FLOW MEASUREMENT / DATA SHEET

SS403-03
Radar Flow Meter

Non-contact microwave measurement of flow velocity, water level and discharge.

Overview

- SS403-03 is a microwave radar flow meter integrating non-contact liquid-level and flow-velocity measurement.
- The meter measures flow velocity, water level and discharge in rivers, lakes, tidal waters, sluice gates, pipe networks and irrigation channels.
- Flow rate is calculated from the measured flow velocity and cross-sectional area, with real-time data output.
- Non-contact measurement supports operation in conditions affected by wind, temperature, haze, sediment or floating debris.
- The compact one-piece ABS casing provides a watertight seal for reliable field deployment.



Velocity **-20 to +20 m/s**	**Water level** **0.1 to 20 m**	**Flow rate** **0.001 to 999.99 m^3/s**	**Interface** **RS485**
Supply **12 to 24 VDC**	**Flow accuracy** **±2%**	**Protection** **IP68**	**Housing** **ABS**

Key Advantages

- Microwave radar enables non-contact flow and water-level measurement.
- Intelligent flow algorithm supports channel and pipe-network configurations.
- Real-time flow calculation uses measured velocity and cross-sectional area.
- All-electronic design with wide-voltage supply, low power consumption and no mechanical parts.
- Accurate, stable and reliable measurement with strong interference resistance.

Application Scenarios

- Rivers, lakes, tidal waters and reservoir sluice gates.
- Underground pipe networks and irrigation channels.
- Municipal water supply and sewage monitoring.
- Inflow/outflow tracking and petroleum, chemical or other liquid pipelines.

Measurement Principle

The radar flow meter uses microwave technology to measure flow velocity and water level without contacting the medium. Flow rate is calculated from flow velocity and cross-sectional area, enabling real-time output of flow velocity, water level and discharge. The source material states that the non-contact measurement is suitable for conditions involving wind, temperature variation, haze, sediment or floating debris.

Technical Specifications

Parameter	Specification	Parameter	Specification
Radar flow velocity / Measurement range	-20 to +20 m/s	**Radar flow velocity / Measurement accuracy**	±0.01 m/s
Radar flow velocity / Resolution	0.01 m/s	**Radar water level / Measurement range**	0.1 to 20 m
Radar water level / Measurement accuracy	±0.005 m	**Radar water level / Resolution**	0.001 m
Flow parameters / Instantaneous flow rate	0.001 to 999.99 m^3/s	**Flow parameters / Measurement accuracy**	±2%
Flow parameters / Resolution	0.001 m^3/s	**Flow parameters / Accumulated flow volume**	0.01 m^3 to 99,999,999 m^3
Other / Operating temperature	-20 to 80 °C	**Other / Storage temperature**	-20 to 80 °C
Other / Supply voltage	12 to 24 VDC	**Other / Protection rating**	IP68
Other / Total power consumption	≤160 mA / 12 V	**Other / Housing material**	ABS material
Other / Interface type	RS485 (Modbus-RTU)	**Other / Mounting method**	Base mounting
Other / Dimensions	210 × 110 × 110 mm; mounting-hole spacing 70 × 70 mm (M5)		

Output and Communication

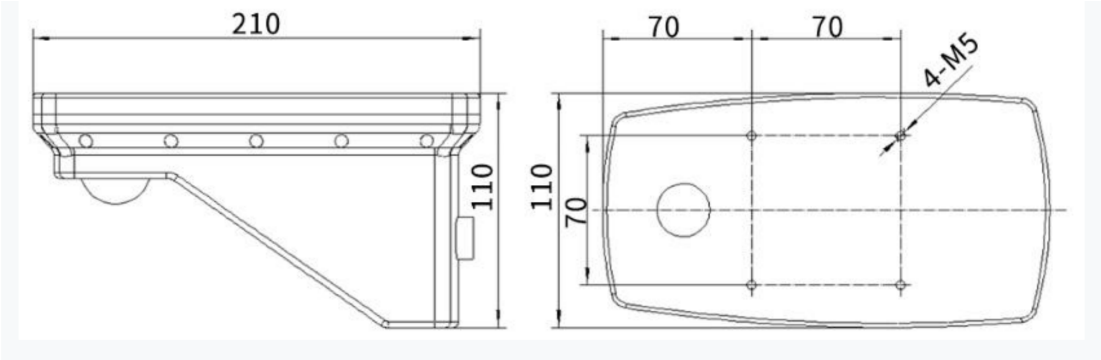
Interface / Output	Definition
RS485 (Modbus-RTU)	Serial communication interface
Flow velocity	Real-time radar flow-velocity output
Water level	Real-time non-contact water-level output
Discharge	Real-time discharge output calculated from flow velocity and cross-sectional area

The source material specifies RS485 communication using the Modbus-RTU protocol. The intelligent flow algorithm supports configured channels and pipe networks for real-time discharge calculation.

Electrical Connection

Cable color	Signal / Definition
Red	Positive power supply terminal
Black	Negative power supply terminal
Blue (Green)	RS485-A
Yellow (White)	RS485-B

Mechanical Dimensions / Installation



Source dimension drawing for the sensor housing. Dimensions are shown in millimetres: 210 mm length, 110 mm width, 110 mm height and 70 × 70 mm mounting-hole spacing with M5 holes.

CONTACT / SUPPORT

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