

FRM6000 Radar flowmeter

FEATURES

- CW planar microstrip radar is non-contact detection
- Anti-condensation, waterproof, and lightning-proof design, suitable for various outdoor environments.
- Stable performance, minimum temperature drift with all digital technology. Military components make trouble free working time up to 100000 hours.
- Low energy consumption, green environmental protection, can be powered by solar cells.
- The interface has various functions and is compatible with various network connection schemes.
- Integrated measurement of level, flow rate and flow.



OVERVIEW

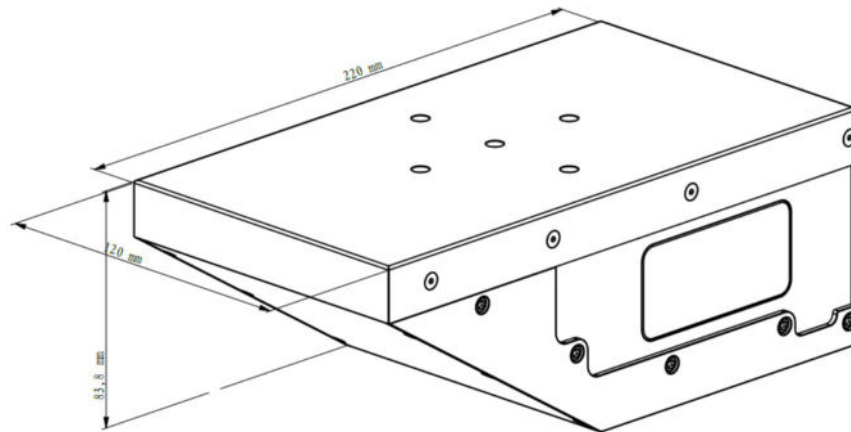
FRM6000 radar flow velocity instrument, the product uses 24GHz plane radar technology, can achieve non-contact unmanned site monitoring in the fields of hydrology, water conservancy, drainage and irrigation.

Radar flow meter is a flow meter designed in accordance with national standards and based on the actual situation of hydrological sites in China. It is a radar that uses the Doppler effect to detect the position and relative speed of moving targets. The multi-point and multi-layer flow velocity analyzer developed by applying the most advanced signal processing technology today has the biggest feature that it can be arbitrarily installed on the side or top of the measured river or channel as required, and the installation method can be set according to the site conditions, so as to accurately measure the installation. For multiple velocity values within the radar sector, the average velocity is calculated based on the multiple velocity data. Then, the on-site water level mapping can accurately calculate the flow of rivers with cross sections of various regular or irregular fluids. It greatly simplifies the traditional method of water measurement in water conservancy and makes a qualitative leap in accuracy, stability and real-time performance.

SPECIFICATION

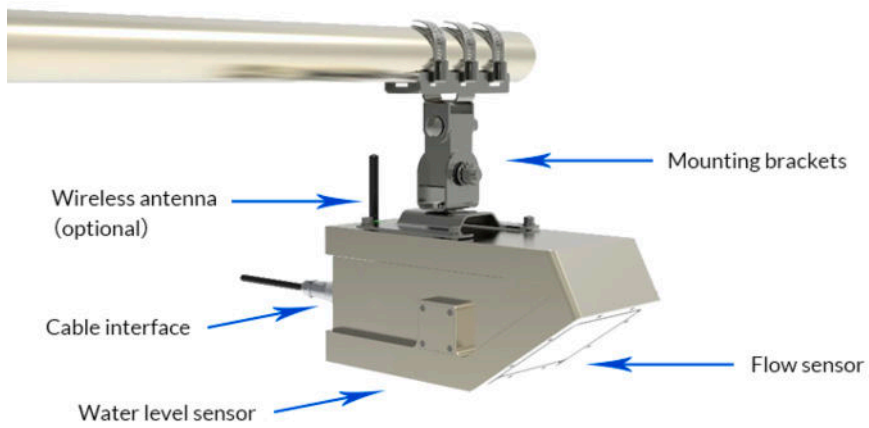
Supply voltage	DC 7 ~ 28V
Current (12V power supply)	About 300mA in normal operation, less than 1mA in sleep mode.
Operating temperature	-35° ~ 70°
Waterproof level	IP67
Transmit frequency	24.000 ~ 24.250GHz
Communication Interface	RS-232 / RS-485
Communication Protocol	MODBUS-RTU / custom protocol
Speed range	0.15 ~ 15m/s
Speed measurement accuracy	±2%
Speed resolution	0.01m/s
Distance range	0.4 ~ 40m
Distance accuracy	±1cm
Distance resolution	1mm
Antenna style	Flow rate: 14 x 32° Water level: 11 x 11°
Intervals	1 ~ 5000min
Flowmeter size (length×width×height)	220×120×83.8mm
Bracket size (length×width×height)	100×100×100mm
weight	Flowmeter + bracket: 5.8kg
Shell material	Galvanized, stainless steel sheet

