

Non-Contact Surface Velocity Sensor

WATER FLOW

General Description

HyQuest Solutions' SVS is a contact-free surface velocity sensor for open channels and rivers. The sensor uses **innovative radar technology** and enables **reliable, non-contact measurement** without the need for structural work in the water.

With its **very low power consumption**, its **high reliability** and **low maintenance** SVS enables the permanent recording of the flow velocity of open channels for long periods of time. It is the ideal sensor for **24/7 monitoring** surface water velocity especially in **unattended areas**. Because contact-free water velocity measurements are unaffected by sediments, mud and floating refuse, the SVS provides accurate results even in **flooding situations**.

SVS is **easily mounted** on bridges, ceilings of closed channels or any superstructures of the channel. Depending on the condition of the water surface, the device can be installed in a height of 0.5 to 35 m.

Measuring principle

The SVS transmits a radar signal to the water surface (at a 60° angle) and receives the reflected signal. By analyzing and comparing both signals the water surface velocity can be derived (principle of Doppler frequency shift). To provide reliable data, a minimum wave height of at least 3 mm is required.

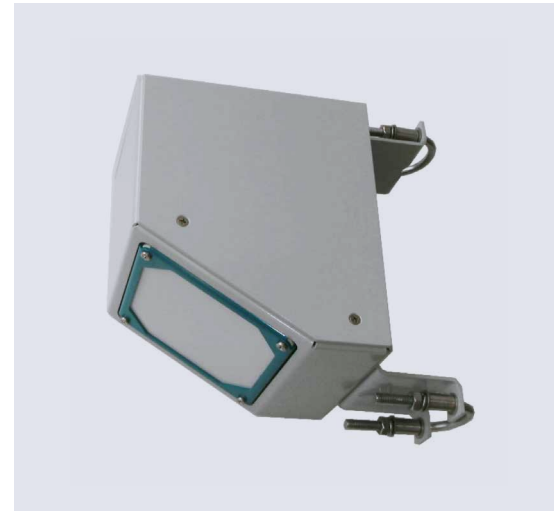
Setting and configuration of the SVS can be easily and conveniently done on a PC or laptop via standard terminal programs.

Applications

- Surface Water Velocity Measurement
- Natural Open Waters
- Open Channels
- Water Flow

Features

- Non-contact, maintenance-free
- No structural constructions in the water needed
- Simple integration into existing system
- Remains operational in flooding situations
- Low power, optionally solar powered
- Detection of flow direction
- Measurement range from +/- 0.10 to +/- 15 m/s (depending on flow conditions)
- Near blanking zone 0.5 m
- Set measurement frequency or external trigger
- Independent of environmental influences



Technical Specifications

Dimensions and Weight	241 x 246 x 154 mm, 2.7 kg
Material	Aluminum housing, powder coated
Protection Class	IP 67
Power	<ul style="list-style-type: none">■ Supply: 6 to 30 V■ Consumption at 12 V: standby approx. 1 mA, during active operation approx. 110 mA■ Lightning protection
Temperature	<ul style="list-style-type: none">■ Operating temperature: -35 to 60 °C■ Storage temperature: -40 to 60 °C
Velocity Measurement	<ul style="list-style-type: none">■ Measurement range: 0.10 to 15 m/s (depending on flow conditions)■ Accuracy: +/- 0.01 m/s; +/- 1 % FS■ Resolution: 1 mm/s■ Direction recognition: +/-■ Measurement duration: 5 to 240 s, measurement interval: 8 s to 5 h■ Radar: frequency 24 GHz (K-Band), opening angle 12°■ Distance to water surface: 0.50 to 35 m■ Necessary minimum wave height: 3 mm
Automatic Vertical Angle Compensation	Accuracy +/- 1°, resolution +/- 0.1°
Interface	<ul style="list-style-type: none">■ 1 x RS485 or Modbus■ 1 x SDI-12■ Optional analog version: velocity 4 to 20 mA, 0 to 10 m/s configurable
Digital Input	<ul style="list-style-type: none">■ 1 x Trigger input■ Low: 0 to 0.6 V; High: 2 to 30 V

Accessories

Radar sensor connecting cable: LiYCY, 12 x 0.25 mm², all solder joints protected with shrink tubing, shielded cable with tinned copper braiding, PVC outer sheath, configured and tested.



iRIS dataloggers and data modems:

- Robust housing
- IP over one or two channels of your choice: 4G with 3G fallback / GPRS, satellite, IoT

- I/O: analog, digital, SDI-12, Modbus
- iLink software
- Telemetry or cloud app

Please ask for details

Reseller

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