High Performance Transit-Time Flow Meter

Innova-Sonic® 205i

Features

- Accuracy +/- 0.5% of reading
- Repeatability +/- 0.15% of reading
- Wide bi-directional Flow range of 0 to 40 ft/s (0 to 12 m/s)
- Available with standard clamp-on transducers -40°F to 176°F (-40°C to 80°C) or high temperature clamp-on transducers -40°F to 300°F (-40°C to 150°C)
- Available with standard (1.5" (30mm) diameter) insertion transducers or small (0.75" (19mm) diameter) insertion transducers for pipes smaller than 16" (DN 400) -40°F to 176°F (-40°C to 80°C)
- Available with insertion high temperature transducers (1.5" (30mm) diameter) -40°F to 300°F (-40°C to 150°C)
- One meter for a wide range of pipe sizes from 1" to 200" (25mm to 5000mm)
- Clamp-on sensors require no pipe cutting, no plant shut-down, are a hygenic measurement leading to lower installation and labor costs
- Daily, monthly and yearly totalized flow
- Internally configured batch controller makes batch control convenient
- 1GB SD card high memory data logger
- MODBUS RTU RS 232, RS 485 standard
- Energy monitoring option; accepts two direct-wired RTD's

Description

Sierra's Innova-Sonic® 205i ultrasonic flow meter incorporates the latest developments in digital signal processing to deliver 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, totalized flow, velocity, fluid, signal and diagnostics make set up and data collection even easier. High temperature clamp-on and insertion options are available, making the unit more flexible. PCA's inside the meter have been modularized, enabling field swap out for upgrades.

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 and energy monitoring is fully supported.

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 is available in your choice of non-invasive clamp-on or insertion transducer configurations.

SIERRA
EXPERIENCE OUR PASSION FOR FLOW!

ISO REGISTERED 9001

www.sierrainstruments.com

Performance Specifications

Flow Range:
0 to +/- 40 ft/s (0 to +/- 12 m/s)

Accuracy:
+/- 0.5% of reading

Repeatability:
+/- 0.15% of reading

Pipe Size:
1 in to 200 in (25mm to 5000mm)

Operating Specifications

Output:

Analog:	0/4 to 20mA (max load 750 Ω)
Pulse output:	0 to 9999Hz, OCT, (min. and max. frequency is adjustable)
Relay output:	SPST, max 1Hz, (1A@125VAC or 2A @ 30VDC)
Digital output:	RS232, RS485

Power Supply: 90 to 250 VAC, 48 to 63 Hz and 10 to 36 VDC (both are available on each unit)

Keypad: 16 (4×4) key with push buttons

Display: 40 character, 2 line (20×2) lattice alphanumeric, backlit LCD

Temperature: Transmitter: -40°F to 140°F (-40°C to 60°C)
Clamp-on transducer: -40°F to 176°F (-40°C to 80°C)
Insertion transducer: -40°F to 176°F (-40°C to 80°C)
Clamp-on high-temperature transducer: -40°F to 300°F (-40°C to 150°C)
Insertion high-temperature transducer: -40°F to 300°F (-40°C to 150°C)

Insertion Transducer Pressure:
Max operating pressure, 300 psig (20 barg)

Humidity: Up to 99% RH, (non-condensing).