DIMENSION



Unit: MM

STRUCTURE & FUNCTIONS



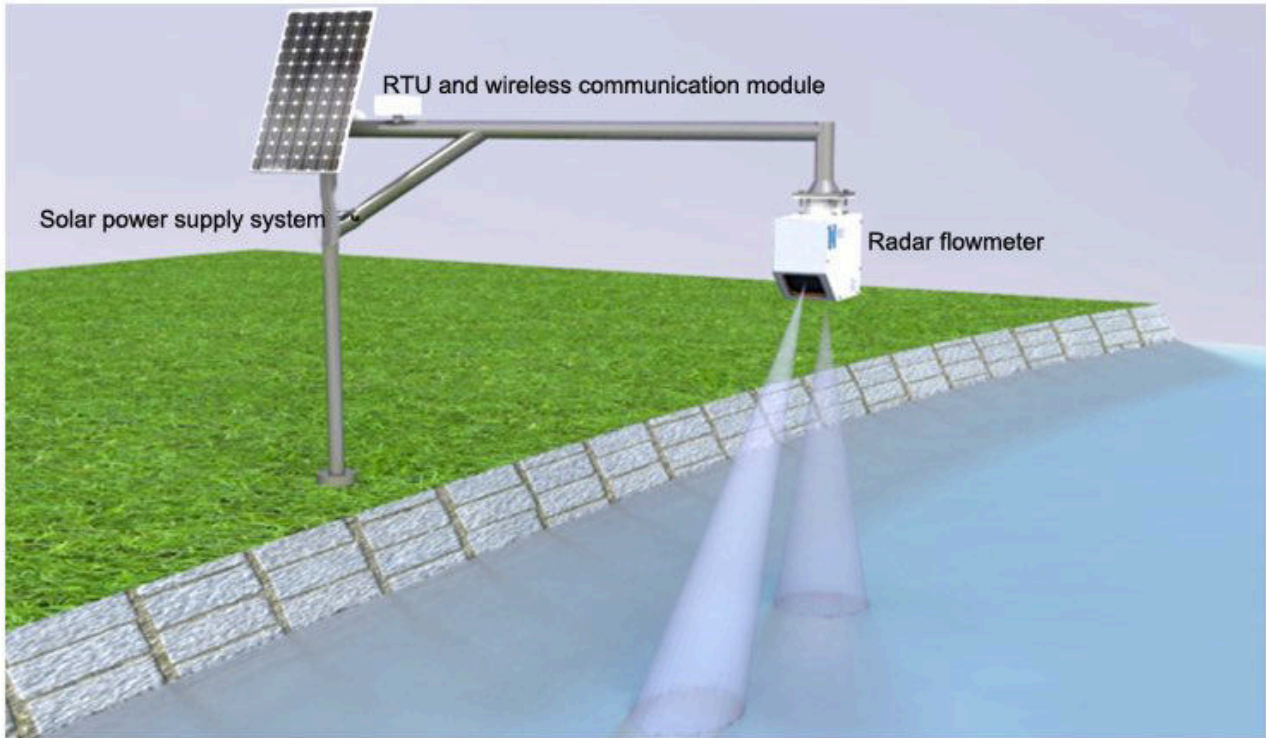
Standard 7m water level
20m/s flow velocity range



High precision 5m water level / 20m
water level, 15m/s flow velocity range

INSTALLATION EXAMPLE

The flowmeter integrates a radar water level gauge and a radar flowmeter. When installing the flowmeter, the water level gauge and the flowmeter radar cannot be blocked, otherwise the measurement accuracy will be affected. When installing the flowmeter, try to ensure that the upper surface of the housing is level and installed in the middle of the channel. The beam of the current meter is recommended to face the direction of the incoming water, and the horizontal angle to the direction of the water flow is 0 degrees. The current meter is only affected by the dynamic target. When the channel is hardened and there are no weeds or trees, even if the beam is irradiated on both sides of the channel, it will not affect the flow measurement.



APPLICATION CASES

- Flow velocity, water level or flow measurement of rivers, lakes, tides, reservoir gates, underground water pipe networks, irrigation channels, etc.
- Auxiliary water treatment operations, such as urban water supply, sewage monitoring, etc.
- It is suitable for general river and channel flow measurement, especially for flow velocity measurement of high flood, rapid flow, high sediment content and high pollution.



River course



Farmland Irrigation District



channel