Ultrasonic Thermal Energy Meter

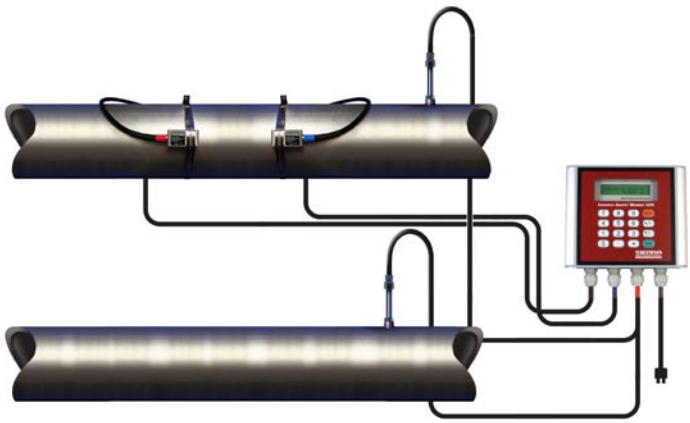
Features

- **Accuracy of +/- 0.5% of reading**
- **Wide operating temperature range -40°F to +340°F (-40°C to 170°C)**
- **Can be used for a wide range of pipe sizes from 1-200" (25mm-5000mm)**
- **Bi-directional flow range of 0.0 to 40 fps liquids (0-12 mps)**
- **Measurement of energy rate and totalized energy consumption**
- **Clamp-on sensors mean no pipe break or process interruption and offer low installation effort and costs**
- **Suitable for virtually any liquid heating and cooling application including HVAC, office buildings, large condominium or apartment developments, thermal solar heating and geothermal applications**
- **Includes two PT100 resistance temperature detectors (RTD's) for measuring inlet and outlet temperature**
- **Calculates the thermal energy flow rate in user-defined units (BTU/hr or KJoules/hr for example)**
- **Built-in totalizers record daily, monthly and yearly totalized energy usage**
- **Built-in SD card and supplied data-analysis and graphing program allows for easy analysis of collected data for billing purposes**

SIERRA® INSTRUMENTS
THE MASS FLOW COMPANY

ISO REGISTERED 9001

Innova-Sonic® Model 205 Thermal Energy Meter



Description

Sierra's Innova-Sonic® Model 205 Energy Meter is a transit-time ultrasonic flow meter designed to measure thermal energy flow rate and totalized energy consumption in liquid heating and cooling applications including HVAC, office buildings, large condominium or apartment developments, solar thermal heating and geothermal. Non-intrusive clamp-on ultrasonic sensor technology makes for easy and economical installation.

The Model 205 Energy Meter offers high accuracy (+/- 0.5% of reading) enabling custody transfer of thermal energy. Built-in totalizers and data loggers are used to record daily, monthly and yearly totalized energy usage and report total energy used. These functions make it easy to account for energy usage and accurately allocate costs to end users. A built-in SD card and a supplied data-analysis and graphing program allows for easy storage and analysis of collected data.

The instrument includes ultrasonic transducers, remote electronics, and two PT100 resistance temperature detectors (RTD) supplied by Sierra. The two RTD's (either insertion or surface-mounted) measure the temperature of the supply and return flow. The instrument electronics then uses these inputs, along with the measured flow rate from the ultrasonic transducers, in order to calculate the thermal energy flow rate in user-defined units (BTU/hr or KJoules/hr for example).

The Model 205 Energy Meter features a wide operating temperature range of -40F to +340F (-40C to 170C), and a bi-directional flow range of 0.0 to 40 fps liquids (0-12 mps). The instrument can be used for a wide range of pipe sizes from 1"-200" (25mm-5000mm).

For information online: www.sierrainstruments.com

Ordering the Model 205

205 [ ] [ ] [ ] [ ] [ ]

PARENT MODEL NUMBER

205 Innova-Sonic® Digital Correlation Transit-Time Flow meter
Installation method: wall mount, Display: 20*2, alphanumeric, backlit LCD; Flow range: 0 to 40 ft/s (0 to 12 m/s); Keypad: 16 touch keys (4x4); Output: 0/4-20mA DC, OCT, relay (SPST), frequency, Power supply: 90 to 250 VAC, 48 to 63 Hz and 10 to 36VDC; Accuracy 0.5% of reading, Repeatability 0.5% of reading; Pipes 1" to 200" (25mm to 5000mm); Two direct-wired RTD inputs, Energy monitoring software (Kilo joules or BTU), 1 gigabyte SD card high memory data logging; Transducer hazard area classification: Ex d II BT4 (not ATEX or IECEx approved)

