

RADAR FLOWMETER

Etrans –RD600 Radar Flowmeter Datasheet

Accurate water flow monitoring,
contact-free and simplified

Precise Measurement,
Ultimate Control

www.enelsan.com



Radar Flowmeter

MODEL Etrans-RD600



Application Areas

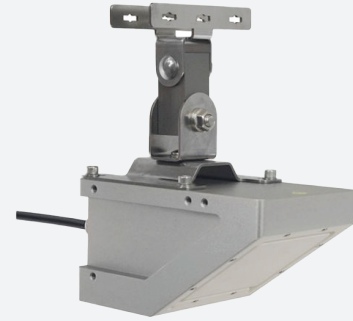
Early flood warning systems
Irrigation channels and river monitoring
Sewage and wastewater discharge
Hydroelectric plant control

Features

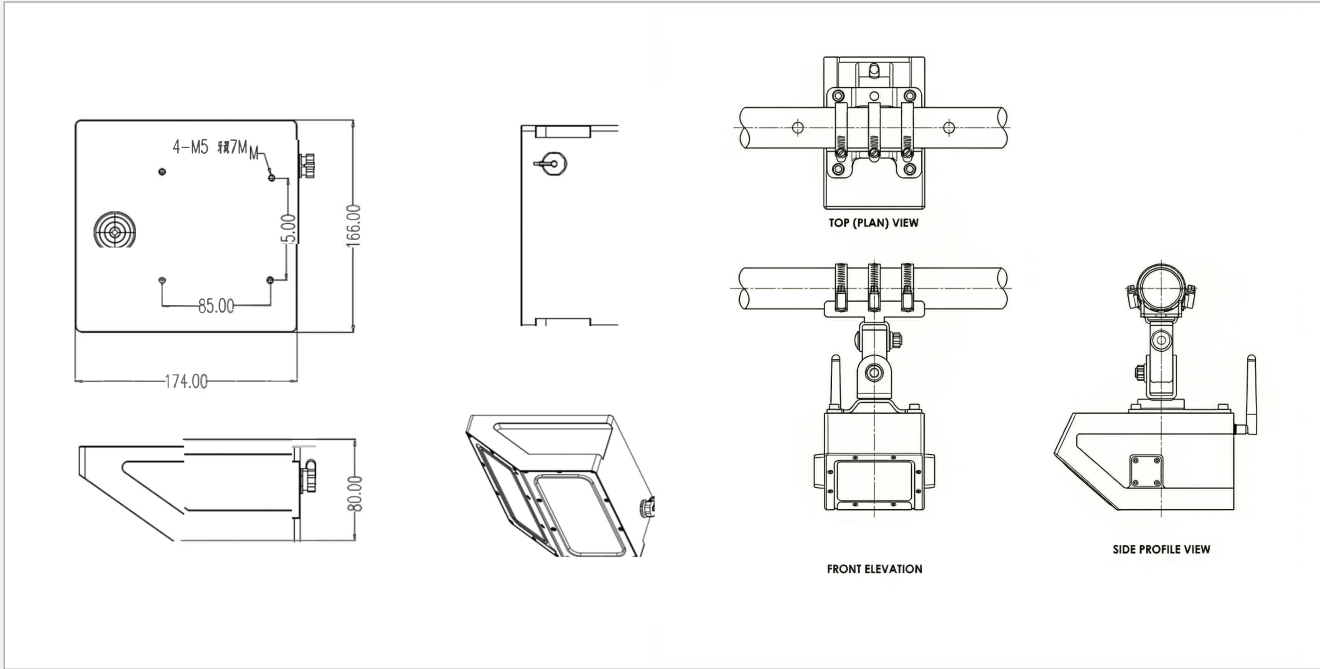
- Dual-Frequency Precision: Combines a 24GHz radar for velocity and an 80GHz radar for level sensing to achieve high-accuracy results.
- High-Performance Velocity Sensing: Capable of measuring flow speeds up to 20m/s with an accuracy of ± 0.01 m/s.
- Extended Level Range: Provides water level measurements up to 40 m with a precision of ± 3 mm.
- Smart Power Management: Designed for ultra-low power consumption, making it ideal for solar-powered installations and remote monitoring.
- Wireless Configuration: Allows for remote parameter adjustments and setup via Bluetooth using a mobile application.
- Rugged Outdoor Reliability: Features a waterproof grade of IP68 (optional) and operates in extreme temperatures ranging from -35°C to 70°C .
- Bi-Directional Flow Detection: Automatically identifies water flow direction and includes built-in vertical angle correction.
- Versatile Connectivity: Equipped with multiple interfaces including RS-485 Modbus, RS-232, and analog 4-20 mA for seamless system integration.

