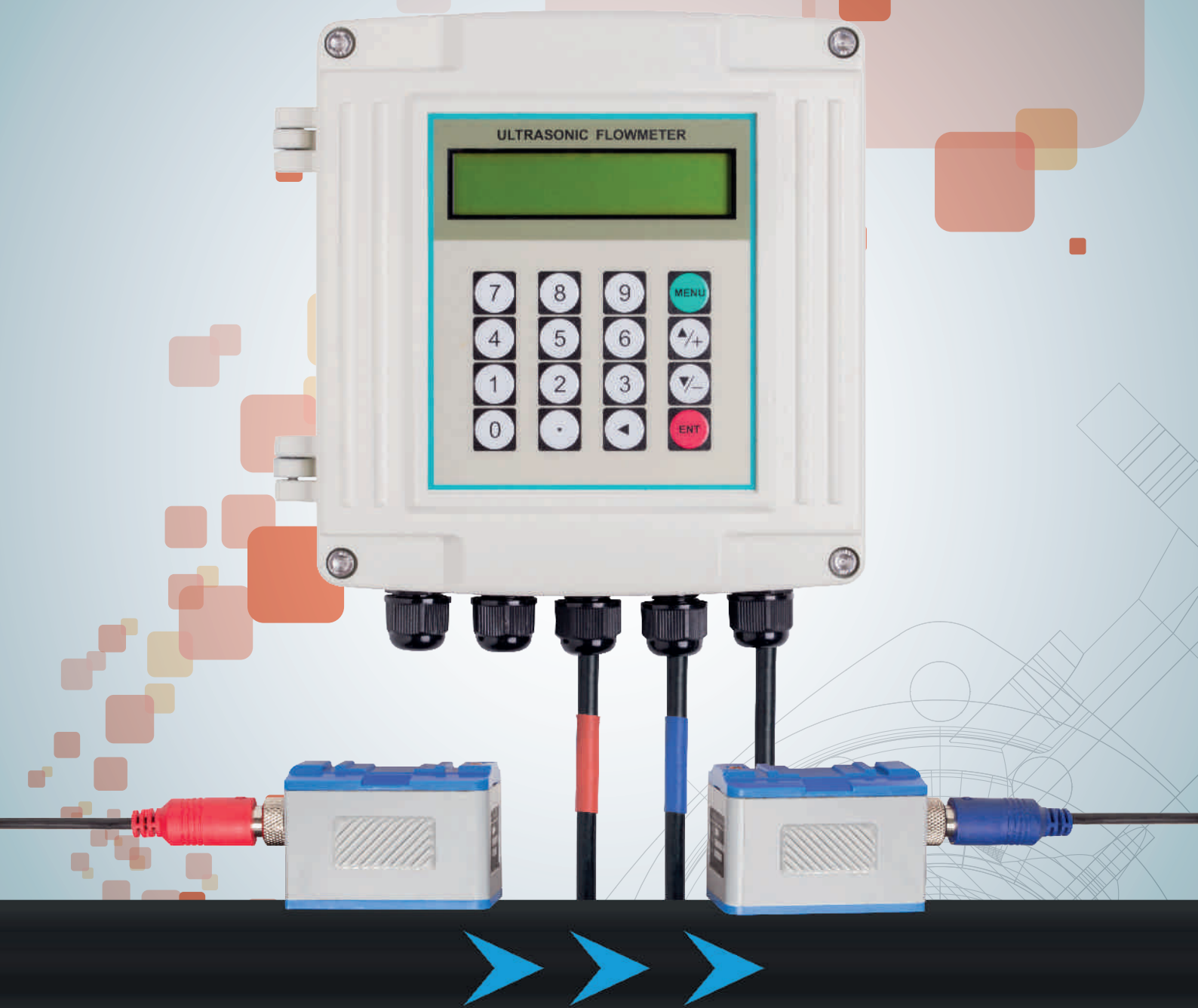


# WATER METERS



## ULTRASONIC FLOWMETER



## Applications

- ✓ - Water, sludge and pumping process water treatment.
- ✓ - Oil, petroleum and chemical industries.
- ✓ - Hydroelectrics, cooling systems, fire-fighting stations.
- ✓ - Mining industry.
- ✓ - Food, paper and pharmaceutical industries.
- ✓ - Car industry.



