

Non-intrusive Ultrasonic Flow Meter  
for Gases and Liquids

## **FLUXUS® F/G831 with intrinsically safe Process Inputs**

For Operation in Hazardous Environments

Chemical Industry

Petrochemical Industry

Oil and Gas – Exploration  
and Production

Midstream – Storage  
and Distribution

Downstream – Refinery

**FLEXIM Sets Standards**  
*when measuring matters*





# FLUXUS® F/G831 – Specifically Designed for Process Control Applications in Hazardous Areas

Oil and gas production and chemical processes from the oil field to the refinery and chemical plants require reliable and accurate flow measurement instrumentation to ensure all flows regardless of the fluid composition and abrasiveness are accounted for every step of the way, to improve field management operations and increase efficiencies.

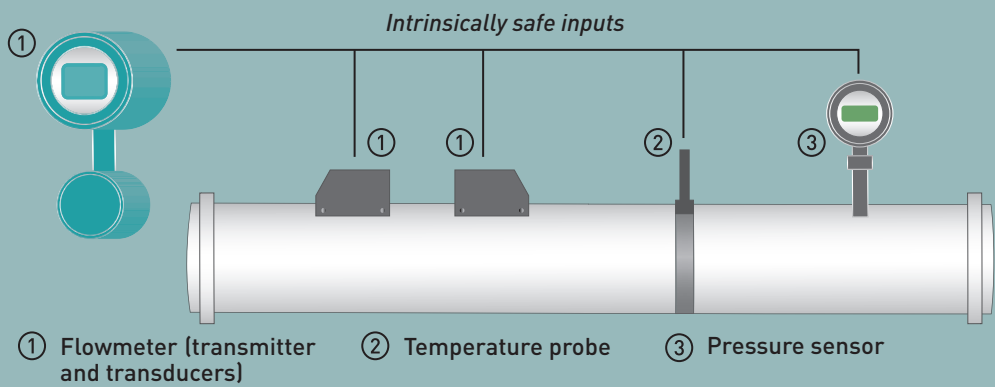
The new FLUXUS® F/G831 checks all the boxes. The combination of rugged and robust area ATEX/IECEX Zone 1 rated design, 1 or 2 measurement channels for liquids and gases, a fast processor, advanced meter diagnostic capabilities and intrinsically safe (Ex-ia) process inputs ensures optimal performance and durability under the harshest environments where additional safety is needed.

The addition of intrinsically safe process inputs for pressure and temperature at the meter location means the FLUXUS® F/G831 flow meters can now provide standard volume flow and mass flow during standard operating conditions.

## FLEXIM Offers the Superior Alternative:

- **Unrivaled Performance** – FLEXIM’s ultrasonic flow meters offer exceptional reliability and accuracy at high and low flows due to their matched, calibrated and temperature compensated transducers, advanced signal processing capabilities and diagnostics.
- **Standard Volumetric Flow and Mass Compensation** – Intrinsically safe Ex-ia process inputs for pressure and temperature
- **Operational Safety** – The ATEX/IECEX Zone 1 rated measurement system cannot cause potential pipe leaks, be prone to clogging or any other related issues that can hinder process integrity.
- **Flexible Technology** – Suited for multiple applications (liquids and gases) in a wide range of pipe sizes
- **Economical Solution** – An externally mounted system means no need for process interruptions or additional engineering costs.
- **Maintenance Free** – No contact with flowing media results in a completely maintenance free and durable metering solution capable of withstanding the the harshest environments.

### Flowmeter with integrated pressure and temperature compensation



#### Advantages

- ATEX/IECEX Zone 1 area rated
- Single & dual channel options available
- Powerful processor – Synchronized Channel Averaging
- Intrinsically safe process inputs
- Temperature compensated transducers
- Wide turndown ratio – Independent of pipe size, material, operating pressure, fluid and temperature
- High tolerance to entrained solids and gases
- Free of wear, tear and abrasion
- Not prone to clogging or corrosion – No pressure loss or source of potential leaks and fugitive emissions

#### Chemical Industry

- Hazardous organic and inorganic fluids
- Acids and caustics
- Process gases
- Polymerization processes
- Infrastructural processes

#### Hydrocarbon Product Handling

- Pipeline integrity monitoring
- Allocation terminals
- LNG terminals
- Underground gas storage
- Gas distribution and compressor stations

#### Crude Oil Refining and Gas Processing

- Distillation columns
- Cracker and coker units
- Gas processing

#### Oil & Gas Exploration

- Gas injection, gas lift & water injection
- Scrubbers and reboilers
- Produced water management
- Chemical injection

## Safe, Reliable, Versatile

With its explosion proof housing, intrinsically safe inputs and stainless steel (SS316) corrosion resistant transducers, the FLUXUS® F/G831 series is perfectly suited for every demanding industrial application in and out of the oil field and the chemical industry.

