ALSONIC RAVM SC

Open channel radar flow meter

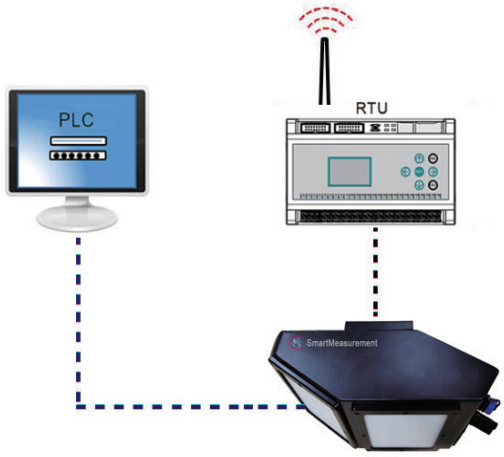
ALSONIC

GENERAL

SmartMeasurement's ALSONIC RAVM Open channel radar flow meters provide a revolutionary non-intrusive approach to open channel area velocity measurement. They are designed for continuous non-intrusive flow measurement of rivers, streams, municipal wastewater, and storm water channels. A pulse wave radar velocity and radar pulse echo level transducer are combined in one package providing non-contact area-velocity measurement. For channel widths of 10 meters or less, the single channel system (SC) is recommended. The SC includes an integral transmitter with MODBUS RTU outputs which can be sent to a control room or the remote mounted AVM-display. The remote display provides data including flow, velocity, and height as well as sensor diagnostics. The ALSONIC-RAVM comes with user-friendly software which can be installed in a remote computer or used with the remote mount display. For larger channels having widths greater than 10 meters, multiple remote channel transducers (RMC) can be installed across the width of the channel for a more accurate flow profiling across the width of the channel. The RMC must be used with our multichannel controller (MC) which can handle up to 32 channels of inputs. In applications where users want to install another level measurement technology (other than radar), either a single or multiple ALSONIC radar velocity transducers can be used for velocity profiling across the channel in combination with the level transducer by sending the outputs to our multi-channel controller (MC) to perform the Area • Velocity flow calculation.

FEATURES

- Non contact flow and level measurement
- Easy installation and maintenance
- Available with remote flow computer including touch screen
- Bi-directional velocity measurements
- Low power consumption
- Eliminates swing interference caused by wind and/or weather
- Multi-point velocity profiling for wide channels
- Optional surcharge protection for water level sensor



SPECIFICATIONS

- **Sensor:**

  α=45°,

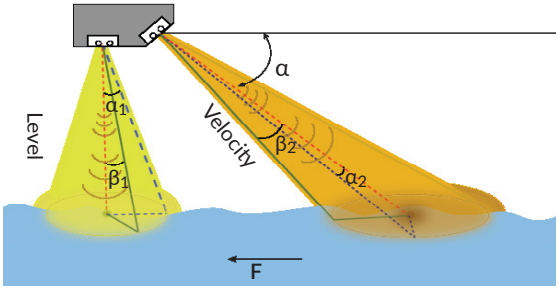
  Level: std – 26GHz, 1.2~30m, α_1=12°, β_1=12°

  opt – 24GHz, 1.2~30m, α_1=5°, β_1=10°

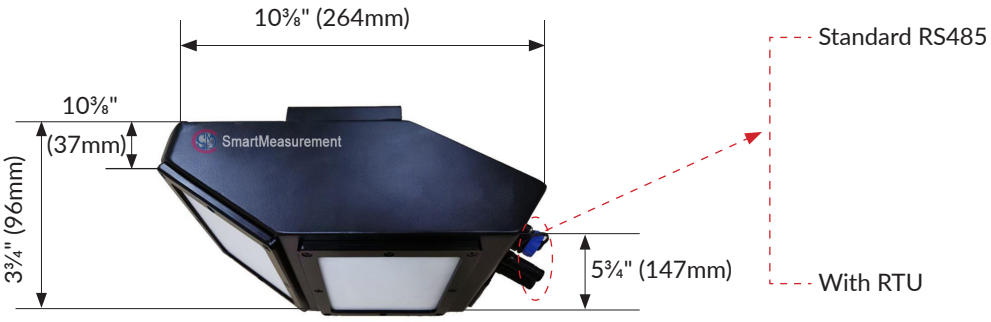
  Velocity: std – 24GHz, 0.15~15m/s, α_2=12°, β_2=25°, Dead area 1.2m

  opt – 24GHz, 0.15~15m/s, α_2=5°, β_2=10°, Dead area 0.5 m
- **Accuracy:** ±0.01m/s (Velocity); ±3mm (Level)
- **Resolution:** 1mm/s (velocity), 1mm (level)
- **Power supply:** 6~24V_{DC}, <100mA@12V
- **Output:** Velocity, level, flow, Datalogger
- **Comunication:** RS485, Modbus/SD12
- **Operating temperature:** -20 to +50 °C
- **Storage temperature:** -40 to +60 °C
- **Protection:** IP67(std), IP68 (opt)
- **Dimensions:** 10x⅜"x3¾"x5¾" (263.75x96x147m)