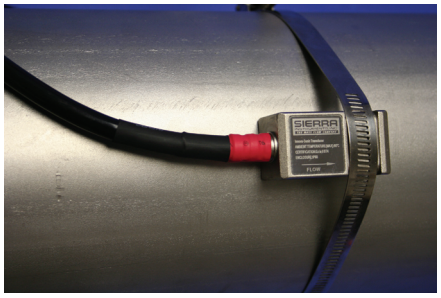
Physical Specifications

Transmitter: NEMA 4X (IP65), die-cast aluminum

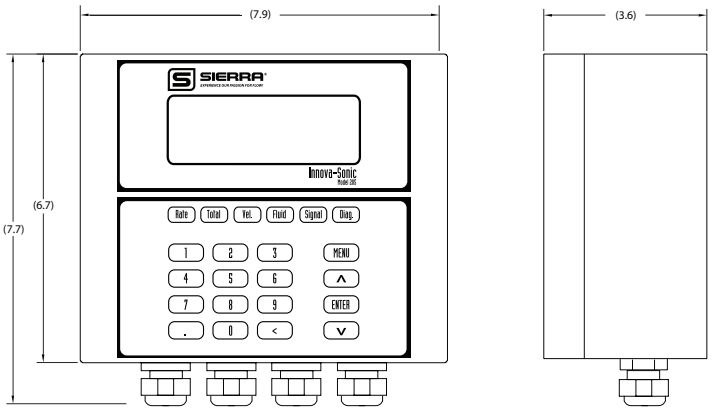
Transducer: Encapsulated design standard/maximum cable length: 30ft/1000ft (9m/305m), IP 67

Weight: Transmitter: Approximately 4.7 lb. (2.15kg)

