UniArms

UA108

Uniarms' UA108 ultrasonic flowmeter use the most reliable digital signal processing technology, transmitting flow measurement for a wide range of liquid and pipe size with high accuracy and reliability. Coupled with the outstanding performance transducer with higher industrial grade material, Uniarms instruments could have long time work without trouble.

Extraordinary industrial design could make it as a bright star in the flow measurement industry.User-friendly menu display selections make using instruments very convenient. Clamp-on transducers makes the unit more flexible over a wide range of applications.

Operating and maintenance costs of flow metering can be significantly reduced by Uniarms ultrasonic flowmeter. Operating costs are low because there is no need to break the pipe. Maintenance is nearly none as there is no wear.

Applications

Ultrasonic flowmeter could have a wide range of applications as below:

- Water / Waste water
- Hot / Chilled Water
- Chemical Liquids and Solvents
- Oil / Crude Oil / Fuel Oil / Diesel / Lubricant
- Water management in buildings, metropolitans.
- water / waste water treatment plants, irrigation systems, and more
- Flow monitoring and control in Desalination plants, steel plants, power plants, machining plants
- Liquid process control in chemical plants and industrial automation
- Oil / fuel / chemicals and other liquid transfer
- Retrofit capability, to upgrade or augment existing systems
- Automated batching and scheduling
- Efficiency monitoring and improvement of liquid-based heating / cooling systems, including solar / geothermal systems
- Beverage, food and pharmaceutical processors where non-contact is essential
- Remote flow monitoring network and leakage detection

Features & Benefits

High accuracy

- Accuracy : 0.5% of measured value (±1.6ft/s~±16ft/s);

High reliability

- Repeatability: 0.15%;
- High quality and performance PEI sensor body material(Germany supplier);

High cost performance

- All material in industrial grade to ensure long time work;
- Reasonable and competitive price to support our customers

Low operational costs

- Easy and low cost installation
- Large size available
- No need to cut pipes
- Long economic lifetime
- Bi-directional flow measurement possible
- No need to stop flow when you install it

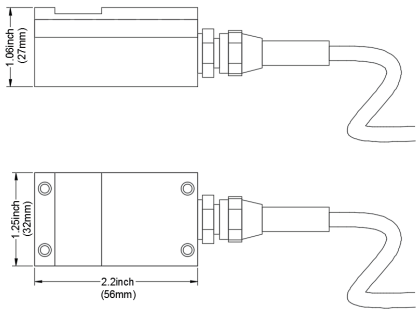
Low maintenance costs

- No moving parts . No wear;
- Rugged and reliable design

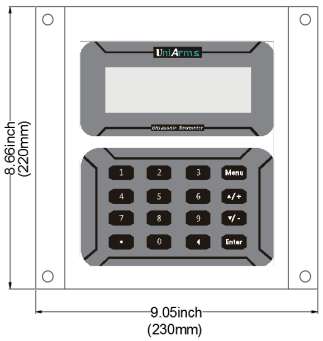
Specifications

- Dedicated Ultrasonic Flowmeter
- Installation method: Wall mount
- Flow Range: 0 ~ ±40ft/s (0~ ±12 m/s)
- Repeatability: 0.15%
- Accuracy: ±0.5% (±1.6ft/s~±16ft/s) (±0.5m/s~±5m/s)
- Pipe Size Range: 1″ ~200″ (25mm ~ 5000mm)
- Keyboard:16 (4×4) touch keys
- Display: 20*2, alphanumeric, backlit LCD
- Power supply: 90-250VAC, 48-63 Hz
- Transmitter enclosure: IP65, die-cast aluminum machined enclosure
- Output: 4~20mADC, OCT pulse output, relay output
- Communication: RS-485 terminal Modbus Protocol
- Clamp on transducer, Operating temperature:-40˚F ~ +248˚F (-40˚C ~ +120˚C)
- Cable length: Standard 33ft (10m)
- 1G SD data logging capability provided with our friendly “FlowData” software;

Transducer size



Transmitter size



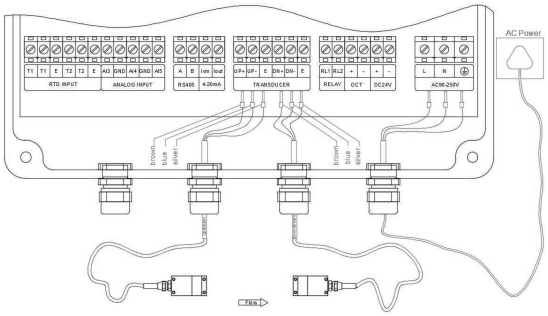
Wiring Connection

Once the electronics enclosure has been installed, the flowmeter wiring can be connected.