## Functioning

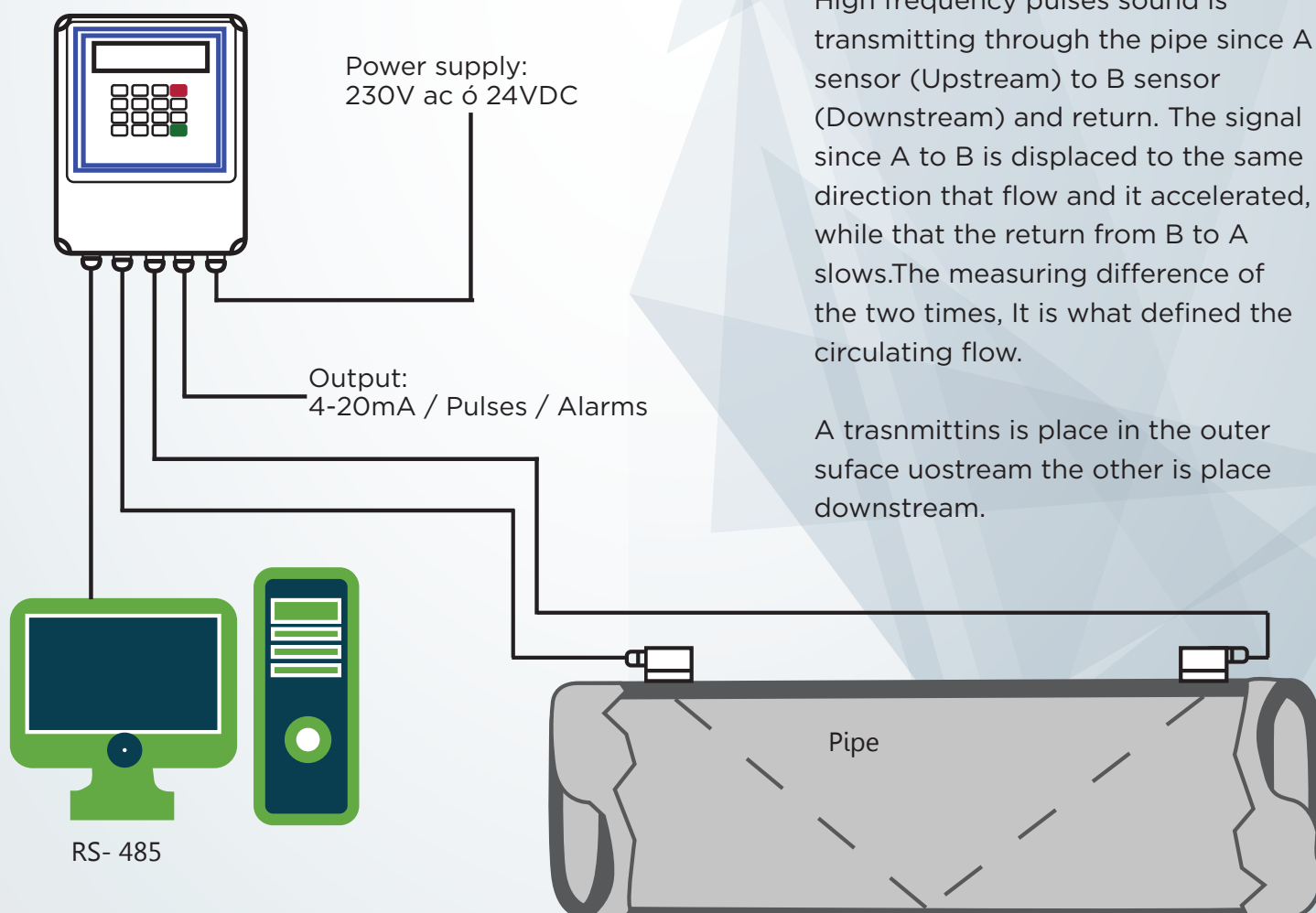
Precision, obstruction-free flow meter for conducting and non-conducting liquids. The measurement system consists of a pair of ultrasonic transducers acoustically attached to the external wall of the piping and a main unit (converter), which creates the signals sent to and received from the transducers and transforms them into user-readable parameters.



