

# FLOW MEASUREMENT

## Ultrasonic Flowmeter Clamp-on Wall Mounted

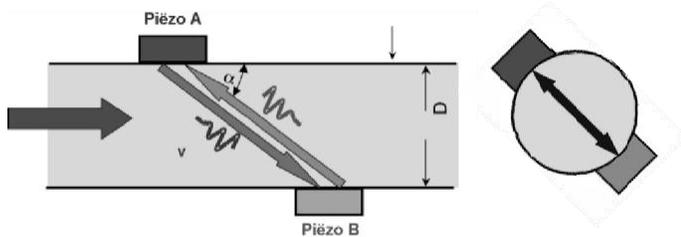
### PARASONIC 153-UCW

# SBEM

Partner for Level and Flow

## INTRODUCTION

SBEMs PARASONIC series of ultrasonic flow meters use the transmit time differential method as the measurement principle to measure the flow of liquid in closed pipes. The transit-time technique uses a pair of transducers with each transducer sending and receiving coded ultrasonic signals through the fluid. At zero flow, both transducers receive the transmitted ultrasonic signals at the same time, i.e. without transit time delay. When the fluid is flowing, signal transit-time in the downstream direction is shorter than in the upstream direction; the difference between these transit times is proportional to the flow velocity.



SBEMs PARASONIC series uses a flexible design concept to provide easy handling and optimum utilization.

### BENEFITS/HIGHLIGHTS

- Flexible design Concept
- Modular design offers better flexibility and ease of operation with high degrees of efficiency
- Accurate, Cost-Effective Measurement
- Advanced digital signal processing and superior Sensor design offer economical and reliable Flow measurement
- No Process Interruption
- PARASONIC clamp-on sensors are capable of quick Retro fit at any point in the process allowing easy Flow measurement and troubleshooting
- Wide Application Range
- PARASONIC series is suitable for a wide range of pipe Sizes and materials including lined pipes for Both conductive and non-conductive liquids.

## PARASONIC 153 WALL MOUNTED CONVERTER



- 85 - 230 VAC/ 24VDC
- Accuracy-1%
- 2 Line Backlight LCD
- Quick access with 4x4 key-board
- Relay, pulse and analog output
- Temperature (P100) and Analog Input for heat flow and pressure measurement
- Data transfer to PC using RS232/485
- Compatible with insertion and clamp-on Sensors

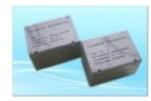
### PARASONIC153SENSORS



Small (S1)



Medium(M1)



Large(L1)

Small (S1) for pipe sizes 15mm-100mm

Medium (M1) for pipe sizes 50mm-700mm

Large (L1) for pipe sizes 300mm-6000mm

### Optional Sensors

For higher temperature upto 160°C, contact HO

### Area of Expertise

- Potable Water
- Deionized / demineralized water
- Cooling and heating water
- Broad range of hydrocarbons
- Purified Water
- Waste Water
- Sewage water
- Discharge Water

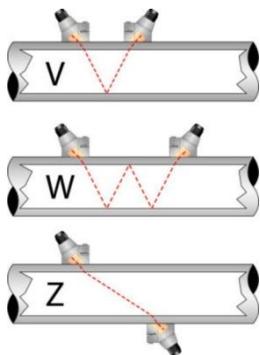
## SPECIFICATIONS FOR WALL MOUNTED CONVERTER

|                     |  |
|---------------------|--|
| Power Supply        | Std. -85-230VAC; Optional -24VDC   |
| Measured Values     | Volumetric Flow, Flow Velocity, Flow Direction, Speed of Sound, Quality of measured signal |
| Flow Velocity       | 0-32m/s bi-directional   |
| Accuracy            | ±1%*for dia. Ø50mm and v > 0.5m/s  |
| Repeatability       | 0.3%   |
| Sensors             | Clamp-on and insertion (For insertion type sensors, refer LF-153-0804)                     |
| Display             | 2Line backlight LCD  |
| Keyboard            | 4X4 Numeric Keyboard membrane  |
| Pipe Materials      | Mild Steel/Carbon Steel, Stainless Steel, Cast Iron, Ductile Iron, PVC, Plastic*           |
| Lining              | Mortar, Tar Epoxy, Rubber  |
| Outputs             | 4-20mA/0-20mA; Relay output; Open Collector Frequency / Pulse output                       |
| Communication       | RS485 /RS232 with MODBUS (ASCII or RTU)  |
| Inputs              | Up to 3 Analog input channel sand Up to 2 channel 3Wire compensated Pt100                  |
| Data Logging        | Built-in or optional PC based  |
| Data logging Memory | 2GB (Standard) ,8GB & 16GB (Optional)  |
| Protection          | IP67(Applicable for Converter & Clamp on Sensors both)                                     |

