FLOW MEASUREMENT / DATA SHEET

SS403-04
Radar Flow Meter

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

Overview



- SS403-04 is a microwave radar flow meter integrating non-contact liquid-level and flow-velocity measurement.
- The meter provides flow velocity, water level and flow-rate measurement for rivers, lakes, tides, reservoir gates, underground pipe networks and irrigation channels.
- Flow rate is calculated from cross-sectional parameters, with real-time output of flow velocity, water level and flow rate.
- Non-contact measurement supports conditions affected by wind, temperature, fog, sediment or floating debris.
- The compact design, low power consumption, high reliability and easy maintenance support field deployment.

Velocity 0.05-20 m/s	Water level 0.15-40 m	Flow output Real-time	Interface RS485
Supply 9-24 VDC	Operating -45 to 85 °C	Weight 0.8 kg	Frequency 24 / 80 GHz

Key Advantages

- Non-contact microwave measurement of flow velocity and water level.
- Real-time flow calculation using cross-sectional parameters.
- Bidirectional automatic flow-velocity recognition with configurable filtering.
- Wide 9-24 VDC operating-voltage range and low power consumption.
- Compact, reliable design with RS485 communication.

Application Scenarios

- Rivers, lakes, tides and reservoir gates.
- Underground water-pipe networks and irrigation channels.
- Urban water supply and sewage monitoring.
- Influent/outflow monitoring and non-contact flow measurement.

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 measured velocity and cross-sectional parameters, enabling real-time output of flow velocity, water level and flow rate. The source material states that non-contact measurement is suitable for conditions involving wind, temperature, fog, sediment or floating debris.

Technical Specifications

Parameter	Specification	Parameter	Specification
General / Operating voltage	9-24 VDC (typical 12 V)	**General / Operating current**	100-160 mA (typical 140 mA at 12 V)
General / Operating temperature	-45 to 85 °C	**General / Baud rate**	115200 bps (adjustable)
General / Communication transmission method	RS485	**Flow radar sensor / Measurement range**	0.05-20 m/s
Flow radar sensor / Measurement accuracy	±0.01 m/s	**Flow radar sensor / Resolution**	0.01 m/s
Flow radar sensor / Antenna angle	12 deg	**Flow radar sensor / Transmission frequency**	24 GHz
Flow radar sensor / Direction recognition	24; bidirectional automatic recognition; configurable filtering	**Water-level radar sensor / Measurement range**	0.15-40 m
Water-level radar sensor / Measurement accuracy	±5 mm	**Water-level radar sensor / Resolution**	1 mm
Water-level radar sensor / Antenna angle	14 deg	**Water-level radar sensor / Transmission frequency**	80 GHz
Water-level radar sensor / Overall weight	0.8 kg	**Other / Overall dimensions**	159.5 mm length; 66 mm width; 95 mm height
Other / Mounting-hole layout	M6; 40 mm and 24 mm spacing		

Output and Communication

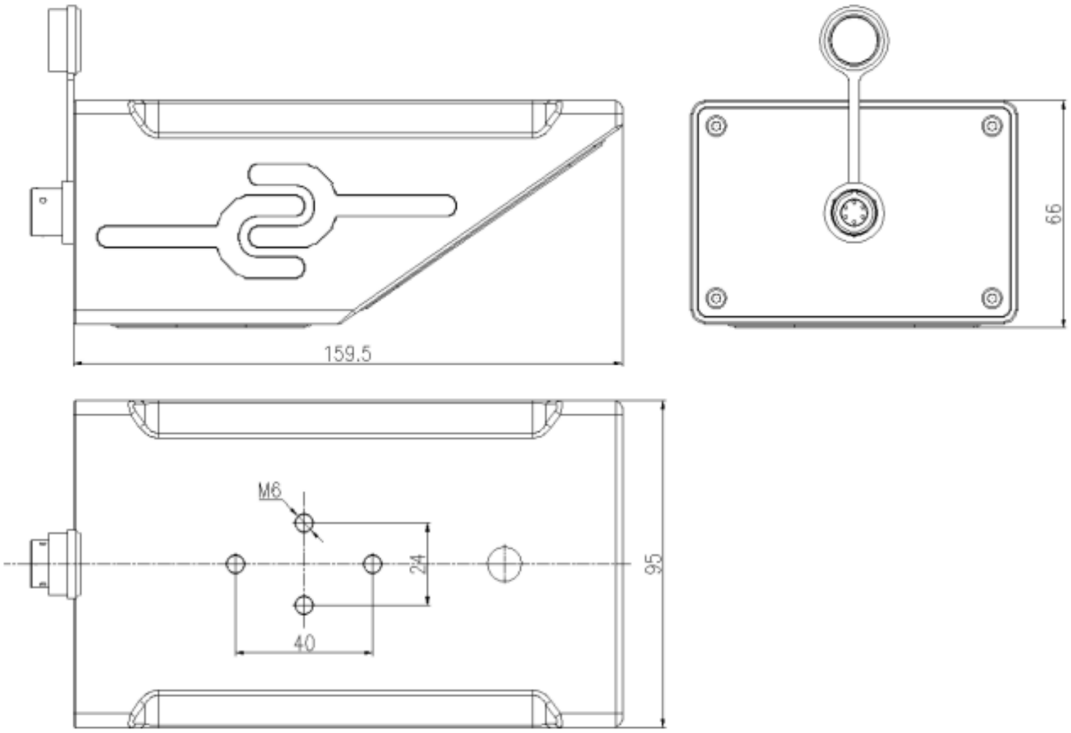
Interface / Output	Definition
RS485	RS485 serial communication
Flow velocity	Real-time radar flow-velocity output
Water level	Real-time radar water-level output
Flow rate	Real-time flow-rate output calculated from cross-sectional parameters

