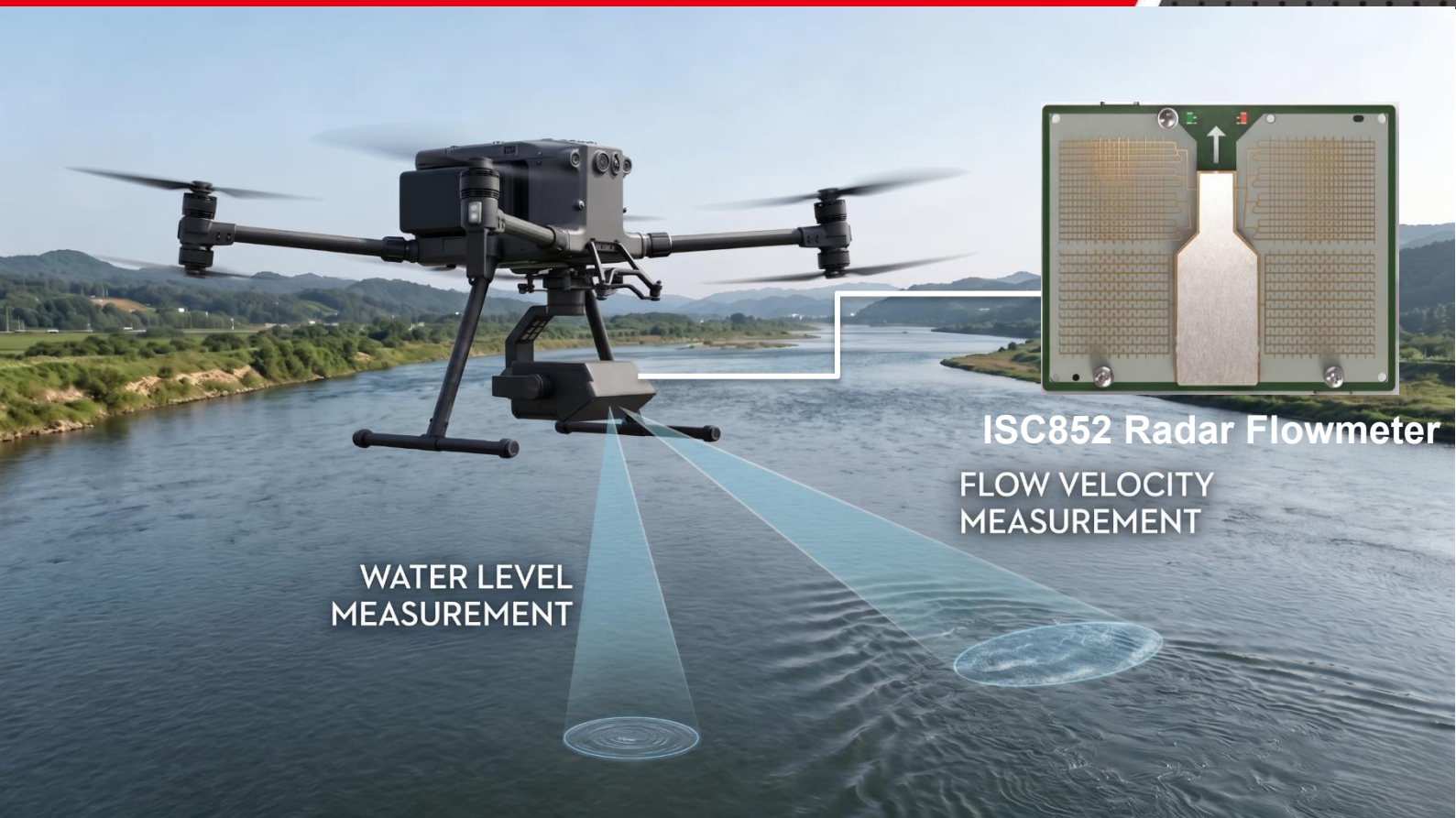
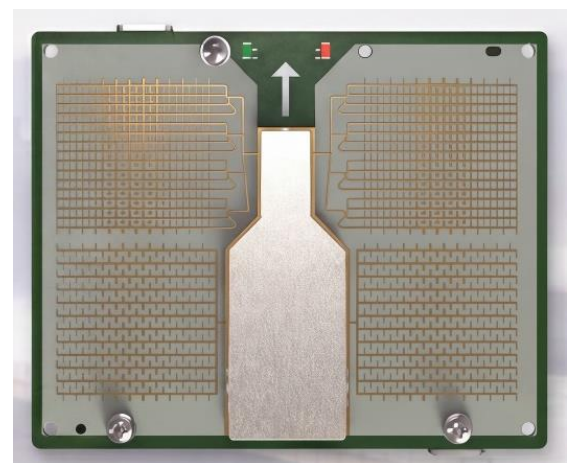