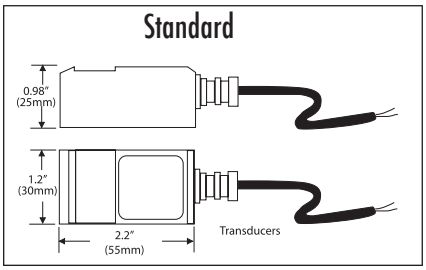
Typical Clamp-On Installation

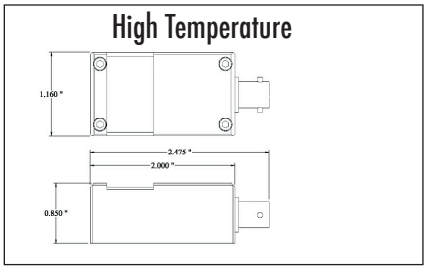


Transmitter Dimensional Specifications

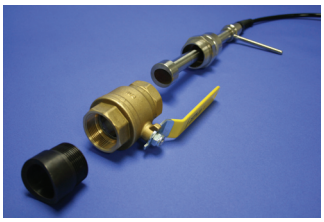


Clamp-on Transducer Dimensional Specifications





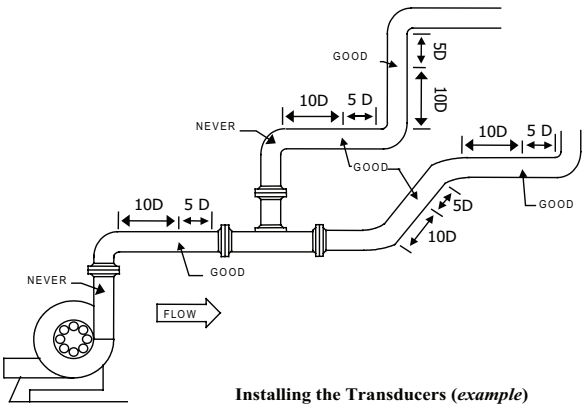
Typical Insertion Installation



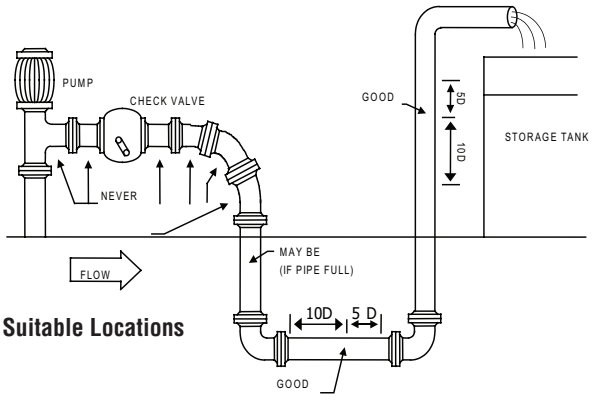
Standard Insertion Transducer

Small (3/4") Insertion Transducer

Suitable Locations

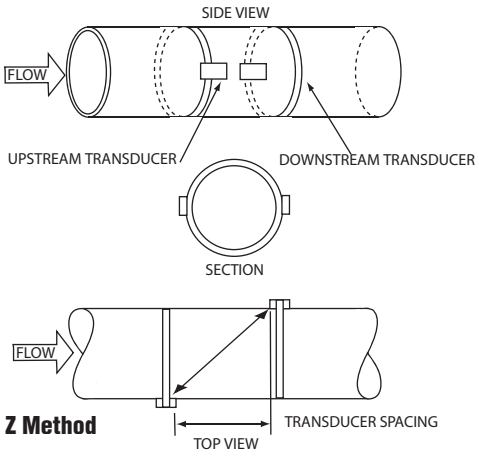


Installing the Transducers (*example*)

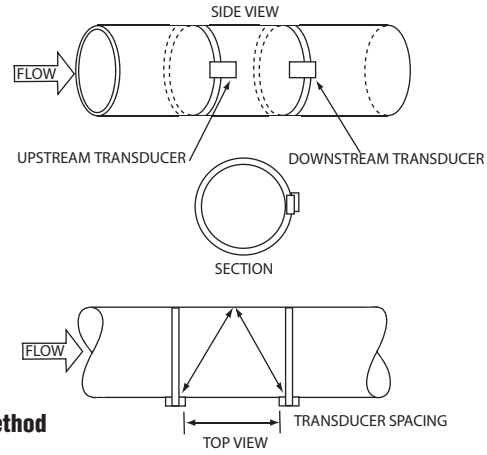


Suitable Locations

Transducer Spacing Requirements



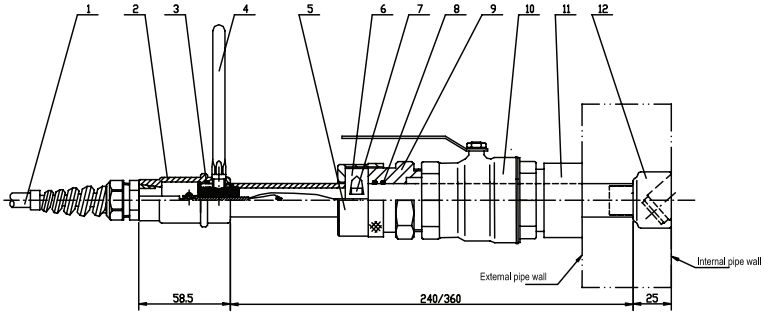
Z Method



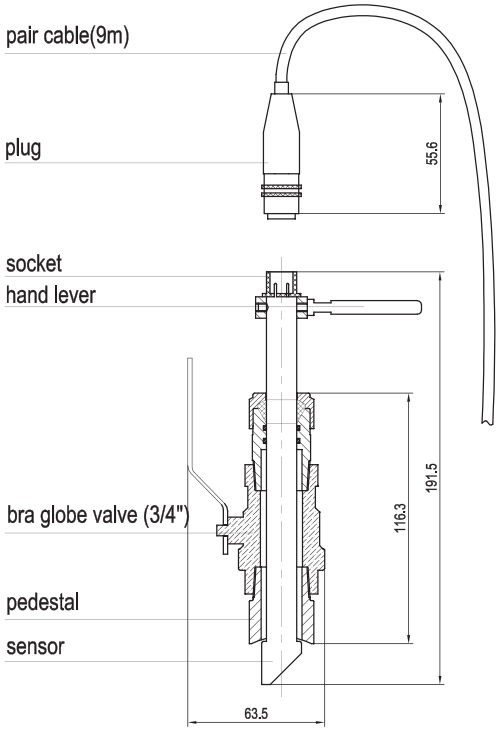
V Method

Insertion Transducer

DIMENSIONAL SPECIFICATIONS-STANDARD INSERTION SENSOR			
No.	**Parts**	**No.**	**Parts**
1	Cable	7	Set Screw
2	End Connector	8	O-Ring
3	O-Ring	9	Nut
4	Alignment Handle	10	Ball Valve
5	Locking Sleeve	11	Mounting Collar
6	Locking Collar	12	Transducer Housing



