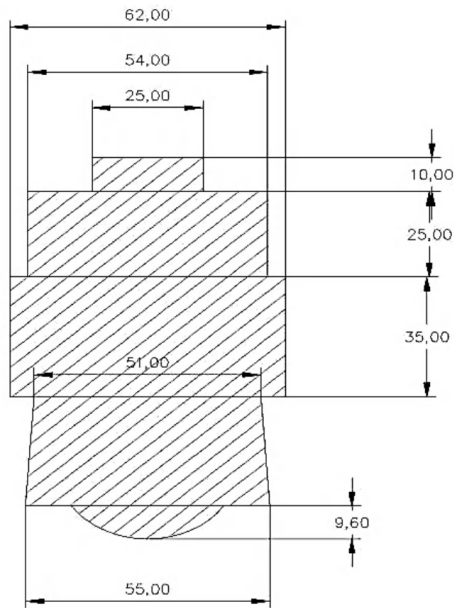
APPLICATION CASES

- Velocity monitoring of rivers, irrigation canals, flood control, etc.
- Environmental pollution discharge and water resource monitoring
- Monitoring of urban flood control and water logging
- Monitoring of rainstorm floods in mountainous areas

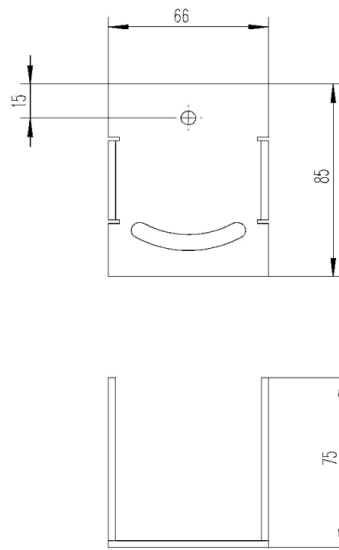
SPECIFICATION

Parameters	RS485 type	4-20mA type
Transmit frequency	76GHz~81GHz	
Measuring range	0.1 m ~65m	0.1 m ~85m
measurement accuracy	±1mm	
beam angle	6°	8°
Power supply range	9~28 VDC	18~28 VDC
Communication method	RS485	4-20mA
Working temperature	-40~85°C	
Shell material	Stainless steel,PP	PP
Antenna type	lens antenna	
Recommended cable	7*0.3mm ²	
Protection class	IP67	
Installation method	bracket/thread	
Cable entry	PG9	

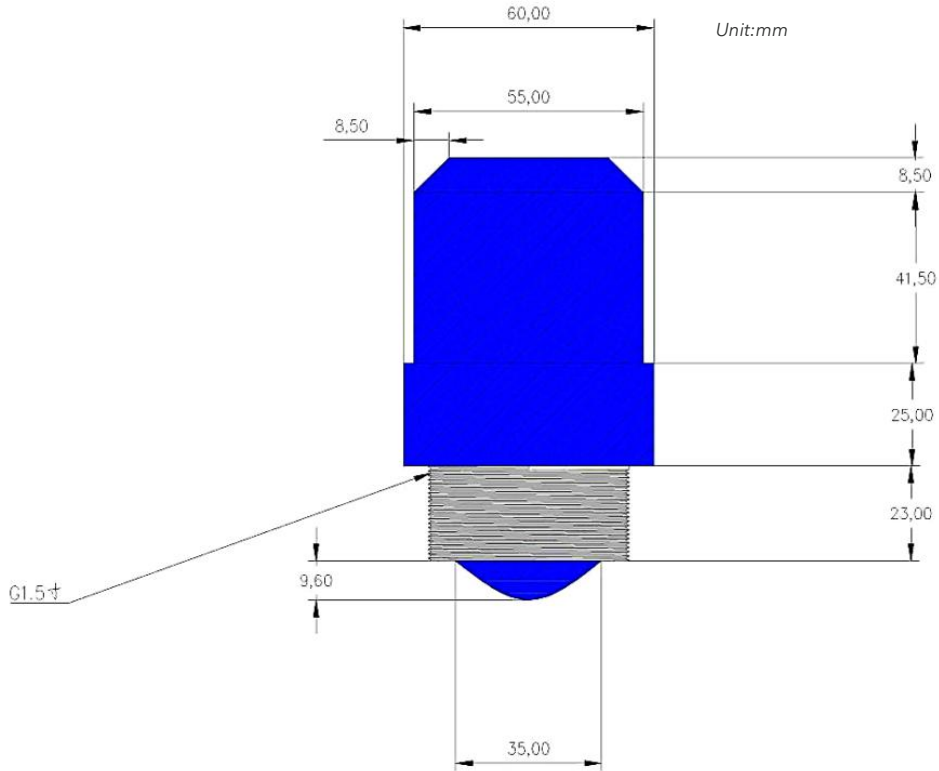
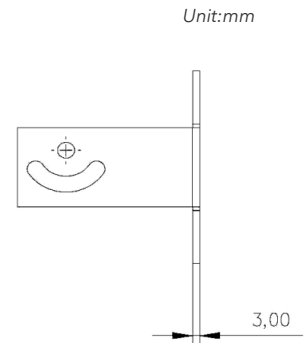
DIMENSIONS