OPTION 1: PT100 DIRECT WIRED RTD

S	3 wire PT100 RTD: Clamp-on
W	3 wire PT100 RTD: Insertion

DIGITAL OUTPUTS

2	RS-485, 4-20mA, OCT pulse output, relay output, 2 PT100 RTD Direct Imputs

ENCLOSURE

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

TRANSDUCER

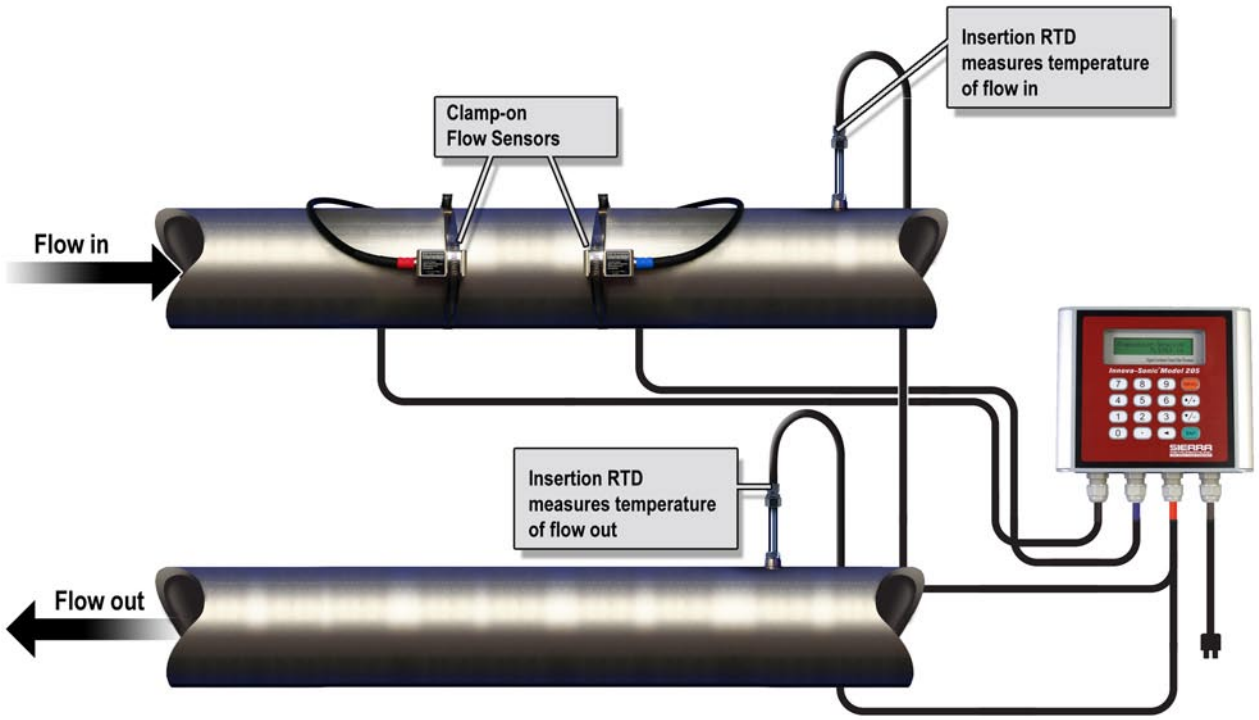
S	Clamp on transducer, operating temperature: -40F to 176F (-40C to 80C)
SH	Clamp-on high-temperature transducer: -40F to 340F (-40C to 170C)
W	Insertion transducer, operating temperature: -40F to 176F (-40C to 80C); max operating pressure 20 barg, 300 psig
WS	Insertion transducer (small), operating temperature: -40F to 176F (40C to 80C) max operating pressure 20 barg, 300 psig; use for pipe sizes below 16" (DN 400) if desired (3/4" insertion diameter)
WH	Insertion high-temperature transducer, operating temperature: -40F to 300F (-40C to 150C); max operating pressure 20 barg, 300 psig

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

CABLE LENGTH

30	30ft (9m) Standard cable length
50	50ft (15m) Standard cable length
100	100ft (30m) Standard cable length
150	150ft (45m) Standard cable length
200	200ft (60m) Standard cable length
300	300ft (90m) Standard cable length

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



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