# ISC852 Radar Flowmeter



The ISC852 Radar Flowmeter, developed by Nanoradar, is a non-contact velocity and water-level measurement instrument. Using Doppler radar principles, a single device emits two beams simultaneously at the water surface with different angle — a vertical beam resolves water level via FMCW differential frequency, while an oblique beam captures surface velocity. Onboard algorithms fuse both data streams to directly output velocity, water level, instantaneous flow rate, and cumulative flow. Unaffected by temperature, air pressure, sediment, floating debris, or lighting conditions, the ISC852 delivers true 24/7 all-weather operation for rivers, lakes, tidal waters, reservoirs, and beyond.



## Product Characteristics

### One Device Does It All

- **Water Level Measurement:** A vertical beam resolves distance via differential frequency for precise level readings.
- **Flow Acquisition:** An oblique beam scans the surface at a fixed angle, capturing velocity distribution in real time.
- **Real-Time Monitoring:** Onboard algorithms handle flow computation and bidirectional identification. It outputs velocity, level, instantaneous flow, and cumulative flow directly. No external computation device required.

### Optimized for Drone Deployment

- **Ultra-Compact:** Single board dimension of 95×77×12.5 mm, the unit could be mounted beneath any UAV.
- **Low Power:** Just 3 W operating power consumption, reduces flight load and extends battery endurance.
- **Gimbal-Ready:** Customizable gimbal according to your flight platform, it can actively compensate for wind and vibration, keeping both beams locked on target.

### Adaptive Intelligent Algorithms

- **Flow Direction Detection:** Autonomously distinguishes upstream from downstream flow. Tidal reaches, irrigation backflows, and pipe reversals require no manual labeling.
- **Stable Measurements:** Velocity smoothing and anomaly filtering suppress interference from debris or transient surges for consistent, reliable output.
- **Outlier Filtering:** Automatically detects and filters out anomalies caused by floating debris and momentary interference, continuously smoothing valid data for consistently stable output.

### Built for Harsh Environments

- **Non-Contact Sensing:** Immune to sedimentation, floating debris, and corrosion — ideal for flood conditions, high-silt environments, and other challenging scenarios.
- **All-Weather Operation:** Millimeter-wave radar is unaffected by light, rain, snow, fog, or haze, enabling true 24/7 all-weather operation.
- **High Protection Rating:** Engineered for long-term stability under extreme sun exposure, freezing conditions, and high humidity with wide temperature range.

### Seamless Connectivity

- **Standard Industrial Protocols:** Native Modbus/RS485 support for direct integration with SCADA and hydrological information management systems.
- **Support Multiple Wireless Connection:** Supports 4G/5G, LoRa, and NB-IoT for real-time data upload to cloud platforms. Enables remote viewing and centralized management, reducing manual field collection while improving data timeliness and decision-making speed.
- **Easy Maintenance:** Bluetooth and WeChat Mini Program support for remote configuration and firmware upgrades. View real-time device data and operating status directly in the Mini Program — no PC or complex tools needed, cutting field maintenance visits and boosting operational efficiency.

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## Technical Specifications

| Description           | Parameters            |
|-----------------------|-----------------------|
| Size                  | 95×77×14.5mm (module) |
| Velocity Range        | 0.3-20m/s             |
| Velocity Accuracy     | ±1%FS                 |
| Detection Range       | 1m-45m                |
| Range Accuracy        | ±3mm                  |
| Detection Angle       | 14° × 10°             |
| Interface             | RS485                 |
| Power Consumption     | 1mA (@12VDC)          |
| Voltage Range         | 6 ~ 24V DC            |
| Operation Temperature | -40°C ~ 70°C          |

\* In some countries or regions, millimeter-wave radar may not be able to turn on or can only be partially used. For details, please refer to local laws and regulations.

# ISC852 Radar Flowmeter



## Application Scenario

The ISC852 Radar Flow Meter supports both fixed installations and UAV deployment, spanning hydrological monitoring, urban drainage, environmental regulation, agricultural irrigation, and industrial discharge. It delivers precise water-level data for watershed scheduling, urban flood warning, and effluent monitoring — meeting the flow measurement and management demands of any scenario.



Scenarios