Standard Insertion Transducer



Small (3/4") Insertion Transducer

Ordering the Model 205i

205i [ ] [ ] [ ] [ ] [ ]

PARENT MODEL NUMBER

205i Innova-Sonic® Digital Correlation Transit-Time Flow meter
Installation Method: Wall Mount. Display: 20*2, alphanumeric, backlit LCD. Flow Range: ±0 to 40ft/s (±0 to 12 m/s). Keypad: 16 touch keys (4*4) . Output: 0/4~20 mA dc, OCT, Relay (SPST),Frequency. Power supply: 90- 250VAC, 48 to 63 Hz and 10 to 36 VDC. Accuracy 0.5% of reading. Repeatability 0.15% of reading. Pipes 1"-200" (25mm-5000mm). 1G SD card high memory data logging, maximum memory 512 days of data. Transducer hazard area classification: Ex d II BT4 (Not ATEX or IECEx approved) . Modbus RTU, RS 232 and RS 485 available.

205i NRG-2 Innova-Sonic® Thermal Energy/BTU Meter
Same as above but includes two direct RTD inputs available, two analog 4-20 mA DC inputs available for temperature transmitters. Energy monitoring software standard (Kjoules or BTU). Direct RTD inputs are available in a heat meter version 32°F to 356°F (0°C to 180°C) and a chill meter version: -13°F to 167°F (-25°C to 75°C) please contact factory with application details.
Note: Requires HT above 176°F/80°C

ENCLOSURE

1	NEMA 4X (IP 65); Die-cast aluminum machined enclosure

TRANSDUCER

S	Clamp on transducer, Operating temperature: -40°C to 80°C (-40°F to 176°F)
SHT	High Temperature Clamp-on -40°C to 150°C (-40°F to 300°F)
W	Insertion transducer, Operating temperature: -40°C to 80°C (-40°F to 176°F). 1.5" DIA Insertion transducer. Suitable for pipes 2.0" or greater
WHT	Insertion transducer, Operating temperature: -40°C to 150°C (-40°F to 300°F). 1.5" DIA Insertion transducer. Suitable for pipes 2.0" or greater
WS	Insertion transducer (small), Operating temperature: -40°C to 80°C (-40°F to 176°F). "3/4" Insertion transducer. Suitable for pipes 16.0" or smaller

Note: Insertion transducers include ball valves (1.5"); 3/4" for small insertion, 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)

CABLE LENGTH

30	30ft (9m) Standard cable length
xxx	up to 300 ft (90m)

Note: All transducers come with 30 ft (9m) of cable standard.

OPTION: NIST TRACEABLE

NIST	Point Calibration Certification traceable to NIST (add two weeks to standard delivery)

Note: Buy the 205i-1-S-30 online for immediate delivery at sierrainstruments.com/shop

SIERRA INSTRUMENTS, NORTH AMERICA • 5 Harris Court, Building L • Monterey, California • (800) 866-0200 • (831) 373-0200 • Fax (831) 373-4402 • www.sierrainstruments.com
SIERRA INSTRUMENTS, EUROPE • Bijlmansweid 2 • 1934RE Egmond aan den Hoef • The Netherlands • +31 72 5071400 • Fax: +31 72 5071401
SIERRA INSTRUMENTS, ASIA • Rm.618,Tomson Centre, Bldg. A • 188 Zhang Yang Road • Pu Dong New District • Shanghai, P.R. China 200122 • +8621 5879 8521/22 • Fax: +8621 5879 8586