

RSHU

Radar Flow Measurement System



OVERVIEW

Description

The RSHU series radar flowmeter continuously measures water flow in rivers and open channels. It calculates the flow rate by measuring surface flow velocity and water level using a non-contact method.

Suitable for rectangular, trapezoidal, circular, polygonal and irregular channel cross-sections, including natural riverbeds.

Applications

- River flood monitoring
- Open-channel flow measurement
- Dam discharge flow measurement
- Water and wastewater treatment plants
- Non-contact flow measurement
- Irrigation and drainage systems

Features

- 4.3" TFT display
- 480 × 272 pixel resistive touchscreen
- Simultaneous display of flow rate and totalized flow
- Display of water level, flow velocity, average flow rate and signal status
- NEMA 4X, IP65 protection rating
- 30-segment bar graph with numerical percentage indication
- Selectable analog and digital outputs
- Second main screen displaying all data simultaneously
- RS485 Modbus-RTU communication
- Optional data logger



OPERATING DATA

Operating Temperature

-20°C...+70°C, flow computer
-35°C...+70°C, sensors

Humidity

80%, non-condensing

Accuracy

Ultrasonic sensor: $\pm 0.2\%$ F.S. (Full Scale)
Radar sensor: ± 1 mm
Flow velocity sensor: ± 0.01 m/s

Frequency

Ultrasonic sensor: 50 kHz
Radar sensor: 80 GHz
Flow velocity sensor: 36 GHz (Ka-band) ± 50 MHz

3 dB Beam Width

Ultrasonic sensor: $10^\circ (\pm 1^\circ)$
Radar sensor: $5^\circ (\pm 1^\circ)$
Velocity sensor: $12^\circ (\pm 1^\circ)$

Protection

Front panel IP65

Protection

m³, liter, feet, gallon, second, minute, hour, day

MEASURING RANGES

Flow Velocity

0.1...20 m/s

Ultrasonic Level

0...10 m

Radar Level

0...10 m
0...20 m

DISPLAY

Type

4.3" TFT full-graphic color display

Resolution

480 × 272 pixel resistive touchscreen

Refresh Rate

1...99 seconds

Programming

Via touchscreen or buttons

Memory (Optional)

SD card, 1 GB



ELECTRICAL DATA

Supply Voltage

Panel mounting: 24 VDC
Wall mounting: 24 VDC or 100...240 VAC

Power Consumption

DC: <50 W
AC: 40 VA

Analog Output

4...20 mA
0...5 VDC
0...10 VDC

Digital Output 1

Pulse output

Digital Output 2 (Optional)

4 SPDT relays, maximum 5 A

Communication

RS-485 Modbus RTU

DIRECTIVES AND STANDARDS

EMC

Directive 2014/30/EU
FCC 47 CFR Part 15

Low Voltage

Directive 2014/30/EU

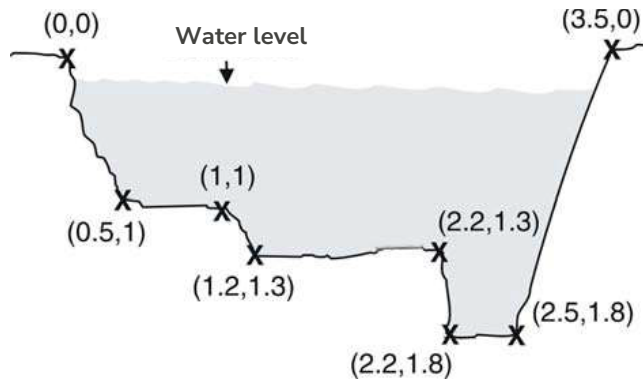
RoHS

Directive 2011/65/EU

IP & NEMA

EN 60529
NEMA250

DIRECTIVES AND STANDARDS



ORDERING INFORMATION

Model	
RSHU	Radar Flow Measurement System

Level Sensor	
ULS	Ultrasonic Level Sensor
RLM	Radar Level Sensor

Level Range	
10	0...10 m
20	0...20 m (RLM sensor only)

Protection (Sensor)	
AP	IP67
WP	IP68

Data Storage	
NN	No
BG	1 GB SD card

Output	
S	4-20 mA / 0-10 VDC and pulse output
R	4-20 mA / 0-10 VDC, pulse output, 4 SPDT relays

Communication	
NN	No
TC	TCP/IP Modbus
RS	RS-485 Modbus RTU