ALSONIC RAVM



DIMENSIONS

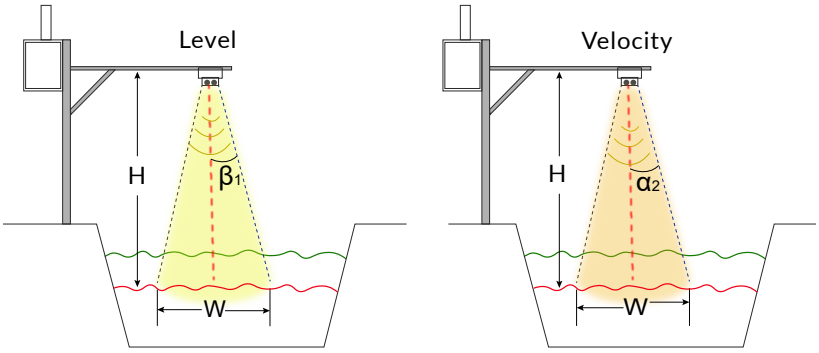


INSTALLATION

Drought period height : H
Drought period width: W

W>Min Width

Meter Style	α_2	β_1	Max Width	Min Width
Standard	12°	12°	12.6m	0.8m
Option	5°	10°	5.2m	0.1m

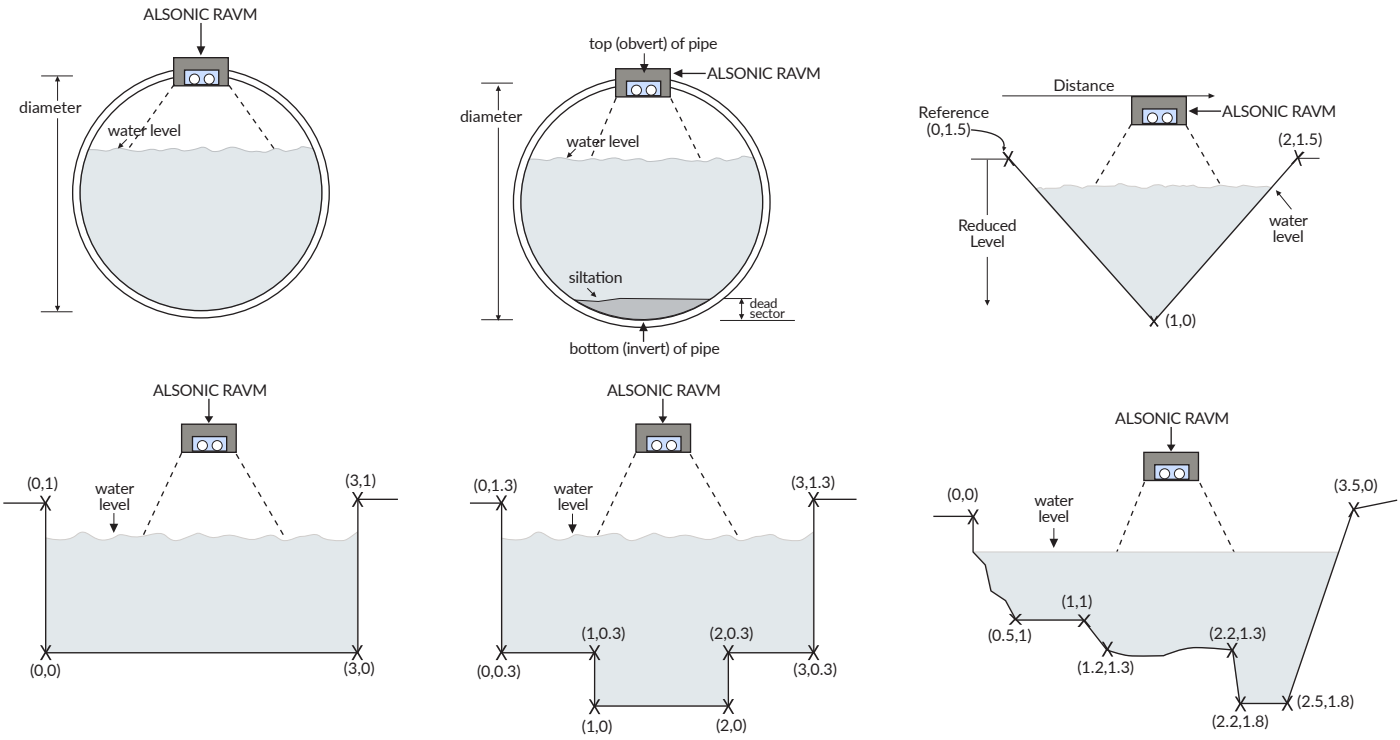


APPLICATIONS

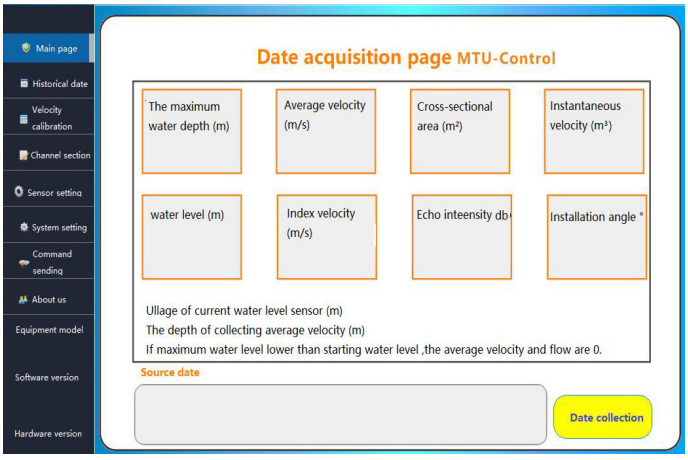
MOUNTING SYSTEM

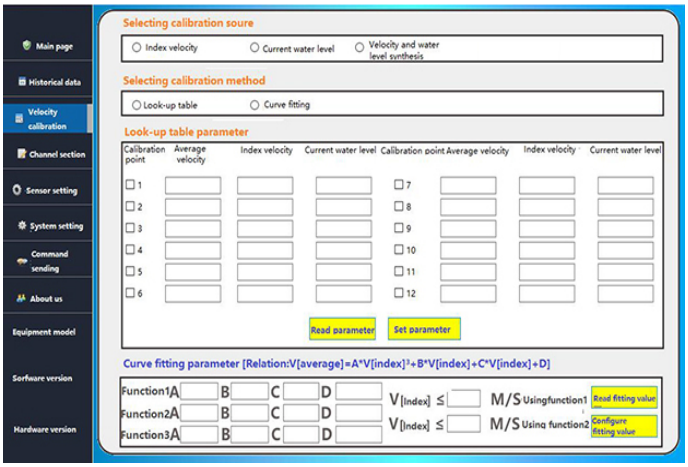
Mounting Plate, Spring Ring and Scissors Rings

All sensors may be attached to a mounting plate or spring and scissors rings to allow for easy installation within minutes, thereby reducing time in the manhole. The sensor is first attached to a carrier which can than slide onto any of the compatible mounting systems. This maintains a height suitable for measuring flow rates and velocities at very low water levels. To install the sensors in rectangular, trapezoidal or earthen channels, we recommend the sensor mounting plate. Stainless steel spring rings simplify sensor installation in cylindrical pipes. Standard diameter sizes from 150 mm (6 inches) to 600 mm (24 inches) are available. The sensor can be mounted and the cable can be fastened to the downstream edge of the ring in place before entering the manhole. The self-expanding device is tightened by expanding the band to achieve a friction fit inside of the pipe. The adjustable scissors ring is