

# General Purpose Ultrasonic Transit-Time Liquid Flow Meter

## FEATURES

- One meter for a wide range of pipe sizes from 2 to 236 inches (50 to 6000 mm)
- Clamp-on transducers
- Clamp-on sensor option requires no pipe cutting, no plant shut-down, and are a hygienic measurement, leading to lower installation and labor costs
- Accuracy  $\pm 0.5\%$  of reading from 1.6 to 40 t/s (0.49 to 12 m/s)
- Repeatability  $\pm 0.15\%$  of reading
- Clamp-on transducers operating temperature range  $-40^{\circ}\text{F}$  to  $176^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $80^{\circ}\text{C}$ )
- 22 tactile keys with 12 dual-function and 6 quick setup keys
- Daily, monthly and yearly totalized flow
- Internally configured batch controller makes batch control convenient
- 1 GB SD card high-memory data logger
- Modbus RTU, RS-485, RS-232

# InnovaSONIC 205i



## DESCRIPTION

Sierra's InnovaSonic® 205i ultrasonic liquid flow meter incorporates the latest developments in digital signal processing, delivering highly accurate and repeatable flow measurement for a wide variety of liquids and pipe sizes. The 205i has sophisticated electronics coupled with powerful ultrasonic transducers to make this universal transit-time flow meter the top choice of industry leaders.

An easy-to-read display and clear, user-friendly menu selections make using the instrument simple and convenient. Short cut key buttons for flow, fluid and pipe characteristics make set up and data collection quick and simple. Clamp-on option makes the unit flexible over a wide range of applications.

The 205i also features a large alpha-numeric display, parallel operation of positive, negative and net flow totalizers (with user-selectable scale factors), and configurable pulse, analog and frequency outputs. SD data logging capability is included.

The 205i offers low power consumption and high reliability. The instrument can be configured via keypad without any additional programming devices. It is packaged in a die cast NEMA 4X (IP65) housing, and features non-invasive clamp-on transducers.



[www.sierrainstruments.com](http://www.sierrainstruments.com)



## PERFORMANCE SPECIFICATIONS

### Accuracy

Accuracy +/-0.5% of reading from 1.6 to 40 t/s (0.49 to 12 m/s)

### Repeatability

+/- 0.15% of reading

### Pipe Size

2 to 236 inches (50 to 6000 mm)

## OPERATING SPECIFICATIONS

### Flow Range

0.16 to 40 ft/s (0.05 to 12 m/s)

### Temperature

Ambient: -40°F to 140°F (-40°C to 60°C)

Operating: -40°F to 176°F (-40°C to 80°C)

### Power Supply

90 to 250 VAC, 48 to 63 Hz and

10 to 36 VDC (both are available on each unit)

### Output

Analog: 4 to 20 mA current loop (max. load 750  $\Omega$ )

Pulse output: 0 to 9999 Hz, OCT, (min. and max. frequency is adjustable)

Relay output: SPST, max. 1 Hz, (1A @ 125 VAC or 2A @ 30 VDC)

Digital output: Modbus RTU, RS-485, RS-232

### Keypad

22 tactile keys with 12 dual-function and 6 quick setup keys

### Display

40 characters, 2 line (20x2) lattice alphanumeric, backlit LCD

### Humidity

Up to 99% RH, (non-condensing)

### Data Logging

1 GB SD card high-memory data logger

## PHYSICAL SPECIFICATIONS

### Transmitter

NEMA 4X (IP65), die-cast aluminum

### Transducer

Encapsulated design IP 67

Standard cable length: 30 ft (9 m)

Maximum cable length: 300 ft (90 m)

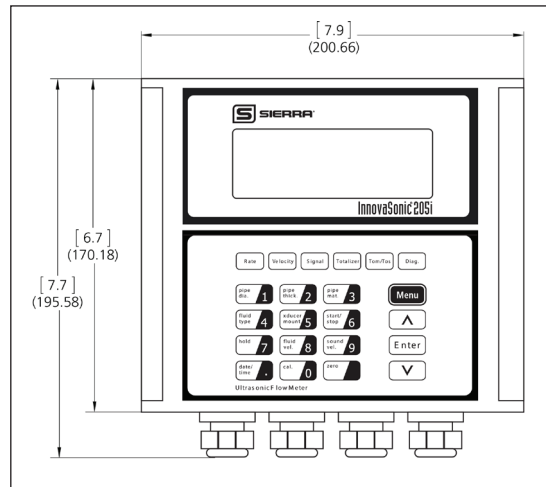
### Weight

Transmitter: approximately 4.7 lb. (2.2 kg)

