

FS-012

Non intrusive flow switch

Flow switch with clamp-on transducers able to use in non-invasive liquid measurement. Microprocessor based, user friendly, field programmable flow measurement technique allows no interruption of the process flow and has low installation cost

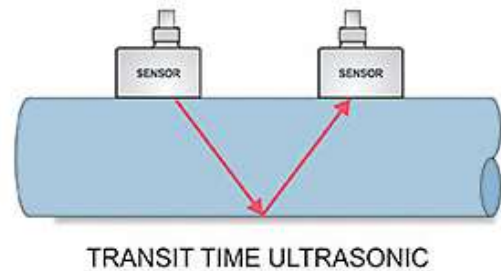


- 2 line LCD display with flowrate
- Wide range velocities of 0,02 to 12 m/s
- Transducers pipe size from 20 to 3000 mm
- Alarm led indication

Measuring conditions

Transit time principle

TTP utilizes a pair of ultrasonic transducers which are mounted on the pipe upstream and downstream respectively. Each transducer functions as both ultrasonic transmitter and receiver. The main unit operates by alternately transmitting and receiving a coded burst of sound energy between the two transducers. The transit-times in the upstream direction as well as in the downstream direction are measured. The difference of the two transit times is directly and exactly related to the velocity of the liquid in the pipe,



Fluid types

Virtually all commonly used clean liquids with small quantity of tiny particles up to concentration < 10000 ppm and particle size less than 80 µm.

Liquid must be free of bubbles and turbulences

Pipe conditions

Pipe material can be all metals, plastics, fiber glass, etc. , quite all of homogeneous pipes. Allow pipe liner.

Pipe straight run must be 15 or 30 times pipe diameter as minimum free straight pipe to warranty minimum turbulences.

Packaging list



- Main unit
- Clamp on transducers with cable
- High viscosity coupland kit
- Clamp on SS fixture
- Instruction manual (English, Italian or Spanish)



Main Specification

Power supply: 10 to 36 Vac/Vdc not insulated

Standard consumption: 2,0 VA

Dimensions (main unit): 160 x 120 x 62 mm without plugs

Enclosure: ABS provided by neoprene gasket. Front face polycarbonate.

Electrical connection: Power supply + output contact by DIN 43650A connector. Sensors plug 3 pin aviation connector.

Protection access: keyboard password

Display: LCD with backlight 2 x 20 characters

Keypad: 4 x 4 key membrane with tactile action

Language: English, Italian, Turkish (optional)

Measuring methods: Reflex type ("V" installation), double Reflex type, ("W" installation) or diagonal mode ("Z" installation).

Flow velocity: 0,02 m/s to 12 m/s by-directional with flow direction indication.

Pipe size: from 20 mm to 3000 mm depending the sensor type

Repeatability (from 0,1 to 12 m/s): +/- 0,5% reading

Signal output: Switch point programmable with SPST relay 2 A30 V or OCT output. Or flow rate 4-20 mA or OCT frequency.

Pipe material entering: by sound speed or standard pipe (Carbon Steel, Stainless steel, Cast Iron, Cooper, PVC, Aluminium, Asbestos, Fiberglass)

Liner material entering: by sound speed or standard liner (Expoxy, Rubber, Mortar, Polypropylene, Polystyrol, Polystyrene, Polyester, Polyethylene, Ebonite, PTFE)

Liquid type entering: by sound speed or standard liquid (Water, Sea water, Kerosene, Gasoline, Fuel Oil, Crude Oil, Alcohol)

Operating conditions (main unit): -15 to 50°C and 10 to 98% RH without condensations

Sensor connection:

Power and output connection:

Transducer specification

Clamp on transducers

Type A. Pipe size DN20 to DN 100

Type B. Pipe size DN50 to DN 700

Type C. Pipe size DN300 to DN 3000 (not available)

Fluid temperature: -10 to 80°C

Pipe installation: Clamp on

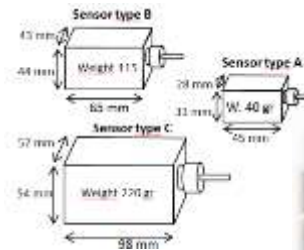
Cable: Shielded transducer cable, PVC cover , 5 m standard length plug connection.

Protection: Standard IP 67, optional IP68 (up to 3 m max.)

OPTIONS

High temperature version : special version -30 to 160°C

Guided sensors type A : To reduce the misalignment problems specially in small pipes



! Easy to install

No special tools required

Only one man with a simple screwdriver



Connect the unit

-Power supply
-Switch output



Program the unit

-Pipe type and data
-Fluid data
-Switch point



Install sensors

At distance and position required



Unit is running

-Display flow
-Switch active



Ordering code

	FS012	X	X	XX	XXXX
Sensor type : A , B, C, X (special)					
Output: R (relay), O (OCT output), A(4-20 mA)					
Cable length (in meters). Standard 5 m.					
Options : Please specify					



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