installed in large diameter pipes from 500 mm (20 inches) to 1800 mm (72 inches) in diameter. It consists of a base section and one or more pairs of extensions to match the size of the pipe to a scissors mechanism.



CONFIGURATION SOFTWARE





TYPE OF FLUID	Please provide the name of your fluid media, the operating PH, and conductivity
FULL SCALE FLOW	Please provide the max and min flow rate, in units of CMH, GPM or LPM.
CHANNEL SHAPE AND DIMENSIONS	Please provide channel shape and dimensions including maximum and minimum level
CHANNEL MATERIAL	Channel material such as concrete, fiber glass, or mud.

ALSONIC RAVM-							
EXAMPLE ALSONIC-RAVM-SC-NN-7-RT-AC-DL-IS							TRANSDUCER STYLE
Single Channel Flow/Level sensor, includes configuration software, MODBUS output, 6~24V_{DC}, IP67		SC					Flowmeter type
Standard type: level 1.2~30m, width 0.8~12.6m		NN					Channel width
Optional type: level 1.2~30m, width 0.1~5.2 m		SW					
Other options		**					
Solar power supply			SL				Power supply
6~24 V_{DC}			DC				
90~245V_{AC}, 50/60 Hz chaeger			AC				
Standard				NN			Applications
Lead-free style				UL			
Extreme cold style				EC			
Configuration software program					config		Options
LORA					LO		
Bluetooth					BT		
RTU data logger					DL		
Lighting rod					LR		
Installation tool and accessories					IS		
RoHS approval					RP		
Protection IP68					68		