Description

The Etrans-RD600 is an advanced, automatic flow meter utilizing microwave technology to provide high-precision, non-contact measurements of fluid velocity and water level. Designed specifically for open channel monitoring, this sensor offers a robust solution for environments where traditional contact-based sensors might fail due to debris or extreme conditions. Because the measurement process is non-contact, it remains completely unaffected by water temperature, sediment, river pollutants, or surface floatage. Its small form factor, high reliability, and maintenance-free design make it an ideal choice for remote or harsh installations.



Structure



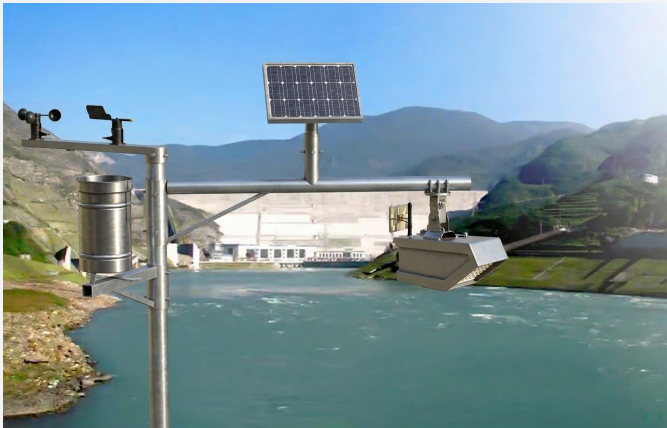
Technical

Feature	Specification
Flow measurement system	
Measuring Principle	Planar microstrip array antenna CW+FMCW
Radar Frequencies	Velocity: 24GHz / Level: 80GHz
Velocity Range	0.03 to 20 m/s
Level Range	0.2 to 40 m/s
Operating Temp	-35 to 70 °C
Power Supply	7~32VDC
Weight	Less than~1.5 kg
Radar wave speed sensor	
Radar frequency	24GHz
Measuring range	0.1m ~ 25 m (vertical distane)
Velocity range	0.03 ~ 20 m/s
Velocity accuracy	±0.01m/s; ± 3%FS
Antenna angle	12°
Measurement direction	Automatically identify water flow direction, built-in vertical angle correction
Radar water level gauge	
Radar frequency	80GHz
Measurement range	0.2m-40m
Measurement accuracy	±3 mm/s; ± 0.05%FS
Antenna angle	8°
Wireless configuration	Bluetooth

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Sample Assemblies

Open Channel / River Type Measurement	Features
	Open Channel and River Applications • Provides non-contact (contactless) measurement of the fluid. • Ideal for rivers, streams, and irrigation canals. • Easily mounted over the flow using a simple profile or pipe extension. • No flow interruption or water cutoff is required during installation. • Unaffected by solid waste, sludge, or corrosive substances in the water due to no liquid contact; requires minimal maintenance.
	Remote Environmental Monitoring and Reservoir Applications • Operates continuously with an integrated solar panel, enabling off-grid functionality without grid power dependence. • Can be integrated with other meteorological sensors (e.g., wind speed, precipitation) to function as a comprehensive data station. • Suitable for long-term use in reservoir lakes, reservoirs, and remote, hard-to-access basins. • Fully ruggedized for harsh outdoor conditions and provides an ideal infrastructure for flood early warning systems. • Practical and easy to install, suitable for large-scale water resource management.
	Industrial and Narrow Channel Applications • Can be directly and compactly mounted on the side walls of narrow concrete channels or culverts. • Provides high-accuracy measurement for industrial discharge lines, storm drains, and other open concrete channels. • Non-contact operation in heavily contaminated, aggressive, or turbulent liquids ensures no fouling, clogging, or corrosion on the sensor surface. • Delivers stable data in confined and hard-to-reach spaces without obstructing flow. • Durable construction designed for long-term use in harsh conditions.

Contact us

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