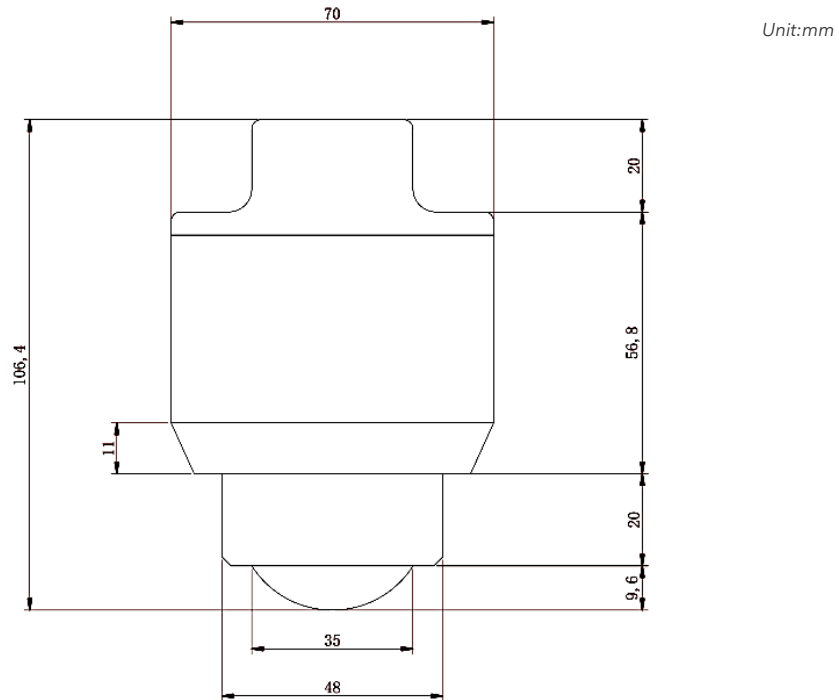
Dimension of SS structure



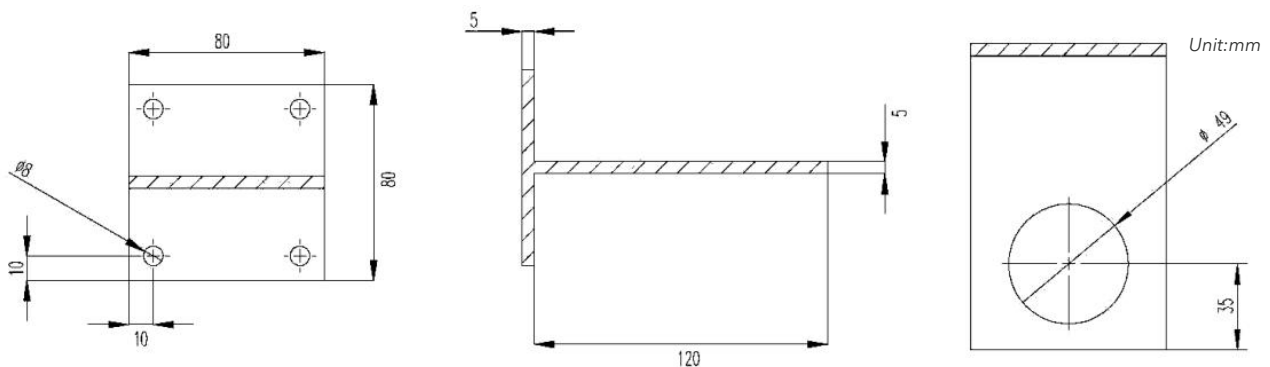
Dimension of SS installation bracket



Dimension of PP structure (RS485 type)



Dimension of PP structure (4-20mA type)



Dimension of PP installation bracket

INSTALLATION

Two points need to be paid attention to during installation: (1) Ensure that the meter is perpendicular to the water surface (2) Avoid the emission beam irradiating the interference object and generating false echoes. See the following points for typical operating conditions.

- *Ensure that the water level gauge is installed perpendicular to the water surface. The tilt will weaken the received signal amplitude and affect the normal distance measurement.
- *Ensure that there are no interfering objects within the beam range, such as river banks.
