DATASHEET | Flow

Radar Flow Meter
Model PWF-R600/PWF-R600-R

Description

PWF-R600 series is a Radar Flow Meter based on millimeter wave radar technology. It uses advanced millimeter wave planar radar antenna to measure the flow velocity and water level of water bodies in a non-contact manner. It uses the principle of velocity area method to calculate and output the instantaneous flow and cumulative flow of the section according to the built-in hydraulic model and algorithm. The measurement process is not affected by ambient temperature, water vapor pressure on the water surface, air dust, silt, floating objects and sediments; the mobile phone APP is connected wirelessly via Bluetooth, which is convenient for on-site debugging, setting and maintenance.

PWF-R600 has the characteristics of small size, easy installation and low maintenance. It can be used for non-contact flow measurement in rivers, open channels, irrigation canals, reservoir, underground drainage pipe networks, flood prevention and other occasions.

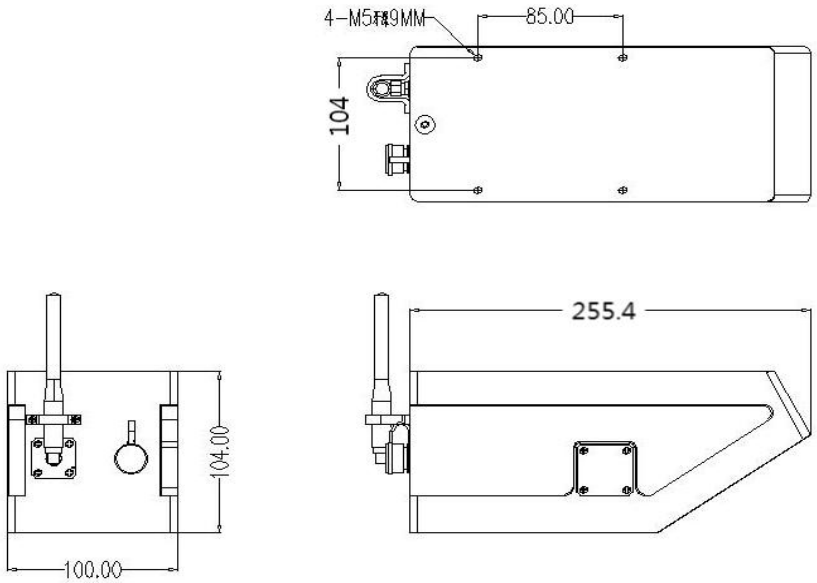
Features

- Output multi measurement data: velocity, water level and flow rate
- Applicable to a variety of sections such as trapezoidal, circular, U-shaped, etc.
- Built-in low-power Bluetooth, can directly debug and set parameters on-site through the mobile phone APP without computer connection
- Convenient configuration software, can easily configure the parameters according to actual needs to adapt to different usage conditions
- Non-contact measurement, combined with section parameters to calculate flow, not affected by wind, temperature, haze, silt, floating objects, rain etc.
- Expandable array multi-point flow measurement, equipped with a set of flow meter and multiple sets of velocity meters, through the internal algorithm fitting, to achieve wide section flow measurement.
- IP68 protection level, effectively prevent internal components from getting wet
- With rain-proof mode, avoid the interference from rainy day
- Lightning protection circuit can protect against 6KV lightning. Effectively protect the equipment from lightning strikes on rainy days.
- Low power consumption, support solar power.
- Historical data locally download: Use the mobile phone APP to download historical data of any period
- Compact size, high reliability, simple&convenient for operation, setting and maintenance

Applications

- Flow velocity, water level and flow measurement in rivers, lakes, tides, reservoir gates, ecological discharge, irrigation canals, etc.
- Auxiliary water treatment operations, such as urban water supply, sewage monitoring, etc.
- Flow calculation, water inlet and outlet flow monitoring, etc.

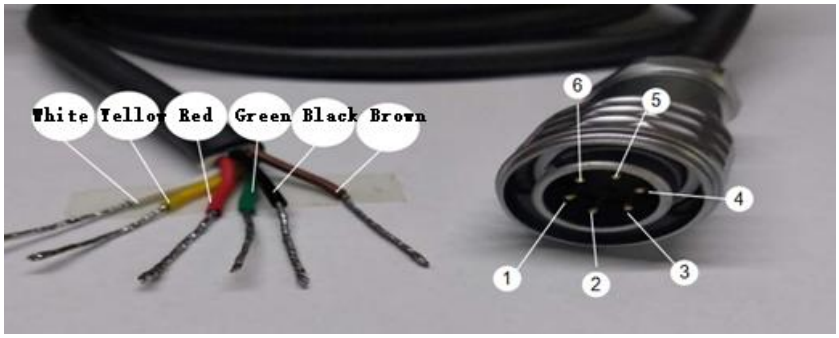
Dimensions



Specifications

Model &Version	**PWF-R600(Standard version)** Support parameter adjustment by Bluetooth. **PWF-R600-R(RTU version)** Support parameter adjustment by Bluetooth; Support 4G/NB-IoT; Support remotely wireless configuration, maintenance and software upgrade; Support water condition image acquisition camera
Housing Material	Aluminum alloy
Physical Dimension	255.4*100*104 mm
Measurement Principle	Planar Microstrip Array Antenna CW+FMCW
Working Mode	Automatic cycle measurement
Radar Water Meter	
Measuring Level Range	Max 40m
Radar Frequency	80GHz
Radar Power	10dbm
Accuracy	±1.5mm, ±0.05%FS
Antenna Angle	8°
Radar Wave Velocity Sensor	
Radar Power	11dbm
Radar Frequency	24GHz
Measuring Range	40m (related to flow status)
Velocity Range	0.03~20m/s
Accuracy	±0.01m/s, ±2%FS
Antenna Angle	12°
Measurement Direction	Automatic identification of water flow direction, built-in vertical angle correction
Others	
Communication	RS485(Typical)/RS232(Optional)/SDI12(Optional)/ NB-IoT(wireless option)/4G RTU(wireless optional)
Signal Output	4-20mA (Optional)
Temperature	Working temperature -35℃-70℃, storage temperature -40℃-70℃
Lightning Protection Level	6KV
IP Rating	IP68
Built-in Bluetooth	Used for local parameter setting, data viewing, etc.
Bluetooth Parameter Adjustment	Bluetooth version 4.2 or above. Transmit power +8dBm, receive sensitivity -95dBm at 0.1% BER
Working Voltage	7-32VDC; 5.5-32VDC(Optional)
Working Current(@DC12V)	Working mode: ≤60mA Standby mode: ≤1mA

Electrical Connection



No.	Wire Color	Definition
1	Brown	5.5-32V DCpower supply
2, 6	Black, White	GND
3	Green	TXD_A (232_TX/485_A+)
4	Red	RXD_B (232_RX/485_B-)
5	Yellow	IOUT (4-20mA positive, reserved)

Structure and Accessories