The connection and electronic compartments of the FLUXUS® F/G831 series are hermetically sealed, so that the measurement system provides maximum operational reliability and safety, being ATEX/IECEX Zone 1 rated.

Not only is the FLUXUS® F/G831 versatile, safe and reliable, it is precise. With faster processing capabilities, the meter offers significantly improved accuracy and response time between measurement channels which results in better representation of flow profile and high accuracy. In addition, as with all other FLUXUS® meters, the FLUXUS® F/G831 comes with carefully matched and temperature compensated transducers (fully ANSI/ASME MFC 5M compliant) providing unmatched zero-point stability and precise bi-directional flow measurement over a wide range of conditions – extremely low to high flows.





# More than 30 years of experience in clamp-on ultrasonic metering



As a worldwide pioneer in the non-intrusive clamp-on ultrasonic flow measurement of liquids, gases and steam, FLEXIM has been leading the way for more than 30 years. In addition to non-intrusive flow measurement, FLEXIM specializes in innovative online process analysis using ultrasonic technology and refractometry.

## The FLEXIM Commitment to Customer Service

FLEXIM considers itself not only a manufacturer of measuring instruments, but also a provider of technical and consulting services including on-site measurements, laboratory analysis, project handling, training, commissioning and instrumental rentals. The company's focus and dedication is directed towards providing the highest quality equipment with the best support and service possible. Our aim is to set standards in all that we do.

## Technical Data

<b>FLUXUS® F/G831</b>	Clamp-on ultrasonic measuring system for hazardous environments
<b>Measurement principle</b>	Transit time
<b>Measurement functions</b>	
Physical quantities	Volumetric flow rate, mass flow rate, flow velocity
Totalizers	Volume, mass
Diagnostic functions	Sound speed, signal amplitude, SNR, SCNR, standard deviation of amplitude and transit times
<b>Flow ranges</b>	Velocity in m/s
<b>F831 (liquids)</b>	0.01 ... 25 m/s
<b>G831 (gases)</b>	0.01 ... 35 m/s
<b>Measurement uncertainty</b>	Volumetric flow rate (measurement)
<b>F831 (liquids)</b>	±1 % of reading ± 0.005 m/s
<b>G831 (gases)</b>	±1 ... 2 % of reading ± 0.005 m/s
<b>Repeatability</b>	0.15 % of reading ± 0.005 m/s
<b>Transmitter</b>	
Number of measuring channels	1/2
Explosion protection	ATEX/IECEX Zone 1
Power supply	100 ... 230 V AC / 50 ... 60 Hz 20 ... 32 V DC
Outputs	4 ... 20 mA active 4 ... 20 mA HART active/passive
Digital outputs	pulse/frequency/binary pulse/alarm/frequency
Process inputs (Ex-ia)	1x Pt100/Pt1000 (Ex-ia) or 1x 4 ... 20 mA active current input and 1x PT100/PT1000 (Ex-ia) or 1x active 4 ... 20 mA current input (Ex-ia)
Digital communication	Modbus RTU, HART, Profibus PA, Foundation Fieldbus
<b>Available transducers</b>	
Explosion protection	ATEX/IECEX Zone 1
Temperature range (pipe wall)	-40 °C ... +240 °C / WI: -200 °C ... +600 °C

### FLEXIM GmbH

Phone: +49 30 93 66 76 60  
info@flexim.de

### FLEXIM Austria GmbH

Phone: +43 33 26 529 81  
office@flexim.at

### FLEXIM Instruments Benelux B.V.

Phone: +31 10 24 92 333  
benelux@flexim.com

### FLEXIM France SAS

Phone: +33 4 27 46 52 10  
info@flexim.fr

### FLEXIM Instruments UK Ltd.

Phone: +44 1606 781 420  
sales@flexim.co.uk

### FLEXIM Middle East

Phone: +971 4 884 6506  
salesme@flexim.com

### FLEXIM India

Phone: +91 98114 49285  
salesindia@flexim.com

### FLEXIM Instruments Asia Pte Ltd.

Phone: +65 67 94 53 25  
salessg@flexim.com

### FLEXIM Instruments China

Phone: +86 21 64 95 75 20  
shanghai@flexim.com

### FLEXIM S.A.

Phone: +56 22 32 03 62 80  
info@flexim.cl

### FLEXIM Service and Support Center South America

Phone: +54 11 2120 4500  
flexim@escoarg.com.ar  
www.escoarg.com.ar

### FLEXIM AMERICAS Corporation

Phone: +1 63 14 92 23 00  
salesus@flexim.com

For more detailed information please download the Technical Specifications here: [www.flexim.com](http://www.flexim.com).



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