

Water Velocity Radar Sensor

Water Velocity/Flow | Hydrology

General Description

HyQuant V is KISTERS' state-of-the-art non-contact surface velocity 60 GHz V-band Doppler radar sensor. It offers superior resolution and accuracy, with reduced power consumption, all at an appealing price point.

Compact design

The sensor's exceptional compactness enables effortless and swift installations. Its discrete design further deters vandalism and enables flexible and easy installations in various support structures such as bridges and booms located in narrow and wide water bodies, urban and remote applications.

Specially designed antenna

Beam inclination achieved by design. This simplifies sensor positioning, requiring only parallel mounting to the water surface for optimal placement. Small antennas, short wavelength and optimised beam width provide high resolution and accuracy across the measurement range.

Optional upgradability to L+V or Q

Upgrade to the level and velocity radar HyQuant L+V or to the discharge radar HyQuant Q, without uninstalling or returning the instrument, purchasing additional sensors and/or adapting the housing.

This radar system seamlessly adapts to varied monitoring environments, thanks to adjustable filter settings easily customised via an intuitive wizard-driven interface.

Applications

- Hydrology: rivers, streams, open channels/canals, inland waterways, tide influenced
- Risk management: flood warning and forecasting, urban flooding
- Irrigation: open channels, irrigation management
- Industrial applications: Hydropower, mining, brownfields
- Climate change studies

Features

- 20 m max. measurement distance
- Data interfaces: SDI-12 or Modbus
- Configuration via Wi-Fi: using KISTERS' free HyComm software with automatic firmware updates or SDI-12 or Modbus with a PC adapter or data logger
- Nearly no blanking distance: measures up to the housing cover.
- Low power operation
- Effortless maintenance
- Readings in either metric or imperial units
- 10 m cable, torx key, and a 360° adjustable rotation mounting bracket included
- Simple set-up process via Quick Installation Guide



Technical Specifications

Radar type/Frequency band	FMCW* Doppler 60 GHz V-Band surface velocity radar sensor
Measurement range	0.05 m/s to 15 m/s
Output rate	1 Hz (1 measurement/second)
Accuracy	1% of measured value (in a range from 0.02 m/s ... 4.50 m/s) and 2% of measured value (in a range from 4.50 m/s ... 15 m/s)
Resolution	1 mm/s
Blanking distance	0.1 m
Supply voltage (range)	10 ... 30 VDC
Power consumption at 12V	Typical ~50 mA; Wi-Fi activated: ~90 mA (incl. optional upgrade to Q)
Beam angle	8° azimuth; 12° elevation
Ingress protection	IP68
Communication and interfaces	SDI-12, Modbus, Wi-Fi
Operating temperature range	-40 ... +80 °C
Humidity range	0 ... 100 % RH, non-condensing
Dimensions and weight	HyQuant sensor with backplate: LxWxH: 160 x 97 x 91 mm, 1.15 kg Packaged dimensions: LxWxH: 300 x 300 x 187 mm, 2.5 kg
Signal connector	M12 8-pin
Materials	Housing: powder-coated aluminium; cover/radome: HDPE
Compliance	CE, FCC Class B, UL, RoHS, further information available on our website

*FMCW: Frequency Modulated Continuous Wave

Accessories

HyComm configuration software: Sensor configuration via Wi-Fi/SDI-12/Modbus, choice between wizard and direct configuration modes, real-time sensor readings and colour-coded positioning help, automatic sensor firmware updates, etc.

iRIS 270 and UnderCover Pro: KISTERS brand data loggers with SDI-12 interface

Optional pole-mount bracket: for pole diameters ranging from 20 mm to 60 mm.

Adapters: SDI-12 to USB and Modbus to USB

Tailor-made arm/boom structure(s)

[Please ask for details.](#)



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