## Working principles

High frequency pulses sound is transmitting through the pipe since A sensor (Upstream) to B sensor (Downstream) and return. The signal since A to B is displaced to the same direction that flow and it accelerated, while that the return from B to A slows. The measuring difference of the two times, it is what defined the circulating flow.

A transmitting is placed in the outer surface upstream the other is placed downstream.





## Technical specifications

- ✓ - Backlit alphanumeric LCD with two lines and 20 digits.
- ✓ - Visualization of instantaneous flow, positive, negative and net volume, and fluid velocity.
- ✓ - Designed for all kinds of liquids and pipes.
- ✓ - Working range:  $\pm 16$  m/sg.
- ✓ - Power supplied: 90...260Vac 50/60Hz and 12...36Vdc.
- ✓ - Maximum consumption: 2W.
- ✓ - Outputs 4 - 20mA, pulses, frequency, RS-485 MODBUS and alarms.
- ✓ - Accuracy: Higher than  $\pm 0.5\%$ .



## Non intrusive sensors

- Instalation in outside part of pipe.
- Working temperature:  $-30...+90^{\circ}$  C.
- Working range:  $\pm 16$  m/sg.
- IP68 Protection.
- Pipes range: DN-15 to DN-6000mm.
- Standard with 10 cable meters.
- Mounting Kid including.





## Technical characteristics

Item	Ejecution		
Piping	Material	Steel, stainless steel, iron, smooth-wall, rough-wall or thin-wall plastic.	
	Internal diameter	15 to 6000mm.	
	Straight sections	Upstream: more than 10D and 50D after pumps	
		Downstream: more than 5D	
Speed	Type	Drinking water, seawater, other liquids low in suspended solids.	
	Turbidity	Less than 10,000pm (mg/l) with few air bubbles.	
	Temperature	- 20 C + 80 C, without ice at low temperatures.	
Speed	Speed	-16 m/s to +16 m/s	
Transducers	Type	0. Standard- TS2 DN15.....DN300mm.	
		1. Standard - TM1 DN50.....DN1000mm.	
		2. Standard - TL1 DN300.....DN6000mm.	
	Cable length	Min. 5m, Máx. 500.	
	Assembly methods	'V' method: for small diameter pipes up to DN-400mm.	
		'Z' method: for large-diameter pipes, over DN-250mm.	
		'W' or 'N' methods: appropriate for very small diameter pipes, DN-15 - DN-100mm.	
Converter	Display	2 x 20 alphanumerical, back-lit LCD	
	Keyboard	4 x 4	
	Assembly	Wall assembly	
	Inputs	Five 4 – 20mA current loops, precision 0.1%	
	Outputs	4 – 20 mA current loop selection, precision 0.1%	
		RS485 serial port.	
		Programmable frequency output 12 - 9999Hz	
		Relay output 1st/125 VAC or 2nd/30 VDC for volume or alarm pulses.	
Dimensions	Fixed type: 185 x 175 x 75 mm		
Weight	Fixed type: 3.1kg		
Working conditions	Temperature	Converter: -20C...+40C	
		Transducers:-20C...+80C	
	Relative humidity	Converter: 85%	
		Transducers: 98%, can operate in water less than 2m deep.	
Precision		+/- 0.5%	
Power		90-260 VAC 50/60Hz – 12 to 36 VDC	
Operation		Continuous	



# ULTRASÓNICO FLOWMETER

WHEN WATER COUNTS

CUANDO EL AGUA ES LO QUE CUENTA

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