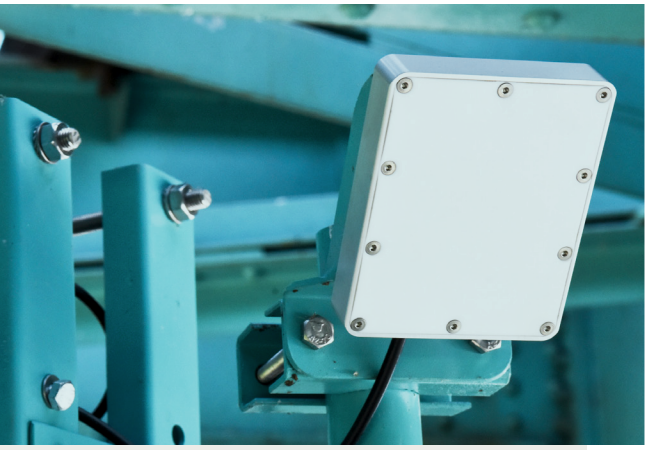
PRODUCT OVERVIEW

Surface Velocity Radar (300W)



Ideal for:

- **Public works**
- **Water Utility**
- **Emergency management**
- **Government agencies**
- **Mining**

ASK ABOUT: LT1 LOGGING TRANSCEIVER

Improve response time with our compact, IoT-connected LT1 logging transceiver. Collect, store, and transmit real-time data and alerts from your Surface Velocity Radar for a complete hydrology solution.

High-precision non-contact open channel surface velocity meter

The Surface Velocity Radar uses robust radar technology to provide precise contactless measurement of surface flow velocity. It is used to monitor flow velocity of open channels such as rivers, irrigation channels or sewer systems, and for monitoring and control of hydropower plants and wastewater treatment plants. Unlike ultrasound-based flow velocity sensors, the Surface Velocity Radar is immune to air temperature and air density changes. Contactless radar technology enables quick and simple sensor installation above the water surface and requires minimum maintenance.

Water Flow

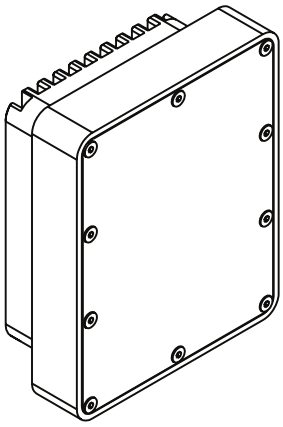
Radar Technology

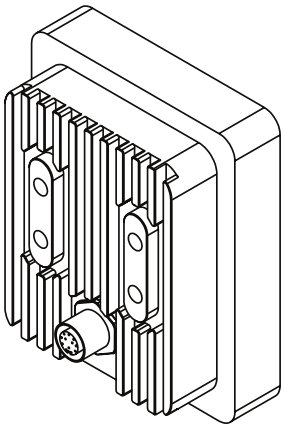
HOW IT WORKS

Surface velocity measurement functionality is achieved by transmitting an electromagnetic wave in 24 GHz frequency range (K-band) and measuring the frequency shift of the electromagnetic wave reflected from the flowing water surface. The frequency shift is caused by the Doppler effect of the moving surface on the electromagnetic wave. As the relative speed between the radar sensor and the water surface increases, the detected frequency shift also increases, thus enabling the flow meter to precisely determine the surface velocity.

Detailed Specifications

COMPONENT	SPECIFICATION
Beam Angle	12° Azimuth, 24° Elevation
Detection Distance	20 m above the water
Speed Range	0,02 m/s to 15 m/s
Resolution	0,001 m/s
Accuracy	1%
Sampling Frequency	1 to 10 sps
IP Rating	IP68
Serial Interface	1x serial RS-485 half-duple 1x serial RS-232 (two wire interface)
Serial Baud Rate	9600 bps to 115200 bps
Serial Protocols	ASCII-S, GLX-NMEA, MODBUS-RTU
Digital Output	SDI-12
Analog Output	1x 4-20 mA
Alarm Output	1 x open collector, max 50V 200mA
Connector	M12 circular 12-pin
Power Input	9 to 27 VDC
Power Consumption	950 mW operational85 mW standby
Maximal Current	<250mA, 14mA (SDI-12)
Temperature Range	-40°C to +85°C (without heating or coolers)
Enclosure Dimensions	110 mm x 90 mm x 50 mm





Key Features:

- Contactless, above the water, flow measurement
- Wide velocity measurement range from 0.02 m/s to 15 m/s
- Compact, low-power design
- Wide input voltage range, suitable for solar applications
- Supports variety of communication interfaces for easy integration with existing telemetry equipment
- Rugged IP68-rated enclosure for outdoor applications and harsh environments
- Easy pole, wall, or enclosure mounting

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To find out more about all of our technologies, visit **aem.eco** or contact us at **info@aem.eco**

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