- *The instrument should be installed at least 20cm away from the side wall, and the underground pipe network should be installed as close as possible to the center of the water well, otherwise the well wall will easily generate interference signals, which will affect the measurement and judgment.

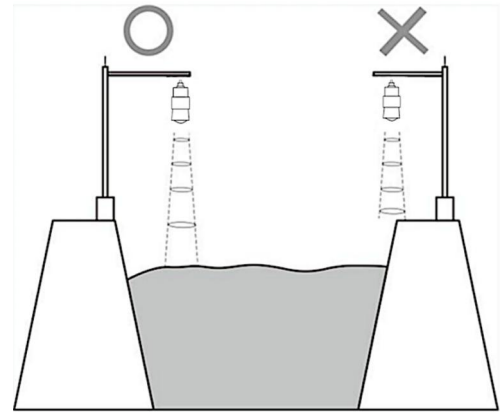
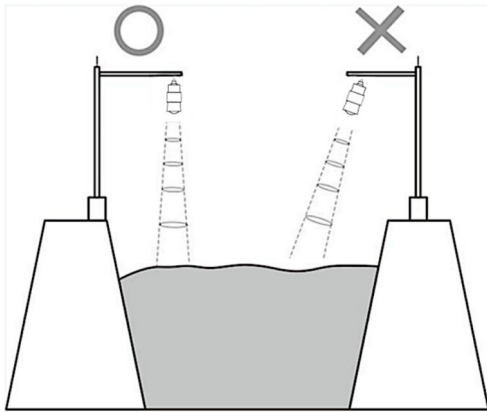
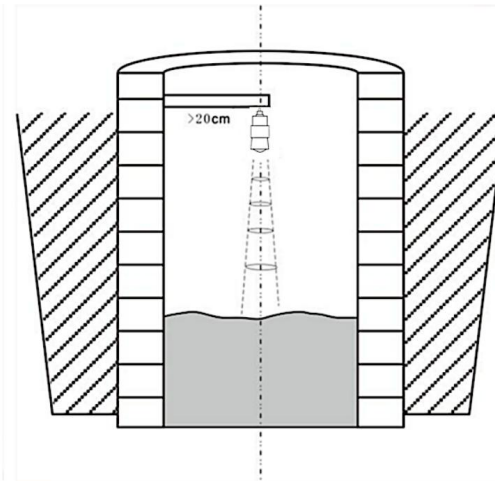


Diagram of instrument installation position



The installation shall be at least 20cm away from the vessel wall

ORDER GUIDE

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Field	Product abbreviation Radar Level Gauge	Signal output MA/485	Beam angle B8/B6	Shell K0/1	Bracket Z0/1	Display X0/1
Options	FRM5000	MA: 4~20MA	B8:8° beam angle	K0: ABS black shell	Z0: without bracket	X0:No display control
		485: 485 output	B6:6° beam angle	K1: Stainless steel shell	Z1:bracket	X1:Display control
Order example	FRM5000	485	B7	K1	Z0	X0