

# FLO-SONIC™ OCFM

## Open Channel Ultrasonic Transit-Time Flow Meter



### FLO-SONIC™

FLO-SONIC™ uses the very latest electronic technology combined with highly efficient digital signal processing (D.S.P.), technique which maximize the system performance giving the user significant benefits.

FLO-SONIC™ gives outstanding measurement capability including the ability to adapt its operation to suit the most challenging site conditions.

The system consists of one or more FLO-SONIC™ Ultrasonic Speed Processors associated to one UNI-TRANS™ Flow processor and Monitor. Two probes per Ultrasonic path with sensor installation hardware and cables.



## Technical Specifications

### Velocity Measurement

Method	Ultrasonic Transit-Time
Range	± 0,001 m/s to ± 10 m/s Bi-directional measurement
Accuracy	±1% of reading or 0,005 m/s (whatever value is bigger)
Repeatability	± 0,05%
Technologies	- Automatic control of ultrasonic signal using the ESC mode (Echo Shape Control) - Automatic zero flow adjustment with "anti-air bubble" signal processing - Echo analyzer with automatic control (ESC) - Dynamic Gain up to 89 dB.

### Data Storage

1.000.000 measurements if used in combination with UNI-TRANS™

### Local Terminal

RS-232	Used in combination with PC software for configuration
Keypad	For menu configuration (access code possible)

### Time-Based Accuracy

High resolution time measurement < 0,1 ns.

### Display

Dimensions 15 x 63 mm; two lines of text display  
16 characters programmable; back lit LCD

### Outputs

Two 4-20 mA outputs: system-isolated, up to 500 ohm load.

### Contact Closure

Two OC contact closure for alarm  
Rating: 0,1A @ 100 VDC

### Housing

Material	ABS plastic, NEMA 4
Dimensions	258 W x 237 D x 145 H mm
Protection Rate	IP65
Weight	2,5 kg

### Environmental Working Conditions

Operating Temperature	-10 to +50°C
Storing Temperature	-20 to +70°C
Humidity	20 to 95% r.H. (not condensing)

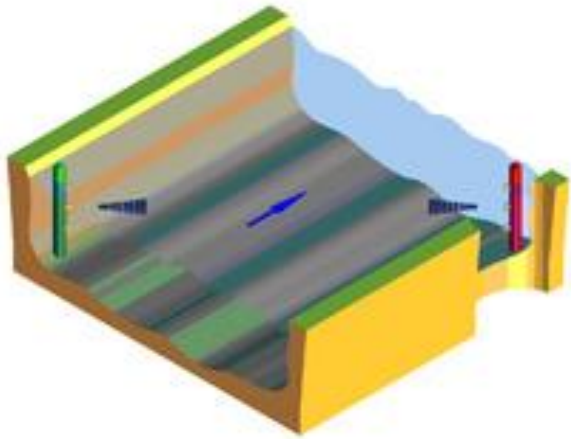
### Power Requirements

115-230 VAC, 50-60 Hz, max. 10 watts; 12 VDC or 24 VDC (must be specified at time of ordering)



[www.flow-tronic.com](http://www.flow-tronic.com)

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**Diagram: Operating principle**

## Technical Specifications

### Flow Processor and Monitor

UNI-TRANS™ flow monitor and processor combines up to 4 paths for standard applications (up to 16 paths are possible for special applications on request)

For more technical information, please refer to the UNI-TRANS™ technical specification sheet.

Multi-parameter display: Flow, speed, gain, signal quality ratio,...

### ESC Mode and automatic zero flow

To achieve accurate flow readings, proper probes selection and installation are required. The ESC mode acts as an 'Auto focus' for the ultrasonic signals in order to optimize the acoustic signal. Zero offset adjustment at no flow conditions is not necessary, nevertheless auto zero function can still be used.

### Performance

Typical velocity measurement accuracy on the path following dry calibration:  $\pm 1 \%$

Linearity on test loop:  $\pm 0,1 \%$

Practical flow measurement accuracy depends on the application, number of US measuring paths, cross paths or not.

### Probes and Support

Flow-Tronic offers a large range of conventional technology and microstructure technology probes, working at different frequencies with sensor mounts and supports, designed for easy and secure installation.

Optional ATEX certified sensors are available for waste water applications.

### Typical applications

Flows in all open channel water applications: potable water, raw water, rivers, waste water and sewage

Climate and hydraulic engineering – Network balancing – Performance

*Specifications are subject to change without notice  
Updated: May 2015*