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Features

- Economical flow measurement in a compact transmitter
- No moving parts
- No pressure drop
- Wide rangeability with 150 to 1 turndown ratio
- Non-obstructive flow measurement
- Tolerance to dirty streams
- Low maintenance
- Suitable for high temperatures
- Two-path measurement available for maximum accuracy

Applications

The DigitalFlow XGS868 steam flow transmitter is a complete ultrasonic flow metering system for measurement of:

- Saturated steam
- Superheated steam

The DigitalFlow XGS868 is designed to measure the mass flow rate of saturated or superheated steam. The DigitalFlow XGS868 offers a unique combination of rangeability, ease of installation, low maintenance and accuracy in a low-cost transmitter.

The state-of-the-art DigitalFlow XGS868 steam flow transmitter shares the many advantages offered by the other products in the GE's line of innovative ultrasonic flowmeters. The all-digital XGS868 creates no pressure drop; has no moving parts or parts that foul or collect debris; seldom requires maintenance; and provides reliable, drift-free operation.

DigitalFlow™ XGS868

Panametrics Steam Flow Ultrasonic Transmitter

DigitalFlow XGS868 is a Panametrics product. Panametrics has joined other GE high-technology sensing businesses under a new name–GE Industrial, Sensing.

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Compact Housing

All of the DigitalFlow XGS868's electronic components are housed in a compact transmitter package that can be installed right at the flow measurement point. This greatly simplifies wiring of the transducers and results in trouble-free operation.

Steam Mass Flow Rate

The measured flow velocity rate, along with the input of temperature and pressure, allow the powerful onboard computer to calculate the steam mass flow rate. The mass flow rate can be displayed locally, or transmitted to a remote system via an analog or digital communications link.

Dual-Channel Model

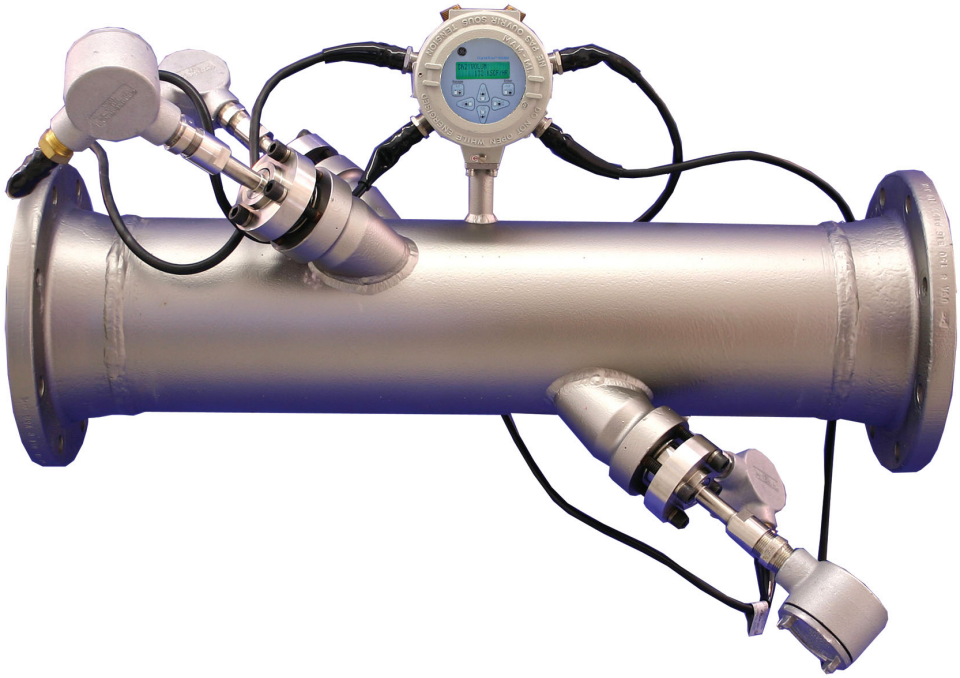
In addition to the standard single-channel model, an optional two-channel model provides enhanced accuracy when measuring two paths on a single pipe. It can also be used to measure a single path on two different pipes.

Low Operational Costs

Because a DigitalFlow XGS868 installation produces no flow obstruction, the energy-robbing pressure drops and high maintenance requirements characteristic of other flowmeters are eliminated. The special sealed metal transducers supplied with a DigitalFlow XGS868 system are immune to the erosion and stress caused by thermal expansion cycles.

Additional Options

PanaView PC Interface Software
The DigitalFlow XGS868 communicates with a PC through a serial interface and Windows® operating systems. Consult the manual for details on sites, logs and other operations with a PC.