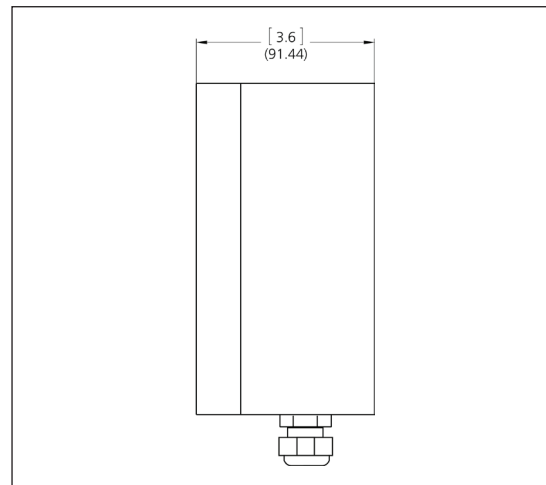
Transducer: approximately 2 lb. (0.9 kg)

## DIMENSIONS

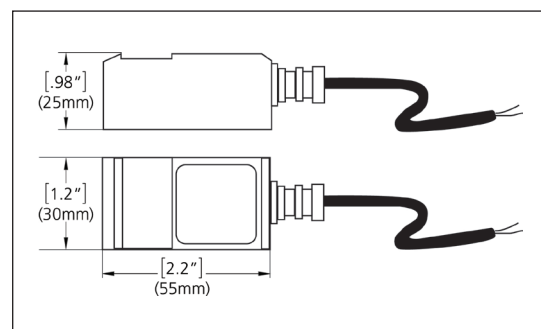
### Front View 205i Transmitter Wall Mount



### Side View 205i Transmitter Wall Mount



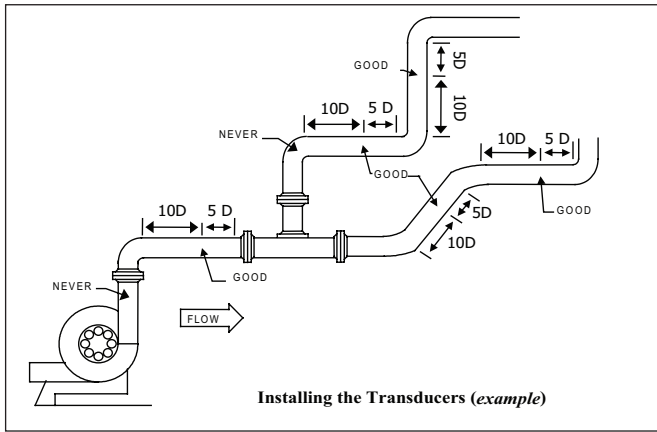
### Side View 205i Clamp-on Transducers



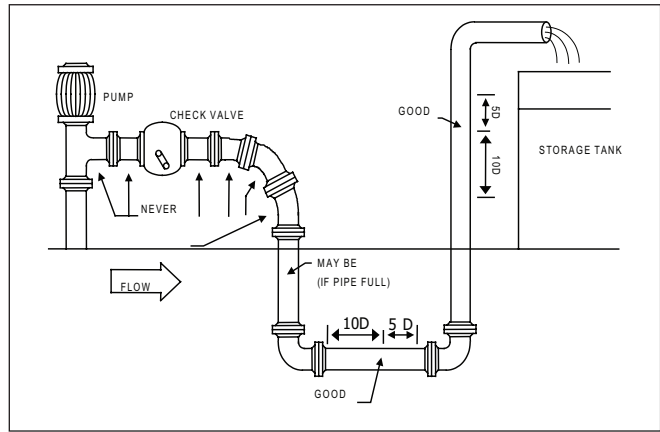
Note: Transducer Hazardous area classification: Ex d II BT4