The source material specifies RS485 communication. Flow rate is calculated from cross-sectional parameters and output in real time.

Electrical Connection

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

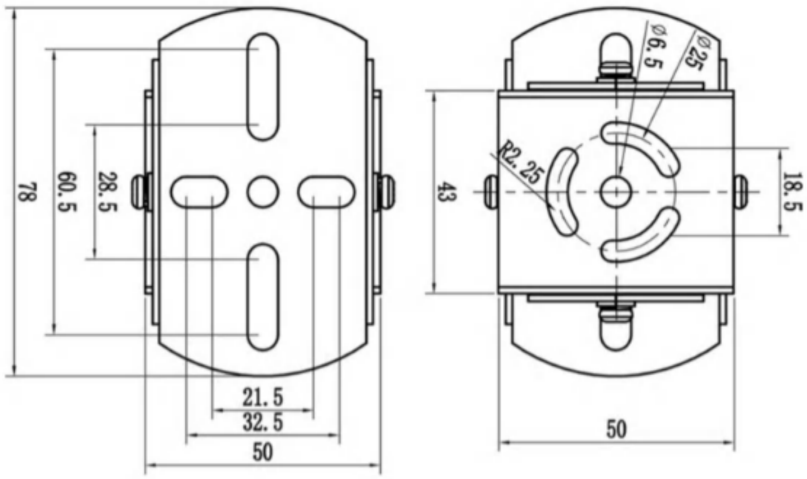
Mechanical Dimensions / Installation



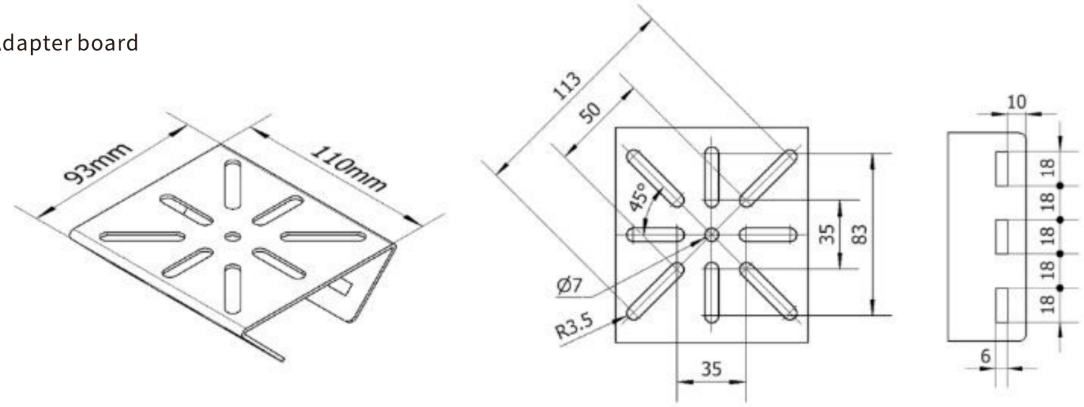
Source drawing for the complete flowmeter. Dimensions shown include 159.5 mm length, 66 mm width, 95 mm height, M6 mounting details and 40 mm / 24 mm hole-spacing references.

Installation Accessories

Duckbill bracket



Adapter board



Clamping hoop



Source drawings for the duckbill bracket, adapter board and clamping hoop. Dimensions and hole patterns follow the supplied source drawings.

CONTACT / SUPPORT

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