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XGS868 Specifications

Operation and Performance

Fluid Types
Saturated or superheated steam

Pipe Sizes
2 in to 48 in (50 mm to 1200 mm) nominal bore (NB)

Pipe Materials
All metals. Consult GE for other materials.

Flow Accuracy (Velocity)
±1% to 2% of reading typical

Accuracy depends on pipe size and whether measurement is one-path or two-path. Accuracy to ±0.5% of reading may be achievable with process calibration.

Repeatability
±0.2% to 0.5% of reading

Range (Bidirectional)
–150 ft/s to 150 ft/s (–46 m/s to 46 m/s)

Rangeability (Overall)
150:1

Specifications assume a fully developed flow profile (typically 20 diameters upstream and 10 diameters downstream of straight pipe run) and flow velocity greater than 3 ft/s (1 m/s).

Measurement Parameters
Mass flow, standard and actual flow, totalized flow, and flow velocity

Electronics

Flow Measurement
Transit time

Enclosures
- Standard: Epoxy-coated aluminum Type 4X IP66 Class I, Division 1, Groups B,C,D FM J.I.1B1A9.AE, CSA LR44204-26 Flameproof ISSeP02ATEX008 Ⓔx II 2 GD EEx d IIC T5 IP66 T95°C
- Optional: Stainless steel

Dimensions (h x d)
Standard: Size 8.2 in x 6.6 in (208 mm x 168 mm), weight 10 lb (4.5 kg)

Channels
- Standard: One channel
- Optional: Two channels (for two pipes or two-path averaging)

Display
Optional: 2 line x 16 character backlit LCD display, configurable to display up to four measurement parameters in sequence

Keypad
Built-in infrared, six-button keypad for full functionality operation

Power Supplies
- Standard: 100 to 130 VAC, 50/60 Hz or 200 to 265 VAC, 50/60 Hz
- Optional: 12 to 28 VDC, ±5%

Power Consumption
20 W maximum

Operating Temperature
–40°F to 140°F (–40°C to 60°C)

Storage Temperature
–67F° to 167°F (–55°C to 75°C)

Standard Inputs/Outputs
Two 0/4 to 20 mA isolated outputs, 600 Ω maximum load

Optional Inputs/Outputs
All analog and digital I/O are available in specific combinations. Consult GE for available option cards.

- Two additional 0/4 to 20 mA isolated outputs, 1,000 Ω maximum load
- Two 4 to 20 mA isolated inputs, 24 VDC loop power

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XGS868 Specifications

- Two or four isolated, three-wire RTD (temperature) inputs, –148°F to 662°F (–100°C to 350°C), 100 Ω platinum
- Two or four pulse or frequency outputs, optically isolated, 3 A maximum, 100 VDC maximum, 1 W maximum, from DC to 10 KHz maximum
- Alarm relays:
  - Two or four Form C relays; 120 VAC, 28 VDC maximum, 5 A maximum; DC 30 W maximum, AC 60 VA maximum

Digital Interfaces
- Standard: RS232
- Optional: RS485 (multiuser)
- Optional: HART® protocol
- Optional: Modbus® protocol

Data Logging
- Standard: None
- Optional: Memory capacity (linear and/or circular type) to log over 150,000 flow data points

European Compliance
System complies with EMC Directive 89/336/EEC, 73/23/EEC LVD (Installation Category II, Pollution Degree 2) and transducers comply with PED 97/23/EC for DN < 25

Preamplifier

- In-line preamplifier for long cable lengths or attenuating installations
- Operating temperature: -40°F to 140°F (-40°C to 60°C)

Wetted Ultrasonic Flow Transducers

Temperature Range
- Standard: –58°F to 302°F (–50C° to 150°C)
- Optional (overall): –310°F to 842°F (–190°C to 450°C)

Pressure Range
- Standard: 0 psig to 2700 psig (1 bar to 187 bar)
- Optional: 3480 psig (240 bar) maximum

Materials
- Standard: Titanium
- Optional: Monel® or Hastelloy® alloys

Process Connections
Flanged and compression fittings

Mountings
Flowcell or cold tap

Area Classifications
- Standard: General purpose
- Optional: Weatherproof Type 4 IP65
- Optional: Explosion-proof Class I, Division 1, Groups C,D
- Optional: Flameproof Ⓔx II 2 G EEx d IIC T6

Transducers and flowcells for specific applications are available. Consult GE for details.

Transducer Cables

- Standard: One pair of coaxial cables, type RG62 AU, or as specified for transducer type
- Optional: Lengths up to 1000 ft (330 m) maximum

High Temperature and High Pressure Ultrasonic Flow Transducers

Bundle Waveguide Technology™ (BWT) System transducer and holder (see BWT System specifications) are available.

920-002C

N4271 CE

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