Power board wiring ports, from right to left, are as follows;

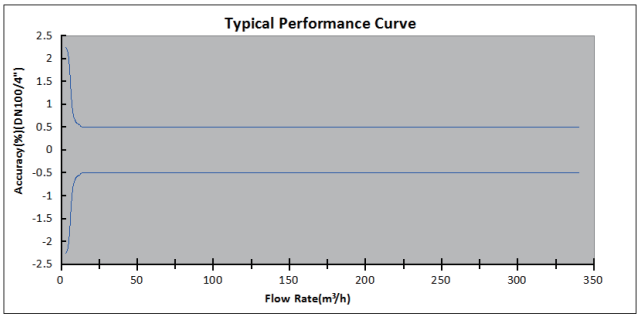
Connect to AC power (90-245V), DC power (24V), OCT Output, Relay, Transducer wiring, 4-20mA Output, RS485 Output, Analog Input, RTD input.

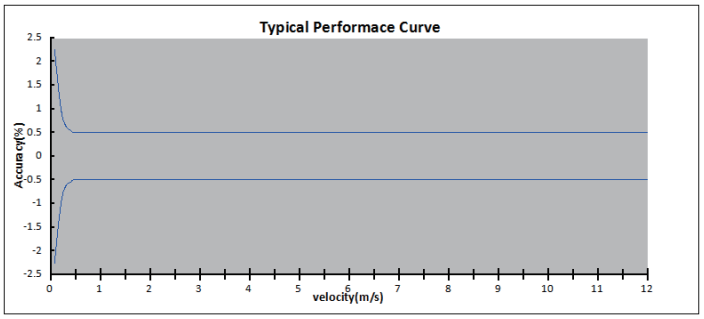
For double-shielded transducer cable: "-" on the black wire, "+" on the red wire and "shield" on the shield.



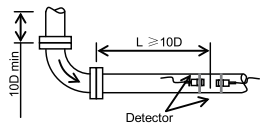
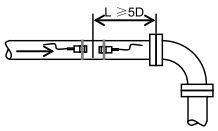
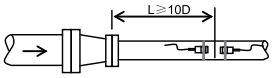
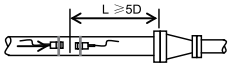
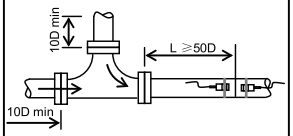
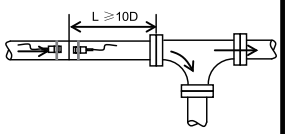
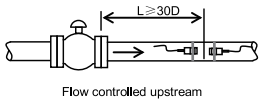
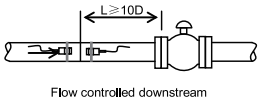
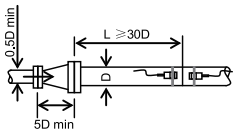
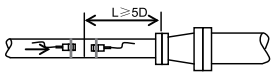
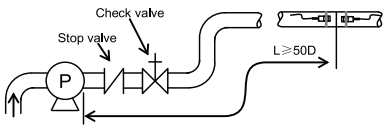
Performance Curve

Ultrasonic flowmeter have different measurement errors when flow changes from low flow rate to high flow rate. Here following is our Uniarms ultrasonic flowmeter performance curve range tested on the PVC pipe DN100:





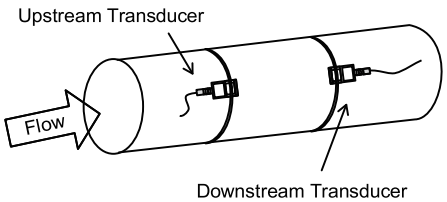
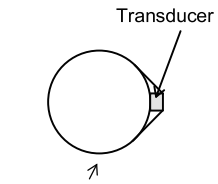
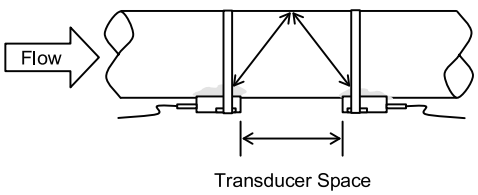
Measurement site selection

Name	Straight length of upstream piping	Straight length of downstream piping	Name	Straight length of upstream piping	Straight length of downstream piping
90° bend			Reduce		
Tee			Valve		
Diffuser			Pump		

Transducer Mounting Space Requirement

V Method Transducer Spacing

The V method is considered as the standard method. It usually gives a more accurate reading and is used on pipe diameters ranging from 25mm to 400mm (1~16”) approximately.

Side View	Section	Top View
		

Z Method Transducer Spacing

The Z method is able to measure on pipe diameters ranging from 100mm to 3000mm (4”~120”) approximately. Therefore, we recommend the Z method for pipe diameters over 300mm (12”).

Side View	Section	Top View