

# CROSS SMART SENSOR

## RVS-30: Radar Velocity Sensor

Digital technology for optimized measurement



**RVS-30** is a non-contact 24.125/24.200 GHz RADAR based velocity sensor that uses Doppler Effect to produce velocity data of a moving surface. The measurement can be widely used for hydrological monitoring, flood control, and environmental pollution monitoring. Non-contact surface flow measurement is simple, free from water corrosion, silt or slurry. It also protects the safety of personnel. The velocity present on a surface is typically within 10% of the average velocity. There is an empirical algorithm that yields an accurate determination of the average velocity from the measurement of the surface velocity in a known flume. RVS-30 works not only for the usual environmental monitoring; it is particularly suited to undertake urgent and difficult observation tasks. Incorporating with our GDC controller and various types of level gauges, RVS-30 can be used as a cross-sectional area/velocity based flow meter for measuring flow rate of non-standard open channel and non-full pipe.

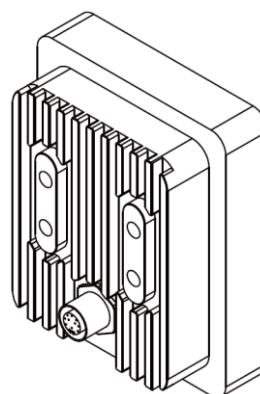
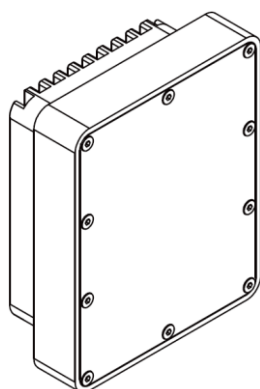
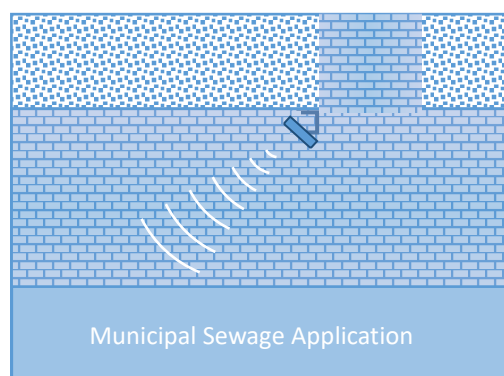
### FEATURES & BENEFITS

- ❖ Non-contact measurement, no silt, slurry or polluted water impact, reduced maintenance costs;
- ❖ Extra-large measuring angle: 12° Azimuth, 24° Elevation;
- ❖ IP68 protection, especially for waste water treatment; measurement and monitoring of sewerage pipelines or other environments;
- ❖ Variety modes of measurement: fixed on tripod on bridge or shore, fixed installation under bridge, and cableway flow measurement;
- ❖ Smart echo algorithm and software filtering to get accurate velocity value without environmental interference;
- ❖ The averaged velocity is calculated by the surface velocity based on different mathematic models;
- ❖ When combined with composite GDC level sensor, RVS-30 can be used to measure flow rate of non-standard open channel and non-full pipes without primary device

SPECIFICATIONS	
Measurement Principle	Non-contact K-band 24.125/24.200 GHz Doppler Radar, 27 dBm EIRP
Detection Distance	164 ft (50m)
Range	0.066 to 50 ft/s (0.02 to 15 m/s)
Accuracy	± 0.066 ft/s (± 0.02 m/s)
Departure Angle	12° Azimuth, 24° Elevation
Operating Temp.	-40 °F to 185 °F (-40 °C to 85 °C) (without heating or coolers)
Angle Compensated	vertical angle (automatic), horizontal angle (manual input)
Data Interface	RS485 Modbus RTU
Baud Rate	1200 to 115200bps
Power	9 to 27 VDC, Powered by GDC; <1.35W (Typical 1.0W)
Protection Rate	IP68
Weight	2.2 lbs. (1 kg)
Dimension	4.33" × 3.54" × 1.97" (110 mm × 90 mm × 50 mm)

#### ORDER CODE

RV7 Radar Velocity Sensor	
-C20	20' (6 m) cable
-C30	30' (9 m) cable
Please contact factory for other length cable	
<b>RVS-30 -C30</b>	



#### TERMINALS

##### GDC-01/02 Terminal

Single or dual-channels



##### GDC-04/06/08 Controller

Multi-channels up to eight



##### GDC-Ex Terminal

Ex-proof (NOT IN EUROPE)