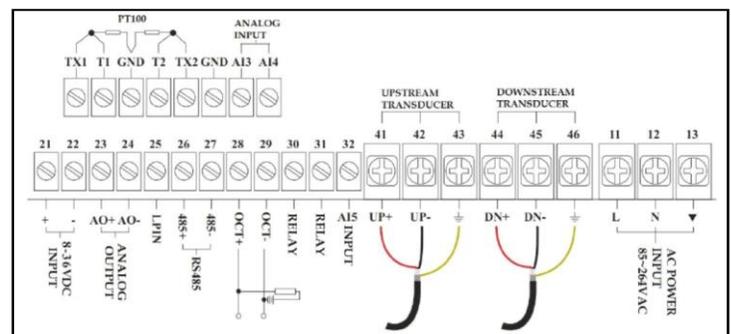
### Sensors

| Type              | Standard Small (S1) | Standard Medium (M1) | Standard Large (L1) |
|-------------------|---------------------|----------------------|---------------------|
| Diameter(mm)      | DN15 - DN100        | DN50 - DN700         | DN300 - DN6000      |
| Materials         | ABS                 | ABS                  | ABS                 |
| Frequency         | 1MHz                | 1MHz                 | 1MHz                |
| Installation      | V,W                 | V,Z                  | Z                   |
| Magnetic Coupling | Yes                 | Yes                  | No                  |
| Temperature       | 0 to 70 °C          | 0 to 70 °C           | 0 to 70 °C          |
| Size(mm)          | 45 x 30 x 30        | 60 x 45 x 45         | 80 x 80 x 55        |
| Cable(m)          | 5m standard         | 5m standard          | 5m standard         |

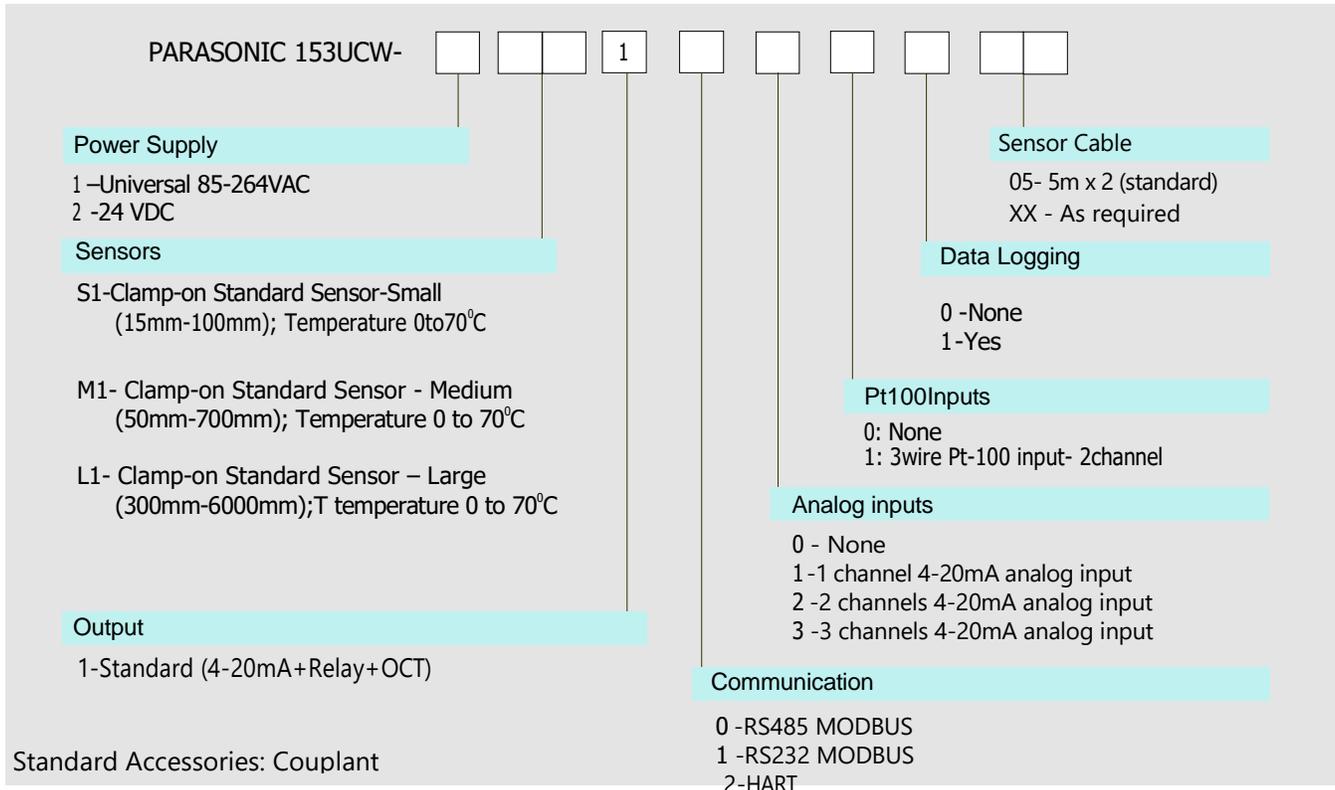
\*Accuracy depends on installation, pipe materials, size and lining. Consult HO for corroded or lined pipes.



