RSS-2-300W Surface Velocity Radar

HIGH-PRECISION NON-CONTACT OPEN CHANNEL SURFACE VELOCITY METER

Highlights

- Contactless surface velocity measurement
- No moving parts
- Accuracy tested at Swiss Federal Institute of Metrology METAS
- RS-232, RS-485 Modbus, analog 4-20 mA interfaces in all models
- Remote configuration of all instrument parameters through any digital communication interface
- Robust small size IP68 aluminum or stainless steel enclosure
- Designed for continuous non-contact water level monitoring in hydrological networks aligned with WMO-No. 168
- Automatic filtering of interference from precipitation and wind
- Easy installation on overhead structures (such as bridges), or cantilevers (> 10 m cantilever length)



Applications

- Early flood warning
- Monitoring of flow and irrigation channels
- Accurate discharge monitoring in rivers
- Flow tracking in salt and copper mine channels
- Sewage and waste water discharge measurement

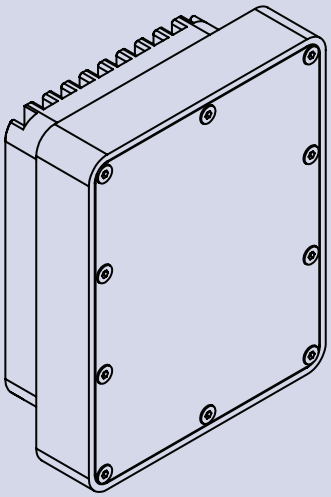
Product Description

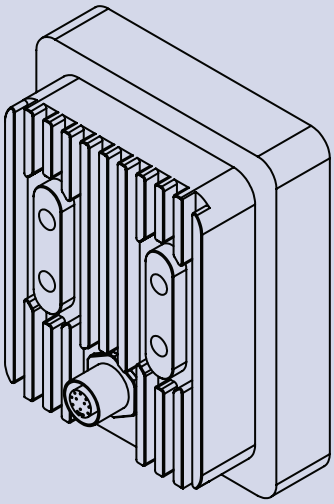
The Geolux RSS-2-300W radar sensor uses radar technology for providing contactless measurement of surface flow velocity. Contactless radar technology enables quick and simple sensor installation above the water surface with minimum maintenance.

The radar operates in K-band (24.075 GHz to 24.175 GHz) and provides flow speed readings 10 times per second over serial RS-232, RS-485 Modbus, and analog 4-20 mA output.

The instrument is easily integrated with Geolux or third-party dataloggers and all of the settings can be remotely configured. An integrated MEMS tilt sensor is used for automatic tilt angle compensation. Internal vibration monitoring and SNR calculation can be used for measurement quality assessment. Azimuth angle compensation is available through manual device configuration.

Detailed Specifications





Radar Type	K-band 24.075 GHz to 24.175 GHz Doppler radar, 20 dBm EIRP
Beam Angle	12° Azimuth, 24° Elevation
Detection Distance	25 m height above water surface 50 m total distance
Speed Range	0.02 m/s to 15 m/s
Resolution	0.001 m/s
Accuracy	±1% of the measured value, with automatic temperature compensation across the full measurement range
Flow Direction Detection	Automatic
Sampling Frequency	10 sps
IP Rating	IP68
Serial Interface	1 x serial RS-485 half-duplex 1 x serial RS-232 (two wire interface)
Serial Baud Rate	9600 bps to 115200 bps
Serial Protocols	GLX-NMEA, Modbus/RTU
Analog Interface	4-20 mA, live-zero signalling
SDI-12 Interface	Available with an optional add-on module
Connector	M12 circular 12-pin
Input Voltage	9 to 29 VDC
Power Consumption	0.95 W (80 mA at 12 V; 40 mA at 24 V) 0.085 W standby (7 mA at 12 V, 3.5 mA at 24 V)
Maximal Peak Current	< 250 mA
Temperature Range	-40 °C to +85 °C (without heating or coolers)
Enclosure Dimensions	110 mm x 90 mm x 50 mm
Relative Humidity Range	0-99% non-condensing
Enclosure Material	corrosion-resistant anodized aluminimum / stainless steel (optional)
MTBF	> 324,311 hours

FCC & CE ***APPROVED***

MADE IN ***EU***

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Geolux

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