**OPTIMAL INSTALLATION LOCATIONS**

**Transducer Installation Examples**

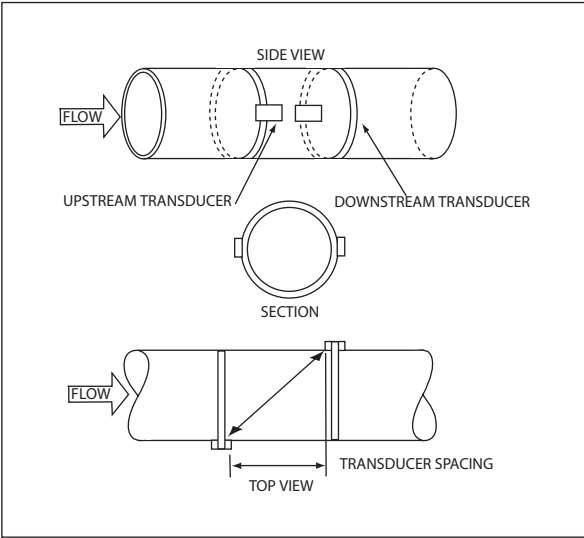


**Transducer Installation For Pump Storage Tank**

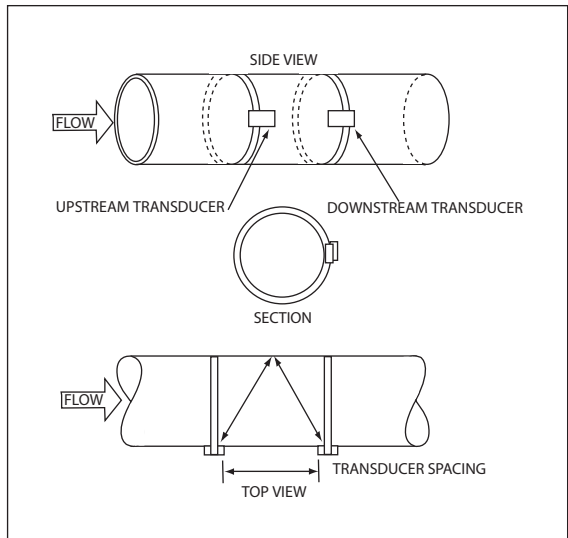


**TRANSDUCER SPACING REQUIREMENTS**

**Z Method Transducer Spacing**

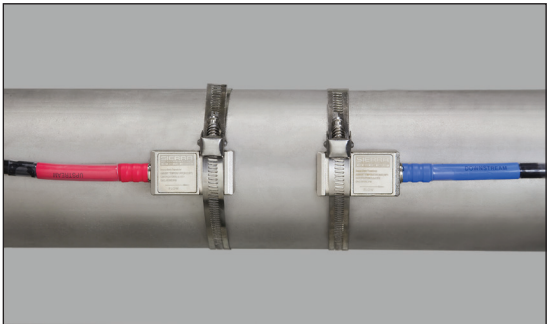


**V Method Transducer Spacing**



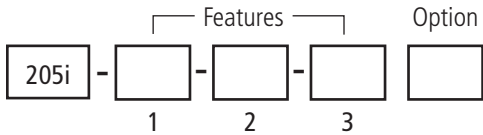
**TYPICAL INSTALLATIONS**

**Front View Clamp-on Transducers**



**Transducer Installation Examples**





Instructions: To order the 205i, please fill in each number block by selecting the codes from the corresponding features below.

Parent Number	
<b>205i</b>	InnovaSonic® General Purpose Ultrasonic Transit-Time Liquid Flow Meter

Feature 1: Enclosure	
<b>1</b>	NEMA 4X (IP 65); Die-cast aluminum machined enclosure

Feature 2: Transducers	
<b>S</b>	Clamp-on transducer, operating temperature: -40°F to 176°F (-40°C to 80°C) IP 68

Note: Insertion transducers include ball valves (1.5 inch), carbon steel installation seat for ball valve (brass), mounting kit (includes 4 screws and four plastic bushings) and seal kits (consult factory for other materials)

Feature 3: Transducer Cable	
<b>30</b>	30 ft. (9m) standard cable length
<b>X (in feet)</b>	Special length up to 300 ft. (90 m)

Option: NIST Traceable Certificate	
<b>NIST</b>	5-point calibration certification traceable to NIST. Add two weeks to standard delivery.

# Flexibility And Options.

## Learn About Our New Rental Program.

### How To Apply For Rental

- Visit <http://sierrainstruments.com/rental>
- Email [Rental@SierraInstruments.com](mailto:Rental@SierraInstruments.com)



In Stock Products. Ship In Two Days.\*

<https://sierrainstruments.com/shop/205i>



\*Disclaimer: Dependent on availability of stock.