**Wiring diagram with standard RS 485 communication interface and One analog input channel**



## ORDERING CODE



### Example of Model Code Selection for Wall mounted Ultrasonic Flow Meter:

**Model Code: 153UCW1S11021005**

The above model code specifies that the Ultrasonic Flow Meter 153UCW with wall mounted Indicator-converter operates on 85 to 264VAC power supply, Sensors are standard clamp-on small type for line sizes 15 mm to 100mm, with standard output of 4-20 mA, Relay and pulse output, with Rs485 communication interface, 2 channel analog inputs, 2 channels 3 wire Pt100 inputs, without data logger and with sensor cable of 5m with each sensor/transducer, with 100 grams couplant.

## ACCESSORIES (TO BE ORDERED SEPARATELY)

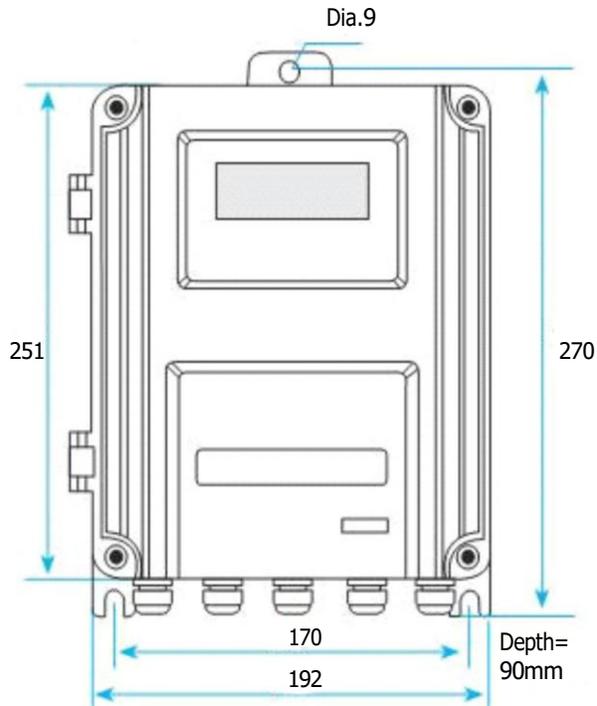
### a) Additional Sensors

- 153UFS S1-Small Standard (15mm-100mm)
- 153UFS HS – Frame Sensor Small (15mm-100mm)
- 153UFS M1-Medium Standard (50mm-700mm)
- 153UFS HM - Frame Sensor Medium (50mm-700mm)
- 153UFS L1-Large (300mm-6000mm)
- 153UFS TS-Small High Temperature (15mm-100mm)
- 153UFS TM-Medium High Temperature (50mm-700mm)
- 153UFS TL-Large High Temperature (300mm-6000mm)

### b) Ultrasonic Thickness Gauge



## MECHANICAL DIMENSIONS



LF-153-0808-R03 01/2024

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