

FLAWSIC500

ultrasonic flowmeter

Custody transfer measurement in natural gas distribution



More information and current pricing:

www.ca.endress.com/IFL500

Benefits:

- Highest measurement certainty and safety of continuous gas supply
- Reduction of installation costs due to integrated flow conversion
- Simple installation, compatible with conventional technologies (turbine and rotary displacement meters)
- Minimal operating costs due to being nearly maintenance-free
- Simplified recalibration due to straightforward cartridge exchange
- Reliable under dynamic load changes
- Self-sufficient operation

Specs at a glance

- **Measured variables** Volume a. c., volumetric flow a. c., gas velocity, volume s. c. (*), volume flow under s.c. (*) (*) additional function included with integrated volume correction
- **Measuring Medium** Natural gas (dry, odorized)
- **Nominal pipe size** DN 50 (2") ... DN 150 (6")

Field of application: The FLOW-SIC500 ultrasonic flowmeter enables extremely accurate natural gas distribution measurement. It is overload-proof, accurate and is monitored by an intelligent diagnostics system. It can easily be integrated into existing measuring stations. It operates either in a self-sufficient energy configuration or in failsafe network operation with battery back-up. It complies with all pertinent standards and directives and provides the security of a continuous and blockage-free gas supply.

Features and specifications

Gas

Measuring principle

Ultrasonic transit time difference measurement

Measured variables

Volume a. c., volumetric flow a. c., gas velocity, volume s. c. (*), volume flow under s.c. (*)

(*) additional function included with integrated volume correction

Measuring Medium

Natural gas (dry, odorized)

Repeatability

$\leq 0.1 \%$

Accuracy

Q_{\min} up to $0.1 Q_{\max} \leq \pm 1 \%$

$0.1 Q_{\max}$ up to $Q_{\max} \leq \pm 0.5 \%$

Accuracy class 1; maximum allowed error limits

Q_{\min} up to $0.1 Q_{\max} \leq \pm 2 \%$

$0.1 Q_{\max}$ up to $Q_{\max} \leq \pm 1 \%$

After high pressure flow calibration: $\pm 0.2 \%$ at test pressure; otherwise $\pm 0.5 \%$

Medium temperature range

$-25^{\circ}\text{C} \dots +60^{\circ}\text{C}$

Optional: $-40^{\circ}\text{C} \dots +70^{\circ}\text{C}$

$(-13^{\circ}\text{F} \dots +140^{\circ}\text{F})$

Optional: $-40^{\circ}\text{F} \dots +158^{\circ}\text{F}$

Operating pressure range

PN16 (EN 1092-1): 0 bar (g) ... 16 bar (g) / 0 psi(g) ... 232 psi(g)

Class 150 (ASME B16.5): 0 bar (g) ... 20 bar (g) / 0 psi(g) ... 290 psi(g)

Gas

Nominal pipe size

DN 50 (2") ... DN 150 (6")

Metrological approvals and certificates

MID: 2014/32/EU

OIML R 137-1&2:2012

EN 12405: 2010 (for integrated flow conversion)

Hazardous area approvals

IECEX

Ex ia [ia] IIC T4 Gb, Ex op is IIC T4 Gb

ATEX

II 2G Ex ia [ia] IIC T4 Gb, II 2G Ex op is IIC T4 Gb

NEC/CEC (US/CA)

CSA: I.S. for Class 1 Division 1 Groups C and D T4; Ex/AEx ia IIB T4 Ga

Digital Outputs

Configurations:

LF pulses + malfunction, electrically isolated (fmax = 100 Hz)

HF pulses + malfunction, electrically isolated (fmax = 2 kHz)

Encoder + LF pulses, electrically isolated (fmax = 100 Hz)

Encoder + HF pulses, not electrically isolated (fmax = 2 kHz)

2x pulses, HF and LF, electrically isolated (fmax = 2 kHz / 100 Hz)

Digital communication

R-S485 (external powered, in combination with LF- or HF pulses)

More information www.ca.endress.com/IFL500